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How companies choose their type of funding: Aeronautical Industry?

Comment les entreprises choisissent leur type de financement: l'industrie aéronautique?

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Résumé

Dans ce travail, nous cherchons à mettre le point sur les déterminants qui interférent dans l'évaluation des projets d'investissement dans l'activité aéronautique au Maroc, et ce par l'exploration des dimensions temporelles et spatiales de leur financement, ainsi que mettre l'accent sur le rôle que peut jouer la fonction de contrôle de gestion dans l'accompagnement dans ce processus de mise en place.

Mots clés : contrôle de gestion ; budget, secteur aéronautique ; GIMAS ; sources de financement ; types d'investissement.

Abstract

In this Paper, we seek to focus on the determinants that interfere in the evaluation of investment projects in aeronautical activity in Morocco, and this by exploring the temporal and spatial dimensions of their financing, as well as putting emphasis on the role that the management control function can play in supporting this implementation process.

Keywords : management control; budget; aeronautical sector; GIMAS, sources of funding; types of investment.

Introduction

Business is a type of economic activity of people. There are different forms of doing business: a separate company or legal entity. Thus, sources of financing a business are estimated or existing cash flows. Sources of financing are divided into internal sources - sources belonging to open sources of companies.

Table number 1 : Internal and External sources

Internal sources	External sources
• Profit from the company • Depreciation (fund used to repair worn equipment) • Future earnings for future periods • Stocks / Reserves	• Government injections • Income from the sale of securities (can be classified as cash of the founders) • Finances of other partner firms • Bank loans • Investments, i.e.long-term cash capital contribution for subsequent income generation

Source : Self made

The issues of choosing suitable sources of business financing are increasingly worrying for domestic owners and financial directors. Morocco's economy with an artificially restrained supply of money wants to develop in spite of all the barriers to such development. Therefore, companies such as Boeing and Safran have a traditional interest in statements by bankers and stock market operators regarding future opportunities and the specifics of using various sources of financing.

The situation on the capital market is subject to changes that dictate the predominance and temporary popularity of certain sources of financing. The aim of this report is to analyse the best possible source of financing for companies in aeronautical industry like Safran and Boeing. Moreover, this report also provide, as far as possible, a more complete and systematic list of possible sources of raising capital.

In this context, our quest is to identify how our sample contrasts between the different types of financing, which perfectly match the specifics of its investment project. Thus, we will

examine this through the following factors: the structure, the strategy, the exchanges between the organizational actors

However, we will use the perception of value vis-à-vis stakeholders, in order to measure this parameter linked to organizational actors.

We will try to answer the following questions: Do Moroccan companies attach more importance to approaches for implementing value creation? And what are the determinants that interact in the choice of the type of financing for their project?

And therefore, we will base our model on the questions of construction of certain unique measures, which will have as objective, to make link the adopted strategy to the actions maintained in the current framework of the daily operations, and this through the call to the case of a group which is organized by operating sites. This therefore led us to mobilize action research in order to set up a set of indicators to measure specific performance, steering the business strategy. The progress of this study has enabled us to draw several instructions allowing us to refine our model for constructing performance measurement indicators.

We will focus in this article specifically on experimenting with one element of our model, namely the factors that serve to define the construction process performance measurement indicators designated by "dimensions".

We will look in a 1st order, on the investment choices, and thereafter as weighting the couple of financing of each type of investment, and thereafter determining the role that the function of management control can play for pilot this whole process.

1. Internal Sources

1.1.Theory of Pecking Order

Based on the 1977 debt model and the capital structure model with asymmetry Information 1984 S. Myers formulated conclusions, dubbed "theory pecking order theory, as selected by source managers financing.Myers argues that retained earnings (domestic source) takes a preferred place among sources of financing.

Empirical studies of large companies. Interested executives like to issue bonds to sell unsecured. Successful investors will also opt for a bond debt, to prevent giving the market a negative signal. Increasing capital through trading accounts will be the last to do. Select capital, the first company to grow, along with the current and estimated profit. The error model cannot explain why, by weight of other factors (industry, risk ratio), high-cost companies choose the lowest value of growth capital. The concept of a money transfer

decision, based on a bench, allows to explain this concept. They are very profitable companies that earn enough money and do not want to attract too many, much less risk.

1.2.Trade off theory

The fundamental approaches of the theory of compromise for commercial banks are presented, in particular. The compromise theory for commercial banking organisations takes into account state regulation of banking activities, and in particular, the requirements for the adequacy of equity, as well as the presence of state guarantees for bank liabilities, noted above ---.

1.3.Theory of Modigliani-Miller's

The theory of Modigliani - Miller is states that the market price of an enterprise is independent of the capital structure and dividend payments, provided that economic entities are rational and the capital market is perfect. Initially, it was suggested that a situation in which corporate taxes were absent.

The value of this Modigliani-Miller concept is that, in the absence of taxation, the financial capital of a company does not depend on its structure. They are solely responsible for success and risks. Modigliani-Miller's theory is that all firms divided into groups have the same risk of doing work ---. Based on the actual market hypothesis, the following is true:

1) In the context of economic equality, two identical products must be sold at the same price;

2) the present value depends only on the value of cash flows and strong relationships;

3) If both enterprises are identical in both, but the same capital should be sold at the same price, their repayment should remain both at the level of the borrower's credit and at the level of the funds themselves (profit capitalization).

