ISCTE ◈ Business School
Instituto Universitário de Lisboa

PEDAGOGICAL CASE STUDY:
STRATEGIC METHODOLOGIES TO BE USED BY DECISION
MAKERS - TAP PORTUGAL

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Pedagogical case submitted as partial requirement for the conferral of

Master in Finance

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October 2016

PEDAGOGICAL CASE: APPLICATION OF DECISION FORMOLATION TOOLS BASED ON TAP

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" Deus quer, o Homem sonha, a obra nasce"

Fernando Pessoa

" De hora a hora, Deus melhora"

Domitília Ramos, a minha avó

Abstract

The importance of sustainable, profitable companies for the economy offering growth and development is immense. The sustainability and profitability can be understood as the companies' performance, where, as expected, higher performances are related to higher positive impacts in the economy of the countries but it should also reveal the adoption and decision about strategies that maximize the companies' performance over the years, which is the critical point of study of this work. Based on this, the goal is to present some strategic, financial tools that should be used by decision makers, to take and base the decisions on solid facts and information, i.e., tools that must be seen as supplementary to other mechanisms for deciding future actions. The methodologies that are presented are divided into, based on the stages that are considered fundamental to take a decision: situational analysis (CPM, EFE and IFE matrix based on PESTEL, Porter's 5 forces, Generic strategies and Porter's Value Chain, VRIO analysis, financial analysis- growth, profitability, risk, functional balance sheet); matching (Grand Strategy, IE, Space matrix, SWOT/TOWS) and decision stage (QSPM and best formula based on financial perspectives). Finally, all these concepts are applied, pedagogically, to TAP, putting the reader in a critical situation of taking the best decision, based on the appliance of the concepts, in order to provide and exemplify how to use the tools for future situations, with the final purpose of increasing companies' performance.

Keywords:

Strategy formulation, corporate finance, decision making, sustainability.

JEL classification system:
- **L10:** General Market structure, Firm Strategy, and Market Performance
- **G39:** General Corporate Finance and Governance

Resumo

Espera-se que empresas que apresentem uma estratégia sustentável, isto é, empresas que ao longo da sua vida superam os concorrentes mantendo-se rentáveis e dominantes no mercado, tenham igualmente um maior impacto na economia. Contudo, é preciso ter noção de que se pode entender uma boa performance como um conjunto de decisões acertadas para uma empresa, sendo este o ponto de interesse do trabalho; descriminar um número variado de instrumentos conceptuais que devem ser utilizados no momento da decisão do futuro de uma empresa. Assim, este trabalho, prossupõe a utilização da TAP como suporte da aplicação hipotética das ferramentas necessárias para tomar uma decisão, dividindo o processo em 3 etapas: posicionamento da empresa (*CPM*, *EFE* e *IFE matrix* baseado em PESTAL, 5 forças, estratégias genéricas e cadeia de valor de Porter, análise *VRIO*, análise financeira- crescimento, lucratividade, risco, balanço funcional), estratégias possíveis a adotar – baseadas nas análises feitas na primeira etapa (*Grand Strategy, IE, Space, matrix*, *SWOT/TOWS*) e, finalmente, decidir a melhor estratégia (QSPM e *best strategy* fórmula baseada em estimativas financeiras futuras).

Palavras-chave:

Formulação da estratégia, finanças empresariais, tomada de decisão, sustentabilidade.

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Acknowledgments

After all these months working on this piece of work, I feel proud of myself knowing how much I learned and created along the way. However. I could never have achieved this without the precious support of a few people.

This thesis could not have been made without the amazing and tremendous support from my family. It was a long trip and you helped me all the way through.

I have to thank Professor Pedro Inácio, for always listening to my concerns, keeping me on the right path and enabling me to follow my instincts.

Finally, my good group of friends who always cheered for me and emotionally supported me to do my best and get the job done. Every of them, and they know who them are thank you.

Without them, it would not have been possible.

Glossary

◊ AS: Attractiveness Scores
◊ BRIC: Brazil, Russia, India, China
◊ CP: Competitive advantage
◊ CAGR: Average Growth Rate
◊ CDL: Combined Leverage Degree
◊ DCF: Discounted Cash flow
◊ CPM: Competitive Profile Matrix
◊ EBIT: Earnings before interest and taxes
◊ EBITDA: Earnings before interest taxes depreciation and amortization
◊ EFE: External Factor Evaluation
◊ EPS: Earnings per share
◊ SP: Environmental stability
◊ EVA: Economic Value Added
◊ FCFE: Free cash flow for equity
◊ FCFF: Free cash flow for the firm
◊ FP: Financial strengths
◊ IE: Internal-External
◊ IFE: Internal Factor evaluation
◊ IS: Industry strengths
◊ MBV: Market based view
◊ MVA: Market value added
◊ NPV: Net Present Value
◊ PESTEL: Political, economic, social, technological, environmental, legal
◊ QSPM: Quantitative Strategic Planning Matrix
◊ RBV: Resource based view
◊ ROA: Return on assets
◊ ROIC: Return on invested capital
◊ ROS: Return on Sales
◊ SO: Strengths&Opportunities
◊ ST: Strengths&Threats
◊ SWOT/TOWS: Strengths, Weakness, Opportunities, Threats
◊ TAP: Transportes Aéreos Portugueses
◊ TAS: Total attractiveness score
◊ VRIO: Value, Rareness, Imitability, Organization
◊ WACC: Weighted average cost of capital
◊ WC: Working Capital
◊ WO: Weaknesses&Opportunities
◊ WT: Weaknesses&Threats
◊ ND: Not defined

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1. Introduction

This work is a pedagogical case study about TAP Portugal in the years 2003, 2004 and 2005. The idea is to analyse the company's strategic position in 2005 and, based on financial and management concepts, to decide the best strategy to adopt for the future. The importance of this issue is reflected in any company, where it is necessary to take strategic decisions, however, the choice should have an explicit answer to the questions "How?" and "Why?" for that decision. Taking this into account, this pedagogical case study aims to provide some methodologies and tools to help when deciding about the future.

This case study is based on (1) constructive paradigm that claims that it is dependent on one´s perspective (Yin, 2003; Stake 1995), in order to develop critical thought, a soft skill that should be developed in the students. This meaning that this paradigm "recognizes the importance of the subjective human creation of meaning, but doesn't reject outright some notion of objectivity. Pluralism, not relativism, is stressed with focus on the circular dynamic tension of subject and object" (Crabtree and Miler, 1999), where the notion of objective is the methodologies and how to use them, and the notion of subjective can be applied to some inputs for use in the tools. As expected, all decisions have some personal feelings or views of the issue in question, the most important is reducing those feelings bearing in mind where they occur more frequently. (2) Learning with simple but expressive examples is more interesting and useful for the participants' present and future. Therefore, close collaboration is expected between the user and participants, enabling the latter to give their opinions about the contents, giving the user a better understanding of the participants' learnings and opinions, but it also plays a strong corrective, pedagogical role, in cases where there is a wrong approach to some subjective themes of analysis.

The importance of the concepts, tools and mechanisms that are referred to in the work are a daily issue for all organizations because their goal it is to be profitable or financially sustainable (whether for-profit or not), according to the reasons of its foundation. Achieving this goal is not an easy task due to the many factors that affect an organization, but there is always the need for appropriate management skills and the correct approach to reality in order to understand the past and present and to predict the future of an organization. This means it is possible to consider that a company can be seen as a system which, with its resources and forces achieving certain objectives or not,

where a system theory should understand the relations between variables rather than study variables in isolation, providing more accurate understanding (Skyttner, 2005; Bowen, 2004).

Following the issues described above, a 360º view is proposed; this is, any manager should be able to apply management and financial concepts in order to decide the best strategies for the companies, and this view is essential for their success. This means that a company's future is based on the strategies defined in the present and adopted in the following years which, according to the literature, demands significant knowledge about strategic management as well as management literature in terms of all aspects of an organization, giving special importance to financial literature in this work.

Wheelen and Hunger (2012) defined strategic management as a "set of managerial decisions and actions that determine the long-run performance of a corporation". Hence, it is essential to have a well thought-out strategy that enables the creation of value and the achievement of a sustainable competitive advantage, which is attained when a company has the ability to generate greater financial performance over a considerable period of time (Porter, 1985). In 1986, Barney defined the higher financial performance as a "rate of return [on invested capital] greater than a normal return and [which] indicates that the firm is prospering".

However, management teams face two types of challenges: (1) strategy is not a reflection of the biases of the management team and (2) to allocate resources in a way that accurately reflects the strategy (Christensen, 1997). So, in order to achieve sound profitability and avoid mistakes, the strategic decision must take into account two dimensions: external environmental (general) influenced by economics and competitive level in the market; and internal environmental (organization factors) (Barney and Hesterly, 2011; Makhija, 2003). Based on this, and on what the students or the reader could face in the future, the TAP case study put them in a critical situation, in an attempt to simulate the complexity of reality, where it is necessary to take a decision about the best strategy to be adopted for the future, based on given information and data, and additional information resourced by the user.

Finally, the work is then divided into 4 main sections: (1) pedagogical objectives and purposes; (2) The literature content and the exemplificative application for the case; (3) The diverse range of uses that the case study can have, based on the user interest for the participants (4) main conclusions about the case. In short, this work is supposed to be an important summary of contents that can be used in the life of organizations, searching for the best performance all the time.

Note: **The solutions proposed are merely hypothesis to show how to apply the methodologies**

2. Pedagogical Note

2.1 Pedagogical information about the case

This segment introduces the reader to the pedagogical objectives, purpose and Problem in the analysis. The case of TAP, the base for using the literature contents, is given in Annex 1.

2.1.1 Target audience

The present case can have a wide range of targets audiences, depending on the user' goals. In any case, the main goal is developed for the user is that the mechanisms have to have a critical, reasonable attitude at the decision time, basing that on appropriate methods. Those methods are financial and management theory and they are necessary to decide on a strategy for the company.

The target audience can, therefore, be divided, firstly by the interest in the strategic management concepts, financial concepts or on both. After that, the users can be divided into:

1. The most suitable target audience: by university students
2. Individuals interested in these matters
3. Other institutes of knowledge
4. Internal company use, for example, as a case for recruitment interviews or for employee training
5. Others

2.1.2 Pedagogical objectives

The pedagogical objectives of this case are to explain and exemplify financial methodologies (growth, profitability, risk, functional balance sheet, DCF, EVA and MVA) and strategic management theory (PESTEL, Porter's 5 forces, EFE matrix, Porter's Generic Strategies, Porter's Value Chain, VRIO analysis, IFE matrix, CPM, range of strategies to use, Space Matrix, IE matrix, SWOT/TOWS, Grand strategy matrix, QSPM), culminating in the "best strategy" tool, necessary to develop the skills and knowledge to take a proper strategic decision for the company, in this case, TAP.

It is desirable, through reading the work and through the reading of the resolutions based on TAP, that the user improves their knowledge about strategic management and financial analysis of the past and future of a company and understands the importance of that knowledge for their success as managers. With this, the case study should provide the user with the following abilities:

1. How to be a better decision maker
2. How to made an internal and external analysis of a company
3. Which types of strategies a company can use, based on internal and external analysis
4. The best strategy to adopt based on financial and strategic management theory
5. The importance of these concepts for companies' success
6. How to develop soft skills such as critical thought, group in work, problems solving
7. How to develop the use of excel
8. How to develop research techniques

2.1.3   Conceptualization of the theory and problem of the case

The theory of this work is based on:

1. David´s strategy formulation framework – integrating strategy formulation techniques into a decision making framework-, providing techniques that help evaluate and decide on the best strategy or strategies to be adopted for a company. This framework is divided into 3 stages: (1) input stage (2) matching stage (3) decision making stage (David, 2011).
2. A proposal of introducing financial concepts is used extensively in the process of deciding a future strategy.
3. 5 strategic management critical tasks from 9 identified by Pearce II and Robinson (1991) : (1) Develop a profile that reflects the capabilities and the organizations' internal resources and conditions (2) Understand the external environment, including competitive and contextual factors (3) Analyse possible options by matching resources with the external environment (4) Identify option by evaluating each option according to the mission (5) Implement strategic choices by taking into account budgeted resources allocation in which the matching of tasks, people, structures and technologies is emphasized.

The literature review will take all this into account, with the respective adaptations, presenting the concepts in 3 dimensions: (1) situational analysis (information and input tools), (2) range of strategies to use and (matching tools) (3) deciding the best action to adopt (decision tools).

Finally last, in order to understand the organisation strategy followed by a company, it is important to note that the user must have prior knowledge of the company's vision, mission and values and the classification of the organization by Kotler *(*2010) in order to use the concepts and methodologies under analysis properly, by being (1) A market leader (strategies to protect the position- case of TAP) (2) Market challenger (strategies to increase market share) (3) Market follower - strategies to avoid competition (4) Market niche – Strategies concentrated on a small particular market that requires special skills and resources.

2.1.4   Methodology

Davis *et al.* (2003) state that, in their experience, case studies can be used to: (1) Allow the application of theoretical concepts to be demonstrated, thus bridging the gap between theory and practice (2) Encourage active learning (3) Provide an opportunity for the development of key skills such as communication, group working and problem solving (4) Increase the students' enjoyment of the topic and hence their desire to learn. Based on this it is possible to describe the methodology in defining the company, the literature concepts and the exemplificative cases that a case should have, in order to promote the uses experienced by Davis and others.

This case study is about TAP. The choice of this company is for the following reasons: (1) its importance for Portugal's economy, directly and indirectly (2) The critical situation of the company (3) The constant theories formulated about the company. The years of analysis (2003, 2004, 2005), are also due to the following reasons: (1) The critical point of changes in the company by the Fernando Pinto team (2) The moment of turnaround of the company by changing the brand of company (3) the buying of Portugalia Airlines and Varig maintenance had not been concluded. The goal was to create a situation that put the user in a stimulated position, promoting discussions and exchange of opinions about the matter. The process of conceptualizing the case started by gathering, processing and selecting all the information from secondary sources such as scientific articles related to the aviation sector, TAP annual reports from 2003, 2004, 2005, IATA reports and analysis, and others appropriate to the case.

The literature review, based on a long process of research, can be divided into 3 main parts: 1) Analyse of the current position: It is an analysis of the situational context of the organization that is divided in external and internal environmental - PESTEL, Porter's 5 forces, EFE matrix, Porter's Generic strategies, Porter's Value Chain, VRIO analysis, growth, profitability, risk, functional balance sheet, IFE matrix and CPM ; (2) Some range of strategies to adopt - range of strategies to use , Space Matrix, IE matrix, SWOT/TOWS, Grand strategy matrix, IE matrix; (3) Deciding the best strategy – QSPM and "best strategy" formula.

Finally, the last step was explaining the choice of the content in the solutions of the practical example, which are: (1) using simple examples as input of the models to make it easier for the users to understand it (2) input of the models were considered as universally accepted (3) the values used in the tools should not call into question the correct explanation of using the model (4) there is space for other solutions that make sense (5) the financial examples are based on the values presented in the company reports.

In conclusion, it should be expected that the users use and search other sources of information, rather than just the case, and use them as input for the tools. Once more, the solutions are just to be considered as simple as possible for pedagogical reasons, where it is necessary to have them as inputs for execution of the tools presented in the work.

2.2   Literature Review – Concepts & Application

This segment explains the theory that answers that the cases should be based on, and then provides a hypothetical use of them to the TAP case.

2.2.1   Situational analysis

The situational position will be the starting point, since, in order to understand the company and make future decisions, it is fundamental to know where the company stands. Boardman et al. (2004) state that in order to analyse the current situation where an organization operates, an analysis of the external environment – industry and general environment – and to its internal environment – specific and internal characteristics of a firm should be conducted. The analysis should be seen as complementary for the external and internal environment. The resources are the most important factor for a company's success, but it needs the information that is acquired outside the organization

to fully utilize these resources to create a competitive advantage (Hoskisson *et al*., 2006). The complexity of the analysis will be related to the number of products and markets where the company operates. As Wit and Meyer (2010) identified, a company has different sets of strategic positions, overall, goals, processes, assets and markets, based on a range of products and services that it offers, which demands a model that has a solid base of information about the company.

2.2.1.1 External analysis

The analysis of the external environment can be divided in macro/mediate and immediate, in which the purpose is to study the general and industry environment of a company, respectively. This environment is out of an organization's control but influences it (Johnson *et al.,* 2008). Bryson (2004) said that the environment analysis is important for a company to identify opportunities and threats.

2.2.1.1.1   External environmental - PESTEL analysis

In order to analyse the external -macro- environment of a company, it is common to use a PESTEL analysis framework. There are 6 dimensions: political (for example: tax policy, government attitude, trade restrictions, political stability) , economic (for example: economic growth, inflation rate, unemployment rate, monetary policies, consumer confidence) , socio-cultural (for example: social and lifestyle trends, age distribution, demographic changes, emphasis on safety, labour/social mobility), technological (for example: R&D activity, technology advances, automation), environmental (for example: ecological and environmental aspects) and legal (for example: employment law, health and safety lay, consumer law, competition regulations), which are used in a PESTEL analysis that are not mutually exclusive since each company should have a specific analysis (Carpenter et al., 2007; Lynch, 2006). The goal is to identify the most relevant aspects, opportunities and threats in this environment that affect the company, based on solid information, suitable to the company's reality.

Solution A: Possible application of PESTEL analysis with hypothetical information of TAP:

The application of PESTEL should take into account the company's real situation for a proper analysis. As a simple example, here is a possible PESTEL analysis for TAP in 2005.

Political facts
1. Airline industry deregulated, Open-skies regime
2. The importance of other types of transportation that governments support; trains and buses.
3. Effects of wars between 2001 and 2004, political stability is essential
4. Taxes and duties depending on each city and country
5. Better commercial accords between countries
6. Strategic localization of Lisbon airport for connections to Africa and South America

Economy
1. Increasing price of fuel, 60 % in 2004
2. Development of USA and BRIC, market increase 6.3% pass-km
3. Signs of economic recovery in the world 4.3%, (more slowly in Portugal, 0.3%)
4. Increase the number of aircraft in the world
5. The industry has still negative earnings in 2005

Social
1. The trend is for consumers to differentiate products especially by price
2. Consumers give a lot of importance to ground and in-flight services
3. Growing world population
4. Increase in women in management positions
5. Portugal population growth slower than desirable
6. Increase in life expectancy
7. Increase in the possibility of travelling out of the country
8. There are many Portuguese emigrants
9. Increase the tourism
10. Many routes depend on general trends
11. Globalization

Technology
1. New internet possibilities
2. New comfortable technologies on board
3. More efficient planes
4. Internet video-conferencing
5. New aircraft mean lower costs

Legal
1. A lot of regulations from each country that companies must deal with.
2. Delays and Cancelled flights are very expensive for companies
3. Very regulated sector, in all aspects (security, hygiene, others)

Environmental

1. Global warming concerns are the most important issue, where efficient aircraft are needed.
2. This can have an effect because if a country gets hotter, why should people travel to other countries.

2.2.1.1.2 Porter´s Five Forces Framework

The immediate environment is related to a market based view, which is important to encourage the creation of a competitive advantage (Forsman, 2004), built by looking outside the organization, into the opportunities and threats in the industry. This view assumes the existence of five forces in the competitive environment usually named Porter´s Five Forces Framework: Porter developed the model to analyse the threat of substitute products, competition from new entrants, competition from rivals, and vertical competition; that is the bargaining power of suppliers and buyers (Barney and Hesterly, 2011). Figure 1 shows some possible factors that should be analysed and identified in the model. This model is used to understand the level of attractiveness and competitiveness of the industry at the mediate level.

Figure 1: Porter´s 5 Forces
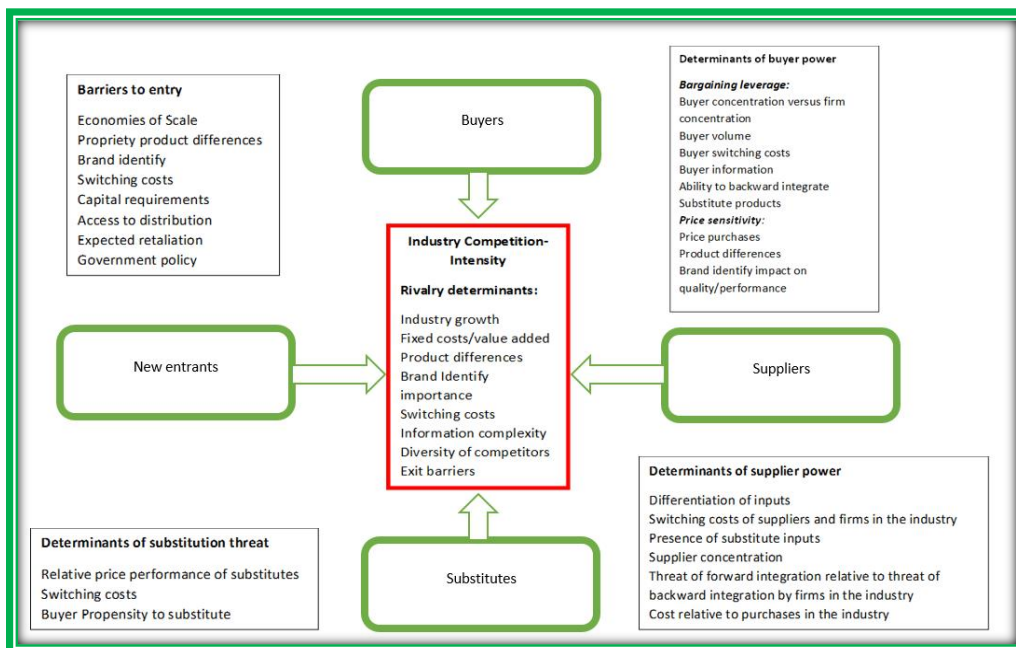
Source: Porter (1980)

Recent literature suggests a 6th force, the power of stakeholders (government, local communities, creditors, trade associations, shareholders or unions) but also complementors, which have an impact at the mediate level of a company and its influence it is not present in Porter's 5 forces model (Hill *et al.*, 2008). By Carpenter *et al.* (2007) the complementors are a "product or service which tends to increase sales in another industry". This could be achieved by strategic alliances with companies' producers of that type of products, with an effect on increasing the value of the product for the client and a possible increase in profits for both companies (Hill *et al*., 2008).

Solution B: Possible application of Porter´s Five Forces Framework analysis with hypothetical information of TAP:

In order to help understand the application of this method, it presents its application to airline sector and TAP, in 2005.

<u>New entrants:</u> Low (Force)

1. Intense cost of capital for start operation
2. Increasing in low-cost competitors
3. Intense and high fixed costs- for example runways and slots
4. High costs of hiring and starting an operation
5. Aircraft are extremely expensive
6. Possible entrants by vertical integration
7. Possible entrants by new companies formed by main airlines.
8. Spaces in airports at the best hours are not easy to get
9. Significant retaliation against new entrants is expected

<u>Substitute products:</u> Medium (Force)

1. High-trains speeds – especially over short and medium distances
2. Bus – especially on short routes
3. Options in the country of consumers
4. Internet possibilities- reduction of business travellers by dotcom revolution,

5. Deficit alternative transport connections by aircraft from Portugal to other European countries

6. Development of communication technologies

7. Cruises

Power buyer: Medium (Force)

1. Individual consumers - low power– have more power in competitive routes, where they have a range choice between companies - ticket price counts for 41% of choice the product at the moment

2. New consumer patterns

3. Travel agencies – high power – have some impact because they can change or advertise other routes that are more profitable for them

4. Price elasticity is more evident on economy passengers than in business

5. Consumers have a lot of information in the market

6. There are no costs for customer changes

7. Possible backward integration by some groups of clients (for example travel agencies)

Power supplier: Medium/High (Force)

1. The main suppliers are airports, manufacturers

2. Airports have a special power in specific points of the world, especially the main city airports. Although it was them that gave the companies more revenue.

3. Manufacturers have also some influence, and the change will imply costs. There are two main aircraft manufacturers – Airbus and Boeing.

4. Possible forward integration of suppliers, creating new companies

Competition in the Market: Very Competitive

1. Market it is dominated by Large Companies with strong competitive advantages

2. Low-cost companies are increasing rapidly

3. Portugal has 2 other big airline companies

4. Strong competition in flights to the biggest European cities

5. The bankruptcy of Varig, the biggest Brazilian International company, with flights to Europe.

6. Diversity Competition
7. Importance of brand identity and customer loyalty
8. High Fixed cost structure
9. Industry is facing changes
10. Change of customer attitudes in the market

6th Force: The airline sector is greatly affected by constraints on labour conditions that affect the efficiency of the companies and the market behaviour.

Other conclusions about the competition in the market: Downward trend in ticket prices , occupancy rates rising 2004, universal lay-offs in the industry, big players, lack of productivity of traditional companies, finance structural costs of traditional companies, low returns, high fixed costs, dependent on exchange rates, domestic traffic 4.1%, market lost €6 billion

2.2.1.1.3   Conclusive tool for external analysis: EFE – matrix

As in personal life, deciding something is not easy. Trying to quantify the situation is always desirable because it gives a more objective position of where a company stands and how it deals with it. The reality is that a PESTEL or 5 Porter analysis can be considered very important in analysing how a company is being affected and is dealing with opportunities and threats.

In order to use a mixed approach to the problem – a quantitative and qualitative analysis - the use of an **External Factor Evaluation matrix** (EFE) (David, 2011) is suggested. Here, the goal is to identify, based on PESTEL analysis and Porter's 5 forces, at least, the 5 most relevant opportunities and threats while, if possible, being as specific as possible (using numbers, percentages, ratios, comparisons). For each factor (opportunities and threats), one should give a weight from 0 (not important for success in the industry) to 1 (very important to be successful in the industry) in which the sum of all weights should equal 1. After that, for each key factor, assign a rating from 1 (response is below average), 2 (average), 3 (above average) and 4 (superior average) and multiply them by the previous weight of importance for success. Finally, sum the multiplication for each key factor which will be from 1 (below performance) or 4 (superior performance). David (2011) considered the average total as 2.5 – average performance.

Solution C: Possible application of EFE analysis with hypothetical information of TAP:

Again, an explicative table will be presented to help the reader using and learning how to apply this methodology.

