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PROJECT

Analysis of the Viability of a Rural Tourism
 Investment

BERNARDO MANUEL COELHO CABRAL

OCTOBER - 2016

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ORIENTATION:
JOSÉ MANUEL DIAS LOPES

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Resumo

Nos últimos anos, o turismo em Portugal tem crescido significativamente sendo que o Algarve não é excepção.

Mais concretamente, só no último ano, o número de turistas que visitaram o Algarve e a receita turística correspondente aumentaram 3,9% e 10,2% respectivamente. Esta tendência é esperada que continue nos anos vindouros. Além disso, o turismo rural também é um mercado em crescimento e cada vez é maior o número de pessoas que o procuram. Só nos ultimos três anos o número de dormidas aumentou 62,2%.

Considerando esta tendência, este trabalho pretende analisar a viabilidade de um investimento num pequeno hotel rural no Algarve, usando a informação disponível neste sector e utilizando as ferramentas financeiras comumente usadas nesta indústria mais concretamente através de uma análise sobre o valor actual líquido.

Todos os resultados desta pesquisa apontam para o facto de que este é um projecto que vale a pena investir tendo-se obtido um VAL de €304 474. Acrescentando ainda o facto da conjuntura actual favorável verificada no sector do turismo actual, este projecto tem potencial e deveria ser desenvolvido.

Palavras-chave: Turismo, rural, Algarve, investimento, viabilidade, valor actualizado líquido.

Abstract

In the past few years, Portugal tourism is increasing significantly and Algarve's tourism is not an exception.

More concretely, just in the year of 2015, the number of tourists that visited Algarve and the correspondent touristic revenue grew 3,9% and 10,2% respectively. This tendence is expected to continue in the years to come. Moreover, the rural tourism is also a market that is increasing and the number of people that pursuit it is increasing too. Just only in the past three years the number of sleeps raised 62,2%.

Basing on this tendence, this work has the scope of analyzing the viability of an investment in a small rural hotel in Algarve, using the known information in this sector and through financial tools that are commonly used in this industry, more concretely an analysis of the net present value.

After analyze all the results in this research we conclude that this is a project worth investing for as we get a NPV of €304 474. Adding also the favorable conjuncture that is verified in tourism rural sector nowadays, this project has potential and should be invested in.

Key-words: Tourism, rural, Algarve, investment, viability, net present value.

Acknowledgements

First, I would like to thank my family and friends who always supported me throughout my entire academic life.

Secondly, and most importantly, I would like to thank and show my appreciation to my supervisor Professor José Manuel Dias Lopes for all the guidance through last months and for being so helpful. I also want to show my gratitude to ISEG for giving me the best formation I could ever asked for, to all my teachers, colleagues and personnel.

Last, but not least, I am grateful to Mariana for all the strength, perserverance and believing that she gave to me and to my father and Carolina a huge thanks for the help and clarification of any doubts.

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I.Introduction

In the past few years, Portugal tourism is increasing significantly and Algarve's tourism is not an exception. More concretely, just in the year of 2015, the number of tourists that visited Algarve and the corresponded touristic revenue grew 3,9% and 10,2% respectively. This tendence is expected to continue in the years to come. Moreover, the rural tourism is also a market that is increasing and the number of people that pursuit it is increasing too. Just only in the past three years the number of sleeps raised 62,2%.

This work has the scope of analyzing the viability of an investment in a small rural hotel in Algarve, using the known information in this sector and through financial tools that are commonly used in this industry, more concretely an analysis of the net present value.

This work has two parts. Part I reviews the relevant literature and includes information on rural tourism, its definition, specific characteristics and the different types of rural tourism. It also describes information about the evolution of the tourism market in Algarve, which will be the basis for some of the assumptions used in our project analysis. Later, it is defined theoretically what is an investment, its characteristics and is presented the different valuation methods that will be used in the work project, the valuation criteria and the sensitivity analysis.

Part II describes and analyzes the investment project. We present the characterization of the project and its assumptions. Later, the economic and financial valuation of the project is presented, showing the steps and explanations that led to the calculation of the weight average cost of capital, the free cash flows, the NPV and a sensitivity analysis. Finally, we look at other financial indicators in order to sustain our investment decision.