2. External financing decision

This funding involves attracting cash outflows to the aeronautical company through the use of external resources independent of it, as well as sources that may be banks, investors or other groups of people. The most suitable instrument for aeronautical company such as Boeing and Safran could be selected taking into account three interrelated key factors: the price of the instrument, the desired type of liability (equity or borrowed funds) and the urgency of the goals for which financing is sought (long-, medium- or short-term).

The main raw material that are required are aluminium that includes sheet, plate, forgings and extrusions, titanium (sheet, plate, forgings and extrusions) and composite materials (including

carbon and boron fibres). If the price of an instrument such as is a purely individual factor, depending both on the state of the company and the riskiness of investment, and on the general state of the capital market and a specific instrument, then the other two factors are universal for all companies.

First of all, in this context, equity and debt instruments are distinguished. The former represents financing from equity, and the latter represents borrowed capital. The three main differences between financing equity and borrowed funds are the urgency of the instruments, the priority of payments for the instrument and, as a consequence, its price. In general, payments on loans (interest) are more priority than on investments in equity (dividends). As a result, investors regard debt instruments as less risky, and therefore a lower risk premium is included in their price. Equity financing is also inherently a strategic investment of more than seven years. Therefore, the attraction of short- and medium-term funds automatically narrows the choice to debt instruments.

Their undeniable advantage is that, according to the legislation of many countries, interest payments on loans are exempt from taxation. In particular, according to paragraph 138.10.5 of the Tax Code, interest payments on loans and borrowings may be included in expenses that reduce taxable profit ---. True, it is worth noting that Article 141 of the TCU lists a number of features in determining the composition of expenses in case of payment of interest on debt obligations.

For an aeronautical business, debt instruments has the advantage to be available for a long term period without making the lender a shareholder. However, it is quite difficult to make regular payments on a loan, especially for the new companies that are struggling with cash flows. Furthermore, debt obligations makes the company highly vulnerable to economy instabilities and interest rate fluctuations. A high level of debts in the capital structure impacts negatively the company's ability to use her own capital to invest properly.

Equity financing is defined as the faculty to exchange investors' money for a share in the company. In addition to the founders, financing origins come either from professional investors (business angels , venture capitalists, etc.), or from what we call the 3D group - home, friends and fools (based on the English 3F - family, friends and fools). What makes attracting equity in aeronautical company so beneficial is that there is no rushing to have a fund return as the funds are incorporated within the company for the long term. However, part of the company's future profit is what investors expect to receive in exchange. Which makes

having serious and devoted investors a necessity that will eventually build the company's reputation and at the same time increase the sources of additional funding .

2.1. Equity financing decision

Share capital refers to the portion of equity received from the sale of securities to shareholders in exchange for cash or tangible assets. The offer of securities may be public and private, primary and secondary. As a rule, equity raising is typical primarily for established companies that have already overcome the rapid growth phase and entered a period of stable, more predicted growth in cash flows ---. In aeronautical industry, equity financing has often been used as a defensive mechanism protecting businesses from environment changes, especially hostile takeovers rather than a tool serving the capital raise. In order to attract more financing, aeronautical companies are in the obligation to look up for advice from experts (which are basically either representatives of trading floors and / or specialized consulting companies in supporting initial public offerings (IPOs)).

Venture capital is a highly linked financing modality to the newborn companies with great potential. The professional investors (especially venture capitalists and business angels) own a significant part of equity in businesses. By definition, venture capital investments are quite different to the other types of initial private placement. The venture capital market despite its shy presence in Morocco, is actively growing in the West: in the USA, about 11% of private sector jobs are owned by venture capital companies, which constitutes 21% of the country's GDP, while only 0.05% of the created businesses attract venture capital. Venture capital attraction has been always a closed circle. In fact, clubs and communities of venture capitalists (including in Morocco), have the access allowing interested parties to propose their projects for venture financing.

Syndicate investment is the attraction of long-term capital in infrastructure and industrial projects, which is based on the expected cash flows of the project, and not the structure implementing it. Project financing is created by a consortium of equity investors (sponsors) and a syndicate of banks or other financial institutions providing debt funds. As a rule, such financing implies the creation of a separate legal entity, which allows protecting third-party assets of sponsors from the risks associated with the project.

The extractive, transport, telecommunication and energy sectors have always been traditional recipients of project financing, but recently in developed countries active financing has also been carried out of public projects (for example, educational and leisure facilities) as part of a

public-private partnership in Europe and the private finance initiative in the UK ---. Similar syndicate financing is also carried out in Morocco, but so far it has a single character, mainly in the field of transport infrastructure.

2.3. Debt financing decision

Syndicate lending is a type of debt financing is usually used in aeronautical industry when it is impossible to allocate a loan of the required size from the monetary resources of only one bank. In this case, the project lenders initiate the organisation of the syndicate, signing a loan agreement not only with the borrower, but also among themselves, regarding the voting rights of the parties in the syndicate, the procedure for paying the loan to its members, and the policy in case of default.