Table 1: EFE matrix

	Weight	Rating	Weighted Score
Opportunities			
Airline industry deregulated	2,5%	3	0,08
Economy in world - especially in the BRIC	6,0%	3	0,18
Localization of Portela Airport	5,0%	2	0,10
Economy in portugal	3,0%	3	0,09
Efficient airplanes	2,5%	4	0,10
Increase of tourism and emigrants in Portugal	10,0%	3	0,30
Bankrupcy of Varig	7,0%	3	0,21
Positive impact of demographic changes	2,5%	2	0,05
Defficient transports to other european cities	8,5%	3	0,26
Outside Portuguese communities	7,5%	3	0,23
Threats			
Low cost Companies	5,0%	2	0,10
Big competion in Market	6,0%	3	0,18
Effects of wars acnd catastrophic natural disasters	1,0%	4	0,04
Hard costs for changing some suppliers	2,0%	3	0,06
Force of travel agencies	4,0%	3	0,12
Price it is even more what clients look more	5,0%	2	0,10
Development of communication technologies	5,0%	2	0,10
Price of fuel	9,0%	1	0,09
CO2 preocupation	2,0%	4	0,08
Effects of other forces	5,0%	2	0,10
Trends and Lifestyle Changes	1,5%	2	0,03
Total	100%		2,59

Source: Made by the Author

The classification of 2.59 shows that TAP has a strategy that fits the external factors. However, that value it is very near to the middle point, 2.5, which indicates a performance that has

to improve until it reaches a classification of nearly 4. Strategies should be taken to maximize the opportunities that the environment offers.

2.2.1.2 Internal environment

The analysis of the internal environment, branches from the Resource base view and should take into account the company's mission, values and vision, where the goal is to enumerate all the resources and capabilities that the organization has control over or that has a direct influence on inside its boundaries (Daft, 2003), for it to achieve its expectations.

The Resource based view states that resources, capabilities and core skills are the key determinants of competitive advantage. Furthermore, the competitive advantage is derived from core skills, which come from capabilities, which in turn branch from resources (Hoskisson *et al.* 2005).

Resources are defined as tangible (financial, organizational, technological and physical) and intangible (innovation, human and reputational resources) and, by Barney (1991), not all have the potential to be a unique, profitable resource. Tangible resources can be quantified and measured, so it is easier for other companies to imitate those resources; on the other hand, intangible resources represent the history, culture and values, and are usually harder to imitate, so the company's best strategies are harder to copy (Hoskisson *et al.*, 2005). This view considers the firm's own set of resources and capabilities as the driver of growth (Otto and Low, 1998).

In order to properly analyse the internal environment, reflecting a company's weakness and strengths, it is important to study each part of the company.

In order to do a proper analysis of the internal environment, reflecting the weakness and strengths of a company, it is important to study each part of the company. In an attempt to identify some critical points that an internal analysis to a company should cover, some methodologies are proposed to the decision maker, which should be complementary with other information.

2.2.1.2.1   Types of generic strategy for products - Porter generic strategies

An internal analysis should be conducted to understand and identify the generic strategy approach in order to position the products within the company's market, helping to explain the competitive advantage.

In order to achieve a generic competitive advantage, Porter (1985, 1980) identified three generic strategies: a cost leadership strategy, a differentiation strategy and a focus strategy. Each strategy is "a fundamentally different approach to creating and sustaining a competitive advantage" (Porter 1985). A cost leadership strategy is based on being the most efficient producer in the industry reducing the cost of all structures (designing, producing and selling) for a given level of quality. A differentiation strategy is based on offering a product that, by having specific characteristics, is perceived to be better or different from other competing products (Porter, 1980). The author defined differentiation as 'the ability to provide unique, superior value to the buyer in terms of the product or service itself (i.e. design, quality), marketing approach, delivery system, or after-sales service'. This positive valuation of the product allows the company to sell its products at higher prices, with quality as the first priority, although not indifferent to costs. Focus strategy is the concentration of the resources in a specific segment and target, achieving that by cost advantage or differentiation (Porter, 1985, 1980). The generic strategy for each company depends on the company's characteristics, the external environment and the target audience.

Porter said that a company must choose a specific strategy or it will be "stuck in the middle", not knowing how to deal with the external environment and be at a disadvantage compared with the competitors. However, Hill (1988), stated that being "stuck in the middle" can be a desirable strategy for some industries. The author identified this strategy as desirable for industries that are emerging and that are characterized by high growth, and especially for mature industries that are experiencing technological changes and where all experience curve economies have been exhausted with several firms achieving a minimum-cost position.

Therefore this, it is advised to clearly identify, first of all, which strategy the organization follows because the resources and the respective allocation of them and future decisions will be based on that "choice".

Solution D: Hypothetical example of an identification of the generic strategy of Porter for TAP:

In terms of generic strategies, it is possible to define TAP as a follower of a differentiation strategy, offering products where the price does not describe the product, but rather the quality and differences in service compared with the competitors.

2.2.1.2.2   Porter's value chain

Looking further into the issue of understanding a company's competitive advantage, Porter (1985) said that it was not possible to identify the advantage by looking at the company as a whole. Porter proposed a Value Chain, dividing the company's different activities into primary (activities that affect the business directly – firm infrastructure, human resource management, technology development, procurement) and support activities (support the possibility of competing– inbound logistics, operations, outbound logistics, marketing and sales, services) that interact with other, in order to value and identify the source of competitiveness of the product for the customer and for the organization; i.e., satisfying customer expectations and the profitability of the product or service (Porter, 1985).

Porter's value chain is essential to identify the resources of each part of the activities conducted by the company to produce a product or service. The competitive strength of a business can be analysed by using a chain model to analyse the business, the strategic importance of the activities and how they affect cost and value (customers' willingness to pay). As Porter said (1985), a company will be profitable as long as the value firm gains are higher than the cost of producing a product.

In order to understand some factors that compose the model, Porter exemplifies, as figure 2 shows, the use of the value chain by applying it to an airline company.

Figure 2: Value Chain of an Airline Company

FIRM INFRASTRUCTURE	Accounting, legal, finance, planning, quality assurance, & govt. relations				
HUMAN RESOURCE MANAGEMENT	Flight analyst training Yield analyst training	Pilot training Safety training	Baggage handling training	Product development Market research	In-flight training
TECHNOLOGY DEVELOPMENT	CRS, FSS, YMS	In-flight system	Baggage system	DBM, IS, CC	Baggage tracking system
PROCUREMENT	Technology Acquisitions				
	Flight&crew scheduling Flight reservation Route select. Pricing Fuel Aircraft acquisition Spare part acquisition Catering	Courier operation Gate operation Aircraft operation Baggage handling On-board services	Ground shuttle service Baggage claiming	Promotion Advertising Direct sales Selected travel agents	Lost & found service Follow-up on customer's feedback
	INBOUND LOGISTICS	OPERATIONS	OUTBOUND LOGISTICS	MARKETING & SALES	SERVICES

Source: Porter (1985)

Solution E: Hypothetical application of a Value Chain analysis for TAP:

Based on Porter's Value Chain, it is possible to be more specific about TAP's situation, in order to identify TAP's strengths and weaknesses. The company's value chain is essential to understand where the company is performing well or not.

Inbound logistics: It is possible to consider the improvement and development of routes, the renewal of aircraft and an adoption of the internet as the main strong positive characteristics of inbound logistics. It is important to refer the high percentage of leased planes that the company has, with effects on its financial health. The planes are used essentially to transport passengers, but, depending on the plane, it can also carry cargo.

In terms of routes, there is a weakness related to the low diversification of the market where TAP flies to. Concerning the aircraft maintenance, TAP is responsible for repairing almost all of their own aircraft, increasing the company's know-how and reducing external costs. In terms of fuel, the

company is not having the best performance, by the effects of price oil on the results of the company.

Operations: The company is considered to have well trained pilots and good in-flight services, offering catering, luggage on board and entertainment on board. The passengers perceive the product as high quality. It is important to refer that TAP is the market leader in Portugal for air cargo and passenger transportation. The negative points where the company should improve to be on time, where an efficient aircraft operation is essential to be on time.

Outbound logistics**:** The negative points where the company should improve are to be more effective on baggage handling. Improvements in ground services, baggage it is the biggest issue.

Marketing and sales**:** Good perception in the market in Portugal, good relationship with consumers, good use of the internet to advertise, the number of passengers increase more than industry, *top of mind*.

Services**:** Effort to increase passenger feedback, loyalty programs, other services developed by the company.

Support activities: The main positive facts are the investment in technology, the qualification and quality of human resources. However, it is possible to refer to some internal conflicts (for example: between air and ground personal) and some constraints on labour contracts with some groups of professionals (for example pilots).
The negative points correspond to the financial performance, with a company losing money over the last years, with an unhealthy capital structure.

2.2.1.2.3   VRIO analysis

This analysis implies a well-known vision about the company's resources and the industry as a whole to help describe strengths and weaknesses.

In order to analyse the effects of the resources on the company's performance, the literature supports the idea that the competitive advantage is based on rare, valuable resources, combined with their good use, because companies with resources that are harder to imitate offer better products at lower prices (Barney and Hesterley, 2011). Therefore, it is possible to recognize that the differences between companies are based on the resources and the respective strategy used for those resources. One can also conclude that what is desirable is that those resources are valuable, scarce and hard to imitate in order to provide a unique position for the company.

Bearing in mind all these considerations, and in order to identify the resources and capacities that can create a sustainable competitive advantage for the companies, Barney and Hesterley (2011) define VRIO as a model to evaluate the value, scarcity, imitability and organization of the resources that drive the company, or not, to a sustainable competitive advantage. A question should be raised for each VRIO dimension and the sustainable advantage will be based on the answers to that question (Barney and Hesterley, 2011; Barney, 1991).

1. <u>Value</u>**:** Question: "Does a firm's resources and capabilities add value by enabling it to exploit opportunities and/or neutralize threats?"

   Answer: (a) "Must be valuable … it exploits opportunities and/or neutralizes threats in a firm's environment"

2. <u>Rareness</u>**:** Question: "How many competing firms already possess these valuable resources and capabilities?"

   Answer: "(b) Must be rare among a firm's current and potential competition"

3. <u>Imitability</u>**:** Can the resources be imperfectly imitable because of unique historical conditions, causal ambiguity or social complexity?

   Answer: "(c) Must be imperfectly imitable"

4. <u>Organization</u>**:** Is the company able to reach its full competitive advantage using the resources and capabilities it possesses?

   Answer: "(d) There cannot be strategically equivalent substitutes … that are valuable but either rare or imperfectly imitable"

Based on the answer to the questions, Barney and Hesterly (2011) divides the competitive implication of resources as the table 2 shows.

Table 2 : Competitive implication of resources in organizations

Summary of VRIO, Competitive Implications, and Economic Implications					
Valuable?	Rare?	Costly to Imitate?	Organized Properly?	Competitive Implications	Economic Implications
No			No	Disadvantage	Below Normal
Yes	No		↑	Parity	Normal
Yes	Yes	No		Temporary Advantage	Above Normal (at least for some amount of time)
Yes	Yes	Yes	Yes	Sustained Advantage	Above Normal

Source: Barney and Hesterly (2011)

After the resources' analysis, it is possible to make a correlation between the VRIO model and the external analysis of the companies, as the resources can be viewed as strengths or weakness to deal with the external environment (Barney & Hesterly, 2011).

Solution F: Hypothetical application of a VRIO analysis for TAP:

A possible interpretation of VRIO analysis for TAP is given in the next table.

Table 3: VRIO analysis for TAP

Resources	Value	Rareness	Imitability	Organization	Competitive Implication
Staff	-	-		-	TA
Management team	-	-	-	-	SA
Pilots' safety	-	-		-	TA
Fleet	-			-	P
Inovations on board	-	-		-	TA
Spaces in airports	-	-	-	-	SA

Digital platform	-	-		-	TA
History	-	-	-	-	SA
Partnership	-	-		-	TA
Financial resources					D
Brand	-	-	-	-	SA
Differentiation	-	-	-	-	SA
Connection to portuguese comunuties outside Portugal	-	-	-	-	SA

D: Disadvantage P: Parity TA: Temporary Advantage SA: Sustained Advantage

Source: Made by Author

The VRIO analysis concludes that the financial resources are the ones that show a disadvantage for the company. The competitive sustainable advantages come from the management team, history, differentiation product and connection of Portuguese communities to TAP resources.

2.2.1.2.4   Financial analysis

The financial analysis is extremely important in order to measure the performance of the applied strategies, in terms of wealth creation. It can offer a perspective on how managers have performed and determine the effect of the strategies that have been adopted in terms of revenues and costs in ordered to measure the efficiency of those strategies as well as the efficiency of the company.

In order to understand and measure a company's financial situation, it is important to know whether the firm is working efficiently or not, which means analysing the company's financial statement, bearing in mind all the company's characteristics. The goal is to measure the growth, profitability, risk, value creation and the financial health using financial ratios which relate to the observation and analysis of individual data through the expression of several data ratios (Woo and Baker, 2005). It is important to note that a financial statement analysis looks at the past until the current moment and it is used as a tool to measure and evaluate the adopted strategy.

Financial statements are supposed to be based on useful information that is comparable (comparisons between two or more companies in the same industry at a point of time) and consistent (relevant comparisons within the same company over a period of time), especially with relevance (timely) and reliable (verifiable) as characteristics.

Nevertheless, this analysis is based on financial information reported by accounting in which key non-financial information is not described (types of clients, revenues), leading to relevant limitations.

A major issue of this analysis concerns the source of the information reported by the accounting area, which is miscalculated, containing numerous prepositions and estimates (allowance for uncollectible receivables, periodic depreciation, the costs of warranties, and contingent losses) making it clear that the financial statements will not be so accurate and might have misleading information (Keiso *et al.*, 2002).

2.2.1.2.4.1 Basic Concepts

Financial statements measure two dimensions: profitability (from the income statement) and financial soundness (from the balance sheet).

On the other hand, there are two types of financial analysis: the horizontal analysis (to analyse the financial statements over the years) and the vertical analysis (when it is at a specific point of time (financial structure)). This last one is extremely useful for comparing the performance of a company with its competitors and it is especially helpful in analysing statement data, like the percentage of costs in sales (Hermanson *et al.*, 1989).

There are two types of users for financial analysis in the literature:

- External (outsiders): Creditors (credit risk analysis), investors and competitors

- Internal (insiders): Performance appraisal and value creation, external analysis simulation, which should be a relevant part of this work.

The financial statements can be divided into three main aspects:

- The **income statement** measures the company's profitability over a certain accounting period of time, providing the net profit (gross profit (sales-cost of goods sold) -expenses) of the company (Clausen, 2009). The accounting period covers the transactions occurred in a certain period of time (Delaney *et al*., 2002). A positive number indicates a company, at least, with profits. In financial terms, it is also possible to analyse the income statement with margins based on sales, providing a more appropriate way to take decisions and analyse a company's performance. As in a horizontal perspective, it allows for comparisons between performances over the years.

- The **balance sheet** presents the financial position of a company at a certain point of the time and it is composed of the value of assets (resources controlled by the company which expect to generate future inflow for the company), liabilities (obligations from the past, which the company will have to liquidate in the future and represented an outflow for the company) and equity (owners' residual interest) in a company. The value of assets is always equal to the sum of debt and equity. The balance sheet does not report profits but there is a positive relationship between assets and profit (Clausen , 2009).

-**Cash flow statements** show the cash in/out flows of a company coming from, operating, investing and financing activities. The cash flows are useful to analyse future cash-flows, coverage for the debt obligations and knowledge of financial and investing activities (Delaney *et al*., 2002). *Note: Consult Annex 2 and 3*

2.2.1.2.4.2 General financial analysis based on sales

Some proposed margins for analysing the company's general performance are based on sales: Gross profit margin, Operating Profit Margin, Net profit margin Ratio.
Gross profit is a very important measure of profitability, because without an adequate gross margin, a company will be unable to pay its obligations and build a sustained strategy.
The Operating Profit Margin measures the company's ability to turn sales into pre-tax profits and should be used to compare the company with others in the same industry. In general, the operating profit margin is an indicator of management skill and operating efficiency.

Net profit will reveal if a company generates a final positive or negative cash flow. The Net Profit Margin ratio can measure how efficient the company was and it also measures the effect of financial expenses on the company and can compare the performance of one year with other years and competitors.

Solution G: Application of some general ratios:

Using the TAP data, the next table shows the earnings for 2003, 2004 and 2005.

Table 4: Analysis based on sales

Year	2003	2004	2005
Gross Profit	42,63%	38,64%	30,11%
EBIT	3,32%	1,83%	-0,35%
Net Profit of the Year	1,36%	0,59%	-0,59%

Source: Made by the author

The gross profit margin is positive every year, although the value is decreasing year by year, showing the strong impact of variable expenses.

Compared with operating profit margin, TAP also reveals a deficit performance, showing a strong impact on fixed costs on the accounting and financial performance of the company.

The Net profit margin is decreasing year by year, although it is important to say that the financial costs are not the ones that represent a higher risk for the company, by the difference between operating and net profit margin.

Note: For additional information see annex 4

2.2.1.2.4.3 Growth

Growth is related to the expansion process and the more as the firm grows the more resources they can access and need (Akpinar, 2009).

The growth analysis consists of understanding if the main variables are growing at the same rate, such as sales and revenues, operating profit and net income, assets and shareholders' equity earnings per share, dividends per share. The growth analysis should also be used to compare with

the overall economy, where companies with slower growth than inflation, are 5 times more likely to go bankrupt in the future (Smit *et al*., 2008). The proper use of this mechanism should use at least 3 years' data and then a comparison between those years, using a simple Yearly Growth Rate and Average Growth Rate (CAGR).

Solution H: Application of some general ratios:

The next table summarizes the most relevant points to analyse in terms of this company's growth.

Table 5 - Growth analysis

YEAR	2003vs2004	2004vs2005	CAGR
Sales	6,98%	2,96%	4,951%
EBITDA	-18,81%	-32,55%	-26,001%
EBIT	-41,22%	-119,55%	-29,781%
Net Income	-53,26%	-202,18%	ND
Total assets	-5,98%	13,98%	3,52%
Total equity	-15,03%	40,90%	9,42%
Total liabilities	-5,81%	13,52%	3,52%

Source: Made by the author

One can conclude that the company's growth does not seem sustainable as it has decreased over the years, with a negative net income in 2005. By decreasing the CAGR of EBIT and EBITDA it is possible to understand the impact of variable costs, fixed costs and depreciations on the company's accounts.

The company has to improve and underpin the operating position. This point shows the increase in variable expenses such as fuel in the composition of a negative perspective for the company.

Another critical point that should be analysed carefully it is the increase in liabilities, which can put the company in a critical financial position.

2.2.1.2.4.4 Profitability

Profitability is essential for a company to remain healthy since it allows it to grow using its own financial resources. Although the theoretical relationship between company growth and profitability is unclear and has not been the subject of uniformity in empirical research (Coad and

Hölzl , 2010), one common opinion is that profitable firms are abler and motivated to grow, because they should have more of their own financial resources and may be able to sustain growth (Nelson and Winter, 1982), confirming the financing constraint theory and the pecking order theory.

The financing constraint theory (Goldratt, 1990) argues that non profitable companies which do not own resources from retained earnings to invest will probably disappear because of a lack of sustainability. The money from retained earnings equals to the internal capital, which should be used before external capital, according to the pecking order theory.

The matter to analyse is to understand if the company was able to generate profits in the past if it will continue to do so in the future and analyse the trends in profitability related to the company. The way to calculate the profitability generally uses ratios. These ratios measure the economic, operating and financial profitability of a company: Using Return on Sales (ROS); Return on Assets (ROA), Return on Invested Capital (ROIC) and the Return on Equity (ROE).

The Return on Sales is calculated based on EBIT and sales. Higher values of this ratio reveal a higher operating profitability, indicating a good perspective of sustainability based on the historical values of the company.

Return on Assets measures the operating efficiency based on the firm's generated profits from its total assets. Again, a higher value expects the company to be economic profitable.

Return on Invested Capital represents the return generated by the allocation of capital by the company, giving a perspective of how well a company uses its money.

Although higher values of ROIC predict a positive creation of value for the owners, it is essential to compare this ratio with the cost of capital expect by them. If ROIC is higher than the cost of capital then the company is being managed in order to increase the value of the company; ROIC can be also considered as an economically profitable ratio Higher values demonstrate a better performance of the company and higher chances to lead it to success.

Return on equity can be seen as a measure of financial profitability, revealing how much profit a company generates with the money invested by providers of equity capital, where higher values reveal better performances. The ROE is also essential to calculate sustainable growth. In order to help the management team know what they need to do, the calculation of the sustainable growth is a must, not only for financial reasons but also for performance evaluation. The reason is

because sustainable growth shows the highest value of future earnings and sales can increase without the need to borrow more funds or issue new equity.

Note: Consult segment 2.2.4.2.2.2 – Presentation of EVA (other methodology of management performance analysis)

Solution I: Application of some general ratios:

In order to analyse TAP's profitability, the following table shows the most important ratios.
Table 6 – Profitability analysis

Table 6 : Profitability analysis

Year	2003	2004	2005
ROS	3,32%	1,83%	-0,35%
ROA	5,01%	3,82%	2,18%
ROIC	5,77%	3,94%	-0,78%
ROE	78,23%	43,03%	-31,21%

Source: Made by the author

The return on sales is decreasing year by year, affected by external forces and from a not yet adequate strategy in order to make the company operate profitably. The gross profit margin decreases, emphasizing the necessity of strong measures to ensure the company's survival. Again, it is advisable to invest in strategies that lead to cost cutting.

The return on assets follows the same trend as ROS, however, it is possible to see the increase in the asset turnover (revenues/Assets), showing an increase in the efficiency of TAP assets. The ROIC can be seen as good in 2003 and 2004, although in 2005 the value was negative and near 0, which follows the trend of the sector as a whole, showing the decrease of value creation by the decisions adopted by the management team.

ROE it extremely influenced by the low level of Equity compared to the level of net income, which make a very high return on equity in the first 2 years, but, in 2005 that does not happen and the company shows a weak position in terms of profits. The sustainable growth rate in this case is negative in 2005, which indicates the need to borrow more money.

Note: See annex 5, 6, 7, 8, 9 and 10

2.2.1.2.4.5 Risk analysis

Essentially the efficiency and response to the external environment are what is analysed here. As expected, a company faces some type of risks. The risk measure and analysis can be divided into 3 dimensions: Operating risk (Break even, safety margin and degree of operating leverage) and Financial and total risk (break even, safety margin, the degree of operating and combined leverage).

The company's financial risk is the result of its owners' or managers' choices of alternative financial solutions aimed at achieving the desired target financial performance in the probability of incurring economic damage (Perez , 2015), taking into account the operational and financial dimensions of the company. Al-Shamaileh and Khanfar (2014), say operating leverage refers to the influence of all fixed cost (less interest) in the profits generated by the company and the financial leverage is the effect of the interest on the company's accounts. It is also possible to identify a combined leverage factor, the effect of both risks simultaneously, measuring the impact of changes in the level of sales on the value of earnings before taxes (Al-Shamaileh and Khanfar, 2014).

This analysis is extremely important in a world where uncertainty is increasing day by day. It is essential for all businesses to try and reduce risk to a minimum level (Baturina, 2009). Risk can be influenced by external (level of the economy, the rate of inflation, the environment of supply and demand, the level of competition) and internal factors (company's strategy, the existence of funds, the amount of equity, skill level of the team) (Greuning *et al*., 2000).

Basically, the most important factor is to study the main risks the company is facing, to understand if the earnings are going to react to an economic downturn, to see the volatility of the earnings and to be able to know if the company's exposure to risk is growing, decreasing or stable.

Solution J: Application of some general ratios:

Table 7 : Risk analysis

Year	2003	2004	2004
Operating analysis			
Safety margin	8,45%	4,96%	ND
Sustainable Sales Drop as a %	7,80%	4,73%	ND
Degree of Operating Leverage (ex ante)	12,83	21,16	ND
Degree of Operating Leverage (ex post)		-5,90	ND
Financial analysis			
Safety margin	19,57%	15,93%	ND
Sustainable Sales Drop as a %	16,37%	13,74%	ND
Degree of Financial Leverage	2,22	2,50	ND
Combined Leverage Degree	28,53	52,94	ND

Source: Made by the author

Again, and following what is expected by the previous analysis, the company shows a very high risk in general. The main reason comes from the operating level, where the company should try an intense strategy to change this point. The main conclusion is that TAP is very sensitive to any environmental changes, with "limited leeway" to respond those changes, as revelled by the level of safety margin and degree of operating leverage.

In terms of financial leverage, the company shows less risk than operational dimension, with values highly under from the operation risk. This means that what is explain the current financial position of the company, it is, mainly explained by operational expenses rather than interest expenses.

The level of combined leverage degree is extremely high, and it is increasing substantially year by year.

The main conclusion is that TAP must come up with strategies that reduce the company's risk, with the necessity of increasing the ROS in order to decrease the level of operation leverage. In order to have access to more sources of capital at reasonable prices to finance the sustainable growth of the company.

Note: Consult annex 11 and 12

2.2.1.2.4.6 Financial Health

Even if the main goal of a company is growth and profits, there is, as said in the growth section, a need for a sustained level of growth so the current assets can pay off their liabilities, where the financial health can be seen as the company's liquidity.

Mateev and Anastasov (2010) said that current ratio is a way of measuring a company's short-term liquidity, dividing the current assets by the current liabilities. Companies with higher ratios present higher liquidity. The lack of liquidity will lead a company to face difficulties in access to capital as well as higher capital costs. Positive working capital and a good relationship with suppliers is a good start for a good liquidity position (Beekman and Robinson, 2004). Bad liquidity in the medium/long term can lead a company to bankruptcy, based on the equity situation.

A healthy liquidity position will lead the company to have good cash in the current assets, that can be used as investment capital or cash guarantees, allowing the company to grow and increase its earnings. Gill and Mathur (2011) concluded that firms with positive liquidity levels face less severe financing constraints.

However, having the money and not investing it is good for the suppliers but it is not the best way to increase the return for the investors since it is expected that an investment should provide a higher rate of return than having the money in the bank.

Here is also important to analyse the company's solvency, since the healthier the company, the easier it is to face long-term liabilities. Again, the higher the ratio, the higher the level of solvency of the company or, in other terms, the lower the risk of the company going bankrupt. Also, it means that the company has enough equity to face its liabilities.

To sum up, the main issue is to study the company's ability to pay all its debt obligations, by analysing if there is a match between the liquidity of the assets and the maturity of the liabilities. In other words, the liquidity of the company.

This analysis also uses the functional balance sheet analysis, which shows the company's financial position at a single point of time, providing the value of net treasury, by two distinct approaches.