II - Literature Review

2.1- Rural Tourism

2.1.1- Tourism in Rural Space

The rural tourism comprises tourism and leisure activities that are located in rural spaces (Sharpley & Sharpley 1997). According to Sharpley (Tourism and the Countryside, 2004) it was only in the decade of 1960 that the rural tourism became a significant element in the tourism sector. However it was in the 1980s that the renaissance in rural areas occurred (Reis e Lima, 1998).

Rural Tourism (unit of rural tourism) is an establishment in a rural space that provides a family-like hospitality services in rustic private houses which are integrated in the typical regional architecture. To Ruschmann (2000, p.63), rural tourism must be formed by rural structures in a small scale in open air, aimed to proportionate to the tourists the contact with nature, community culture and traditional practices. For Valdés (1996, pp. 365-401) the rural tourism units pursuit tourist attractions associated with rest, landscape, traditional culture and massification escape.

Tourism in a rural space has its own characteristics, with not much in common with conventional types of tourism. However, to Butler (1992) these two types of tourism are not competing with each other since the tourist can have different experiences in each one of them and new ways of leisure and recreation. They could even be considered complementary.

 In fact, the essential goal of this activity is to offer to its users the opportunity to revive the practices, values and cultural and gastronomic traditions of the rural society, benefiting from its hospitality and personalized services. Fuentes (1995, pp.19-52)

highlights that this type of tourism has the purpose to promote the connection with local environment and community.

For a rural development perspective, the tourism in rural space is one of the activities that is more important in ensuring the revitalization of the rural economy as it can better showcase the resources, history, traditions and culture of each region.

According to the Direção-Geral de Agricultura e Desenvolvimento Rural (DGADR), it is not only an important factor for the diversification of agricultural activities, but a factor of pluriactivity, through the promotion of a set of others economics activities that are directly related to rural tourism activities. This is the case of craft productions, production and sale of traditional products, transport services, and tourist guides.

It is also important to promote it through a sustained and harmonious form, respecting the differences that characterize each region and highlighting the quality and comfort that are required by the clients who seek it.

The Portuguese Government adopted a concept of tourism in rural space based on those assumptions, seen as a complete and diversified product that integrates the components of accommodation, food and beverage, recreation and animation, based on a hospitable and personalized host and on the most genuine traditions of gastronomy, handicraft, popular culture, architecture, folklore and history.

To Lane (1994) a rural tourism must be:

- Located in rural spaces with connections to traditional and significant agriculture places or environments and landscape with distinctly rural character;

- A set of activities and services provided and performed upon remuneration in rural areas, according several hosting types, activities and complementary services of

animation and tourist recreation, with the purpose of provide a complete and diversified offer to the customers;

- With a rural type respecting the dimension and architectural features and typical construction materials of the region;

- Connected to the traditional social structures, that retain the gregarious characteristics, the values, the lifestyle and the thinking of rural communities based on family farming models;

- Sustainable, as its development should help to maintain the rural characteristics of the region, using local resources and knowledge that are known by the population and should not be an instrument of urbanization;

- Differentiated according to the diversity of the environment and the economy, and the specificity of history, tradition and popular culture;

- With a personalized hospitality according to community tradition of welcome which is part

2.1.2- Types of Tourism in Rural Space

According to Portuguese law[1], there are four types of rural tourism as follows:

-"Country House"

The properties that are considered country houses are the ones that are situated in villages and rural spaces that provide hospitality services to tourists and that are integrated in the typical architecture of the place, by their construction materials and characteristics.

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[1] Decree law n.º 15/2014

-"Village Tourism"

When at least 5 country houses are situated in the same village, or contiguous villages, and they are exploited by one and only entity, without prejudice of the ownership of the same belong to one or more persons.

-"Agritourism"

Tourist developments of agritourism are the properties located in farms that provide hospitality services to tourists and allow them to do the attendance and knowledge of the agricultural activity or to participate in the labor that it is done there, according to the rules that are established by the responsible of the agritourism.

-"Rural Hotel"

Rural hotels are the ones that are located in rural spaces and that, by its own architectonic construction and materials respect the main characteristics of the region where it is implemented and that can be located in new buildings that occupy the totally of the building or that are integrated in an unique architectural entity and respect the same characteristics.

2.1.3- The evolution of Algarve's Tourism

As it is known, Algarve is one of the preferred destinations in Portugal because what it has to offer, specially the sun and beaches in the summer season, but also because of its rural landscape. In this section we will specify the evolution of tourism figures and its demand in Algarve. Algarve has its better results in terms of tourism (occupation rate, guests and overnight stays) in the months of June, July, August and September. In what concerns the rest of months, the high season of golf, March, April, May, September, October and November also has a positive contribute in Algarve's tourism as its demand curve after March is the inverse of that of the summer season curve, therefore it has a positive effect in the reduction of seasonality in Algarve's Tourism.