An additional agreement is also signed, which implies the right of creditors to influence decisions on the project in case of reorganisation or the threat of default. Project financing has a long-term nature (from seven years). Syndicate lending is very common in the West, but has not yet received proper distribution in country. A real alternative to this instrument is the issue of bonds.

Loans guaranteed by rating agencies is a lending scheme is usually used in aeronautical industry to finance the import of equipment or significant batches of products. In an effort to support local producers and increase their competitiveness in world markets, a number of countries have created so-called rating agencies, which act as guarantors for moderate remuneration when obtaining loans by foreign buyers of products or equipment in the country of which the rating agency is a resident. The aeronautical companies gets access to cheaper sources of debt financing, which would be closed without a guarantee, the rating agency raises the global competitiveness of its country's products, and the seller of goods or equipment benefits from increased demand.

Another type of loans which is loans with collateral in the form of property, that actually is defined as a loan to purchase mortgage or any another type of property that acts as a guarantee on a loan. For the aeronautical industry, a mortgage loan is a profitable alternative that helps the company to reduce costs by fixing regular payments at the current level. Financial institutions are very willing to lend for real estate in a growing market, because even in the event of a bankruptcy of the borrower, the increased cost of collateral allows aeronautical company to make a profit ---. On the contrary, in a declining or stagnant market, mortgages lose their attractiveness both for lenders (due to risks of revaluing collateral down) and for

borrowers (due to an increase in interest on loans and more attractive dynamics of rental rates).

Traditionally, a mortgage loan is provided for a period of five to 20 years, although a typical mortgage loan is issued for 30-50 years abroad, and in Japan in 1995 a 100-year mortgage instrument was introduced. In contrast to loans with property collateral, the West also practices debt financing without property collateral based on the general trust and reputation of the borrower. Sometimes the term debenture is used to refer to such debt financing. Due to the non-proliferation of this instrument in the domestic capital markets, aeronautical companies would not allocate this type of financing in a separate article.

Overdraft is a special form of short-term unsecured lending to a borrower by a financial institution. When overdraft, aeronautical company's current account is credited for payment of settlement documents in an amount exceeding the balance of funds. The difference from the classic loan is that the received amounts are sent in full to the overdraft. The interest rate and limits on it depend on the client and the credit policy of the bank.

Depending on aeronautical company, the bank could provide one or more of the following types of overdraft: standard, advance (for reliable customers with the goal of attracting them for settlement and cash services), overdraft for collection (for customers with a collection volume of more than 75% of the turnover) and technical (against registered guaranteed receipts to the account, for example, before the return of the term deposit) ---.

Bonds are a tool for raising funds by aeronautical companies. Secured bonds differ from unsecured bonds. They could serve the material values of the borrower. Unsecured debt is more common in the financial sector. In addition, the debt could be guaranteed (issued, as a rule, by companies affiliated with the state) ---. Lenders, which could be both legal entities and individuals, do not receive parts in the company's own capital and do not have the right to vote when making decisions, but have priority on payment of the agreed interest (coupons) and amount of debt.

Bonds could be freely sold and bought. If the issuer default risk increases, the price of bonds falls below par and is traded at a discount. In Morocco, the volume of the domestic market for corporate debt in the form of bonds is about 1.6 billion dollars. The big companies with projected foreign currency cash flows, often go to foreign debt markets, in order to obtain Eurobonds. Currently, the volume of external loans in the form of corporate Eurobonds is approximatively $ 10.8 billion.

The majority of corporate bonds in Morocco are medium-term (From two to seven years). In order to get them, it is very important to have a decent program and register it with the Securities and Stock Market Commission. In order to overcome all the complexities, the registration procedures are usually insured by external experts.

Leasing is a short- or medium-term tool that helps companies in the aeronautical industry to attract new debt funds in order to obtain either immobile properties or tangible properties. Compared to mortgage, leased assets can be properties that go beyond real estate. Also, leasing is a lease with the right to buy assets from the lessor.

Financial leasing is notable (over its term, more than 75% of the value of the property is depreciated) and operating (less than 75% depreciation of the asset over its term). Its exists a form of leasing which is leaseback, where the seller of the property is the one benefiting from the leasing. Furthermore, companies could take advantage of the economic effect of the tax system for leasing, by obtaining a loan on bail.

2.4. Domestic financing decision

The transactions and financial instruments set out below are generally classified as internal financing. The essence of these operations is to increase the company's cash from internal sources and funding reserves. Since it does not require raising capital and fulfilling the terms of financing established by a third party, usually internal financing is a priority source for the company, and attracting such financing is carried out by it independently through a set of projects that optimize the structure of liabilities and increase the liquidity of balance sheet assets ---. According to this principle, domestic financing could be divided into operations that increase liabilities and operations that optimize non-monetary elements of assets.

Retained earnings - the most common source of financing in the structure of equity as an element of liabilities in Morocco. At its core, the decision to reinvest retained earnings in equity is a proportionate increase in the contribution of shareholders to the business by reducing (or completely rejecting) dividends in order to stimulate further growth of the company. The reason for the popularity of this form of financing in aeronautical industry is that it does not require the involvement of external investors, and therefore is available to all companies with positive profits, regardless of age and size.