Solution K: Application of some general ratios:

The next table presents TAP's financial health analysis, complemented with other ratios.

Table 8 : Financial health and other ratios

Year	2003	2004	2005
Functional Balancesheet			
Net Working Capital	- 215 271 812 €	- 231 276 860 €	49 360 868 €
Net Operating Working Capital Needs or Requirements	- 177 009 769 €	- 191 684 292 €	- 173 075 704 €
Net treasury	- 17 104 815 €	- 22 241 897 €	241 100 393 €
Fixed Assets Coverage			
By total Equity	2%	2%	3%
By permanent (or long term) Capital	77%	73%	106%
Equity/(Intangibli+ land and other non depreciable fixed assets)	87%	43%	48%
Liquidity			
Current Ratio	0,58	0,58	1,11
Quick Ratio or Acid Test	0,53	0,52	1,01
Solvency	2%	2%	2%
Total Equity/Total Assets (inclunding Minority Interests)	2%	2%	2%
Interest bearing debt/Total assets	14%	12%	29%
Total Liabilities/Total assets	98%	98%	98%
Liabilities struture (% of Liabilities due in short term)	42%	47%	35%

Source: Made by the author

The net working capital is negative in 2003 and 2005, negatively affecting the company's treasury. On the other hand, as expected for an airline company, the value of operating working capital is negative, meaning a positive approach to the payment/receivable periods, which affects the treasury of the company positively.

The net treasury (second approach) is negative in 2003 and 2004, with a substantial increase in 2005 caused by an increase in Net working capital. Essentially, the positive net treasury in 2005 it is prevenient from a long term loan. This can be considered a negative point in TAP's financial health, where the treasury represents the capacity of paying the company's obligations as well financing future growth and investments.

The fixed assets coverage also represents a company that is almost totally financed by debt, with a high percentage of equity covering the assets, however, it is possible to see an improvement of that in 2005.

In terms of liquidity, both ratios show a non-liquidity company in 2003 and 2004, where the current ratio is under 1.5 and the acid test under 1. Nevertheless, in 2005, there is an increase in company liquidity, making the acid test positive in 2005.

Finally, the solvency of the company it is extremely low, a fact mainly explained by the low level of equity in the company that is reflected in the company's liability structure.

Note: For additional information see annex 13, 14 and 15

2.2.1.2.4.7 Sources of financing

One of the pillars of the Pecking order theory (Myers and Majluf, 1984) is asymmetric information (managers know more about the company than investors). Basically, a company will use different sources of capital at different moments (internal or external), starting with internal financing (the cheapest way to be funded), debt and finally by issuing new equity. But the faster a firm grows, the more external financing is used (Durinck *et al*., 1997). As one can conclude, as asymmetric information increases, so does the cost of capital.

By issuing more equity, investors believe the firm is overvalued and it is perceived as an act by managers to take advantage of the over-evaluating company, as a result, investors place a lower value to the new equity issuance.

Conclusion, the financial strategy has to deal with all these constraints, constantly searching for sources of capital to finance the company at the lowest cost.

2.2.1.2.5   Conclusive tool of internal analysis: IFE

As we can see, internal analysis is complex and it could be a challenge for the managers to identify and describe the key factors in the internal environment. This analysis should be based on the activities identified in the value chain, proceeded by the resource description and then use them in each activity respectively.

So, in order to summarize and be more specific in terms of the points that need to be looked at in the internal assessment, they can be divided into 6 dimensions: management – ability to plan, monitor, implement, communicate, organize- , finance/accounting – past, present, marketing – defining, anticipating, creating, fulfilling customers' needs and wants, production/operations – all steps from the transformation process, research and development- discovering and applying new knowledge; product design -design capability ; sales and distribution –sales promotion and their

effectiveness, distribution speed , quality of the customer service and its effectiveness (David, 2011 ; Grant, 2010).

As for the external factors, David (2011) defined the internal factor evaluation matrix to understand how a company is more specifically in terms of internal forces, in which the goal is, based on what is described before, to identify at least 5 relevant strengths and weakness, the most specific possible (using numbers, percentages, ratios, comparisons). Each factor should be given a weight that may be based on industry information from 0 – not important for success in the industry- to 1 – very important to be successful in the industry, where the sum off all weights should be equal to 1. After that, each key factor is assigned a rating from 1 – major weakness, 2 – minor weakness, 3 - minor strength and 4 – major strength and multiply them by the previous weight of importance for success. Finally, sum the multiplication for each key factor which will be as limit 1- a weak internally or 4 – strength internally. David (2011) considered the average total as 2.5 – average performance.

Solution L Possible application of IFE matrix with hypothetical information of TAP:

The next table it is a proposed application of IFE, based on the previous information.

Table 9 : IFE Matrix

	weight	Rating	Weight Rating
Strengths			
Management team	3,0%	4	0,12
Strong Partnership	5,0%	4	0,20
Modern fleet	5,0%	3	0,15
Increased efficiency	2,5%	3	0,08
Good integration of internet- E- Commerce	4,0%	3	0,12
Top of mind in Portugal	1,5%	4	0,06
Leader in Portugal for Passengers and cargo - air transport	3,0%	3	0,09
Differentiation	3,0%	3	0,09
Market leader in Portugal	6,0%	4	0,24
International presence-slots in international airports	7,0%	3	0,21
Strong connection to portuguese cultures	10,0%	3	0,30
Recognized as a very safe company	5,0%	4	0,20

Weaknesses			
Bad approach to price of oil	10,0%	1	0,10
Service is not proper to competite with low costs	4,0%	2	0,08
Market diversification	2,0%	2	0,04
Not a sustainable strategy to some routes	5,0%	1	0,05
Not profitable and lack of liquidity	2,0%	1	0,02
Actual sales Growth it is not sustainable	3,0%	1	0,03
Internal rivalities	2,0%	2	0,04
Access to capital	5,0%	1	0,05
Operations- increase of leased aircraft	7,0%	1	0,07
Punctuality and Luggage problems	5,0%	1	0,05
Total	**100%**		**2,39**

Source: Made by the author

After applying the methodology, it is possible to see from the score of 2.39 that TAP it is not able to lead and use the internal forces at maximum level, in order to boost the company. This means that TAP should prioritize strategies that maximize the strengths and opportunities and minimize the threats to the company.

2.2.1.3 Competitor's analysis and comparing tool: CPM

Going through the methodologies to position and situate a company in order to adopt the best strategy, it is advisable to apply Competitive Profile Matrix (CPM). CPM it is a more extensive mechanism to analyse the synergies between a company's internal forces and the external behaviour of direct competitors (Comparison of performances between the company and its main competitors – using the critical success factors for that industry) (Zimmerer *et al*, 2008). One big advantage of CPM is "analysing organizations in this manner is an effective way to evaluate many competitors in one framework to support an effective strategic plan" (Fleisher and Bensoussan, 2003).

The construction of a proper CPM implies a deep knowledge of the company's internal and external forces, and should also imply at least, minimum knowledge about the competitors. However, gathering solid information from the competitors can be a very hard task. Bygrave and Zacharakis

(2011) conclude that it could be easy to access information for companies with public information but for private companies or operating in stealth mode, this could be a very hard task.

Zimmerer *et al.* (2008) state three ways to construct a company's CPM:

1. Identify the critical success factors that fit the company and give them a respective weight according to their relative importance for success in the industry (an example of some generic critical success factors: product quality, market share, management experience, inventory system, sales distribution).

2. Choose the main competitors to compare on the matrix and rate each of the critical success factors chosen for the companies (including the one in the study), based on the information gathered. The ratings are from 1 to 4, where 1 stands for major weakness, 2 stands for minor weakness, 3 stands for minor strength, and 4 stands for major strength

3. Multiply the weight of each factor for each company by the respective rank attributed to the performance of the companies on that point

In conclusion, it is possible to rank the companies based on the total weighted score for the companies.

Solution M : Possible application of CPM with hypothetical information of TAP:

The example of application CPM is presented in the next table.

Table 10 : CPM

CSA	weigh	TAP		Sata Azores		Portugalia		Easyjet	
		rating	score	rating	score	rating	score	rating	score
Advertising	5%	3	0,15	2	0,10	1	0,05	4	0,20
Customer Loyalty	15%	4	0,60	3	0,45	2	0,30	1	0,15
Market Share	10%	4	0,40	2	0,20	3	0,30	2	0,20
E-Commerce	7%	3	0,21	2	0,14	1	0,07	4	0,28
Price Competitivess	13%	2	0,26	2	0,26	3	0,39	4	0,52
Branding	15%	4	0,60	3	0,45	2	0,30	2	0,30
Customer Service	10%	4	0,40	3	0,30	3	0,30	2	0,20
Fleet	5%	3	0,15	2	0,10	1	0,05	4	0,20
Financial Position	15%	1	0,15	2	0,30	2	0,30	3	0,45
Secutiry	5%	4	0,20	3	0,15	3	0,15	3	0,15
Total	100%		3,12		2,45		2,21		2,65

Source: Made by the author

The main conclusion is that TAP shows the best competitive position in the market, with a classification of 3,12, EasyJet is the second company with a strong competitive position in the market, with a score of 2.65. Basically, TAP is better than all other competitors on almost all points except in financial terms, it is a very significant weakness that the company must improve in order to increase its long-term competitiveness. In terms of price competitiveness, it should adopt a strategy to fix this situation. Following the company's commitments towards its clients, it is also possible to conclude that TAP has the highest customer loyalty and perceived customer service.

2.2.2 Matching Stage

The concepts and strategy literature about successful companies are linked to financing. In fact, it is impossible to evaluate the real effects on value creation of an adopted strategy without performing adequate financial control; but it is also impossible to understand and learn anything from financial analysis without knowing the business, industry and overall environment. Zook (2004) and Collins (2001) said those connections are even more important when there is no competitive advantage or value creation but when there is sustained growth which exceeds the industry and equity markets over the time. The authors also conclude that only 10% of large companies are able to sustain the expected growth. The learning is that for achieving and sustaining growth, companies must define a strategy bearing in mind the competitive dynamics and internal situation, which should be flexible so as to fit unexpected situations.

2.2.2.1 Types of strategies to use

After analysing the internal and external environment, it is important to introduce the reader to other strategies that could be applied rather than the generic approach strategy explained in section 2.2.1.

In order to understand the best strategy to use, it is important, first of all, to define the purpose (profitability/sustainability) of the strategy and then divide the concept into 3 dimensions: (1) strategy process – steps to create a strategy; (2) strategy content – levels of strategy and relations

with the external environmental; (3) strategy context- endogenous variables of strategy (Wit and Meyer, 2010). Wit and Meyer (2010) defined each dimension in :(1) it is composed of strategic thinking (logic/creativity), strategy formation (deliberateness/emergence); strategic change (revolution/evolution); (2) it is composed of business level strategy (markets/resources), corporate level strategy (responsiveness/synergy), network level strategy (competition/cooperation); (3) it is the industry context (compliance/choice), organizational context (control/chaos) and international context (globalization/localization).

Analysing the strategy content in more detail, it is possible to say that the strategy the company followed can be seen as the strategy content, which is the output of the strategy process, one essential point of this work. As the case has emphasized, the strategy must take into account the internal and external environment of the company. Therefore this, it is necessary to have a strategy that "fits" either reality or the company will start decreasing is performance. Bearing this in mind, it is necessary to ensure that all levels of an organization fit at each level of aggregation within the firm.

At each level, the strategy followed should take into account the external consonance and internal consistency of the organization. We can also expect an alien strategy between each level of aggregation, for a sustainable and adequate strategy at all levels.

The internal consistency means integrating the respective level strategies with the other lower levels to increase the internal consistent as a whole

The external consonance can be understood as aligning the levels of strategies with the respective external demands of each strategy.

The content of the strategies, based on the level of aggregation and organization, are shown in the image below:

Figure 3 : Content of strategies based on level of organization and aggregation
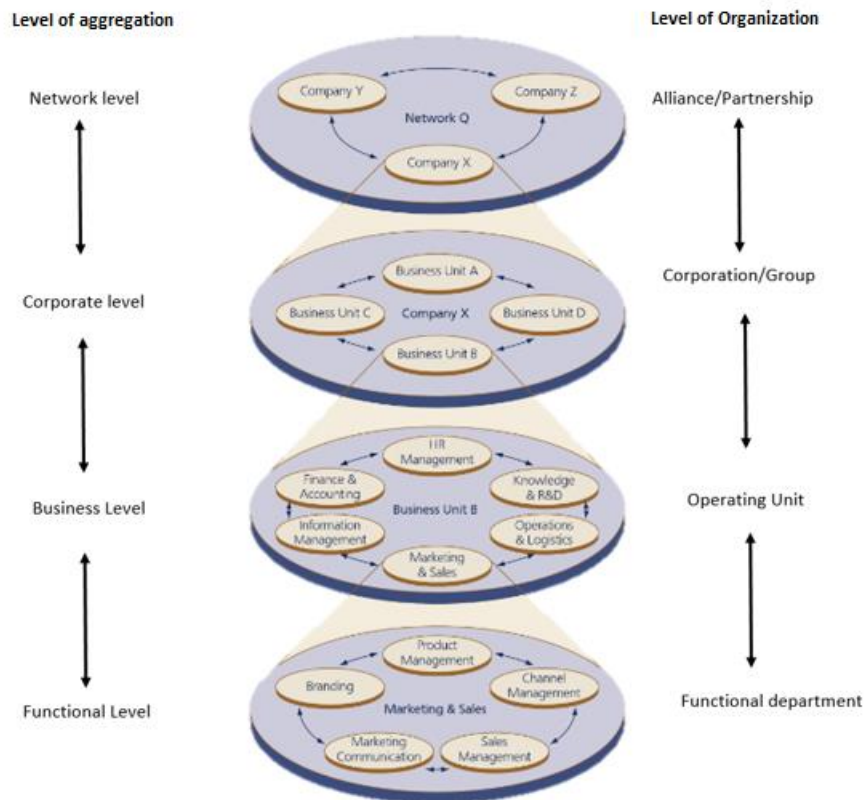
Source: Wit and Meyer (2010)

After this, the goal is to expose the 5 main strategies that a company can use to compete successfully in the market where it operates, and where all levels, depending on the company characteristics, should take into account and integrate in its actions and decisions: (1) integration strategies, (2) intensive strategies, (3) diversification strategies, (4) defensive strategies and (5) joint ventures.

2.2.2.1.1 Integration strategies and Joint Venture

Integration is acquiring (purchasing) a new business. There are 3 types of integration: Controlling more than one activity of the value chain that can be backward – down streaming in the value chain, more into supply chain- or forward – upstreaming into the value chain, clients (Porter, 1980). There is also horizontal integration that can be understood as strategic alliances to

share assets to identical goals, usually companies in the same industry (Hung, 1992). According to Harrigan (1987) strategic alliances can be divided according to the capital participation - (1) partial equity ownership (joint venture), full equity ownership (merger and acquisition) - or not by some company

2.2.2.1.2   Intensive and diversification strategies

In order to show the reader what types of intensive and diversification strategies an organization can adopt, it is essential to introduce the Ansoff matrix. This matrix identifies and helps define development strategies (Ansoff, 1988). Ansoff (1988) states that the model is based on a firm's present and potential products and markets in order to define the future strategy direction into new/existing markets with the new/existing product.

Figure 4 : Ansoff Matrix

Source: Ansoff (1988)

The author says there are 4 strategic directions that a company can adopt:

1. Market penetration: The company will try to increase its market share. It should base the strategy on dominating an increase in growth market by increasing promotion and campaigns. The goal is to retain and increase market share by price or adding product value.

2. <u>Market development</u>**:** The firm expects to increase profit by expanding into new market segments. The company will look to new geographical markets, new markets segments or distribution channels.

3. <u>Product development</u>**:** Aims to increase the firm's strengths based on its specific customers. The company will look to what customers need and what they could need in the future. This requires a lot of research and development and it is also a possible way for brand extension.

4. <u>Diversification</u>**:** The main goal of this strategy is to grow and increase profits by diversifying into new businesses with the development of new products for new markets (Ansoff 1988). There are two possible points of diversification that can be made: (1) concentric – new strategic business is related to existing core business unit, by creating new products; (2) conglomerate - the firm enters into a new business area that is completely out of the existing business area core (Wheelen and Hunger, 2011; Ansoff, 1987).

Concentric diversification can be divided according to the direction of new products in the value chain stages. The classification of diversification follows the logic of the integration strategies. The difference resides in achieving the diversification whether by it is own resources or by acquiring another company (integration strategies).

Conglomerate diversification means that a company enters into a new business not related to any other type of business that the company has (Ansoff, 1987).

2.2.2.1.3   Defensive strategies

Defensive strategies can be seen as a bad sign of the market or the company's performance. The defensive strategies can be defined as (1) Retrenchment - designed to increase basic distinctive competence, restructuring of the organization by cost and asset reductions (David, 2011); (2) Divestiture - sale of a business or a part of it by finding a buyer for the expected sale value or by spinning the unit off as an independent company, where the parent could have partial ownership or not (Strickland and Thompson, 1997); (3) Liquidation - consists of selling all the company's assets, in parts for their accounting value.

2.2.2.2 Defining the range of strategies

The tools for defining the best range of strategies that a company can use, based on its reality this is, based on IFE and EFE conclusions, are divided into two dimensions, with different methodologies: general alternative strategies (Space Matrix, IE matrix, and Grand Strategy matrix) and specific alternative strategies (SWOT/TOWS). Again, it is important that all strategies bear in mind the company's value, mission and vision.

2.2.2.2.1   SPACE

SPACE is an analytical tool first developed by Rowe and Mason, in 1994, which had subsequent editions. It is possible to consider it as a summarized model which implies the use of information from Porter 5 model and value chain, BCG and SWOT analysis (Cross and Henderson, 2003), and many other analysis should be used there. SPACE can be seen as a way to position the company in terms of competitive position, based on internal and external factors.

The matrix is composed of the internal environment – financial strengths (FP) and competitive advantage (CP) - and external environment– environmental stability (SP) and industry strengths (IS) (David, 2011; Radder and Louw, 1998).

The key dimensions for each variable are based on David (2011) and Radder and Louw (1998):

FP: Return on investment, leverage, liquidity, working capital, cash flow, inventory turnover, earnings per share, price earnings ratio.

CP: Market share, product quality, product life cycle, customer loyalty, capacity utilization, technological know-how, control over suppliers and distributors.

SP: Technological changes, the rate of inflation, demand variability, the price range of competing products, barriers to entry into the market, competitive pressure, ease of exit from market, price elasticity of demand, the risk involved in business.

IP: Growth potential, profit potential, financial stability, extent leveraged, resource utilization, ease of entry into the market, productivity, capacity utilization.

The steps for using this method are based on David (2011) and Radder and Louw (1998):

1. Define a set of variables to define the 4 dimensions of the model

2. Rank between +1 (Worst) to +6(best) and -1(best) to -6 (worst) to FP/IP and SP/CP dimensions, respectively

3. Compute the average of each block and then for x-axis CP + IP and y – axis: FP+SP

One can conclude that for each quadrant a range of strategies can be used –figure 5.

Figure 5 : Strategies from Space Matrix analysis
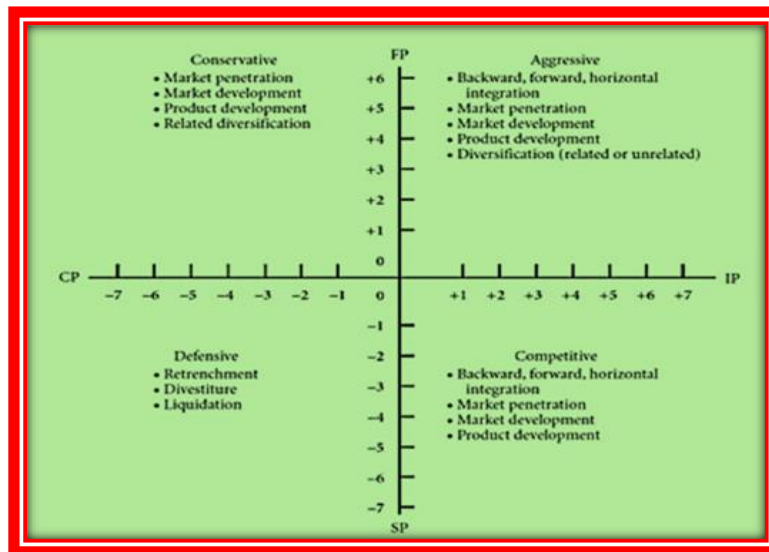
Source: David (2011)

Quadrant 1 can be called aggressive and companies should try to face the competitors (financially strong firms in a growing and stable industry), 2 as conservative the companies should try to go through diversification (financial strength in a stable industry not growing, few competitive advantages), 3 as a defence posture (weak competitive position in a negative or unstable industry) and 4, competitive posture – raise capital (high competitive advantage in unstable or high growth industry) (David, 2011).

Solution N: Possible application of Space matrix with hypothetical information of TAP:

Table 11 : Space matrix

Financial Strengths	FP	Environmental Stability	SP
Return on investment	2	Tecnological changes	-1
Leverage	1	Rate of inflation	-1
Liquidity	1	Demand variability	-3
Working Capital	2	Price range of competing products	-5
Cash Flow	3	Barriers to exit into market	-5
Inventory turnover	4	Competitive pressure	-4
CDL	1	Price elasticity of demand	-5
		Risk involved in business	-5
Total	2	Total	-3,625
Competitive position	CP	Industry position	IP
Market share	-1	Growth potential	5
Product quality	-2	Profit potential	3
Product life cycle	-2	Financial stability	2
Customer loyalty	-2	Extend leveraged	5
Capacity utilization	-2	Resource utilization	5
Technological know-how	-1	Ease of entry into market	6
Control over suppliers and distributors	-3	Productivity , capacity utilization	4
Total	-1,857	Total	4,286
Variables			
y:	-1,625		
x:	2,429		

Source: Made by author

TAP, as shown in the space matrix, can be considered to be in the competitive company quadrant, where companies show a competitive advantage in a high-growth market. However, there is a need of financial resources. The strategies advised for that position, based on the financial condition of the company, are the range of intensive strategies.

2.2.2.2.2   IE – matrix

The Internal-External Matrix (IE) is another tool to show the best range of strategies to adopt, taking into account the company's competitive position. This matrix incorporates the effects

of external and internal factors in the one methodology, using the values from EFE and IFE matrix. The model it is constructed in 2 dimensions:

x-axis: IFE total weighted score, divided into 3 cells that show a weak (1≤IFE<2) , average (2≤IFE<3), strong internal (3≤IFE≤4) position.

y-axis: EFE total weighted score, divided into 3 cells that show a low (1≤EFE<2), medium (2≤EFE<3), and high performance (3≤EFE≤4) relative to external forces.

Putting both classifications in the model it is possible to define 9 blocks where a company can be. David (2011) divided them into 3 main groups:

Grow and build : cells I, II, IV: Strategies that should be adopted – Intensive or integrative

Hold and maintain : cells III, V, VII: Strategies that should be adopted – Market penetration and product development.

Harvest or divest: cells VI, VIII, IX: Strategies that should be adopted – Liquidation, retrenchment and divestiture.

Figure 6 provides some interpretations and types of strategies to use, based on the company's position in the IE matrix

Figure 6: Strategies based on IE matrix

IFE

Source: GE / McKinsey Matrix David (2011)

We can conclude that successful organizations are the ones positioned in cell I or around from IE matrix.

For companies with various divisions, the size of each circle in the IE matrix should represent the percentage of sales contributed by each division, and pie slices reveal the percentage profit contribution of each division (David, 2011).

Solution O : Possible application of IE matrix with hypothetical information of TAP:

As calculated before, the EFE value was 2.59 and the IFE value was 2.39. For the IE matrix, this shows that TAP has a medium performance to external forces with a medium internal position. The application in the cells of those results concludes that TAP is in cell 5, which means a company in a position of hold and maintain. The best strategies for a company in this situation are market penetration and product development. For example, the reinforcement of Brazil market.

2.2.2.2.3   Grand Strategy Matrix

The Grand Strategy Matrix is based on the competitive position of a company and market growth, by positioning the company in one of four quadrants based on its performance and market growth (David, 2011).

Figure 7 : Grand Strategy Matrix
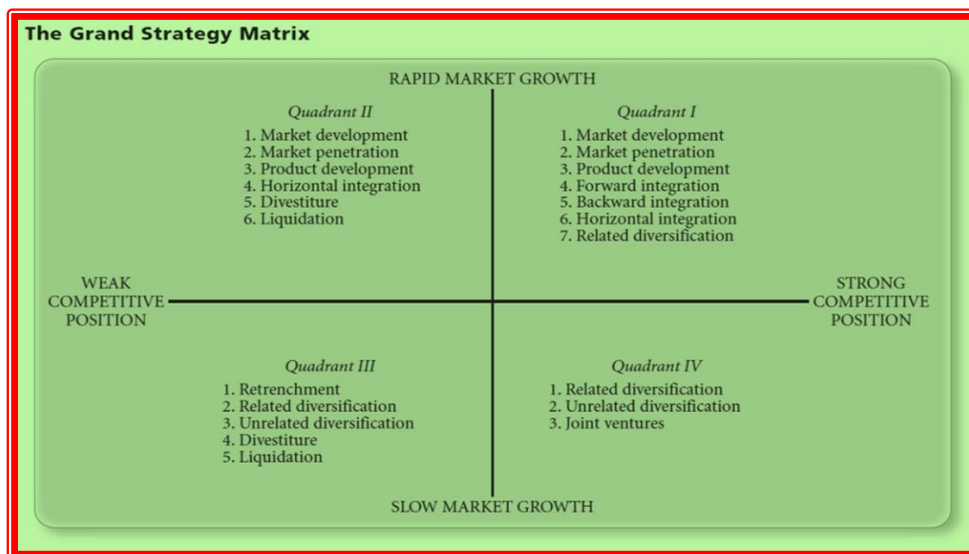
Source: David (2011)

Based on the competitive position of a company and market growth, each position will imply different strategies. Companies in **quadrant I** represent the best position a company can have, with a growing market and strong competitive position and they should use and take that advantage as long as they can, using and focusing on intensive strategies. Usually, companies in this quadrant are focused on a single product, where it is advisable, if possible to go into a diversification strategy to minimize that risks. Depending on the financial position of the companies, it is possible to them to follow a range of integrative strategies.