Regarding recent years and analyzing the period between 2011 and 2016 there is a clear positive trend in the number of guests, overnight stays and occupation rate (per bed).

In 2012 and according to the report of Portugal Tourism, the total movement of passengers at Faro's Airport rose 1% when compared with 2011, reaching 5,67 million passengers in 2012. Regarding guests and overnights, there was an increase of 1,3% to 3,05 million and 2,6% to 14,35 million, respectively when compared with the figures of 2011. Although the occupation rate (per bed) has decreased 1,4% down to 40,8% we do not verify a break in the demand because the cause for this decrease was the great increase in the number of beds.

A year later, 2013, all of the 3 factors, number of guests, overnights and occupation rate (per bed), increased. The number of guests was approximately 3,15 million, a rise of 3,6%. Regarding the total number of overnights, the value was 14,82 million representing an increase of 3,5% and finally the occupation rate (per bed) reached the 44,6% which means an increase of 3,8%.

According to Portugal Tourism, in 2014 we observed an annual increase in all three indicators (number of guests, overnights and occupation rate (per room and per bed)). The total number of guests was approximately 3,6 million (an increase of about 14,2%), the overnights increased 11,2% in the year to a total of 16,3 million, and the occupation rate (per room) increased 3,5% reaching an average for the year of 60,9% and the occupation rate (per bed) increased to 45,3% (a rise of 0,7%).

In 2015 the scenario was no different. Again, according to the Portugal Tourism Department, all indicators increased as it happened in the previous year: the number of guests increased 3,9% to 3,7 million, the overnights reached 16,6 million (an increase of 2,5%) and the occupation rate (per room and per bed) increased to a yearly average of 61,8% and 46,8%, respectively.

So far in 2016 and according to AHETA (Associação dos Hotéis e Empreendimentos Turísticos do Algarve) there is also an increase in the occupation rate (per room) in all months, except for the month of August, in which we see a small decrease.

Comparing the occupation rate per room in 2016 with 2015 and assuming that the remaining months of 2016 will have at least the same occupation rate that the one verified in 2015, the average occupation rate for the year will be 62,89%, an increase of roughly 2% when compared to 2015[2]. Notice that this is a conservative approach, since there was an increase in all of the remaining months in the years under analysis and in the previous months of 2016 before August.

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[2] Information retrieved from AHETA

Table 1 – Occupation Rates in Algarve

	Occupation Rate	
	2015	**2016**
January	30,0%	34,0%
February	41,7%	46,7%
March	47,9%	56,6%
April	55,0%	60,3%
May	64,0%	70,3%
June	77,8%	81,4%
July	85,7%	87,7%
August	93,1%	92,5%
September	84,0%	84,0%
October	67,5%	67,5%
November	40,8%	40,8%
December	32,9%	32,9%
Average	**60,03%**	**62,89%**

Regarding sleeps/overnights in rural tourism in Portugal, according to PORDATA, between 2012 and 2015 there is a clear increase as Table 2 shows.

Table 2 - Overnight stays in Portugal (values in thousands)

Year	Overnight Stays	Var.
2012	784,5	
2013	744,6	-5,1%
2014	855,7	14,9%
2015	1 272,3	48,7%

When comparing 2015 with 2012 there was an increase of 487,8 thousands of overnight stays in that three-year period, which represents an increase of more than 62%.

Altogether and referring to the period between 2010 and 2016 the overnight stays in Portugal increased approximately 30%[3].

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[3] BPI's report "Evolução do Turismo Nacional", July 2016

For the following years, according to the Instituto Nacional de Estatística, the overnight stays are expected to growth at a yearly annual rate of 2,4%[4] through the years of 2016 and 2020. In this scenario, it is also expected a yearly increase of 3,66% in revenues in the same period.

Hence, we can conclude that there are positive perspectives for Portugal's, and specifically, for Algarve's tourism in the near future.

2.2-Definition of Investment

An investment[5] consists in an application of resources with the purpose of its full recuperation adding a financial surplus (Mota et al., 2006). An investment project is an investment on assets and has the following main components: study of the market, elaboration of provisional maps, technical study, the calculation of a rate of return demanded by investors, economic-financial viability and finally, the risk valuation of the project. The main goal of a valuation of this type of project is to identify all the generated cash-flows and use valuation methodologies to evaluate its viability (Mota et al. 2006).