Automatic financing (accrual and payables) are often referred to as auto financing. It is about additional financing for the company by increasing the items of accrued salaries and other accruals, as well as payables in the liabilities balance sheet. These articles, having the properties of a proportional increase or decrease depending on the corresponding change in

sales volumes, actually themselves, without conscious intervention (automatically) additionally finance the company in case of an increase in its business activity. This type of financing is not usually utilised in aeronautical industry.

Some companies knowingly use this feature of automatic financing items to replace all other sources of financing. Although financing a company through accounts payable and accrued but unpaid wages may seem like the cheapest source of financing. Such financing increases not only the company's obligations, but also its risks, which usually negatively affects its value due to the suboptimal structure of liabilities.

Factoring is a financial transaction with the assets of a company, as well as all the other operations described below. Carrying out the factoring operation, the company sells its own short-term receivables (less than 180 days) to a third party (the so-called factor) at a discount. As a rule, a factoring company or a bank is a factor, and the discount is from 10 to 60%, depending on the quality of the requirements. After repayment of the party's claims by the debtor, the factor pays a discount to the creditor minus interest for the loan and services. Thus, factoring is a form of short-term secured lending, in which the company's assets in the form of receivables act as collateral for the loan.

Depending on the distribution of risks between the factor and the lender, factoring could be without recourse (non-payment risks for claims go to the factor) and with recourse (non-payment risks lie with the lender, who agrees to pay the factor losses in case of non-payment). A debtor could either be notified of factoring (open factoring) or not (closed). Factoring could be formalized both for existing requirements (real) and for claims that arise in the future (concession).

Disposal of non-core assets. A set of projects or operations to determine the assets of a company that do not create additional value and / or are unnecessary for the normal provision of operational activities with their subsequent liquidation (sale). The operation allows aeronautical company to reinvest the proceeds from the sale of non-core assets in property, ensuring the creation of additional value for the business.

Optimisation of working capital is a set of projects and / or operations of a company designed to optimize (usually increase) prepayments from customers, automatic financing items and short-term debt articles in conjunction with the simultaneous optimisation (decrease) of prepayments, inventories, work in progress and receivables.It is important to act comprehensively on all articles, considering them in a portfolio context.

It is necessary not only to reduce or increase articles, but to select an optimal ratio at which maximisation of business value is achieved. Usually, this releases funds that could be reinvested in other areas of the company's development.

3.Aeronautical industry in review

3.1. Overview

Uncertainty and risk are two categories inextricably linked with aeronautical industry. The functioning of companies and the financing decision in aeronautical sector regardless affiliation and scale of activity is always fraught with risks (Dožić, 2019). The latter are specific for each market entity by type, degree of manifestation and nature of influence.

The Aeronautical industry plays a huge role for the Morocco's economy - the level of potential of the industry acts as a kind of indicator of the level of development of the infrastructure of the economy as a whole. Multiple airlines with a valid operator's certificate operate on the domestic passenger airline market (Farouk, et al., 2017). The financing decision of the aeronautical industry are mainly affected by the following risks:

Industry and country (regional) risks;
Financial risks;
Operational risks;
Legal and regulatory risks.

Industry risk is the probability of losses of aeronautical companies that may be caused by changes in the economic condition of the industry. Considering the industry risks of aeronautical sector the first is the risk of reduced air traffic impacts the financing decision and strategy. Due to the fact that air cargo and passenger transportation is the main activity of air enterprises, this risk prevails among the industry ones. The possibilities for its implementation are facilitated by such factors as the economic and political situation inside the country and abroad, market competition, reduction in incomes and solvency of the population, restrictive measures of the state as a regulator of the industry, increase in tariffs for air transportation, as well as a general drop in business activity. The decrease in air traffic leads to a decrease financing as key industry production indicators and revenue.

Considering that the maximum load of production capacities of enterprises in the airline industry falls on the summer period and a regular decline in demand is observed for at least 7

months in a year, the average annual percentage of the use of transported containers decreases markedly (Lekota, and Coetzee, 2019). This impacts the decision for utilising the source of funds. In terms of this risk, a more favourable position is for large companies with developed route networks, since they are able to adapt the structure of their own airlines and could fund through internal sources.

Risks of changes in supplier prices for raw materials and services used in activities is another factor which plays a pivitol role in decision for utilising source of financing (Kılıç, et al., 2019). The specifics of the aviation industry is the monopolisation of suppliers.

Higher prices for energy and services consumed mean an increase in the cost of air transportation, which is caused by an increase in the cost of such key cost components as aviation fuels and lubricants, airport and air navigation fees, aircraft maintenance services, agent commissions, etc. These risks make it difficult for the aeronautical companies to raise finance from external sources.