Companies in the **quadrant II** are not fighting competently in a rapid growth industry, characterized by the use of intensive strategies. They must conduct an internal and external valuation in order to improve the strategic position. If the company does not have a competitive advantage, based on its financial resources, it should adopt an integration or liquidation strategy, respectively.

Quadrant III is defined by a market that grows slowly and the company does not show a strong competitive advantage. Firms should adopt retrenchment strategies at first, in order to sustain and increase their competitive position in the market and then use the resources, if possible to proceed towards a diversification strategy.

Quadrant IV is characterized by companies with a strong competitive position in a slow growth market. These firms should have an adequate level of resources to proceed for a range of diversification strategies, in order to spread the risk of the company. Those firms should also analyse the possibilities of Joint venture strategies, so as to use the opportunities that the market can give.

However, the most important thing to bear in mind are the company's resources and abilities and know how to match them to the strategies that Grand Strategy, IE and Space matrix and other tools and knowledge of the decision propose, to take an adequate action for the reality of the company.

Solution P: Possible application of Grand Strategy matrix with hypothetical information of TAP:

It is possible to place TAP in the first quadrant of the Grand strategy matrix, since, regardless of the company's financial position, TAP has been the market leader in Portugal for many years, showing a high competitive position in a market that has a positive growth. The best strategies to be taken into account by the analysis of the company are, again, the intensive ones.

2.2.2.2.4   SWOT and TOWS

The alternative strategies are the ones that are specifically applicable to each company, based on the internal and external analysis, providing a more individual and personal description of future strategies to be adopted.

After analysing the internal and external factors of a company and by using the IFE and EFE matrix, we can classify the company's performance in those dimensions. However, the relationships between those two variables should be identified in order to allocate the present company's resources in the best way considering the opportunities and threats. As Mintzberg (1979) pointed out, companies should combine the activities that accounted for past successes with new strategies bearing in mind the organizational strengths and market opportunities while knowing the timing to do it. Well-managed companies should, over the time, be able to gain sustainable competitive advantage, adapt to the external environment and achieve the redefined goals (Rumelt, 1980).

SWOT, an acronym for strengths, weakness, opportunities and threats, is a tool that summarizes the information and can be used to generate strategic options for the current situation and/or the future, identify current problems in order to solve them and face the ambiguity of the environment, providing information that can help the organizations match the sector resources and capabilities to survive in the environment where they operate. (Afuah, 2009; Johnson *et al*., 2008); Sorensen).

As Boddy (2008) pointed out, a SWOT analysis takes into account the external – threats and opportunities - and internal environment– weakness and strengths - through the use of information from PESTEL, Porter's five forces to the external environment and an internal look at the company by describing the weaknesses and strengths.

SWOT analysis are used extensively and are one of the most well-known strategic planning techniques (Hill and Westbrook, 1997). However, it is important that the factors from external and internal environment are respectively supported by the MBV and RBV Views factors (Chermack and Kasshanna, 2007), in order to face some critics related to the lack of theoretical explications about the dimensions of this tool. SWOT analyses are also criticized by easily misleading factors, lack of theoretical support, they are very subjective, they can be used to fit in an already planned strategy (Chermack and Kasshanna, 2007; Pickton and Wright, 1998; Hill and Westbrook, 1997).

Solution Q: Possible application of SWOT with hypothetical information of TAP:

Figure 8 : Application of a SWOT

Opportunities:

1- Recovery of the economy
2- Bankruptcy of Varig
3-increase   population,
tourism   and   migrant
movements
4-Deregulation   of   airline
companies
5- Deficient transports to
other European cities

Threats

1- Changing in behaviour of
consumers
2-   Internet   impact   on
industry
3- Increasing price of fuel
4- Competition in the market
5- Impact of low cost and
price on the costumer
6- Impact of other type of
forces: other transports or
internal problems

Strengths:

1- History, brand, and
   connection to Portuguese
   communities
2- Quality and security of
   the company
3- -partner of one of biggest
   alliances
4- International presence
5- Connection to
   Portuguese cultures

Weakness:

1- Growth not sustainable
2- Bad approach to price of
   fuel
3- Market not well diversify
4- Sources of financing
5- Service   not   able   to
   compete with low cost
   companies

Source**:** Made by Author

There is also the TOWS matrix developed by Weihrich (1982) where the goal is to identify relationships between the SWOT dimensions and to develop a range of alternative strategies based on that. In this matrix, threats and opportunities are examined first. The purpose is to examine how the company can take advantage of opportunities and minimize threats by exploiting strengths and overcoming weaknesses. In other words, using the resources in the best way to face the external environment. The strategies proposed by TOWS should also bear in mind the conclusion from SPACE, IE and Grand strategy matrix.

There are four types of strategies that companies can then use in order to face the environment (Weihrich, 1982):

Strengths & Opportunities (SO): maxi-maxi- strategies that use strengths to maximize opportunities. Here the companies should try to continually use strengths to maximize and use the opportunities in the market.

Strengths & threats (ST): maxi-mini- strategies that use strengths to minimize threats. The goal is to develop a strategy use the company's strengths to face the weaknesses.

Weakness & Opportunities (WO) – Mini-maxi- Strategies that minimize weaknesses by taking advantage of opportunities. Weihrich (1982) said companies in this situation have two possibilities: leave the opportunities to competitors or reallocate or invest in new resources to minimize the weaknesses.

Weaknesses & Threats (WT): mini-mini- strategies that minimize weakness and avoid threats. Companies in this situation may be in a bad financial situation (Weihrich, 1982).

The company should adopt strategies that minimize the weakness and external threats by maximizing the use of strengths of the company or should adopt strategies that maximize the opportunities and minimize threats by maximizing the use of the company's strengths, depending, respectively of the condition, EFE>IFE or IFE>EFE.

Solution R: Possible application of Space matrix with hypothetical information of TAP:

Figure 9 : Application of TOWS

STG 1: Use the good strategy position to increase the connections to Africa and South America (O: 1, 2, 3, 4; S: 1, 3)

STG 2: Use the internet and strategies to serve well the passengers and increase brand name (O: 1, 2, 3, 4, 5; S: 1, 2, and 3)

STG 1: Use the recovery of the economy to find source of financing (O: 1; W: 1, 4)

STG 2: Define a strong position on Brazil in the world (O: 1, 2, 3; W: 1, 2, and 3)

STG 3: Increase the schedules by increasing the flying time of aircrafts to follow the expectations of market (O: 1; W: 3, 5)

STG 4: Fly to secondary cities in Europe (O: 5; W: 1, 3, and 5)

STG 1: Efficient fleet (T: 1, 3, 4, 5 S: 1, 2, 4)

STG 2: Diversify the Portuguese and European market (T: 4, 5, 6; S: 1, 2, and 4)

STG 3: better relationship with enterprises that necessary need to use aircraft (T: 2, 4, 6; S: 1, 2, 3, and 4)

STG 4: Use the name and the modern fleet to be more competitive in terms of value perceived by the workers and clients (T: 1, 2 4, 5, 6; S: 1, 2)

STG 1: finance instruments to avoid increases on price of oil (T: 2, 4; W: 1, 2, and 5)

STG 2: try to reduce the costs as max as possible (T: 2, 5, 6; W: 1, 2, 4, and 5)

STG 3: use strategies to reduce the use of fuel (T: 3, W: 2)

STG 4: reorganize better the airplanes (T: 1, 4, 5, 6; W: 1, 3, and 5)

Source: Made by Author

2.2.3   Strategy to adopt – Decision stage

Based on SPACE, grand strategy matrix and TOWS the management team should be able to describe the range of strategies that should be applied to the company at any time, using more generic alternative strategies (Space, IE, Grand strategy matrix) in the analyse or specific

alternative strategies (SWOT/TOWS). However, as the resources, especially financial ones, are limited, companies must choose which strategies to adopt in order to increase the company's value.

2.2.3.1 QSPM

This section will present a model, the Quantitative Strategic Planning Matrix, based on information tools already explained, in order to try to quantify the best direction for the company (David, 2011). David (2011) explains the process of using this matrix as (1) Use a minimum of 10 external factors and internal factors from IFE and EFE matrix and give them the respective weight (0 – 1); (2) Based on TOWS, SPACE, IE and Grand strategy matrix, define a group of strategies the company can use in the left Colum. (3) The next step is calculating the Attractiveness Scores (AS), which show the relative attractiveness of each strategy for each key factor. The process implies the user asking themselves if the factor affects the choice of strategy. In the case of affirmative values, the AS should be ranked as 1(not attractive), 2 (somewhat attractive), 3 (reasonably attractive) and 4 (highly attractive) for each key factor and each strategy and multiply by the weight to give the total weight score. In the case of a negative answer, a value of 0 should be applied for that key factor and for all strategies. Multiply each factor by the respective weight, giving the total attractiveness score (TAS). (4) Finally, add all TAS for each strategy and choose the one that shows the highest values.

David (2011) says that QSPM needs solid information in order for the manager to make proper and rigorous decisions. The information that is revealed is also essential to reduce the possibility of wrong judgments by the user. The logic is: the more important and relevant information one has, the more chances the user will be able to know and implement the successful strategy.

Solution S: Possible application of QSPM matrix with hypothetical information of TAP:

Table 12 : QSPM matrix

	weight	Stg 1 as	Stg 1 tas	Stg 2 as	Stg 2 tas	Stg 3 as	Stg 3 tas	Stg 4 as	Stg 4 tas
Opportunities									
Airline industry deregulated	1,25%	3	0,04	4	0,05	2	0,03	4	0,05
Economy in world - especially in the BRIC	3,00%	2	0,06	4	0,12	1	0,03	2	0,06
Localization of Lisbon Airport	2,50%	1	0,03	4	0,10	2	0,05	3	0,08
Economy in portugal	1,50%	4	0,06	2	0,03	4	0,06	4	0,06
Efficient airplanes	1,25%	2	0,03	3	0,04	4	0,05	1	0,01
Increase of tourism and emigrants in Portugal	5,00%	4	0,20	3	0,15	2	0,10	3	0,15
Bankrupcy of Varig	3,50%	1	0,04	3	0,11	4	0,14	2	0,07
Positive impact of demographic changes	1,25%	2	0,03	3	0,04	1	0,01	4	0,05
Defficient transports to other european cities	4,25%	4	0,17	1	0,04	2	0,09	3	0,13
Outside Portuguese communities	3,75%	2	0,08	4	0,15	1	0,04	3	0,11
Threats									
Low cost Companies	2,50%	4	0,10	2	0,05	1	0,03	4	0,10
Big competion in Market	3,00%	4	0,12	3	0,09	4	0,12	4	0,12
Effects of wars acnd catastrophic natural disasters	0,50%		0,00		0,00		0,00		0,00
Hard costs for changing some suppliers	1,00%		0,00		0,00		0,00		0,00
Force of travel agencies	2,00%	4	0,08	2	0,04	1	0,02	3	0,06
Price it is even more what clients look more	2,50%	4	0,10	2	0,05	1	0,03	3	0,08
Development of communication technologies	2,50%	1	0,03	4	0,10	3	0,08	2	0,05
Price of fuel	4,50%	2	0,09	3	0,14	4	0,18	1	0,05
CO2 preocupation	1,00%		0,00		0,00		0,00		0,00
Effects of other forces	2,50%		0,00		0,00		0,00		0,00
Trends and Lifestyle Changes	0,75%	3	0,02	2	0,02	1	0,01	4	0,03
Strengths									
Management team	1,50%		0		0,00		0,00		0,00
Strong Partnership	2,50%	2	0,05	3	0,08	2	0,05	4	0,10
Modern fleet	2,50%	2	0,05	4	0,10	4	0,10	1	0,03
Increased efficiency	1,25%	3	0,04	2	0,03	4	0,05	1	0,01
Good integration of internet- E- Commerce	2,00%	4	0,08	3	0,06	2	0,04	1	0,02
Top of mind in Portugal	0,75%	3	0,02	2	0,02	4	0,03	1	0,01
Leader in Portugal for Passengers and cargo - air transport	1,50%	1	0,02	3	0,05	4	0,06	3	0,05
Differentiation	1,50%	2	0,03	3	0,05	4	0,06	3	0,05
Market leader in Portugal	3,00%	2	0,06	2	0,06	1	0,03	4	0,12
International presence-slots in international airports	3,50%	4	0,14	2	0,07	1	0,04	4	0,14
Strong connection to portuguese cultures	5,00%	3	0,15	2	0,10	1	0,05	4	0,20
Recognized as a very safe company	2,50%	4	0,10	1	0,03	3	0,08	1	0,03
Weaknesses									
Bad approach to price of oil	5,00%	2	0,10	3	0,15	4	0,20	2	0,10
Service is not proper to competite with low costs	2,00%	3	0,06	2	0,04	2	0,04	3	0,06
Market diversification	1,00%	4	0,04	2	0,02	4	0,04	1	0,01
Not a sustainable strategy to some routes	2,50%	4	0,10	2	0,05	3	0,08	1	0,03
Not profitable and lack of liquidity	1,00%	1	0,01	2	0,02	2	0,02	3	0,03
Actual sales Growth it is not sustainable	1,50%	4	0,06	2	0,03	3	0,05	1	0,02
Internal rivalities	1,00%		0,00		0,00		0,00		0,00
Access to capital	2,50%	3	0,08	2	0,05	3	0,08	1	0,03
Operations- increase of leased aircraft	3,50%	1	0,04	1	0,04	4	0,14	3	0,11
Punctuality and Luggage problems	2,50%	3	0,08	1	0,03	2	0,05	1	0,03
Total	100,00%		2,540		2,3425		2,3075		2,38

Source: Made by Author

According to the QSPM matrix, Strategy 1 is the strategy that should be adopted, as it has the highest value in the tool (2.540) compared to the other strategies.

2.2.3.2 How financial previsions should have influence

According to the theory, the chosen strategy should be the one that shows the highest value in the QSPM matrix. Nonetheless, it can lead the manager to decisions that could have an extremely negative impact on the company, or over/underestimate some strategies. The reason behind this risk is that QSPM does not quantify the estimation of cash-flows that each of the strategies can generate properly. This means that between two strategies with similar points, the one with the higher values will be chosen. In fact, without using the proper estimation models it is impossible to know the financial impacts of the strategies on the company effectively, which could mean that the less quoted strategy in QSPM is the best choice to adopt.

In brief, this means that it is necessary to include that estimate as the last step for choosing between strategies, taking into account all other information. The challenge is then how to introduce the financial estimates of the company's strategies. A project can be considered a strategy, the financial literature states that a project should be rejected based on the positive or negative value estimates on the models.

Importance of estimating of the future

After analysing the past and present, it is fundamental to predict the future and sustain the adopted strategy (example: launch a new product, enter a strategic partnership, buy a new asset, invest in marketing) with an estimate of future cash flows generated by the company, helping in taking the decision – bearing in mind cash, timing and risk - to follow that strategy or not, based on the positive or negative results of the estimates. These decisions were essential because resources are limited and the company must make the best choice in order to increase the creation and maximization of the shareholders' value.

Bearing this in mind, the literature defines this issue and decisions as capital budgeting theory, which was defined by Peterson and Fabozzi, in 2002, as the process of analysing and selecting investment opportunities in long term assets where the benefits last for more than one year (Kengatharan, 2016). Therefore, the managers need to be able to value the effects of any

decision on the future financial performance of the company, taking into account the interests of ownership claims (Luehrman, 1997).

The capital budgeting approaches can have 2 categorizations, as Gordon and Pinches (1984) said as "Capital budgeting approaches that consider risk and the discounted cash flow stream associated with a project are often referred to as sophisticated methods. These methods also assume that capital budgeting decision makers act in a rational manner. In contrast, capital budgeting approaches that do not consider the time value of money and/or risk of a project are often referred to as naive methods. The most sophisticated techniques are the net present value (NPV) and Internal rate of return (IRR). The most popular naïve techniques are the payback period and the accounting rate of return.

Additionally, it is possible to divide between an analysis to an individual investment or to the company as a whole (Pike and Neale, 1999; Coopeland & Weston, 1992).

2.2.3.2.1   Net Present Value (NPV)

NPV is a simple way to calculate and estimate the net present value (NPV) for a given project or investment, discounting the future cash flow by an adequate rate for investors (based on their expectations for the return of the project) and, lastly, taking into account the cost of the investments (Custódio and Mota, 2007). The final cash flow is understood as the difference between cash inflows and outflows from capital expenditures (for example investment in fixed assets), operational cash-flow (from operational activities), investment in working capital (cash flow necessary for operations) and residual value (final value of the project).
Projects with positive NPV show positive perspectives, on the other hand, projects with negative NPV should be rejected. It is advisable to use the IRR and PP to complement the NPV analysis, and understand the possibility profitability of the project better.

Note: The NPV method will not be explained in practise because the work's purpose is to use a methodology of corporate valuation – FCFF, EVA/MVA, FCFE.

2.2.3.2.2   Company Valuation

The Discounted Cash Flow model will be used in the calculation and the evaluation of companies. Where the DCF model for corporation evaluation is designed to estimate enterprise value and the equity value of a firm (Dedi and Giraudon, 2013).

The model takes into account that the valuation of a company should be based on the future perspectives of cash flows, and not its current and past performance (Custódio and Mota, 2007).

The Discounted Cash Flow model, based on NPV method, divides the cash flows and discounts them at the rate that investors expect to earn from the project, over periods of time, giving more accurate information for making decisions.

DCF models split the forecast of the firm's financial performance into two periods: (1) explicit forecast period (number of years forecast) based on forecast income statement and balance sheets; (2) calculation of free cash flow after the forecast period – continuing value or terminal value (Jennergren, 2008) – bearing in mind the continuity of operation of the company after the period in analysis. As expected, it is desirable to take decisions that maximize the enterprise value of a company.

However, there is some criticism related to this method in terms of underestimating opportunity values of some investments and its difficult application in high volatility industries, reducing managerial flexibility (Deng and Oren, 2006; Dixit and Pindyck, 1995; Trigeorgis and Mason, 1987).

In short, DCF helps determine how valuable a company is today, based on future financial perspectives and NPV shows the future expected cash flows generated by a project for a given period of time, taking into account its investment requirement costs. With this, it is possible to say that the NPV can be seen as the DCM approach plus the cost of the investment at moment zero. With this, it is possible to use different methodologies for corporate valuation, this work will present three approaches to this model, using the cash flow for calculating the enterprise, firm and equity value by: (1) considering only the operational cash flows able to remunerate all equity capital providers, excluding the financial cash flows of the company – DCF(FCFF); (2) economic value added after the remunerations of capital providers - EVA and MVA (3) considering only the cash flow to shareholders, after the debt, taxes and plan of investment costs - FCFE(3)

2.2.3.2.2.1 FCFF

Any decision in the operation of a company has an impact on its cash-flows. So, it is essential that managers can make an estimate of the impact of each decision. The issue is to understand the return on the investments and help in choosing the ones that are expected to have higher future cash-flows, which maximize the company's enterprise value. (Luehrman, 1997). One possible approach is using the method free cash flow for the firm (FCFF), based on the firm's approach (cash flow from the business), developed to estimate the enterprise value of a firm by first finding the current value of operation and, at the end, the sum of non-operating assets (Dedi and Giraudon, 2013).

The general approach is to first forecast the future business cash flows excluding financing program – opportunity of the decision –using a discount rate, usually weight average cost of capital, (WACC) in order to have into account the cost of opportunity of the capital structure. The WACC should be used when the companies have debt as a source of capital, since it is a rate that combines the rate of return from equity and debt investors (Koller et al, 2010).

Solution T: Calculating EV and Equity value

The application of FCFF is based on the best scenario, strategy 2. The calculation of the future operating perspective cash flows implies to estimate, first the EBIT, Working Capital and net fixed assets. Those estimates are based on the user's information about the strategies to apply. In this case, the future perspectives are given for each strategy, the way to use them is similar. The explanation has been divided into 2 stages to facilitate understanding.

1st Stage

Using the data from the case, it is possible to achieve the results presented in table 14

Table 13: Using the information from case

Solution	2006	2007	2008	2009	2010	P
Sales	1 594 296 346 €	1 793 583 389 €	2 044 685 064 €	2 346 276 111 €	2 709 948 908 €	2 899 645 331 €
EBIT	63 771 854 €	80 711 253 €	100 189 568 €	117 313 806 €	146 337 241 €	156 580 848 €
Working capital	- 171 344 947 €	- 169 203 135 €	- 166 242 080 €	- 162 917 239 €	- 159 495 977 €	- 170 660 695 €
Fixed assets	956 577 808 €	1 129 957 535 €	1 298 375 015 €	1 501 616 711 €	1 802 116 024 €	1 928 264 145 €

Source: Made by Author

- The value of sales, in 200X, is obtained by multiplying the sales growth rate (for that specific year) and sales revenues from (200X-1).

- The value of EBIT is obtained by applying the ROS (EBIT/SALES) for each year; where

$$\text{EBIT}_{200X} = \text{Sales}_{200X} \times \text{ROS}_{200X} \quad (1)$$

- The value of working capital, in 200X, is obtained by multiplying the working capital growth rate (for that specific year) and working capital from (200X-1).

- Value of Fixed Assets is obtained by applying the rate (fixed assets/sales) for each year; where

$$\text{Fixed assets}_{200X} = \text{Sales}_{200X} \times (\text{Fixed assets} \div \text{sales})_{200X} \quad (2)$$

The next table shows the cash flows for each year, after using the values calculated earlier.

Table 14: Free cash flows for the firm

Year	2006	2007	2008	2009	2010 P	
Operating Profit After Taxes (= EBIT * (1 - t))	57 394 668 €	72 640 127 €	90 170 611 €	105 582 425 €	131 703 517 €	140 922 763 €
Investment in Net Working Capital	1 730 757 €	2 141 812 €	2 961 055 €	3 324 842 €	3 421 262 € -	11 164 718 €
Investment in Fixed Assets	123 905 732 €	173 379 728 €	168 417 480 €	203 241 695 €	300 499 313 €	126 148 122 €
FCFF = Free Cash Flow for the Firm	- 68 241 820 € -	102 881 412 € -	81 207 924 € -	100 984 112 € -	172 217 058 €	25 939 360 €

Source: Made by Author

- The investment in Net Working Capital and Fixed assets is calculated for each year by subtracting the value of WC/Fixed assets in 200X by value of WC/Fixed assets in (200X-1).

- For each year : $\text{FCFF} = \text{Operating profit} - \text{Investment in Working capital} - \text{Investment in Fixed assets}$ (3)

2nd Stage

As shown in table 15, the Enterprise value of the firm is positive, €468.870.303

Table 15:Enterprise value - strategy 2

Year	2005	2006	2007	2008	2009	2010 P	
FCFF= Free Cash Flow for the Firm		- 68 241 820 € -	102 881 412 € -	81 207 924 € -	100 984 112 € -	172 217 058 €	25 939 360 €
Discount Rate = WACC		7,50%	7,70%	8,00%	8,50%	9,00%	9,00%
Perpetuity Growth Rate							7,00%
Rate Difference							2,00%
Continuing Value						1 296 967 990 €	
		- 68 241 820 € -	102 881 412 € -	81 207 924 € -	100 984 112 €	1 124 750 933 €	
SUM		- 63 480 763 € -	88 861 318 € -	64 945 712 € -	74 434 691 €	760 592 787 €	
Present Value (EV = Enterprise Value @ WACC)	468 870 303 €						

Source: Made by Author

- The Continuing value it is obtained by FCFFP ÷ Rate difference (4) (WACC-Perpetuity growth rate), which will be part of cash flows to be taken into account in 2010
- EV it is obtained by summing, for all years: $FCFF_{200X} ÷ (1 + WACC_{200X})$ (5)
- Example: WACC to use in 2007 = $(1+0,077) \times (1+0,075)$

Finally, it is possible to calculate the Firm and Equity Value that Strategy 2 could achieve.

Table 16 : Equity Value - strategy 2

Year	2005
Non Operating Assets	250 966 347 €
Firm Value	**719 836 650 €**
Debt	393 781 364 €
Equity Value	**326 055 286 €**

Source: Made by author

- Equity value $= (EV \, value \, + \, non \, operating \, assets) \, - \, Debt$ (6)
-

Enterprise value for other strategies: For the other strategies, the Strategy 1 (€116,841,232) is the second with higher perspectives, followed by Strategy 3 (€453,133.797) and finally, Strategy 4 (€198,111,868).

Note: See annex 16,17,18,19,20 and 21 for more detailed information.

2.2.3.2.2.2 EVA

Economic value added (and Market value added) are presented in this work for two reasons: (1) They can be used for analyse the past, especially to evaluate the performance of the management decisions for the economic value of the company (2) EVA can also be used for corporate valuation.

The measures of accounting profit should evaluate how the actions of management affect the firm's value, in order to stimulate the management team decisions, based on a remuneration model connected to value creation, reducing the information asymmetry between managers and

investors (Sharma, 2010; Irala , 2005). However, in the traditional methods (ROI, EPS ROE) the suitable performance of the method is not well described (Irala, 2005). Criticizing some traditional measures of accounting profit, like ROIC, consulting firm Stern Stewart in the 1990´s developed the concept of Economic Value Added. Stern *et al*. (2001) said that EVA is the measure of the true economic performance of a company and a strategy for creating shareholder wealth.

EVA is calculated as the difference between the Net Operating Profit after tax and the opportunity cost of invested capital, which is the WACC, and the amount of capital employed. Basically, positive numbers tell the owners that the company's value is increasing, or it is being destroyed by negative values of EVA (Stewart, 1991). EVA is important for analysing historical information, in order to perceive the creation of value for shareholders, but its true advantage lies in the fact that it can be used as a method of corporate valuation.

EVA is an extension of the residual income performance (profits – capital charge at WACC rate for the net assets tied up in the investment centre), where there is an incentive to invest but it can result in myopic behaviour. As O'Hanlon & Peasnell (1998) said: "There is a danger that the failure of the accounting system to reflect economic reality might cause the business to be run without proper regard to the long-term". EVA should fit this problem because the capitalization of expenditures should reduce the myopia issue as it involves the capitalization of expenditures, managers might try to cut it if they are pressured for profits (Merchant and Van, 2011). The literature also reveals that EVA's basic formula reflects firm's returns from its operations, with a focus on managerial effectiveness in a given year (Brigham and Ehrhardt, 2002).