Moreover, the risks of price changes for company services also have a significant impact on the financing decision of companies. The main factors in the change prices for air carrier services are competition and cost increases. There is a high level of competition on the air transportation market both domestically and on international airlines, which makes companies in the industry respond flexibly to market trends and decide the financing sources accordingly. The increase in the cost of air transportation leads to an increase in tariffs, while the latter will always be delayed in relation to the increase in cost. In turn, an increase in transportation tariffs naturally initiates a decline in air traffic and therefore, internal sources of funds could be exhausted.

Country and regional risks in relation to the aviation industry include risks associated with the political and economic situation in the countries and regions of presence, sanctions and prohibitions on flights, possible military conflicts and terrorist acts, as well as geographical features, including the risk of natural disasters. So, according to RBC, the direct losses of Morocco airlines in 2014 as a result of the depreciation of the MAD amounted to 30 billion MAD (Harvey, and Turnbull, 2015). The negative consequences of the sanctions were also a decrease in international traffic, a rapid increase in the cost of leasing for imported and Morocco aircraft, an increase in fees for airport and air navigation services. Financial risk is a risk arising from the implementation of financial transactions or activities in financial markets. In the context of the airline industry, among financial risks, credit risk and market risks are critically significant for deciding the source of financing.

In addition to the risk of non-fulfilment of the company's own obligations under loan agreements, the credit risk of airlines could also be expressed in the form of a risk consisting in the time gap between the provision of services and the receipt of funds in the company's current account (Hajjar, and Kaitouni, 2019). Currently, air cargo and passenger transportation is carried out mainly through agents that carry out settlements, as a rule, through clearing systems.

The operation of any airline - domestic or international - is subject to currency risk, which impacts the decision for internal and external financing. Changes in exchange rates are caused by a complex of macroeconomic processes, such as investment flows, the economic situation in the Morocco Federation and abroad, inflation, etc. A part of the revenues of aviation companies comes in foreign currency, and therefore, the change in the exchange rate leads to fluctuations in the income of foreign contracts (Morrell, 2018). The presence of a certain share of payments in foreign currency in the cost structure of air carriers also exacerbates the impact of this risk is the main factor for deciding external sources. The sharp devaluation of the currency caused a rapid drop in oil prices, contributed to an increase in the payback period for projects to upgrade airline fleets with foreign aircraft.

Interest rate risk is the most significant factor that contributes to decision for external source of financing for the companies in the aviation industry. The presence of large volumes of external borrowing enhances the sensitivity of airlines to higher interest rates (Graham, and Morrell, 2016). The use of credit instruments with a fixed interest rate reduces the impact of the risk in question. An effective measure to minimize interest rate risk carried out by many Morocco airlines is the refinancing of the debt portfolio of financial assets.

The main negative consequence of the implementation of inflationary risk for players in the air transportation market is the increase in the cost of airline services caused by an increase in the cost of products and services of suppliers and contractors under the influence of inflationary changes and, as a result, an increase in the corresponding costs of carriers. In order to reduce the dependence of the financial result on the impact of market risks, Safran carries out the diversification of debt obligations in currencies and debt instruments, as well as financial hedging through derivative financial instruments for aviation fuel and exchange rates (Peter, et al., 2017). In the future, the company is considering the possibility of hedging interest rate risk as an external financing strategy.

Operational risk is associated with losses that may result from the failure of internal processes or systems, the incompetence of personnel, etc. Therefore, the financing decision for

aeronautical companies to allocate operational risk is to be made accordingly. The most significant for aviation enterprises financing decision are technical and operational risks and personnel risks. The activities of the airline as an operator of aviation equipment are inseparable from the risks associated with the operation process and associated with ensuring the reliability and safety of flights. Airlines are required to comply with Morocco and international standards and requirements for the condition of aircraft, ensure timely maintenance and repair, and work towards improving these processes, which raises the requirement for having appropriate financing facility.

A competent policy of financing and modernisation of the available fleet should be developed, in order to prevent operational risk, airlines also provide ongoing education and training for pilots, cabin crew and technical staff (Kathiravan, et al., 2019). Personnel risk is quite relevant for the airline industry and is expressed in the shortage of qualified personnel - mainly pilots and technical staff. The risk of a shortage of funds in the context of the aviation industry is more exposed to private and business aviation due to the difficulties of competing with commercial airlines.

The manifestation of legal and regulatory risks for the activities of air transport market entities is as follows: changes in the legislation governing activities, in particular, changes in tax laws and currency regulation, toughening of customs control rules and increase of duties. All operations of air carriers are strictly regulated by a set of industry standards that are enshrined in Morocco laws, international agreements, standards, recommended practices by ICAO and IATA, as well as internal regulatory documents of companies.

The process of financing decision is arduous, that comes with a high level of uncertainty. For that it is vital for the companies to have a risk management system implemented in order to have answers for the most critical risks, which guarantees their success. This process include:

- Definition of adequate financing decision, via the risk analysis;
- Conception of measures (corrective and / or preventive) to counter and eliminate risks,
- Application and tracking of risk management measures;
- Assessment of the results of the taken actions, as well as monitoring (Karaman, et al., 2018).

Airline companies are confronting significant risks, which requires to move wisely and find the most suitable financing sources for the present as well as the future. The most prominent impact on the financing decision has expended through the integration of market risks as part of financial risks - an increase in the cost of jet fuel, an adverse change in exchange rates and an increase in interest rates (Eriksson, and Steenhuis, 2015).