EVA also uses 164 adjustments to traditional accounting data in order to reduce accounting distortions (Dodd and Chen, 1997; Stewart, 1991). Drucker (1995) described some of this distortions as Earnings Before Interest, Tax, and Depreciation can be deceptive and provide an appearance of profits when wealth is actually being destroyed. The main argument in favour of EVA is excluding any costs associated with equity by accounting earnings and the incentive of value creation goes into the fundamental assumption of shareholders – business worth the net present value of its future cash flows, discounted by the cost of capital that fits the business (Clarke, 2000). Traditional methods can result in managers discarding positive NPV projects, where bonuses can be related to profits, although using EVA as a performance measure should "mitigate this problem, as it involves the capitalization of expenditures managers might try to cut if they were pressured for profits" (Merchant and Van, 2011). Friedlb and Plewa (1996) stated that a manager

who is evaluated based on ROIC will reject any project whose rate of return is below the division's current ROIC, even if the investment would be higher for the company as a whole. Another important way of use EVA is to base the forecast of future cash-flows, based on different assumptions, to view the effects of different approaches and strategies in value creation.

Solution U: Calculating EVA

Strategy 2

The application of EVA for strategy 2 is shown in the following table. The main conclusion is that this strategy does not create the expected value for the company on perpetuity because EVA has a negative value. However, compared with the EVA of other strategies, this one has the highest positive perspectives.

Table 17: EVA for strategy 2

Year	2006	2007	2008	2009	2010	C
Operating Profit After Taxes (= EBIT * (1 - t))	57 394 668 €	72 640 127 €	90 170 611 €	105 582 425 €	131 703 517 €	140 922 763 €
Invested Capital at the beginning of the year (boy)	659 596 372 €	785 232 861 €	960 754 400 €	1 132 132 935 €	1 338 699 472 €	1 642 620 047 €
WACC = Weighted Average Cost of Capital	**7,50%**	**7,70%**	**8,00%**	**8,50%**	**9,00%**	**9,00%**
Capital Charge	**49 469 728 €**	**60 462 930 €**	**76 860 352 €**	**96 231 299 €**	**120 482 952 €**	**147 835 804 €**
EVA = Economic Value Added	**7 924 941 €**	**12 177 197 €**	**13 310 259 €**	**9 351 125 €**	**11 220 564 €**	**- 6 913 041,13 €**
ROIC = Return On Invested Capital	**8,70%**	**9,25%**	**9,39%**	**9,33%**	**9,84%**	**8,58%**
WACC = Weighted Average Cost of Capital	7,50%	7,70%	8,00%	8,50%	9,00%	9,00%
EVA Spread = Value Creation Gap	**1,20%**	**1,55%**	**1,39%**	**0,83%**	**0,84%**	**-0,42%**
EVA = Economic Value Added	**7 924 941 €**	**12 177 197 €**	**13 310 259 €**	**9 351 125 €**	**11 220 564 €**	**- 6 913 041 €**

Source: Made by author

- The invested Capital at the beginning of Year 200X $= Working\ capital_{200\text{X}-1} + \text{Fixed Assets}_{200\text{X}-1}$ (7)
- Capital charge $=$ WACC $\times$ Invested capital at the beginning of the year (8)
- EVA $=$ Operating profit after taxes $–$ Capital Charge (9)
- ROIC $=$ Operating profit after taxes $\div$ Invested capital at the beginning of the year (10)
- EVA spread $=$ ROIC $–$ WACC (11)
- EVA $=$ Invested capital at the beginning of the year $\times$ Value creation GAP (12)

Note: See annex 22, 23, 24

2.2.3.2.2.3 MVA

Market value added was developed by Stewart (1991) in order to measure the value created for shareholders in a listed company. Stewart (1991) said that market value added can be defined as the present value of expected future economic value added. It is possible to conclude that MVA can be defined as long as the EVA can be forecast into the future, where positive numbers indicate that shareholders value is increasing, or it is being destroyed by negotiating values of MVA (Stewart, 1991).

To sum up, it is important to say that mathematically, the EVA and MVA approaches should reach the same results in valuation as DCF or NPV (Käppi, 1996).

Solution V: Calculating MVA

Although TAP is a State-owned enterprise, the application of MVA will be made in term of example and tool for analysing the value creation and estimate the future. As it is expected, the values of MVA are also negative indicating a non-creation value for shareholders, in this case, the state.

Strategy 2

MVA analysis – strategy 2

Table 18 : MVA analysis – strategy 2

Year	2005	2006	2007	2008	2009	2010	C
EVA = Economic Value Added		12 177 197 €	13 310 259 €	9 351 125 €	11 220 564 €	- 6 913 041 €	- 44 479 413 €
MVA = PV of Future EVA @ WACC	- 190 726 069 €	- 212 955 464 €	- 241 530 232 €	- 274 162 910 €	- 306 817 883 €	- 345 652 056 €	
MVA + Current Year EVA		- 205 030 524 €	- 229 353 035 €	- 260 852 651 €	- 297 466 757 €	- 334 431 492 €	
Invested Capital at the end of the year (eoy)	659 596 372 €	785 232 861 €	960 754 400 €	1 132 132 935 €	1 338 699 472 €	1 642 620 047 €	
Control	468 870 303 €						

Source: Made by author

- MVA in 2010 $=$ EVA IN C $\div$ (WACC – Perpetuity growth) (13)
- MVA for the other years $=$ (MVA $+$ EVA)$_{(200X+1)}$ $\div$ $(1 + WACC_{(200x+1)})$ (14)
- MVA $+$ Current Year Eva in 200X $=$ MVA$_{200X}$ $+$ EVA$_{200X}$ (15)
- Control $=$ MVA $+$ EOY (16), that should be equal to the valuation made by the DCF approach, as the literature states.

As it is expected, by the control, we achieve to the same enterprise value, following the strategy 2, as calculated by FCFF.

Note: See annex 22, 23, 24

2.2.3.2.2.4 FCFE

The equity value for capital providers can also be calculated from the DCF approach, using FCFE.

The literature identified 3 main differences between FCFF and FCFE: (1) estimate directly the equity value; (2) the discount rate applied should be at the cost of capital; (3) the difference how cash-flow is calculated and the terminal value (Free cash flow to equity $=$ net income $-$ (capital expenditures $-$ depreciation) $-$ (change in noncash working capital) $+$ (new debt issued $-$ debt repayments) (17)) (Dedi and Giraudon, 2013; Damodaran, 2012)

Thanks to using FCFE it is also possible to estimate the equity value of a firm by subtracting market value of interest bearing liabilities and other non-equity claims from an enterprise value, followed by dividing the equity value by the number of outstanding shares, giving the estimate price per share of a firm (Dedi and Giroaudon, 2013). One advantage of this tool it is can be applicable to companies that are not quoted in the market.

The steps to reach the FCFE is using the FCFF results and, for each considered period of time, discount the value of any debt claims, and then using an adequate rate for the project that excludes the debts' interest rate of return.

The FCFE can be seen as an important methodology for the decision makers, as one of its priority was satisfy the interest of the equity providers of capital.

Note: Besides the importance of this tool in theoretical thought, it could be relatively hard to apply, and requires extensive knowledge about the financing decisions of the company in question. For these reasons, but also because the sources of capital are not the central theme of this thesis and it is expected that we will find a negative number for TAP's equity value, we will not present any example of how to use this method.

2.2.3.3 Final step

Based on what was explained previously and on the fact that QSPM does not properly take the financial estimates of strategies into account, a way to incorporate the importance of that issue will be proposed at the moment of deciding the best direction to adopt.

The company should then use a minimum value that strategies need to achieve in the QSPM matrix, in order to pass to the next step in deciding the best strategies and financial estimates of the choices.

Following the same logic as the QSPM, the financial estimates will also be rated based on their performance, have into account the purpose of the evaluation- single projects or a company- and the methodologies applied. However, the values for the estimates will be between 1 and 4, with 2.5 as the mean number but the scale can be chosen by the user; i.e. the middle it is a given value based on the minimum financial perspectives desirable for the strategies to adopted.

The next step is then to get a possible percentage to reflect the QSPM and financial estimation in order of importance of choice of the best strategy. The final choice is based on the following equation: $\text{Best strategy} = \text{rating of financial estimates (FE)} \times \text{probability of importance} + \text{rating of QSPM} \times \text{probability of importance (18)}$.

The proposed approach is based on the logic that financial estimates have more impact on the choice of the strategy the more conclusive they are. In other words, the greater the rating positions on the limits' position, the more impact the financial dimension of the future will have. However, in intermediate levels, as the financial estimates are based on projections and assumptions, they should not be seen as a unique tool for decision taking, and the QSPM should assume an important role in helping to choose the best strategy. The formula for the probability of financial estimate (FE) will be $\text{Fe} = 0.5 + X \times Y$ (19), where: $X = (2.5 - a)^2 \div 4$ (20); $a -$ rating attributed and $y =$ impact and importance of financial analysis for the user; $0 - 0.5$. The probability of importance for the QSPM is based on the previous formula: $1 - \text{FE}$ (21).

The formula takes into account the level of importance that financial estimates have on deciding the future, where its minimum importance is 50% in cases when more information is needed to base the decisions. The model also gives increased importance for future financial performance, whether it is in a bad or a good direction. Even so, in the best probability for FE, the manager must take into account all dimensions that are reflected in the QSPM probability of

importance. As it possible to conclude, in levels of more ambiguity and nearer 2.5 in cash flow estimates, the more impact the QSPM will have when making the decision, because the financial point of view can fail. To put it another way, in cases of financial estimates in points near 1 or 4, it seems to be a very non lucrative or highly profitable project, which the financial literature says should be automatically rejected or chosen. The importance given to financial literature in the decision stage is present in the level of the y, where it is possible to adjust the model to each preference.

By applying the formula, the maximum value for the probability of FE is 78%. That should support the theory of not looking only at the financial numbers without knowing and have solid information about the company, market and general environment. QSPM alone takes into account if the strategy will have positive effects on the financial health of the company or not, but does not specify whether it is desirable.

This means that an integral analysis, or a 360º view of the company, will always be needed to take a decision, based on the literature. To conclude, the strategy to adopt should be the one with higher value in the equation "best strategy".

Note: The Best strategy formula is just a suggestion and it is not scientifically proved or tested.

Solution T: Possible application of Best Formula with hypothetical information of TAP:

The application for TAP is shown in the following tables that, based on y, the best strategy to adopt should be strategy 2 regardless of the y used. The financial classification was based on the level of EV that each strategy should be able to create in TAP. Any strategy with EV lower than 150 millions of euros should be ranked with less than 2,5. The strategy with high EV should be ranked with the maximum classification.

The strategy 1 in QSPM should be chosen, though by the formula, we can understand as the strategy 2 as the best, independent from the Y. Although, if we only used the QSPM matrix, the decision maker would adopted by the strategy 1, in this case, the one that would lead to the lowest EV.

Table 19 : Best strategy (y = 0,05)

Strategy	1	2	3	4
Classification				
QSPM	2,54	2,3425	2,3075	2,3825
Financial	2,3	3,5	3,4	3,1
Best formula				
X	0,01	0,25	0,20	0,09
Y	0,05	0,05	0,05	0,05
FE	50%	51%	51%	50%
1-FE	50%	49%	49%	50%
Total	2,420	2,936	2,865	2,744

Source: Made by author

Table 20 : Best strategy (y = 0,45)

Strategy	1	2	3	4
Classification				
QSPM	2,54	2,3425	2,3075	2,3825
Financial	2,3	3,5	3,4	3,1
Best formula				
X	0,01	0,25	0,20	0,09
Y	0,45	0,45	0,45	0,45
FE	50%	61%	59%	54%
1-FE	50%	39%	41%	46%
Total	2,419	3,051	2,953	2,770

Source: Made by author

2.3   Management conclusions to be taken from the case

The application of the methodologies in the case reflects some important management conclusions, regarding the limitations of their uses:

1. The application of almost all these concepts requires intuitive judgments and educated assumptions from the user. As David (2011) stated, the correct conclusion of the methodologies

applied, especially the QSPM result and best formula, can only be as good as the input information and analyses it is based on.

2. The application of most contents, in order to reduce the possible personal judgments, should be done with at least, a group of 2 people with a strong knowledge of the market and the company.

3. It is easy to manipulate the instrument to benefit the user or other internal or external interests

4. Different users can achieve totally different results for the same strategies for some companies.

5. The strategies proposed by the methods, if used by outsiders, can increase the probability of wrong judgments even more and make choices that do not correspond and fit the reality and values of the company

6. The Best strategy formula it is not scientifically accepted or tested, but it is a suggestion or a possible approach for taking better decisions

Regarding the work, it is also advisable to use the resource or other tools to help decide on the best strategy to adopt as: BCG matrix, ADL model, Market competitive profile matrix, for example. It is also possible to advise the user to read additional information about the limitations of the tools. Another additional point that should be advised is the search and development of the knowledge necessary to properly implement the adopted strategy, as the work does not focus on implementation but rather on deciding.

Based on the known future of TAP, it is possible to admit that the management team, follow some strategies advised by the application of tools in analysis in the next years, such as Market Penetration and Market Development, by increasing marketing campaigns and the product -5 ways to flight (5 types of prices and services in each flight) - and also by achieving the leadership, in 2008, of routes from Europe to Brazil. However, it is important to bear in mind that the conclusions are based on hypothetical examples for showing how to use the tools in a company, rather than using rigorous and scientific inputs for tools.

In conclusion, these concepts put the user in a real confrontation with the need to avoid making the judgments too personal, but also the user's ethics, morals and values, as it is expected that the decision affects the company's future. In order to reduce all these issues as much as possible, it is advised the use off other types of instruments that help the decision maker.

However, the truth is that with the execution of the 3 proposal stages, it will certainly increase the confidence at the moment of taking the right decision.

2.4   Animation plans

The animation plan it is essentially some suggestions of how this work can be used academically in a knowledge institute. The case and respective literature review were made in order to have a wide range of uses and to be the most pedagogical, relevant, useful and interesting for the students and for the person who presents them. Therefore, it is possible to use the case as (1) group or individual work and (2) as a support for theory and practical lessons. Regardless of the use, a wide participation of the students is expected in the classes, encouraging dynamic classes with discussions, sharing of ideas and knowledge, iterative presentations, answering and responses to questions and doubts. In any case, it is possible to use the strategic management, finance or both concepts.

Using the case as a group or individually work, it is expected that the students have some knowledge of the concepts required to carry out the methodologies. The user must deliver the case and the task to the students some weeks before the resolution of the work in class. Animation plan 1 is a suggestion fir using this case as it has been described.

Using the case as a support for theory and practical lessons, it is expected to review and teach the concepts present in the work, exemplifying and supporting the theory with a practical example of them to TAP. Animation plan 2 is a suggestion of an iterative way of how the case can be used as support material for teaching the concepts.

In any use of the case, the user should encourage the students to participate in the discussions. The suggestions of some questions and topics are:

Some questions to ask
- Have you ever flown on TAP any time? What did you think?
- What do you think about the airline industry?
- What you know about the company?
- TAP's problem was the amount of liabilities or the lack of equity? Comment.
- What is the importance of TAP for the country?
- How have low-cost companies impacted strategies in companies like TAP?
- How could the news of privatization be related to the choices of the management team in 2005?

- Do you agree with the purchase of Varig maintenance in Brazil, in 2005? And Portugalia Airlines in 2006?

- Should the creation of the product - 5 ways to fly - have been adopted early?

- Should the privatization have been done earlier? Do you agree or not?

- Do you think the methodologies were important for future life?

- Did you like the case?

Finally, the user can use the work following animation plan 1 or 2, however, there is an extensive description of how to use the case in annex X in order to help the teacher/user teach the concepts as much as possible, with the main goal of benefitting the students.

Animation plan 1 – time : 200 minutes in class

Stage 1: Preparation of the case, explain possible sources of information and data that should be analysed – **time**: variable

Stage 2: Position the company in EFE matrix and CPM – **time**: 40 minutes
Tasks*: (1) analyse how to use EFE asking the input of matrix (PESTEL and Porter's 5 forces) to the group/(s). (2) Ask and discuss in groups the best Company on their CPM.*

Stage 3: Position the company in IFE matrix - **time**: 60 minutes
Tasks: (*1)Ask for the input of matrix IFE(Generic strategies and Porter's Value Chain, VRIO analysis) (2) Ask for the main conclusions from the financial analysis of 2003, 2004 and 2005 (3) Use IFE matrix based on the information of the students (4) give and present the solution of financial exercises by the support of excel.*

Stage 4: Choosing the best range of strategies based on SPACE, IE, Grand Strategy matrix and SWOT/TOWS - **time**: 30 minutes
Tasks: *(1) Ask the different groups to present their Space, IE and Grand strategy matrix (2) Develop the SWOT/TOWS with the participation of students (3) Discuss the range of strategies that TAP should use based on the tools that were used.*

Stage 5: Choosing the best strategy to adopted based on QSPM and Best formula- **time**: 30

Tasks: *(1) Ask all groups which strategy to use based on their QSPM results (2) Ask all groups the results of the best strategy (3) Develop a QSPM asking the inputs for the 4 strategies to different groups (4) Using excel explain how to calculate the future financial estimations.*

Stage 6: Final discussions, conclusions and opinions - **time**: variable

Tasks*: (1) Present the managerial conclusions of the case*

Animation plan 2- time: **420 minutes in class**

Stage 1: Preparation of the case, explain the goals and how the case will be study - **time**: variable

Tasks*: (1) Explain the goals of the case (2) Explain pedagogical objectives and notes (3) Reference of TAP (4) Ask for the students made additional research of the company and sector on the time of the case*

Stage 2: Importance of PESTEL and Porter's 5 forces - **time**: 20 minutes

Tasks*: (1) Explain PESTEL and exemplify with the help of the students (2) Explain Porter's 5 forces and exemplify with the help of the students (3) Ask students to read and study about EFE matrix to use it in the next class – stage 3.*

Stage 3: EFE matrix - **time**: 30 minutes

Tasks*: (1) Organize the class in groups and ask for them to construct an EFE matrix (2) Compare the results of each group and do an EFE matrix as example (3) Divide the class into groups according to the dimensions of Porter's value chain for airline companies and ask them to apply the concepts to TAP for the next class- stage 4*

Stage 4: Importance of Porter's generic strategies, VRIO and value chain- **time**: 50 minutes

Tasks: *(1) Discuss Porter's generic strategies concept applying it to TAP (2) Make and explain Porter's Value chain by the conclusions of the work as for students in stage 4 (3) Explain the VRIO analysis and exemplify it with the example and help of the students (4) Divide the class into groups*

in order to present the range of general strategies that a company can adopt – the groups should present the work -5/8 mins in class corresponding to stage 7.

Stage 5: Importance of financial analysis - **time**: 50 minutes

Tasks*: (1) Explain the concepts and their use with the support of Excel (2) Ask students to read and study about IFE matrix to apply it to TAP – the work should be delivered in class 6.*

Stage 6: IFE and CPM - **time**: 30 minutes

Tasks*: (1) Ask for doubts about the work (2) Explanation and resolution of a possible IFE matrix (3) Develop and explain the CPM (4) Divide the class into groups in order to present the range of general strategies that a company can adopt – the groups should present the work -5/8 mins in class corresponding to stage 7.*

Stage 7: Range of strategies - **time**: 80 minutes

Tasks*: (1) Presentation of the work proposed in stage 4 (2) Ask for students to read about IE matrix and, based on other classes, apply it to TAP for the next class – stage 8.*

Stage 8: SWOT/TOWS; SPACE, Grand strategy matrix and IE matrix - **time**: 90 minutes

Tasks*: (1) Explain and develop the space matrix with the suggestion of the students (2) Position the company on the Grand strategy matrix with the help of the students (3) Ask for the conclusions about IE matrix (4) Develop and explain the SWOT/TOWS with the participation of students (5) Divide the class into groups in order to study and make a possible QSPM for the strategies proposed by Fernando Pinto, the work should be discussed in the next class – stage 9.*

Stage 9: QSPM **- time**: 20 minutes

Tasks*: (1) Ask for doubts about QSPM (1) Ask all groups which strategy to use based on their QSPM results (2) Develop a QSPM asking for the inputs for the 4 strategies to different groups*

Stage 10: Financial future perspective – Best formula - **time**: 30 minutes

Tasks*: (1) Explain the financial concepts based on the example with the support of Excel (2) Explain the concepts of Best formula (3) Ask for students to perform the Best formula for the last class- stage 11.*

Stage 11: Final discussions, conclusions and opinions - **time**: variable
Tasks*: (1) Resolution of best formula (2) Present the managerial conclusions of the case*

Note: Annex 25 contains an exhaustive class plan to help the user prepare the case. In annex 26 there is a table with the topics the questions should have

3. Conclusion

After reading or using this work, you are supposed to acquire academicals skills, especially in the world of management and finance, and develop soft skills, critical thought or research techniques and others, such as working with Excel. In terms of the practical use of the case, two approaches are proposed based on the knowledge (low/medium, advanced) and interests of the participants (management, finance, management/finance): (1) as a group work or (2) as a support for giving practical examples of using the methodologies in class. In any case, the concepts are applied in the case of TAP, where the priority was having relevant facts that could be the most realistic possible, but also simple enough so anyone could understand the use, by reading the theory and the example, and put what has been discussed into practise.

In terms of academic skills, it is important to refer that the process of deciding on a strategy is complex, and involves a wide range of steps in order to have the best mechanism to take a proper decision. Actually, the work is an integration of the use of financial theory, which clearly is imperative in the decision of projects with higher returns and strategic theory, which from a conceptual view has other ways to advise about taking future decisions. This integration is fundamental because, in one or other perspective, it is possible to make some mistakes or misunderstand some important factor, which can be reduced by having a process that precisely reflects the conclusions and advantages of both theories in one model. This process can be divided into 3 main parts:

(1) Analysis of the current position: An analysis of the situational context of the organization is made that is divided in external and internal environmental. The performance of the company to both environments can be analysed by the EFE and IFE matrixes, respectively. The CPM can be used to compare the performance of the company in the study with it is competitors. Although the use of proper EFE matrix, IFE matrix and CPM implies significant knowledge of the company and sector, in order to reduce the effect of wrong judgments, and they are based on other tools like PESTEL and Porter's 5 forces for EFE, IFE and CPM (expected also additional sources of information), it is based on value chain and Porter's generic strategies of, VRIO model and financial analysis – growth, profitability, risk, functional balance sheet.

The application of EFE matrix to the case of TAP gives a value of 2.59, above the medium level of 2.5, showing that TAP is positively dealing with the external forces. On the other hand, the IFE value of 2.39, shows a strategy that does not explore the strengths as much as possible, showing a company that is weak internally. Finally, the application of CPM to TAP, 3.12, shows TAP's lead in the main critical factor compared to it is competitors (Second in CPM – Easy jet: 2.65).

(2) Some range of strategies to adopt: A presentation is made of some of the most important strategies that an organization can adopt, such as integrative, intensive, diversified, defensive and joint venture strategies. Depending on the position of the company, the decision maker should have the tools to help to decide the best strategy to be adopted, which are the SWOT and TOWS; Space, IE and Grand Matrix.
The application of these methodologies to TAP shows a company in the competitive profile in Space matrix and in quadrant 1 in grand strategy matrix. IE matrix shows a company in cell 5.

 (3) Deciding on the best strategy to adopt: Based on other dimensions, the QSPM matrix, and the "best strategy" formula are presented. The QSPM matrix is based on all other tools and methodologies and the formula is based on the future financial perspective of the strategies under analysis. The application of this tools to TAP shows that strategy 1 is the best in the QSPM matrix, however, after the use of the "best strategy", the one that revealed a higher value was 2.

After the execution of the 3 parts explained above, there should be an increase in the reasons that underlie the decision for one/(s) strategy/ies rather than others. Although, for a proper use of this case and concepts we need to have some principles in mind, to reduce the chances of a wrong conclusions of the mechanisms that are presented: (1) The concepts are essentially based on the internal user perspective (2) There are other tools that can be used (3) The tools complement one

another and they should be seen as a help when taking a decision (4) They have solid information (5) They try to be as realistic as possible (6) They construct the methodologies based on the information gather rather than making personal judgments.

Finally, the company's performance is the reflection of the cumulative decisions taken over time. This means that higher performance should be related to correct strategic decisions. Based on that, this work tries to help improve the probability of taking a future correct decision that impacts positively on the organization's performance, bearing in mind the academic humility, instead of assuming the results of the methodologies applied as imperative; the reason is simple, nobody can predict the future or gather all complexity of the real life into a model.

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ANNEXES

Annex 1 : TAP Portugal Case

Suppose you are in 2006, and the CEO of TAP hired you to help him to decide the best future for the company. The CEO presented some general information, although it is expected that more information was gathered and researched. Bear in mind that the task will not be easy; the company is state-owned, relies on it for capital and the company has never shown any profits for decades.

Figure 1 – TAP, SGPS, S.A structure

Tap it is a national airline company specialized in the transportation of people and cargo. In 2005, the group was 100% controlled by Parpública, under the name of TAP, SGPS, S.A., as can be seen in figure 1. The company's CEO is Mr. Fernando Pinto, who has been in that post since 2003
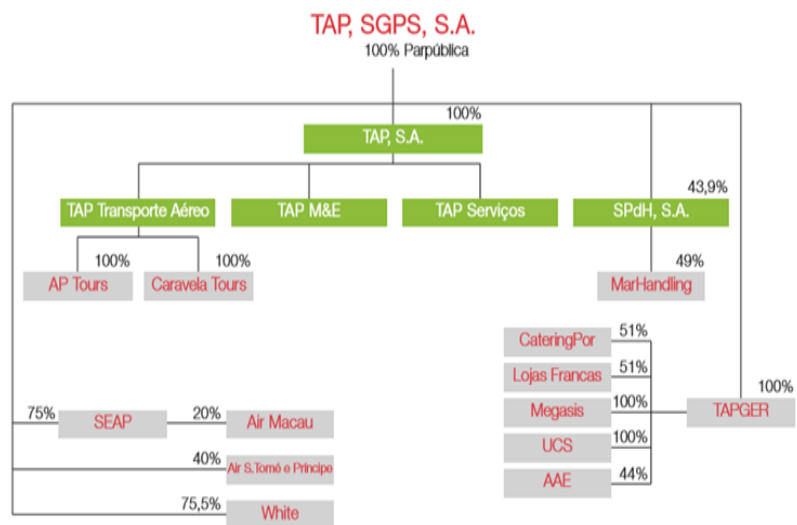
Source: Annual report 2005, TAP

The company is the leading Portuguese airline company since it was founded in 1945. TAP is considered as a stronger driver for the development of Portugal and has a major impact on tourism, where the airline channel is the one that it is used by most tourists to visit the country.