3.2. Morocco's Aeronautical sector in Review

An advantage of production in Casablanca is that there are low production costs. According to this indicator, Casablanca ranks sixth among all cities with an aerospace industry. Among all the aerospace cities, Casablanca ranks sixth in terms of price-quality ratio. Casablanca has many international companies: Saran, Thales, HEXCEL COMPOSITE.

Stefan calls this the ecosystem. This means that all parts for aircraft are manufactured in one country and companies of various profiles come to Morocco. Emerging markets provide opportunities for high-quality science-intensive production and give Morocco the momentum in competition. Companies want to reduce the production costs and increase quality. And since Morocco an emerging market, it is the best location for the production of parts.

At the IMA Institute of Aeronautics, 1,400 Moroccans are studying, who want to connect their lives with the aerospace sector. Four directions are open here: installation and electronic connecting systems, maintenance, engineering. In addition, today the Moroccan aerospace industry group (GIMAS) is investing in another innovative industry. Casablanca authorities want the aviation sector to become a priority ---. This would allow developing new ecosystems and increasing the number of jobs. For a country where the unemployment rate exceeds nine percent, this issue is extremely relevant.

By 2030, Morocco plans to build 40 thousand aircraft. Companies need to work harder to achieve this. So, they would have to look for regions where there are good engineers, good workers who could produce a quality produc.

Historically, Aeronautics have always been inspired by Automotive. Kaizen, JIT, 5S, Lean manufacturing are all automotive innovations adopted later on by ---. delocalisation to low cost countries is an additional example. In fact, more and more aeronautical companies relocated their activities in new emerging markets.

Aeronautics seem to be an "elitist" high value added sector, where cost comes as an after thought compared to other key success factors like high technology and high qualified human capital. However, this is not actually the case. In fact, due to the fierce competition, the improvement of cost structures is a major priority, and the X factor that helps the company to reach success.

In order to understand the environment linked to the aeronautical industry, we operated a PESETEL Analysis of Morocco's aeronautical sector.

- Politics: Air Transport sector has a strategic importance in the eyes of the government, hence why an annual support is programmed in the budget for this sector. However, it is very delicate to factors like political instability, conflicts and terrorism.

-Economy: the economical growth of certain emerging economies, plus the drop of Oil Prices, impacts positively the level of demand as well as the level of incomes

-Demography: the demographical growth as well as globalisation impact positively the demand.

-Technology: the efficiency of airliners got improved thanks to the implementation of new technologies in modern aircrafts

-Environment: Vulnerability of the air traffic thanks to weather conditions, natural catastrophies and epidemics

-Legislation: Liberalisation has positive. Safety is closely regulated. And taxes higher compared to other industries.

After going through literature, we spotted three main characteristics regarding the global aviation:

Civil aviation is experiencing good growth in Morocco. In fact, Boeing, known for its accurate predictions and forecasts, is expecting the number of aircrafts to be doubled in the period between 2012 and 2031, and that regardless of the natural disasters and the economical crisises. Which gives an assurance of a more solid and sustainable growth in the future, and would continue for at least the next five years. That's the optimistic opinion of 73% of the industry leaders about the future of civil aviation, which is motivated by the potential of the production capacity as well as the level of productivity that will keep increasing.

However, the development of this industry is more significant and comes faster in the emerging countries compared to the developed countries, and the fruits of this growth is not equitably distributed in all world regions, especially now that air traffic is supported by emerging economies. In fact, experts predict that air traffic in emerging countries would increase from 56% to 70% between 2018 and 2034, as the centre of gravity of air traffic is moving and would continue to move from north to south, just as the centre of gravity of the global economy.

The other point is the lack of profitability that characterizes airlines compared to other components of the civil aviation value chain, and that due to the structure of the market (that operates under heavy legislation and strict procedures), the emergence of LCCs and the structure of the supply chain.

The increase in terms of the number of passengers and the decrease price of the fuel make the companies optimistic about profitability, eventhough they can't shook off the existence of a decrease in the profitability due to the over competition, the overcapacity and the price sensitivity, which makes airlines more aware of the importance of cost reduction and restructuring measures.

For that purpose, airlines are adopting "Lean" approaches in order to improve their cost efficiency, through making better use of their limited resources and to concentrate on their main activity thanks to subcontracting. In fact, it is relatable to activities such as subcontracting maintenance to MRO specialists for cost optimisation and risk reduction that impact directly the profitability

The low prices of combustibles, labour costs and airport-related are the most critical elements to impact the profitability of airlines. That was the result found by CAPA after classifying in a matrix of Risk-Probability the factors that are threatening to the activity of airlines. In order to overcome these threats, the companies should seek reducing the capacity and improving the profitability through developing satellite activities.

This tendency of cost reduction has been noticed in manufacturers who adopted delocalisation of their activities to emerging countries that has low labour costs, and are forcing their suppliers to align with them, as a transitional step to a new model of supply chain that integrates many activities in company's core to secure reduction of suppliers and by that any possible side costs.