The company has said that Tap "*will focus on the Air Transport service and related activities, constantly aiming for a return for its investors and leadership in the niche market in which it operates. It offers its customers a quality product, always the best option for those who use their services and is the best company to work for. It is aware of its commitment to society and the environment*". The values that the company tries to encourage are rigor, kindness, dedication, trust and professionalism.

Sector

The airline transport grew, in 2005, 6.3% passenger-km in international flights and 4.1% in domestic traffic compared with the previous year, according to the Association of European Airlines. Nevertheless, the global airline sector has increased 7.6% (2005). The competitiveness and growth in the market are increasing, especially by low-cost companies that have been changing consumer and company behaviour in the market. The importance of the market it is shown by the numbers. It is responsible for creating 400,000 direct jobs and 28 million indirect jobs and represents 1.2% (€100 billion) of Europe's GDP, in 2005. The airline transport it is also essential for the mobility of people and has a major impact on tourism dynamics.

Besides the growth of the sector, it is quite clear that the industry is not sustainable, since the industry lost €6 billion in 2005, mainly caused by the effects of wars, from 2001 to 2004, the state of the economy and the increase in fuel prices in 2005.

History

The history of TAP goes back a long way and it is highly interconnected, as would be expected, with Portuguese communities. The main moments in TAP's history are shown in the next table.

Table 1: General history

Year	Fact
1945	Foundation of Transportes Aéreos Portugueses
1946	First route Lisbon – Madrid
1950	Start aircraft repair operations
1953	Privatization of the company
1954	New logo
1965	20 destinations
1967	First company in the world operating with jet planes
1975	Nationalization of TAP
1976	First reorganization of the company
1979	Rebranding to TAP Air Portugal
1988	First Airbus
1994	Strategic financial recovery plan, 900 mil. euros injected into the company
1996	Launch of web-site
2001	> 5 million passengers
2003	Partnered with Portugalia
2004	New strategy adopted
2005	Star alliance
2005	Rebranding TAP Portugal
	60 years

Source: Made by Author

Product

TAP is a Star alliance member and offers its passengers a huge range of cities all over the world where they can travel to. Only 43 routes are operated by TAP aircraft.

TAP has its hub in Lisbon and it is considered a traditional company. It has domestic flights to and from Lisbon, Porto, Horta, Pico, Ponta Delgada, Terceira, Funchal and Porto Santo. As an international company TAP flies to Europe (Amsterdam, Barcelona, Brussels, Budapest, Copenhagen, Stockholm, Frankfurt, Geneva, London, Luxembourg, Madrid, Milan, Munich, Paris, Oslo, Prague, Rome, Venice, Zurich), Africa (Bissau, Dakar, Johannesburg, Luanda, Maputo, Sal S. Tome), North America (New York), South America (Caracas, Fortaleza, Natal, Recife, S. Salvador da Bahia, Rio de Janeiro, Sao Paulo). The traffic for each area it is described in the next table.

Table 2: Occupation of the offer destinations

Ocupation of the offer destinations

Region	Volume of traffic	Variaton over the previous year		Occupation coefficient
	Thousands of passengers	Supply	Demand	
Continental	517	-2,9%	-4,6%	47,3%
Azores and Madeira	1.026	-22,8%	-26,6%	64,9%
Africa	3.591	6,2%	10,0%	66,3%
Atl. North	317	6,4%	9,8%	73,0%
Atl. Central	156	-1,6%	4,9%	84,7%
Atl. North	69	35,7%	38,8%	75,1%
	703	7,4%	9,9%	80,8%
Total	**6.379**	**4,6%**	**7,6%**	**72,3%**

Source: Annual report 2005, TAP

TAP tries to offer its passengers the best products, with high-quality ground and in-flight services. The in-flight service is divided into top executive – a more expensive product but it also has better services and quality offer to the client - and economy.

Star Alliance

The Star Alliance was founded in 1997, and its mission is to "permanently contribute towards the profitability of all member companies in addition to the result that they can achieve individually". In 2005, the alliance operated in 139 countries, with more than 15,000 daily flights

to 790 destinations. In that year, the Star Alliance was composed of Austrian Airlines, Group bmi, LOT, Polish Airlines, Lufthansa, SAS, Spanair, TAP Portugal, Air Canada United, Airlines US Airways, Varig, All Nippon Airways, Asian Airlines, Singapore Airlines, Thai Airways, Air New Zealand

Figure 2 – Market sharing

Star Alliance is the leader in airlines partnerships in the world, offering benefits for customers who fly on Star Alliance companies, as a client from one Star Alliance company is a client of all the Alliance companies.

The Star Alliance only operates with companies operating hub & spoke models, providing passenger connections all over the world.

Market sharing (PKU's)

- 🔴 STAR Alliance — 27%
- 🔴 Oneworld — 18%
- 🟢 Skyteam — 22%
- ⚪ Outros — 33%
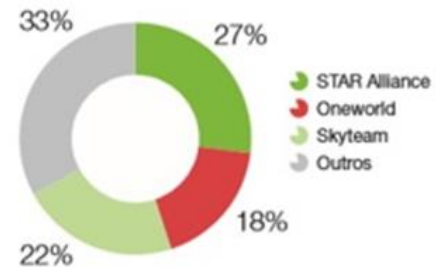
Air Transport – Passengers

Passenger numbers have increased over the years, 6.4 million in 2005 (an increase of 3% from 2003), and in fact TAP shows positive growth compared to other companies, especially in Europe and South America. Figures 3 and 4 show the increase in passengers compared to 2000 and the increase in the revenues from airline transport since 2003.

Figure 3: Traffic

Figure 4: Income of fair transport (€ millions)

Traffic (PKU's)
Developments on 2000

- TAP
- AEA
- Atlântico Sul - TAP
- Atlântico Sul - AEA
- África - TAP
- Europa - TAP
- Europa - AEA

1.207
1.107
1.026

2003 2004 2005

Source: Annual report 2005, TAP
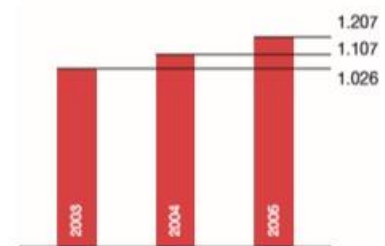
Source: Annual report 2005, TAP)

Cargo

TAP is also a leader in the airline transportation of cargo in Portugal, although, as the figure 5 shows, the traffic of goods has not expanded in an expressive way.

Figure 5: Cargo and mail traffic	Figure 6: Total income of cargo and mail	Figure 7: Cargo revenue
Source: Annual report 2005, TAP	Source: Annual report 2005, TAP	Source: Annual report 2005, TAP
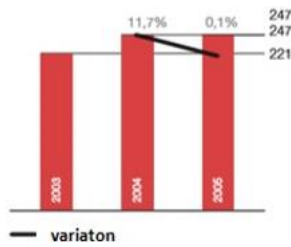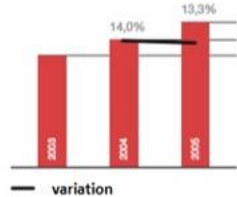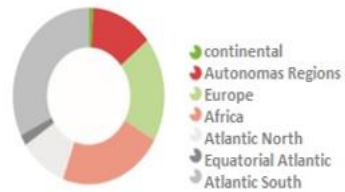
Internet

Since 2004 TAP has been investing in the internet channel with positive results reflected in the number of reservation as well from revenues of that channel, as shown in the tables below.

Figure 8: Online bookings
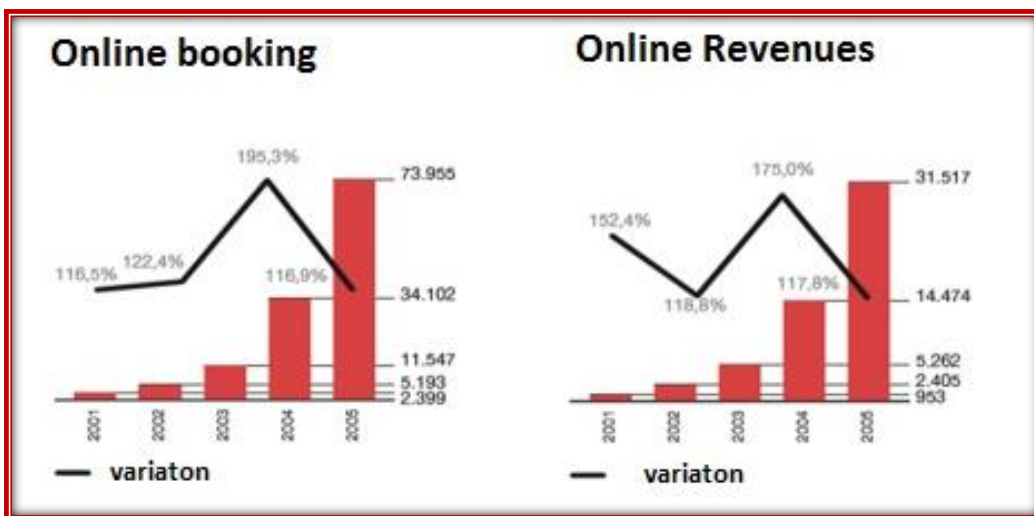
Source: Annual report 2005, TAP

Maintenance

TAP is also an important player in aircraft repairs. However, this business unit only represents a couple of percent of company revenues, but it is very important in repairing the company's own aircraft.

Figure 9 **:** Labor force maintenance (000) men-hours
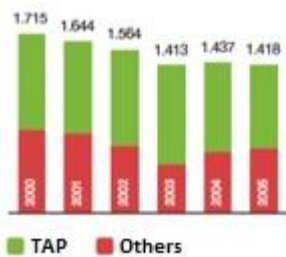
Source**:** Annual report 2005, TAP

Figure 10 : Total income of maintenance (millions)
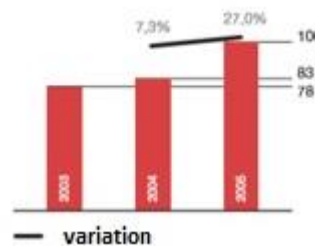
Source**:** Annual report 2005, TAP

Fleet

TAP operated 42 aircraft (16 – A319; 13 – A320; 3 – A321; 4 – A340; 6 – A310) in 2005 and it expected to get 5 more planes in 2006. The company fleet is considered to be new, with an average age of 9 years. Chart () shows the financing of the current TAP fleet.

Figure 11 –Fleet description

Source**:** Annual report 2005, TAP

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Instituto Universitário de Lisboa
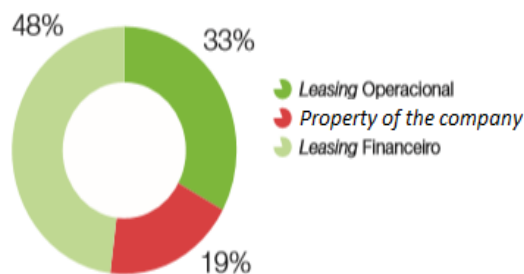
Performance indicators

In terms of financial size, TAP it is not considered a solid company, with a relatively low equity to debt ratio. It is also possible to see the lack of any profits over the last years, and 2005 reflected that. Essentially, the company's operating revenues have not been higher than its operating costs. This fact has an obvious impact on access to capital that will also have effects on the growth perspectives.

However, it is important to note that TAP, S.A. has shown profits, with an increase in earnings, aircraft efficiency and an increase in flight punctuality. However, the management team's approach to fuel prices was not as effective as it is should have been, with a significant impact on the company accounts (annually report from 2005).

Revenues and costs

Figure 12**:** Revenues and costs
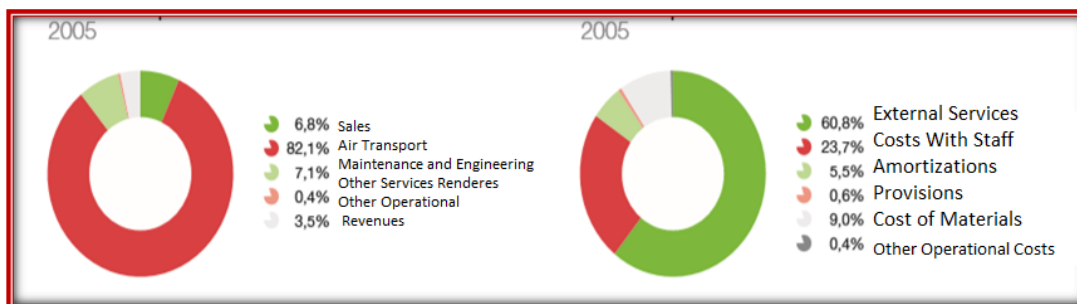
Source**:** Annual report 2005, TAP

General Information

Table 3 - General Information

Year	2004	2005
Workers of the company (31 December	9343	9360
. TAP, S.A (Excluding associated Companies)	5712	5664
Air Transport	3231	3309
Maintenance and Enginering	1828	1775
TAP Services	595	526
Others	58	54
SPdH - Portuguese Handling Services S.A.	2568	2600
Other associated companies*	1063	1096
Fleet composition(average)	39,6	40,5
Flight hours (Ope. Own regime)	162311	171794
Variation		
Punctuality in starting up 15´(%)	0,817	0,841
Regularity	0,99	0,995

*excluding: Air macao, Cº Ltd., Air S. Tome e Principe Aeronáutica de Évora, S. A.

Source: Annual report 2005, TAP

Objectives of the case:

(1) Based on the information present on the case and from additional sources of information, propose a range of strategies that TAP should adopt for the future, bearing in mind the air transport business. Please base your answer on:

a) Develop a situational analysis IFE matrix, EFE matrix and CPM
   - Suggestion: Apply PESTEL, Porter's 5 forces, Generic strategies and Porter's Value Chain, VRIO analysis, financial analysis- growth, profitability, risk, functional balance sheet

b) Use the Space, Grand Strategy and IE matrix and SWOT/TOWS

At the beginning of 2006, the CEO asked you to help him design a plan to decide the best strategy to follow, out of 5, to adopt for the next years. Based on what was referred, the CEO provides you with the information regarding the 4 strategies that TAP asked you for help on deciding the best for the future of the company.

Strategy 1: This strategy implies the creation of a fare with the cheapest prices for Europe and fewer services on board. It also implies major investment in marketing to increase the market share in Portugal and in Europe. The following table provides the financial estimates for this strategy.

Strategy 2: This strategy proposes an expansion of the product to other markets where TAP has a strong connection to Portuguese cultures but also the strategic geographical position of the company. The fleet must be arranged in order to increase the presence in Africa, South America – specially increase the destinations in the country, and open a route to Miami. The opening of new routes should be gradual over the years.

Strategy 3: This strategy proposes to transform the TAP even more exclusively, setting up a vast range of long-distance destinations, a change of menus, more entertainment on board and other services to its clients. Some aircraft, especially the long-distance ones, will have major interior renovation, increasing the space for passengers and the comfort on board as much as possible. Some busy routes should have an increase in the number of planes.

Strategy 4: This strategy proposes buying the second largest airline company in Portugal. If the business is concluded, a substantial increase in passengers is expected in 2006 and 2007.

This strategy also gives the TAP the possible to increase connections between flights and increase its own routes as well, mainly to secondary cities in Europe, increasing the competitive profile of the company.

Finally, the CFO provides you with the future perspectives of the performance of the company for the next years. Each table shows the different scenarios for the company, based on

the strategy adopted (general effects of all strategies to adopted - differences are explained by the impact of the strategy in question). After analysing all sources of capital , made a study about the diverse synergies created for the last strategy to include with the others in the final pack of 5strategies to adopt, the CFO told you that it is intend was decide for the strategy that would make, at least TAP have an Enterprise value of 150 million in 2005. The effects of the strategies are described in the next tables:

Strategy 1

Year	2006	2007	2008	2009	2010	P
Sales grow	10,00%	15,00%	16,00%	13,50%	13,00%	5,00%
ROS	3,10%	2,70%	2,65%	2,63%	2,66%	
Fixed assets/sales	54,00%	51,00%	50,00%	49,00%	48,00%	
ΔNWC/NWC	1,00%	1,50%	2,00%	2,20%	2,50%	
WACC	6,50%	7,50%	8,00%	8,00%	8,00%	8,00%

Strategy 2

Year	2006	2007	2008	2009	2010	P
Sales grow	7,00%	12,50%	14,00%	14,75%	15,50%	7,00%
ROS	4,00%	4,50%	4,90%	5,00%	5,40%	
Fixed assets/sales	60,00%	63,00%	63,50%	64,00%	66,50%	
ΔNWC/NWC	-1,00%	-1,25%	-1,75%	-2,00%	-2,10%	
WACC	7,50%	7,70%	8,00%	8,50%	9,00%	9,00%

Strategy 3

Year	2006	2007	2008	2009	2010	P
Sales grow	4,50%	5,20%	5,90%	6,40%	7,00%	3,00%
ROS	4,20%	4,23%	4,24%	4,27%	4,32%	
Fixed assets/sales	57,00%	58,50%	60,00%	61,90%	62,20%	
ΔNWC/NWC	-0,50%	-0,75%	-1,25%	-1,30%	-1,60%	
WACC	7,00%	8,00%	8,50%	9,00%	9,25%	9,25%

Strategy 4

Year	2006	2007	2008	2009	2010	P
Sales grow	19,00%	21,00%	22,00%	17,00%	16,50%	10,00%
ROS	3,60%	5,50%	6,00%	6,80%	7,20%	
Fixed assets/sales	72,00%	71,75%	70,00%	69,00%	67,00%	
ΔNWC/NWC	-3,50%	-3,70%	-4,00%	-4,50%	-4,50%	
WACC	8,50%	8,50%	9,50%	11,00%	11,00%	12,00%

Source: Made by the Author

(2) With information provided by the CEO and the CFO, advise Fernando Pinto, in deciding the last strategy to adopt and join the pack of 5, in order to increase the competitiveness and sustainability of the company.

Base your answer on:
a) Develop a QSPM matrix
b) FCFF, EVA and MVA
c) "best formula"

Additional information to execute the case

A1: Income statement to be analysed

Year	2003	2004	2005
Total Revenues	**1 352 743 512 €**	**1 447 179 425 €**	**1 489 996 585 €**
Sales and Services	1 262 262 601 €	1 360 429 397 €	1 429 272 689 €
Works for the company	3 309 588 €	2 203 981 €	1 631 845 €
Other operating income	87 171 323 €	76 980 030 €	51 356 989 €
Production Vartiation	- €	7 566 017 €	7 735 062 €
Expenses and variable losses	**776 001 967 €**	**888 030 007 €**	**1 041 392 470 €**
Sold and consumed inventories	48 426 282 €	55 239 774 €	58 430 110 €
Variation in Production	543 401 €	- €	- €
Materials and services consumed	727 032 284 €	832 790 233 €	982 962 360 €
Gross Profit	**576 741 545 €**	**559 149 418 €**	**448 604 115 €**
Fixed costs and losses	**439 506 343 €**	**447 733 689 €**	**373 456 549 €**
Costs with personnel	395 756 134 €	431 288 479 €	354 090 345 €
Provisions	11 363 372 €	5 655 590 €	8 364 110 €
Other expenses and losses	32 386 837 €	10 789 620 €	11 002 094 €
EBITDA	**137 235 202 €**	**111 415 729 €**	**75 147 566 €**
Depreciation, amorization	92 277 707 €	84 987 622 €	80 315 494 €
EBIT	**44 957 495 €**	**26 428 107 €**	**- 5 167 928 €**
Financial incomming	18 080 113 €	18 735 210 €	34 527 904 €
financial expenses	42 825 281 €	34 600 965 €	37 136 329 €
EBT	**20 212 327 €**	**10 562 352 €**	**- 7 776 353 €**
Income Tax	1 874 729 €	1 991 233 €	981 548 €
Net Profit of the Year	**18 337 598 €**	**8 571 119 €**	**- 8 757 901 €**

Source: TAP reports from 2003, 2004 and 2005 (adapted)

A2: Balance-sheet to be analysed

Year	2003	2004	2005
Assets			
Non-Current Assets			
Tangible fixed assets	928 522 415 €	815 631 861 €	773 846 780 €
Investment properties	16 320 704 €	21 284 501 €	23 992 534 €
Intangible assets	4 722 024 €	4 680 258 €	14 960 936 €
Deferred tax assets	59 407 €	14 655 370 €	13 783 316 €
Other assets	5 942 311 €	5 401 672 €	6 088 510 €
Total	**955 566 861 €**	**861 653 662 €**	**832 672 076 €**
Current assets			
Inventories	27 317 642 €	32 447 095 €	43 347 223 €
Suppliers	2 143 303 €	3 794 194 €	2 725 641 €
Customers	120 907 343 €	126 579 954 €	142 597 323 €
State and other public entities	6 448 845 €	39 795 600 €	29 483 369 €
Other accounting receivables	46 842 215 €	21 741 686 €	33 049 777 €
Deferrals	22 366 520 €	24 579 285 €	13 127 738 €
Cash and other equivalents	76 239 262 €	72 050 255 €	250 966 347 €
Total	**302 265 130 €**	**320 988 069 €**	**515 297 418 €**
Total Assets	**1 257 831 991 €**	**1 182 641 731 €**	**1 347 969 494 €**
Equity & Liabilities			
Capital and reserves			
Capital	15 000 000 €	15 000 000 €	15 000 000 €
Adjustment associated filials	- 16 485 187 €	- 30 650 025 €	- 11 799 497 €
Currency exchange reserves	-	-	- 391 883 €
Legal reserves	-	986 615 €	1 419 492 €
Retained earnings	-	18 745 685 €	26 970 343 €
Net profit	19 732 300 €	8 657 535 €	- 9 973 512 €
Equity attributable to the Group	18 247 113 €	12 739 810 €	21 224 943 €
minority interest	5 192 780 €	7 177 051 €	6 837 034 €
Total Equity	**23 439 893 €**	**19 916 861 €**	**28 061 977 €**
Liabilities			
Non-current liabilities			
Deferred tax liabilities	194 750 €	14 768 544 €	13 877 931 €
Provisions	105 126 817 €	99 346 695 €	98 055 997 €
Interest-bearing liabilities	83 568 884 €	42 281 570 €	383 915 410 €
Accounts Payables	527 964 705 €	454 063 132 €	358 121 629 €
Total	**716 855 156 €**	**610 459 941 €**	**853 970 967 €**
Current-Liabilities			
Interest-bearing Liabilities	93 344 077 €	94 292 152 €	9 865 954 €
Customers	2 250 554 €	565 669 €	1 279 255 €
State	21 157 228 €	17 350 671 €	18 663 821 €
Doc. Flight Pending	98 763 643 €	110 327 681 €	117 047 083 €
Providers	121 418 889 €	152 812 146 €	149 455 869 €
Accounts Payables	36 102 861 €	36 869 875 €	41 498 929 €
Defarrals	144 499 690 €	140 046 735 €	128 125 639 €
Total Current - Liabilities	**517 536 942 €**	**552 264 929 €**	**465 936 550 €**
Total Liabilities	**1 234 392 098 €**	**1 162 724 870 €**	**1 319 907 517 €**
Total Equity & Liabilities	**1 257 831 991 €**	**1 182 641 731 €**	**1 347 969 494 €**

Source: TAP reports from 2003, 2004, 2005 (adapted)

A3 - Information of final position in 2005 for being used to future estimations.

Year	2005
Sales	1 489 996 585 €
Net fixed assets	832 672 076 €
Net Operating Working Capital Needs	- 173 075 704 €
Tax rate	10%

A4- TAP Logo

Annex 2 – Income Statment with codes

	Year	2003	2004	2005
IS1	**Total Revenues**	**1 352 743 512 €**	**1 447 179 425 €**	**1 489 996 585 €**
IS2	Sales and Services	1 262 262 601 €	1 360 429 397 €	1 429 272 689 €
IS3	Works for the company	3 309 588 €	2 203 981 €	1 631 845 €
IS4	Other operating income	87 171 323 €	76 980 030 €	51 356 989 €
IS5	Production Vartiation	- €	7 566 017 €	7 735 062 €
IS6	**Expenses and variable losses**	**776 001 967 €**	**888 030 007 €**	**1 041 392 470 €**
IS7	Sold and consumed inventories	48 426 282 €	55 239 774 €	58 430 110 €
IS8	Variation in Production	543 401 €	- €	- €
IS9	Materials and services consumed	727 032 284 €	832 790 233 €	982 962 360 €
IS10	**Gross Profit**	**576 741 545 €**	**559 149 418 €**	**448 604 115 €**
IS11	**Fixed costs and losses**	**439 506 343 €**	**447 733 689 €**	**373 456 549 €**
IS12	Costs with personnel	395 756 134 €	431 288 479 €	354 090 345 €
IS13	Provisions	11 363 372 €	5 655 590 €	8 364 110 €
IS14	Other expenses and losses	32 386 837 €	10 789 620 €	11 002 094 €
IS15	**EBITDA**	**137 235 202 €**	**111 415 729 €**	**75 147 566 €**
IS16	Depreciation, amorization, impairment losses	92 277 707 €	84 987 622 €	80 315 494 €
IS17	**EBIT**	**44 957 495 €**	**26 428 107 €**	**- 5 167 928 €**
IS18	Financial incomming	18 080 113 €	18 735 210 €	34 527 904 €
IS19	financial expenses	42 825 281 €	34 600 965 €	37 136 329 €
IS20	**EBT**	**20 212 327 €**	**10 562 352 €**	**- 7 776 353 €**
IS21	Income Tax	1 874 729 €	1 991 233 €	981 548 €
IS22	**Net Profit of the Year**	**18 337 598 €**	**8 571 119 €**	**- 8 757 901 €**

Source: Made by the author

Annex 3 – Balance sheet with codes

	Year	2003	2004	2005
IS1	**Total Revenues**	**1 352 743 512 €**	**1 447 179 425 €**	**1 489 996 585 €**
IS2	Sales and Services	1 262 262 601 €	1 360 429 397 €	1 429 272 689 €
IS3	Works for the company	3 309 588 €	2 203 981 €	1 631 845 €
IS4	Other operating income	87 171 323 €	76 980 030 €	51 356 989 €
IS5	Production Vartiation	- €	7 566 017 €	7 735 062 €
IS6	**Expenses and variable losses**	**776 001 967 €**	**888 030 007 €**	**1 041 392 470 €**
IS7	Sold and consumed inventories	48 426 282 €	55 239 774 €	58 430 110 €
IS8	Variation in Production	543 401 €	- €	- €
IS9	Materials and services consumed	727 032 284 €	832 790 233 €	982 962 360 €
IS10	**Gross Profit**	**576 741 545 €**	**559 149 418 €**	**448 604 115 €**
IS11	**Fixed costs and losses**	**439 506 343 €**	**447 733 689 €**	**373 456 549 €**
IS12	Costs with personnel	395 756 134 €	431 288 479 €	354 090 345 €
IS13	Provisions	11 363 372 €	5 655 590 €	8 364 110 €
IS14	Other expenses and losses	32 386 837 €	10 789 620 €	11 002 094 €
IS15	**EBITDA**	**137 235 202 €**	**111 415 729 €**	**75 147 566 €**
IS16	Depreciation, amorization	92 277 707 €	84 987 622 €	80 315 494 €
IS17	**EBIT**	**44 957 495 €**	**26 428 107 €**	**- 5 167 928 €**
IS18	Financial incomming	18 080 113 €	18 735 210 €	34 527 904 €
IS19	financial expenses	42 825 281 €	34 600 965 €	37 136 329 €
IS20	**EBT**	**20 212 327 €**	**10 562 352 €**	**- 7 776 353 €**
IS21	Income Tax	1 874 729 €	1 991 233 €	981 548 €
IS22	**Net Profit of the Year**	**18 337 598 €**	**8 571 119 €**	**- 8 757 901 €**

Source: Made by the author

Annex 4 – Analysis based on sales

	Year	2003	2004	2005
	Assets			
	Non-Current Assets			
BS1	Tangible fixed assets	928 522 415 €	815 631 861 €	773 846 780 €
BS2	Investment properties	16 320 704 €	21 284 501 €	23 992 534 €
BS3	Intangible assets	4 722 024 €	4 680 258 €	14 960 936 €
BS4	Deferred tax assets	59 407 €	14 655 370 €	13 783 316 €
BS5	Other assets	5 942 311 €	5 401 672 €	6 088 510 €
BS6	**Total**	**955 566 861 €**	**861 653 662 €**	**832 672 076 €**
	Current assets			
BS7	Inventories	27 317 642 €	32 447 095 €	43 347 223 €
BS8	Suppliers	2 143 303 €	3 794 194 €	2 725 641 €
BS9	Customers	120 907 343 €	126 579 954 €	142 597 323 €
BS10	State and other public entities	6 448 845 €	39 795 600 €	29 483 369 €
BS11	Other accounting receivables	46 842 215 €	21 741 686 €	33 049 777 €
BS12	Deferrals	22 366 520 €	24 579 285 €	13 127 738 €
BS13	Cash and other equivalents	76 239 262 €	72 050 255 €	250 966 347 €
BS14	**Total**	**302 265 130 €**	**320 988 069 €**	**515 297 418 €**
BS15	**Total Assets**	**1 257 831 991 €**	**1 182 641 731 €**	**1 347 969 494 €**
	Equity & Liabilities			
	Capital and reserves			
BS16	Capital	15 000 000 €	15 000 000 €	15 000 000 €
BS17	Adjustment associated filials	- 16 485 187 €	- 30 650 025 €	- 11 799 497 €
BS18	Currency exchange reserves	-	-	391 883 €
BS19	Legal reserves	-	986 615 €	1 419 492 €
BS20	Retained earnings	-	18 745 685 €	26 970 343 €
BS21	Net profit	19 732 300 €	8 657 535 €	- 9 973 512 €
BS22	Equity attributable to the Group	18 247 113 €	12 739 810 €	21 224 943 €
BS23	minority interest	5 192 780 €	7 177 051 €	6 837 034 €
BS24	**Total Equity**	**23 439 893 €**	**19 916 861 €**	**28 061 977 €**
	Liabilities			
	Non-current liabilities			
BS25	Deferred tax liabilities	194 750 €	14 768 544 €	13 877 931 €
BS26	Provisions	105 126 817 €	99 346 695 €	98 055 997 €
BS27	Interest-bearing liabilities	83 568 884 €	42 281 570 €	383 915 410 €
BS28	Accounts Payables	527 964 705 €	454 063 132 €	358 121 629 €
BS29	**Total**	**716 855 156 €**	**610 459 941 €**	**853 970 967 €**
	Current-Liabilities			
BS30	Interest-bearing Liabilities	93 344 077 €	94 292 152 €	9 865 954 €
BS31	Customers	2 250 554 €	565 669 €	1 279 255 €
BS32	State	21 157 228 €	17 350 671 €	18 663 821 €
BS33	Doc. Flight Pending	98 763 643 €	110 327 681 €	117 047 083 €
BS34	Providers	121 418 889 €	152 812 146 €	149 455 869 €
BS35	Accounts Payables	36 102 861 €	36 869 875 €	41 498 929 €
BS36	Defarrals	144 499 690 €	140 046 735 €	128 125 639 €
BS37	**Total Current - Liabilities**	**517 536 942 €**	**552 264 929 €**	**465 936 550 €**
BS38	**Total Liabilities**	**1 234 392 098 €**	**1 162 724 870 €**	**1 319 907 517 €**
BS39	**Total Equity & Liabilities**	**1 257 831 991 €**	**1 182 641 731 €**	**1 347 969 494 €**

Source: Made by the author

Annex 5 – Operating Profitability – ROS calculation – with solution codes

	Operating Profitability				
	Year	**2003**	**2004**	**2005**	
A1	Operating revenues	1 352 743 512 €	1 447 179 425 €	1 489 996 585 €	IS1
A2	Variable charges	776 001 967 €	888 030 007 €	1 041 392 470 €	IS6
A3	**Gross profit (or contribuition margin)**	**576 741 545 €**	**559 149 418 €**	**448 604 115 €**	A1/A2
A4	**- Gross profit as a %**	**43%**	**39%**	**30%**	A3/A1
A5	Fixed charges	439 506 343 €	447 733 689 €	373 456 549 €	IS11
A6	**EBITDA**	**137 235 202 €**	**111 415 729 €**	**75 147 566 €**	A3-A5
A7	**- Cash Flow Margin**	**10%**	**8%**	**5%**	A6/A1
A8	Depreciation and Amortization charges	92 277 707 €	84 987 622 €	80 315 494 €	IS16
A9	**EBIT**	**44 957 495 €**	**26 428 107 €**	- **5 167 928 €**	A6-A8
A10	**Return on Sales (ROS)**	**3,32%**	**1,83%**	**-0,35%**	A9/A1

Source: Made by the author

Annex 6 – Economic Profitability – ROA – with solution codes

	Economic Profitability				
	Year	**2003**	**2004**	**2005**	
	Return on Assets = ROA				
B1	Operating Profit + Interest Income	63.037.608 €	45.163.317 €	29.359.976 €	IS17+IS18
B2	Total Assets	1.257.831.991 €	1.182.641.731 €	1.347.969.494 €	BS15
B3	**ROA**	**5,01%**	**3,82%**	**2,18%**	B1/B2
B4	**Breakdown**				
B5	Return on Sales	4,66%	3,12%	1,97%	B1/A1
B6	Total Assets Turnover	1,08	1,22	1,11	A1/B2
B7	**ROA**	**5,01%**	**3,82%**	**2,18%**	B4*B5

Source: Made by the author

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Annex 7 – ROIC with solution codes

	Return on Invested Capital = ROIC	2003	2004	2005	
	Year	**2003**	**2004**	**2005**	
	Invested Capital (or Net Assets)				
C1	Fixed or Non Current Assets	955.566.861 €	861.653.662 €	832.672.076 €	**BS6**
	- Operating Current Assets:				
C2	Inventories	27.317.642 €	32.447.095 €	43.347.223 €	**BS7**
C3	Operational Accounts Reiceivable	123.050.646 €	130.374.148 €	145.322.964 €	**BS8+BS9**
C4	Deferrals and Other Operating Accounts receivable	75.657.580 €	86.116.571 €	75.660.884 €	10+BS11+13
C5	**Total Operating current assets**	**226.025.868 €**	**248.937.814 €**	**264.331.071 €**	**C2+C3+C4**
	- Operating Current Liabilities				
C6	Accounts Payable	159.772.304 €	190.247.690 €	192.234.053 €	BS34+BS35
C7	Other Opperating Accounts Payable	98.763.643 €	110.327.681 €	117.047.083 €	**BS33**
C8	Deferrals and Other Operating Accounts payable	144.499.690 €	140.046.735 €	128.125.639 €	**BS36**
C9	**Total Operating Current Liabilities**	**403.035.637 €**	**440.622.106 €**	**437.406.775 €**	**C6+C7+C8**
C10	**Net Operating Working Capital Needs (or Requir**	- 177.009.769 €	- 191.684.292 €	- 173.075.704 €	**C5-C9**
C11	**Invested Capital (or Net Assets)**	**778.557.092 €**	**669.969.370 €**	**659.596.372 €**	**C1+C10**
C12	Operating Profit = EBIT	44.957.495 €	26.428.107 €	- 5.167.928 €	**A9**
C13	**Return On Invested Capital = ROIC (before taxes)**	**5,77%**	**3,94%**	**-0,78%**	**C12/C11**
C14	Revenues	1.352.743.512 €	1.447.179.425 €	1.489.996.585 €	**A1**
C15	**Return on Sales (ROS)**	**3,32%**	**1,83%**	**-0,35%**	**C12/C14**
	ROIC Breakdown				
C16	Fixed Assets/Sales	70,64%	59,54%	55,88%	**C1/C14**
C17	Net Operating Working Capital Needs/sales	-13,09%	-13,25%	-11,62%	**C10/C14**
C18	Invested Capital (or Net Assets)/Sales	57,55%	46,29%	44,27%	**C16+C17**
C19	**Invested Capital Turnover (ICTO)**	1,7	2,2	2,3	**C14/C11**
C20	**ROIC = control**	**5,77%**	**3,94%**	**-0,78%**	**C19*C15**

Source: Made by the author

Annex 8 – ROE Spread Model of Financial Leverage with solution codes

	Financial profitability				
	1. ROE spread model - Spread Model of Financial Leverage (with Total Assets and Total Liabilities)				
	Year	**2003**	**2004**	**2005**	
D1	Operating profit (EBIT) + Interest Income	63.037.608 €	45.163.317 €	29.359.976 €	B1
D2	EBIT	44.957.495 €	26.428.107 €	- 5.167.928 €	A9
D3	Implied Tax Rate	9,28%	18,85%	-12,62%	IS22/IS21
D4	Tax Effect	91%	81%	113%	1-D3
D5	**EBIAT (Earnings before interest but after taxes)**	**57.190.759 €**	**36.649.050 €**	**33.065.855 €**	D1*D4
D6	Total Assets	1.257.831.991 €	1.182.641.731 €	1.347.969.494 €	BS15
D7	**ROA AT**	**4,55%**	**3,10%**	**2,45%**	D5/D6
D8	Interest Expense	42.825.281 €	34.600.965 €	37.136.329 €	IS19
D9	Total Liabilities	1.234.392.098 €	1.162.724.870 €	1.319.907.517 €	BS38
D10	Average interest rate on total liabilities (j)	3,47%	2,98%	2,81%	D8/D9
D11	After Average Interest Rate (j')	3,15%	2,41%	3,17%	D4*10
D12	Financial Margin or Spread AT	1,40%	0,68%	-0,72%	D7-D11
D13	Total Equity	23.439.893 €	19.916.861 €	28.061.977 €	BS24
D14	**Financial Leverage = D/E**	**5266%**	**5838%**	**4704%**	D9/D13
D15	**Financial Leverage Effect**	**73,69%**	**39,94%**	**-33,66%**	D12*14
D16	**Total ROE**	**78,23%**	**43,03%**	**-31,21%**	D7+D15
D17	Net income	18.337.598 €	8.571.119 €	- 8.757.901 €	IS23
D18	**Total ROE**	**78,23%**	**43,03%**	**-31,21%**	D17/D13

Source: Made by the author

Annex 9 – ROE Spread Model With Total Funding with codes

	2. ROE Total Funding Model				
	Spread Model With Total Funding (total fundind approach)				
	Year	**2003**	**2004**	**2005**	
E1	Total Equity	23.439.893 €	19.916.861 €	28.061.977 €	D13
E2	- Medium and Long Term Debt	83.568.884 €	42.281.570 €	383.915.410 €	BS27
E3	- Short term Debt	93.344.077 €	94.292.152 €	9.865.954 €	BS30
E4	Total Debt	176.912.961 €	136.573.722 €	393.781.364 €	E2+E3
E5	- Cash and Other Equivalent	76.239.262 €	72.050.255 €	250.966.347 €	BS13
E6	Total Cash and Equivalent	76.239.262 €	72.050.255 €	250.966.347 €	E5
E7	Net Debt = D	100.673.699 €	64.523.467 €	142.815.017 €	E4-E6
E8	**Total Funding = Employed Capital**	**124.113.592 €**	**84.440.328 €**	**170.876.994 €**	E1+E7
E9	EBIAT (Excluding interest income) = NOPLAT	40.787.608 €	21.445.834 €	- 5.820.235 €	A9*D4
E10	**Return on Total Funding (after tax) = ROCE**	**32,86%**	**25,40%**	**-3,41%**	E9/E8
E11	Net interest expense	24.745.168 €	15.865.755 €	2.608.425 €	IS19-IS18
E12	Average interest rate on Net Debt	24,58%	24,59%	1,83%	E11/E7
E13	Tax Effect	90,72%	81,15%	112,62%	D4
E14	**After Tax Average Interest Rate on Net Debt**	**22,30%**	**19,95%**	**2,06%**	E13*E12
E15	**Financial margin or spread**	**10,56%**	**5,44%**	**-5,46%**	E10-E14
E16	Financial Leverage Ratio = D/E	429,50%	323,96%	508,93%	E7/E1
E17	**Financial Leverage Effect**	**45,37%**	**17,64%**	**-27,80%**	E15*16
E18	**ROE**	**78,23%**	**43,03%**	**-31,21%**	E10+E17

Source: Made by the author

Annex 10 - ROE Product Factor Model with solution codes

	3. ROE Product Factor Model				
	Year	**2003**	**2004**	**2005**	
F1	**Gross Profit Margin as a percentage of Sales**	**42,63%**	**38,64%**	**30,11%**	IS10/IS1
F2	Fixed Expenses effect	23,79%	19,93%	16,75%	IS15/IS10
F3	**Cash Flow Margin**	**10%**	**8%**	**5%**	F1*F2
F4	Depreciation and Amortization Effect	32,76%	23,72%	-6,88%	IS17/IS15
F5	**ROS**	**3,32%**	**1,83%**	**-0,35%**	F3*F4
F6	Invested Capital Turnover	1,7	2,2	2,3	C19
F7	**ROIC**	**5,77%**	**3,94%**	**-0,78%**	F6*F5
F8	Interest Expense Effect (net from interest income)	44,96%	39,97%	150,47%	IS20/IS17
F9	Invested Capital/Total Equity	3321,50%	3363,83%	2350,50%	C11/E1
F10	**Financial Leverage Effect**	**1493%**	**1344%**	**3537%**	F8*F7
F11	**Tax Effect**	**90,72%**	**81,15%**	**112,62%**	E13
F12	**ROE**	**78,23%**	**43,03%**	**-31,21%**	F11*F10*F7

Source: Made by the author

Annex 11 – Operating or Business Risk Analysis with solution codes

	Risk Measures				
	Operating or Business Risk Analysis				
	Year	**2003**	**2004**	**2005**	
	Break Even Analysis				
G1	Total Fixed Charges	531.784.050 €	532.721.311 €	453.772.043 €	IS11+IS16
G2	Gross Profit (or contribuition margin) as a %	42,63%	38,64%	30,11%	F1
G3	**BreakEvenpoint in euros**	**1.247.296.002 €**	**1.378.778.723 €**	**1.507.161.374 €**	G1/G2
	Break Even Analysis: related operating risk measures				
G4	Revenues	1.352.743.512 €	1.447.179.425 €	1.489.996.585 €	A1
G5	**Safety margin**	**8,45%**	**4,96%**	ND	G4/G3-1
G6	**Sustainable Sales Drop as a %**	**7,80%**	**4,73%**	ND	1-G3/G4
G7	Variable Charges	776.001.967 €	888.030.007 €	ND	IS6
G8	**Gross Profit (or contribuition margin) in €**	**576.741.545 €**	**559.149.418 €**	ND	IS10
G9	**EBIT**	**44.957.495 €**	**26.428.107 €**	ND	IS17
G10	**Degree of Operating Leverage (ex ante)**	**12,8**	**21,2**	ND	G8/G9
G11	Change in Operating Profit as a %		-41,22%	ND	
G12	Change in Sales (€) as a %		6,98%	ND	
G13	**Degree of Operating Leverage (ex post)**		**-5,9**	ND	G11/G12

Source: Made by the author

Annex 12 – Financial risk and total risk analysis

	Total Risk (including financial risk)				
	Financial risk and total risk analysis				
	Year	**2003**	**2004**	**2005**	
H1	Total Operating Fixed charges	439.506.343 €	447.733.689 €	ND	IS11
H2	Net interest expense	42.825.281 €	34.600.965 €	ND	D8
H3	**Total Fixed Charges**	**482.331.624 €**	**482.334.654 €**	**ND**	H1+H2
H4	Gross profit margin as a % of sales	42,63%	38,64%	ND	G2
H5	Breakeven with interest expense in €	1.131.305.661 €	1.248.368.978 €	ND	H3/H4
H6	**Sales volume**	**1.352.743.512 €**	**1.447.179.425 €**	**ND**	IS1
H7	**Safety margin**	**19,57%**	**15,93%**	ND	H6/H5-1
H8	**Sustainable Sales Drop as a %**	**16,37%**	**13,74%**	ND	1-H5/H6
H9	Total operating variable charges	776.001.967 €	888.030.007 €	ND	IS6
H10	Gross profit in €	576.741.545 €	559.149.418 €	ND	IS10
H11	Operating profit	44.957.495 €	26.428.107 €	ND	IS17
H12	**Degree of Operating Leverage (ex ante)**	**12,8**	**21,2**	ND	G10
H13	EBT	20.212.327 €	10.562.352 €	ND	IS21
H14	**Degree of Financial Leverage**	**2,22**	**2,50**	ND	H11/H13
H15	**Combined Leverage Degree**	**28,53**	**52,94**	ND	H12*H14

Source: Made by the author

Annex 13 – Financial health – Functional balance sheet (first approach) with codes

	Financial health				
	Years	**2003**	**2004**	**2005**	
	Functional Balance sheet (first approach)				
I1	- Total Equity	23 439 893 €	19 916 861 €	28 061 977 €	BS24
I2	- Non Current Liabilities	716 855 156 €	610 459 941 €	853 970 967 €	BS29
I3	**Permanent Capital = Long term Capital =Non current capital**	**740 295 049 €**	**630 376 802 €**	**882 032 944 €**	I1+I2
I4	**(Net) Fixed Assets or Non Current Assets**	**955 566 861 €**	**861 653 662 €**	**832 672 076 €**	BS6
I5	**Net Working Capital**	**- 215 271 812 €**	**- 231 276 860 €**	**49 360 868 €**	I3-I4
I6	Inventories	27 317 642 €	32 447 095 €	43 347 223 €	BS7
I7	Operational Accounts Receivable	123 050 646 €	130 374 148 €	145 322 964 €	BS8+BS9
I8	Deferrals and Other Operating Accounts receivable	75 657 580 €	86 116 571 €	75 660 884 €	BS10+BS11+BS12
I9	**Total Operating Current Assets**	**226 025 868 €**	**248 937 814 €**	**264 331 071 €**	I6+I7+I8
I10	Accounts payable	159 772 304 €	190 247 690 €	192 234 053 €	BS31+BS34+BS35
I11	Other operating accounts payable	98 763 643 €	110 327 681 €	117 047 083 €	BS33
I12	Deferrals and Other Operating Accounts payable	144 499 690 €	140 046 735 €	128 125 639 €	BS36
I13	**Total Operating Current Liabilitites**	**403 035 637 €**	**440 622 106 €**	**437 406 775 €**	I10+I11+I12
I14	**Net Operating Working Capital Needs or Requirements**	**- 177 009 769 €**	**- 191 684 292 €**	**- 173 075 704 €**	I9-I13
I15	**Net treasury**	**- 38 262 043 €**	**- 39 592 568 €**	**222 436 572 €**	I5-I14

Source: Made by the author

Annex 14 – Functional Balance sheet (second approach) with solution codes

	Functional Balance sheet (second approach)	2003	2004	2005	
	Year	**2003**	**2004**	**2005**	
J1	**Non Operating Current Assets Needs**	**0**	**0**	**0**	example
J2	Other Short Term Non Operating Accounts Payable	0	0	0	example
J3	Income Taxes (due in short term)	21 157 228 €	17 350 671 €	18 663 821 €	BS32
J4	Dividends (short term)	- €	- €	- €	example
J5	**Non Operating Current Liabilities Sources**	**21 157 228 €**	**17 350 671 €**	**18 663 821 €**	J2+J3+J4
J6	**Net Non Operating Working Capital Needs**	**- 21 157 228 €**	**- 17 350 671 €**	**- 18 663 821 €**	J1-J5
J7	**Total Net Working Capital Needs**	**- 198 166 997 €**	**- 209 034 963 €**	**- 191 739 525 €**	I14+J6
J8	**Net treasury**	**- 17 104 815 €**	**- 22 241 897 €**	**241 100 393 €**	I5-J7
	Breakdown				
J9	Cash and Other Equivalent	76 239 262 €	72 050 255 €	250 966 347 €	BS13
J10	**Net Treasury Assets**	**76 239 262 €**	**72 050 255 €**	**250 966 347 €**	J9
J11	Short Term Debt	93 344 077 €	94 292 152 €	9 865 954 €	BS30
J12	**Net Treasury Liabilities**	**93 344 077 €**	**94 292 152 €**	**9 865 954 €**	J11
J13	**Net Treasury - Control - NT**	**- 17 104 815 €**	**- 22 241 897 €**	**241 100 393 €**	J9-J11
J14	**Increase in Net Working Capital**		**- 16 005 048 €**	**280 637 728 €**	
J15	**Increase in Total WC needs**		**- 10 867 966 €**	**17 295 438 €**	
J16	**Increase in Net Treasury**		**- 5 137 082 €**	**263 342 290 €**	

Source: Made by the author

Annex 15 – Other Ratios of financial health with solution codes

	Other ratios	2003	2004	2005	
	Year	**2003**	**2004**	**2005**	
	Fixed Assets Coverage				
L1	By total Equity	2,45%	2,31%	3,37%	BS24/BS6
L2	By permanent (or long term) Capital	77,47%	73,16%	105,93%	I3/BS6
L3	Equity/(Intangibli+ land and other non depreciable fixed assets)	86,67%	43,28%	47,70%	BS24/(BS2+BS3+BS4+BS5)
L4	**Liquidity**				
L5	Current Ratio	0,58	0,58	1,11	BS14/BS37
L6	Quick Ratio or Acid Test	0,53	0,52	1,01	(BS14-BS7)/BS37
L7	**Solvency**	**1,90%**	**1,71%**	**2,13%**	BS24/BS15
L8	Total Equity/Total Assets (incluiding Minority Interests)	1,86%	1,68%	2,08%	(BS27+BS30)/BS15
L9	Interest bearing debt/Total assets	14,06%	11,55%	29,21%	BS38/BS15
L10	Total Liabilities/Total assets	98,14%	98,32%	97,92%	BS37/BS38
L11	Liabilities struture (% of Liabilities due in short term)	41,93%	47,50%	35,30%	BS24/BS38

Source: Made by the author

Annex 16 - Solution for calculating FCFF – stage 1 - Strategy 1

Solution	2006	2007	2008	2009	2010	2011
Sales	1 638 996 244 €	1 884 845 680 €	2 186 420 989 €	2 481 587 822 €	2 804 194 239 €	2 944 403 951 €
EBIT	50 808 884 €	50 890 833 €	57 940 156 €	65 265 760 €	74 591 567 €	78 321 145 €
Working capital	- 174 806 461 €	- 177 428 558 €	- 180 977 129 €	- 184 958 626 €	- 189 582 592 €	- 199 061 721 €
Fixed assets	885 057 971 €	961 271 297 €	1 093 210 494 €	1 215 978 033 €	1 346 013 235 €	1 413 313 897 €

Source: Made by the author

Annex 17 - Solution for calculating FCFF – stage 1 - Strategy 3

Solution	2006	2007	2008	2009	2010 P	
Sales	1 557 046 431 €	1 638 012 846 €	1 734 655 604 €	1 845 673 562 €	1 974 870 712 €	2 034 116 833 €
EBIT	65 395 950 €	69 287 943 €	73 549 398 €	78 810 261 €	85 314 415 €	87 873 847 €
Working capital	- 172 210 325 €	- 170 918 748 €	- 168 782 264 €	- 166 588 094 €	- 163 922 685 €	- 168 840 365 €
Fixed assets	887 516 466 €	958 237 515 €	1 040 793 362 €	1 142 471 935 €	1 228 369 583 €	1 265 220 670 €

Source: Made by the author

Annex 18 - Solution for calculating FCFF – stage 1 - Strategy 4

Solution	2006	2007	2008	2009	2010 P	
Sales	1 773 095 936 €	2 145 446 083 €	2 617 444 221 €	3 062 409 739 €	3 567 707 345 €	3 924 478 080 €
EBIT	63 831 454 €	117 999 535 €	157 046 653 €	208 243 862 €	256 874 929 €	282 562 422 €
Working capital	- 167 018 054 €	- 160 838 386 €	- 154 404 851 €	- 147 456 633 €	- 140 821 084 €	- 154 903 193 €
Fixed assets	1 276 629 074 €	1 539 357 564 €	1 832 210 955 €	2 113 062 720 €	2 390 363 921 €	2 629 400 314 €