Aviation market is full of uncertainties and fluctuations and protocols. As a matter of a fact, The CAPA has reported that uncertainty is the major characteristic, which makes risk management a vital tool for the companies. Strategy & 2018, has stated two other tendencies, which are the expanding significance of business aviation, a complementary component to the other two elements of aviation: Cargo and passengers; and the airlines merge as a solution for their large number (which is 1,700 in total).

In order to improve their profitability and competitivity, and in order to overcome the already mentioned issues, the aeronautical companies have decided to delocalize a part of their activities in countries like Morocco known for low labour cost.

Over the past decade, the aeronautical industry in Morocco has grown significantly, going from 10 companies to over 100 today (which the major manufacturers are Boeing, Airbus, Saran and Bombardier...), generating $1bn in turnover in 2018 and employing over 10,000

people. Also, the aeronautics exports constitutes now 6% of the total of the exports, compared to 0,5% a decade ago.

Aeronautical value chain in Morocco contains multiple activities, in which 51% of aeronautical exports comes from the wire harness activity, followed by the manufacturing of aircraft components (19%) and MRO (12%). Multiple signings of performance contracts that serves to establish four structural ecosystems, which are: Electrical-Wiring, Harness System (EWIS), Maintenance-Repair, Overhaul (MRO) and engineering, as well as the national industrialisation strategy gave the whole sector a very significant boost. In fact, Morocco made a huge step in 2016 to reach that goal through signing a partnership with the aviation leader Boeing, which would give structure to an ecosystem of suppliers, establish a platform, generating more annual revenues coming from exports to reach over one billion dollars, and allow the implementation of 120 Boeing suppliers and the creation of over 8,700 new specialized jobs. For that purpose, Boeing planned training programs that would be implemented to serve the ecosystem needs and adjust to the companies plans and expectations.

Industrial Emergence Plan played a huge part in the cluster success. A strategy in which the aeronautic sector is considered as the core and the pillar of the industrialisation, and help attracting investment worldwide.

The plan gives multiple advantages to the companies from tax exoneration in the first five years and the definition of the corporate tax to be 8.75% during twenty years, to simplified administration procedures, to training facilities, and most importantly the promotion role played by AMDI and GIMAS. That made the cluster a powerful growing locomotive that includes over 100 companies. Also, synergies with other clusters like logistics and Automotive gave it further empowerment and more contribution into the development of the Moroccan economy.

However, the cluster is suffering from the lack of diversification in terms of production (85% of our exports is destined to European companies (mainly French), and only 10% goes to American companies, which makes us very dependant to the European market) and in terms of investment where 72% comes from France, followed by local investments representing only 21%. Also, the lack of diversification goes to sub-sectors, where wire harness is more than 50% of the total exports. That's where GIMAS, as the professional organisation of the sector, could intervene to overcome this dysfunction under one condition and that is obtaining the financial and human resources needed to ensure the regulation.

Furthermore, and despite the efforts of training, there is a weakness in the educational system that makes the workforce in aeronautics lack competence and technicality, making the low cost of this workforce only a quantitative advantage, and not a qualitative one. Not to mention the lack of R&D capabilities and high tech cluster. In fact, this point emphasizes the struggle that the aeronautic sector has with the limitations of the local market, where the cluster is geographicallyfocused in Casablanca Region with 79% (Including Knocker), followed by Tangier with 15%.

The Moroccan cluster is a market full of potential to the aeronautic companies and actors, that's why we tend to see more delocalisation of the activities into the Moroccan soil, and more consolidation of the already implemented companies, making these two major trends both beneficial to both the companies profitability and the country's economy.

Moroccan cluster is also relying on other competitive advantages like the geographical location, the young low cost workforce, the political stability, the language diversity (large use of French as a second Language with a progressive switch to English, which would both attract French and anglo-saxon companies), the availability of SME network, the great business climate, and the continuous efforts to reform all the vital areas such as logistics, Education, Justice and more. Also, the potential competing countries investing on other sectors than aeronautics gives Morocco a great advantage.

Given that the cluster's main source of investment is foreigner, it is always exposed to geopolitical and macroeconomical crises. But, this risk could be seen as an opportunity and benefit from it, which was actually the case for the Moroccan aeronautic sector, that used this crisis to grow even more.

Another point which is oil price fluctuation that can't be seen neither as an opportunity nor a threat. But, this has had minimal impact on the OEM order books, given that the investment decisions serve the business for the very long term and aim for 20 to 30-year horizon and is therefore much more influenced by the long-run expectations for oil rather than short-term context.

The current appreciation of the U.S. dollar is also super challenging for the non-U.S. actors, as they sale in local currencies but obliged to buy every new aircraft in U.S. dollars, and that would have a direct impact on the affordability of the U.S. dollar after each appreciation

Diversification of commercial partners: The aeronautical sector is very dependent to the european (and especially) French companies as their main importers of its products and services, making the sector at risk of any changes in the European/French market, and losing

the opportunity to make deals in different markets, especially the US market that has the majority of the biggest aeronautical companies operating in its soil, which will give the Moroccan market more diversity in terms of commercial partners.

Also, Morocco needs to start selling aeronautical services to African and Middle East markets, as they lack manufacturing in this area, which will help Morocco benefit from the acquired expertise in sub-sectors such as repair and overhaul.

Diversification of the foreign investors: The over-reliance on France as the almost exclusive partner in Aeronautics makes Morocco vulnerable towards any changes that might occur in France and Europe in general. So with that in mind, the Moroccan government, made two great decisions to solve this problem: Signing deals with big companies from all across the world (Bombardier and Boeing for example). Morocco is also planning on switching to English to become its second language instead of French, as it is more of a global language and will convince the Anglo-Saxon companies to invest in Morocco.

Morocco needs to also upgrade its automotive sector as there are many disparities between the exports, especially in the sub-sectors (which 51% is allocated alone to the wire harness activity), and that could cause a loss of earnings, and might be a source of extra charges in the long term, and that is the least that the companies want. Also, it will extend the value chain of the sector.

Horizontal Upgrade: and that goes through the extension of the sector's activities to contain all aeronautical sub-sectors. For that purpose, the government is obliged to focus their attracting efforts to major companies that are able to convince and even force their suppliers and partners to implement their activities in Morocco (and that exactly what the government want to achieve and the latest deal with Boeing is a great example). This dynamic should be channeled to other sub-sectors of other clusters such as automotive known for its very significant potential, and ensuring synergies will definitely guarantee the growth and depth of the sector as a whole.

Vertical Upgrade: The Moroccan government should aim the increase of the added value in the already existent activities by negotiation with the existing entities and the future ones , and encourage them by giving them even more advantages, in order to add more important activities such as R&D and design to the activities executed in the country, which will guarantee a more sustainable growth, and more competitivity against the other low cost markets (In fact, only SAFRAN and ZODIAC have delocalized small Engineering entities in the country, and that is not sufficient for the sector's growth)

However, and despite all the efforts invested by the Moroccan Government to prepare a big number of engineers, technicians and qualified workers annually, the country is still lacking trained and qualified workforce. To overcome this issue, a two dimensions plan should be executed :

Training availability: A partnership with the private sector is proved to be essential, as the government efforts alone are not sufficient to match the increasing need of high qualified workers. That would help the cluster to do a follow up to guarantee the training strategy is matching with their strategy. Moreover, the idea of having specialized masters in Aerospace Industry and engineering could be beneficial but only if the feedback from professionals and experts is taken into consideration to improve the training continuously for better results.

Training Quality: Preferring quantity to quality in terms of training is not beneficial at all. The government should guarantee, alongside the private sector, the quality of their training system. Also, associations like GIMAS must play their role of feedback to detect dysfunctions and to follow up the steps taken to overcome them in a continuous improvement process. Also, Morocco's over-reliance on copying the French experience in the educational system is outdated and ineffective, and so it would be better to be more curious to see experiences of countries with more maturity and proved effectiveness in the sector, and use them as a reference, which will give the sector more and more chances to grow exponentially.

Morocco had launched several reforms that are covering almost all the vital sectors. But the lack of coordination and the quality of execution of these reforms didn't help the country get the expected results and expected impact on the economy climate and the economical growth.

Unlike automotive sector, always seen as an essential step to reach industrialisation, aeronautical industry has the reputation of being an elitist, high technology and high added value activity and, thus, being out of the reach for countries like Morocco (whose biggest asset is low wage workforce). This bias, has not dissuaded Morocco from taking the courageous decision to start from scratch, a competitive aeronautical cluster. However, despite beneficial tendencies (like increasing competition and low profitability pushing actors to delocalize as a mean to improve their cost structures), and despite strengths (like government incentives), the cluster is still facing weaknesses linked mainly to its over-reliance on French companies, its lack of diversification and of high added value activities. Our 4 axis suggested action plan could help to sustain the growth of the cluster and to give to Morocco the possibility to success its challenge of being a global hub for Aeronautical Industry.

Conclusion

Business growth is the sum of both personal and borrowed financial events of a business, used to carry out entrepreneurial activities in order to pay for property. Finally, the scale of borrowing and acquisitions of a business is one of the main factors determining its financial stability in aeronautical industry. Optimal financial design is a measure of internal use and distributed income from a business that provides a significant balance between the strength of financial success and the stability of financial stability, that is, a higher market value of the aeronautical company. Adjustment of the structure of free cash flows is consistent with changes in the economic environment, tax legislation and the dynamics of competition.

The plan for creating a comprehensive financial plan is a long-term plan aimed at achieving efficient resources, which calculates the results of capital gains and can fully cover development costs. In such cases, a significant increase in the investment function is considered, which is guaranteed by an improved plan for the formation of the structure of the financial council. It is advisable for aeronautical companies to draw up a plan to create a perfect financial system, that is, to provide for the creation and implementation of other goals, such as increasing the return on investment and reducing risk, as well as increasing the level of equity participation.

The formulation of strategic goals must meet the following requirements: submission to the ultimate goal of investment, exposure to high economic, technical and social well-being, reliability, assessment, indirect interpretation, scientific accuracy and support from top management.

so we recommend looking at the impact of funding choices on budgeting, this will be the subject of our next research work.

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