Source: Made by the author

Annex 19 – Free Cash-flow for firm and Equity value - strategy 1

Strategy 1

Year	2005	2006	2007	2008	2009	2010 P	
Operating Profit After Taxes (= EBIT * (1 - t))		45 727 995 €	45 801 750 €	52 146 141 €	58 739 184 €	67 132 410 €	70 489 031 €
Investment in Net Working Capital		- 1 730 757 €	2 622 097 €	- 3 548 571 €	- 3 981 497 €	4 623 966 €	- 9 479 130 €
Investment in Fixed Assets		52 385 895 €	76 213 325 €	131 939 198 €	122 767 539 €	130 035 202 €	67 300 662 €
FCFF = Free Cash Flow for the Firm		- 4 927 143 €	27 789 478 €	- 76 244 486 €	- 60 046 858 €	58 278 826 €	12 667 498 €
Year	2005	2006	2007	2008	2009	2010 P	
FCFF= Free Cash Flow for the Firm		- 4 927 143 €	27 789 478 €	- 76 244 486 €	- 60 046 858 €	58 278 826 €	12 667 498 €
Discount Rate = WACC		6,50%	7,50%	8,00%	8,00%	8,00%	8,00%
Perpetuity Growth Rate							5,00%
Rate Difference							3,00%
Continuing Value						422 249 948 €	
		- 4 927 143 €	27 789 478 €	- 76 244 486 €	- 60 046 858 €	363 971 122 €	
SUM		- 4 626 426 €	24 272 937 €	- 61 663 279 €	- 44 966 046 €	252 369 919 €	
Present Value (EV = Enterprise Value @ WACC)	116 841 232 €						
EV= Enterprise Value = PV of Future FCFF	116 841 232 €	129 363 055 €	166 854 763 €	256 447 629 €	337 010 298 €	422 249 948 €	
Enterprise Value + Current Year FCFF		124 435 912 €	139 065 284 €	180 203 144 €	276 963 440 €	363 971 122 €	
Year	2005						
Non Operating Assets	250 966 347 €						
Firm Value	367 807 579 €						
Debt	393 781 364 €						
Equity Value	- 25 973 785 €						

Source: Made by the author

Annex 20 – Free Cash-flow for firm and Equity value - strategy 3

Strategy 3

Year	2005	2006	2007	2008	2009	2010 P	
Operating Profit After Taxes (= EBIT * (1 - t))		58 856 355 €	62 359 149 €	66 194 458 €	70 929 235 €	76 782 973 €	79 086 462 €
Investment in Net Working Capital		865 379 €	1 291 577 €	2 136 484 €	2 194 169 €	2 665 410 €	4 917 681 €
Investment in Fixed Assets		54 844 390 €	70 721 049 €	82 555 847 €	101 678 573 €	85 897 648 €	36 851 087 €
FCFF = Free Cash Flow for the Firm		3 146 587 €	- 9 653 477 €	- 18 497 874 €	- 32 943 507 €	- 11 780 084 €	47 153 056 €
Year	2005	2006	2007	2008	2009	2010 P	
FCFF= Free Cash Flow for the Firm		3 146 587 €	- 9 653 477 €	- 18 497 874 €	- 32 943 507 €	- 11 780 084 €	47 153 056 €
Discount Rate = WACC		7,00%	8,00%	8,50%	9,00%	9,25%	9,25%
Perpetuity Growth Rate							3,00%
Rate Difference							6,25%
Continuing Value						754 448 888 €	
		3 146 587 €	- 9 653 477 €	- 18 497 874 €	- 32 943 507 €	742 668 805 €	
SUM		2 940 735 €	- 8 353 649 €	- 14 753 143 €	- 24 104 941 €	497 404 794 €	
Present Value (EV = Enterprise Value @ WACC)	453 133 797 €						
EV= Enterprise Value = PV of Future FCFF	453 133 797 €	481 706 576 €	529 896 579 €	593 435 663 €	679 788 380 €	754 448 888 €	
Enterprise Value + Current Year FCFF		484 853 163 €	520 243 102 €	574 937 789 €	646 844 872 €	742 668 805 €	
Year	2005						
Non Operating Assets	250 966 347 €						
Firm Value	704 100 144 €						
Debt	393 781 364 €						
Equity Value	310 318 780 €						

Source: Made by the author

Annex 21 – Free Cash-flow for firm and Equity value - strategy 4

Strategy 4

Year	2005	2006	2007	2008	2009	2010 P	
Operating Profit After Taxes (= EBIT * (1 - t))		57 448 308 €	106 199 581 €	141 341 988 €	187 419 476 €	231 187 436 €	254 306 180 €
Investment in Net Working Capital		6 057 650 €	6 179 668 €	6 433 535 €	6 948 218 €	6 635 548 €	- 14 082 108 €
Investment in Fixed Assets		443 956 998 €	262 728 490 €	292 853 390 €	280 851 765 €	277 301 202 €	239 036 392 €
FCFF = Free Cash Flow for the Firm		- 392 566 339 €	- 162 708 577 €	- 157 944 938 €	- 100 380 507 €	- 52 749 314 €	29 351 896 €
Year	2005	2006	2007	2008	2009	2010 P	
FCFF= Free Cash Flow for the Firm		392 566 339 €	- 162 708 577 €	- 157 944 938 €	- 100 380 507 €	- 52 749 314 €	29 351 896 €
Discount Rate = WACC		8,50%	8,50%	9,50%	11,00%	11,00%	12,00%
Perpetuity Growth Rate							10,00%
Rate Difference							2,00%
Continuing Value						1 467 594 793 €	
		- 392 566 339 €	- 162 708 577 €	- 157 944 938 €	- 100 380 507 €	1 414 845 478 €	
SUM		- 361 812 294 €	- 138 213 661 €	- 122 527 089 €	- 70 154 060 €	890 818 973 €	
Present Value (EV = Enterprise Value @ WACC)	198 111 868 €						
EV= Enterprise Value = PV of Future FCFF	198 111 868 €	607 517 716 €	821 865 299 €	1 057 887 440 €	1 274 635 566 €	1 467 594 793 €	
Enterprise Value + Current Year FCFF		214 951 377 €	659 156 722 €	899 942 503 €	1 174 255 059 €	1 414 845 478 €	
Year	2005						
Non Operating Assets	250 966 347 €						
Firm Value	449 078 215 €						
Debt	393 781 364 €						
Equity Value	55 296 851 €						

Source: Made by the author

Annex 22 – EVA and MVA strategy 1

Year	2005	2006	2007	2008	2009	2010	P
Enterprise Value = PV of Future FCFF @ WACC	116 841 232 €	129 363 055 €	166 854 763 €	256 447 629 €	337 010 298 €	422 249 948 €	443 362 445 €
Invested Capital	659 596 372 €	710 251 510 €	783 842 739 €	912 233 365 €	1 031 019 407 €	1 156 430 643 €	1 214 252 175 €
Implied MVA in PV of Future FCFF	- 542 755 140 €	- 580 888 455 €	- 616 987 976 €	- 655 785 736 €	- 694 009 109 €	- 734 180 696 €	- 770 889 730 €
Operating Profit After Taxes (= EBIT * (1 - t))		45 727 995 €	45 801 750 €	52 146 141 €	58 739 184 €	67 132 410 €	70 489 031 €
Invested Capital at the beginning of the year (boy)		659 596 372 €	710 251 510 €	783 842 739 €	912 233 365 €	1 031 019 407 €	1 156 430 643 €
WACC = Weighted Average Cost of Capital		6,50%	7,50%	8,00%	8,00%	8,00%	8,00%
Capital Charge		42 873 764 €	53 268 863 €	62 707 419 €	72 978 669 €	82 481 553 €	92 514 451 €
EVA = Economic Value Added		2 854 231 €	7 467 113 €	- 10 561 279 €	- 14 239 485 €	- 15 349 142 €	- 22 025 421 €
ROIC = Return On Invested Capital		6,93%	6,45%	6,65%	6,44%	6,51%	6,10%
WACC = Weighted Average Cost of Capital		6,50%	7,50%	8,00%	8,00%	8,00%	8,00%
EVA Spread = Value Creation Gap		0,43%	-1,05%	-1,35%	-1,56%	-1,49%	-1,90%
EVA = Economic Value Added		2 854 231 €	7 467 113 €	- 10 561 279 €	- 14 239 485 €	- 15 349 142 €	- 22 025 421 €
MVA = PV of Future EVA @ WACC	- 542 755 140 €	- 580 888 455 €	- 616 987 976 €	- 655 785 736 €	- 694 009 109 €	- 734 180 696 €	
MVA + Current Year EVA		- 578 034 224 €	- 624 455 090 €	- 666 347 014 €	- 708 248 595 €	- 749 529 838 €	
Invested Capital at the end of the year (eoy)	659 596 372 €	710 251 510 €	783 842 739 €	912 233 365 €	1 031 019 407 €	1 156 430 643 €	
Control = Enterprise Value by FCFF	116 841 232 €	129 363 055 €	166 854 763 €	256 447 629 €	337 010 298 €	422 249 948 €	

Source: Made by the author

Annex 23 – EVA and MVA strategy 3

Year	2005	2006	2007	2008	2009	2010	P
Enterprise Value = PV of Future FCFF @ WACC	453 133 797 €	481 706 576 €	529 896 579 €	593 435 663 €	679 788 380 €	754 448 888 €	777 082 355 €
Invested Capital	659 596 372 €	715 306 140 €	787 318 767 €	872 011 099 €	975 883 841 €	1 064 446 898 €	1 096 380 305 €
Implied MVA in PV of Future FCFF	- 206 462 575 €	- 233 599 564 €	- 257 422 187 €	- 278 575 436 €	- 296 095 461 €	- 309 998 009 €	- 319 297 950 €
Operating Profit After Taxes (= EBIT * (1 - t))		58 856 355 €	62 359 149 €	66 194 458 €	70 929 235 €	76 782 973 €	79 086 462 €
Invested Capital at the beginning of the year (boy)		659 596 372 €	715 306 140 €	787 318 767 €	872 011 099 €	975 883 841 €	1 064 446 898 €
WACC = Weighted Average Cost of Capital		7,00%	8,00%	8,50%	9,00%	9,25%	9,25%
Capital Charge		46 171 746 €	57 224 491 €	66 922 095 €	78 480 999 €	90 269 255 €	98 461 338 €
EVA = Economic Value Added		12 684 609 €	5 134 658 €	- 727 637 €	- 7 551 764 €	- 13 486 282 €	- 19 374 876 €
ROIC = Return On Invested Capital		8,92%	8,72%	8,41%	8,13%	7,87%	7,43%
WACC = Weighted Average Cost of Capital		7,00%	8,00%	8,50%	9,00%	9,25%	9,25%
EVA Spread = Value Creation Gap		1,92%	0,72%	-0,09%	-0,87%	-1,38%	-1,82%
EVA = Economic Value Added		12 684 609 €	5 134 658 €	- 727 637 €	- 7 551 764 €	- 13 486 282 €	- 19 374 876 €
MVA = PV of Future EVA @ WACC	- 206 462 575 €	- 233 599 564 €	- 257 422 187 €	- 278 575 436 €	- 296 095 461 €	- 309 998 009 €	
MVA + Current Year EVA		- 220 914 955 €	- 252 287 529 €	- 279 303 073 €	- 303 647 225 €	- 323 484 291 €	
Invested Capital at the end of the year (eoy)	659 596 372 €	715 306 140 €	787 318 767 €	872 011 099 €	975 883 841 €	1 064 446 898 €	
Control = Enterprise Value by FCFF	453 133 797 €	481 706 576 €	529 896 579 €	593 435 663 €	679 788 380 €	754 448 888 €	

Source: Made by the author

Annex 24 – EVA and MVA strategy 4

Year	2005	2006	2007	2008	2009	2010	P
Enterprise Value = PV of Future FCFF @ WACC	198 111 868 €	607 517 716 €	821 865 299 €	1 057 887 440 €	1 274 635 566 €	1 467 594 793 €	1 614 354 272 €
Invested Capital	659 596 372 €	1 109 611 020 €	1 378 519 178 €	1 677 806 104 €	1 965 606 087 €	2 249 542 837 €	2 474 497 121 €
Implied MVA in PV of Future FCFF	- 461 484 504 €	- 502 093 304 €	- 556 653 879 €	- 619 918 663 €	- 690 970 521 €	- 781 948 045 €	- 860 142 849 €
Operating Profit After Taxes (= EBIT * (1 - t))		57 448 308 €	106 199 581 €	141 341 988 €	187 419 476 €	231 187 436 €	254 306 180 €
Invested Capital at the beginning of the year (boy)		659 596 372 €	1 109 611 020 €	1 378 519 178 €	1 677 806 104 €	1 965 606 087 €	2 249 542 837 €
WACC = Weighted Average Cost of Capital		8,50%	8,50%	9,50%	11,00%	11,00%	12,00%
Capital Charge		56 065 692 €	94 316 937 €	130 959 322 €	184 558 671 €	216 216 670 €	269 945 140 €
EVA = Economic Value Added		1 382 617 €	11 882 644 €	10 382 666 €	2 860 805 €	14 970 766 €	- 15 638 961 €
ROIC = Return On Invested Capital		8,71%	9,57%	10,25%	11,17%	11,76%	11,30%
WACC = Weighted Average Cost of Capital		8,50%	8,50%	9,50%	11,00%	11,00%	12,00%
EVA Spread = Value Creation Gap		0,21%	1,07%	0,75%	0,17%	0,76%	-0,70%
EVA = Economic Value Added		1 382 617 €	11 882 644 €	10 382 666 €	2 860 805 €	14 970 766 €	- 15 638 961 €
MVA = PV of Future EVA @ WACC	- 461 484 504 €	- 502 093 304 €	- 556 653 879 €	- 619 918 663 €	- 690 970 521 €	- 781 948 045 €	
MVA + Current Year EVA		- 500 710 687 €	- 544 771 234 €	- 609 535 997 €	- 688 109 716 €	766 977 278 €	
Invested Capital at the end of the year (eoy)	659 596 372 €	1 109 611 020 €	1 378 519 178 €	1 677 806 104 €	1 965 606 087 €	2 249 542 837 €	
Control = Enterprise Value by FCFF	198 111 868 €	607 517 716 €	821 865 299 €	1 057 887 440 €	1 274 635 566 €	1 467 594 793 €	

Source: Made by the author

Annex 25 – Pedagogical Class Plan

Task	Topics

A
 	
Introduction to the case.
	a) Present the company
	  1. Questions about their knowledge of TAP
	  2. Ask for the latest news of TAP
	
	b) Distribute the case
	  1. Ask students to give a brief read of the case
	  2. Ask any doubts about the case

B
 	
Goals with the case
	a) Explain the purposes of the case
	  1. Develop critic thought
	  2. Develop research skills
	  3. Developed the use of excel as an essential tool for a manager
	  4. Develop financial and managerial strategy view skills
	  5. The practical use of empiric theory
	  6. Other goals of the user
	
	b) Explain the conceptualization of the theory
	  1. Talk briefly about literature review
	  2. Situational analysis, matching stage, decision stage

C	**a) Refer to the chronology of learning behind the case**

Process of learning	1. Start with an external view of the company (mediate and immediate) 2. Proceed with an evaluation to the internal environment of the company 3. Finally, the use of financial instruments to estimate future positions of the company **b) Refer the most important concepts (PESTEL, VRIO, and Porter's Value chain, IFE, EFE, CPM, and Discounted Cash Flow, others…)**
D **Starting the theory**	**a) Introduction to first basic concepts to understand the theory** 1. Strategic management 2. What is 360º view 3. Financial performance 4. Others **b) Possible questions to ask** 1. Should a company be analysed in parts or as a whole? 2. What companies do you know that are successful over the years? What is be behind that?
E **Situational analysis**	**a) Importance of knowing the position where the company was, so as to make a correct decision for the future** 1. External environment 2. Internal environment **b) Suggestion of topics to discuss** 1. Companies that take wrong decisions based on bad approaches to the reality of those companies. **c) Possible questions to ask** 1. Do you consider some analyse more important than each other?
F **External analysis**	**a) Possible questions to ask** 1. What do you consider as an external factor for companies 2. Do all external factors have the same importance? **b) Refer Market Base View Theory** **c) Refer the types of external analysis** 1. External - PESTEL 2. Internal – Porter's 5 Forces of

G
 	
External environment
	a) Explain the PESTEL analysis
	   1. Define the abbreviation
	   2. Explain the goals – Opportunities and threats
	   3. Practical example- TAP
	   4. Ask for doubts
	
	b) Possible questions to ask:
	   1. What influence can a PESTEL analysis have when taking a decision?
	   2. How have the government impacted on PESTEL analysis?
	   3. How it is possible to make a relationship with foreign opportunities investment and a PESTEL analysis? What do you think about TAP's in investment strategy in Brazil?
	
	c) Explain the concept of Porter's 5 forces
	   1. Define each dimension
	   2. Explain the goals - – Opportunities and threats
	   3. Practical example- TAP
	   4. Ask for doubts
	
	d) Suggestion
	   1. Give examples of different industries, with different characteristics.
	   2. Give information of other tools to analyse the competition
	   3. Give information of how the students must or can get to resource valid information – exemplify with sources like Pordata, INE and others….

Conclusions of external environment
 	
EFE - matrix
	a) Suggest topics to refer at the beginning
	   1. Quantitative and qualitative methods
	   2. Explain the importance of quantifying the theory
	
	b) What is EFE matrix and its importance
	   1. Sources of information for use: PESTEL, Porter's 5 forces, others
	   2. Basic concepts: Weight, rating, weighted score
	   3. Practical example- TAP
	   4. Ask for doubts
	
	c) Suggested questions
	   1. How can a company improve with the EFE matrix? What is the impact of the low cost companies?
	   2. What are the skills and behaviours necessary for the user of an EFE matrix?

Internal environment	**a) Explain the concept of Resource base view**
	    1. Basic concepts: core competences, resources, others.
	
	b) Suggest questions and discussion
	    1. Which are the departments (and their functions) in a company?
	
	c) Introduction to the methodologies for analyse the internal environment
	    1. Goals: Strengths and weakness
	    2. Management Concepts: Explain the importance in the study
	    3. Financial Concepts: Explain their importance in the study
	
	d) Additional theory that can be discussed: Organizational structure, types of communication between departments, types of leadership, others.

Internal environment
 	
Management concepts
	a) Suggestion questions to start with
	    1. What do you think should be analysed in a company?
	
	b) Explain Porter's Value Chain
	    1. Reasons for study: identify the resources and main activities for operation, others…
	    2. Practical example- TAP
	    3. Ask for doubts
	    4. Suggestion of questions: How can a company increase its value chain?
	
	c) Explain types of generic strategy for products – Porter generic strategy
	    1. Reasons for study: To understand the strategies and position of the company in the market
	    2. Practical example- TAP
	    3. Ask for doubts
	    4. Suggestion of questions: Describe companies with different generic strategies. How is this reflected in the product? How different is the value chain of a low cost company?
	
	d) Explain VRIO analysis
	    1. Reasons for study: Effects of resources on the competitive advantage
	    2. Practical example- TAP
	    3. Ask for doubts
	    4. Suggestion of questions: How can VRIO analysis be useful to know where a company should invest internally?

	e) Possible additional questions to ask:
	   1. Do you think that the concepts presented above are connected with which other? Why?
	   2. Are these concepts enough to make a clear and confident internal analysis? Why?

Internal environment
 	
Financial concepts
	a) Suggestion questions to start
	   1. What do you think should be analysed in a company?
	   2. How could all other factors studied until now affect the financial performance of a company?
	
	b) Explain the importance of financial analysis
	   1. Refer to the main goal and possibilities of what to analyse: Growth, Profitability, risk, financial health
	   2. Refer to the Sources of information
	
	c) Introduce the basic concepts to understand a financial analysis
	   1. Dimensions: Profitability and financial soundness
	   2. Types of financial analysis: horizontal or vertical
	   3. Types of user: internal or external
	   4. Main aspects: Income statement, balance sheet, cash flow statement
	
	d) Explain in detail growth analysis
	   1. Refer how to use the main ratios they interpret
	   2. Practical example- TAP
	   3. Ask for doubts
	   4. Suggested Question: How is growth connected with sources of capital?
	
	e) Explain Profitability in detail
	   1. Refer how to use the main ratios and what they mean interpretation
	   2. Practical example - TAP
	   3. Ask for doubts
	   4. Suggested Question: "A company should carefully manage the ROS ratio". Ask for comments about the sentence.
	
	f) Explain Risk analysis in detail
	   1. Refer how to use the main ratios and what they mean
	   2. Practical example - TAP
	   3. Ask for doubts

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4. Suggested question– Make a connection with case: Do you think that risk analysis is connected with profitability analysis? Why?

g) Explain in detail Financial Health
1. Refer how to use the main ratios and what they mean
2. Practical example - TAP
3. Ask for doubts
4. Suggested question– Make a connection with case: What is the importance of the analysis of the functional balance sheet for access to capital? How does a loan affect the future financial health of a company?

h) Explain and refer the sources of financing
1. Ask for doubts
2. Suggested question– Make a connection with case: What can a company do to reduce the cost of external capital?

f) Advised suggestion: Use and teach this contents with the help of excel

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Conclusions of internal environment **IFE - matrix**	**a) What is EFE matrix and its importance** 1. Sources of information for use: Porter's Value chain, Porter's generic strategy, VRIO analysis and Growth, risk, profitability and financial health analysis 2. Basic concepts: Weight, rating, weighted score 3. Practical example - TAP **b) Ask for doubts** **c) Suggested additional questions** 1. How can a company improve with the IFE matrix? 2. What are the skills and behaviours necessary for the user of an IFE matrix? 3. It is possible to use IFE as a tool for compare the company with competitors?
CPM	**a) Explain the importance of analysing the competitors** 1. Refer to the most relevant factors for developing a CPM 2. Develop a CPM with participation of the students
Types of strategies to use	**a) Explain the basic concepts of strategy** 1. Refer to: Strategy process, strategy content, strategy context **b) Suggest topics to discuss in class– Make a connection with case** 1. How can the motivation of workers have impact on the adopted strategy?

	2. How can communication inside the company influence an adopted strategy negatively or positively? **c) Start the presentations of the following strategies Presentation of intensive strategies** 1. Presentation of diversification strategies 2. Presentation of defensive strategies 3. Presentation of joint venture and alliances **e) Ask for doubts**
Range of strategies to adopt – **based on external and internal factors**	**a) Suggested topic for start** 1. Refer to the sentence from Charles Darwin: "*It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is most adaptable to change.*" 2. Ask for comments, to make a connection between the concepts and theory present until now and the sentence **b) Explain the importance of choosing a strategy with both perspectives** 1. Refer to methodologies that would be used: SWOT/TOWS, Space matrix, Grand strategy matrix, others 2. Refer to the source of information for using the methodologies: From management and financial concepts **c) Additional theory that can be discussed: BCG matrix, other relevant models** **d) Explain the SWOT analysis** 1. Refer to the goal: Resume opportunities, threats, weakness and strengths 2. Practical example - TAP 3. Ask for doubts **e) Explain the TOWS analysis** 1. Refer to the goal: Show the best strategies to adopt taking into account the SWOT 2. Practical example - TAP 3. Ask for doubts **f) Suggested question:** 1. What are the dangerous of an badly conducted IFE and/or EFE? **g) Explain the SPACE Matrix** 1. Dimensions: FS, CA, ES, IS 2. The logic of use and interpretations of the results 3. Explain different strategies to be used with different realities

	4. Practical example - TAP
	5. Ask for doubts
	
	h) Explain Grand Strategy Matrix
	   1. The logic of use and interpretations of the results
	   2. Explain different strategies to be used with different realities
	   3. Practical example - TAP
	   4. Ask for doubts
	
	i) Explain IE Ematrix
	1. The logic and relation with EFE and IFE matrix
	2. Different strategies in the cells
	3. Practical example - TAP
	4. Ask for doubts
	
	j) Suggestion question
	   1. Do you think that the conclusion of those methodologies should be done individually? Why?

Deciding the best strategy from among the range of strategies	**a) Suggested topics to start with**
	   1. Why must a company choose one strategy rather than all at the same time?
	   2. What is the connection with the 360º view management concept?
	
	b) Explain the need to quantify and help on deciding to invest
	1. Limited Resources
	2. Refer to methodologies to use: QSPM and Financial estimations

QSPM	**a) Explain the importance and goal**
	   1. Summarize all information
	   2. Help at the moment of taking decision
	   3. Explain the use and basic concepts: Weight, AS, TAS
	   4. Practical example - TAP
	   5. Ask for doubts
	
	b) Suggested topic for discussion– Make a connection with case
	   1. How important do you think a QSPM can be for the future?
	   2. What are the prerequisites for a proper QSPM?

Financial estimations	**a) Explain the following subjects**
	   1. How can financial previsions influence the future decisions
	   2. Importance of estimating the future
	   3. Refer to the methodologies to be studied: Discounted Cash flow, EVA and MVA, others
	
	b) Explain the discounted cash flow methodology

	1. Refer to the main goal: Project rejected or not, others 2. Refer to the use of: FCFF and FCFE **c) Explain how to estimate future operation cash flows - FCFE methodology** 1. Refer to basic concepts: Cash-flow, WACC, EV, others 2. Practical example - TAP 3. Ask for questions 4. Suggested question: Will an increase in leverage on the company ake the WACC increase or decrease? **d) Explain how to measure the performance of the operation** 1. Explain EVA: basic concepts, relations between ROIC and WACC 2. Practical example - TAP 3. Explain MVA: basic concepts, relation between EVA 4. Practical example - TAP **e) Explain how to use FCFE methodology** 1. Refer to basic concepts: FCFE, cost of capital, cash flow for/from debt holders 2. Practical example - TAP 3. Ask for questions 4. Suggested question: Will a company with a negative cash flow benefit the equity or debt holders if it intends to go into a very risky profit project? **f) Additional theory that can be discussed: multiples evaluation, probability of bankruptcy, dividend discount models, other investments theories**
Final step **The final Decision**	**a) Suggested topics to start with** 1. How it is possible to have a balance between what the finance and management strategy literature said about reject or not, a way? **b) Explain the concept of the "best strategy" formula** 1. Refer to the importance of finance estimation, but also the importance of QSPM 2. Refer to the basic concepts: FE, QSPM and probability of importance 3. Practical example- TAP

		4. Ask for doubts
Final discussion		**a) Group discussion** 1. How useful do you think this case was?
Note		At any point the user can adapt, use other questions and methodologies. This is just a support for the users.

Source: Made by the author

Annex 26 – Solutions table

		Topics	Final Solution	Sugestion Intermediary Solutions
Question 1	**a)**	EFE	C	A, B
		IFE	L	D, E, F, G, H, I, J, K
		CPM	M	
	b)	Space Matrix	N	C, L,M
		IE matrix	O	C, L,M
		Grand Strategy Matrix	P	C, L,M
		SWOT/TOWS	Q/R	C, L, N, O , P
Question 2	**a)**	QSP	S	C, L, M
	b)	FCFF	T	
		EVA	U	T
		MVA	V	U
	c)	Best Formula	X	S, T, U, V

Source: Made by the author