According to Damodaran (1997, p.160) an investment, in a scope of investment projects, foresees a significant initial cost, generating financial flows during a given period of time and the inclusion of a residual value corresponding to the valuation of the assets used in the project in the end of its life cycle.

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[4] According to the papper "Turismo 2020 – cinco princípios para uma ambição – tornar Portugal o destino turístico mais ágil e dinâmico da Europa"

[5] *"Investment is an outlay expected to increase operating cash flows in the future.*" – Corporate Finance Theory and Practice pag. 996)

A project is seen as a set of systematized information with the purpose of motivate an investment[6] decision. It aims to estimate the value, in the most exact way, that is created by the investment, increasing the efficiency of the resources used. A project involves a set of decisions and goals such as the choice of resources to allocate, financial sources, determination of income and costs and finally the study of the financial legal framework. (Barros, 2007)

2.3 - Valuation of Investment Projects

2.3.1 – The Discount Rate

The discount rate (K_u) is a crucial input in the valuation of a project and its net present value. The discount rate is used to bring the costs and revenues of a project generated over time to the same period in time, usually the moment of the decision-making, with the purpose of making the values equivalents and susceptible of being compared. It should reflect the minimum rate of return demanded for the invested capital and risk of the project, taking into account the uncertainty of future results.

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[6] *"Investment is worthwhile only if the decision to forgo normal spending, which gives instant pleasure, will subsequently lead to greater gratification."* – Corporate Finance Theory and Practice pag. 21.

2.3.2- CAPM (Capital Asset Pricing Model)

"The Capital Assets Pricing Model derives the expected return on assets in a market,

given the risk-free rate available to investors and the compensation for market risk.

CAPM specifies that the expected return on an asset is a linear function of its beta and

the market risk premium." Corporate Finance, page 38

According to Damodaran, the CAPM is the risk and return model that better describes most of the real world analyses.The CAPM, originally by Harry Markowitz in 1952 and later on by Jack Treynor (1962), William Sharpe (1964), John Lintner (1965) and Jan Mossin (1966), is a model for pricing risky securities, and translates the tradeoff between risk and return of a project[7]. The CAPM assumes all rational and have perfect access to all information.

The formula for estimating the cost of equity capital according to the CAPM is as follows:

(1) $$K_E = R_F + \beta_u \, [E(R_M) - R_F]$$

Where K_E is the expected return on asset E, R_F is the risk-free rate, β_u is the beta of asset E, i.e. asset E's sensitivity to movements in the overall stock market, $E(R_M)$ is the expected rate of return of the market and finally, $E(R_M) - R_F$ is the market risk premium per unit of risk.

For the risk-free rate, it is usually considered a yield on a treasury bond, the beta is obtained by doing statistical regressions using historical data on the company itself or

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[7]http://www1.american.edu/academic.depts/ksb/finance_realestate/mrobe/Library/capm_Perold_JEP04.pdf

using comparable firms. Lastly, for the expected market return we use a proxy for the market, usually a broad and diversified stock market index.

2.3.3 - WACC (Weight Average Cost of Capital)

The weight average cost of capital (WACC) is the discount rate that contains the returns demanded by the owners of the company, weighted by the portions of each one in the total capital structure. It is calculated as the average return required by equity holders and the after-tax return required by creditors or bondholders, weighted by the portion of equity and debt in the capital structure, respectively. The formula for the WACC is as follows:

(2)
$$\text{WACC} = \frac{E}{V} * k_E + \frac{D}{V} * k_D (1 - T)$$

Where:

E = market value of the firm's equity

D = market value of the firm's debt

V = E + D = total market value of the firm's financing (equity and debt)

k_E = cost of equity

k_D = cost of debt

E/V = percentage of the project financed by equity

D/V = percentage of the project financed by debt

T = corporate tax rate

The WACC is an important instrument in the analysis of the project. However it has some limitations, namely when the debt comes from different sources with different costs and interest rate. In those cases this method cannot be applied.

2.3.4 - Valuation Criteria

2.3.4.1 - Net Present Value (NPV)

The Net Present Value is the sum of all discounted cash flows throughout the years of the project, including initial investment. It compares the present value generated by the investment project with the investment made and provides a straight forward number that tells us whether one should invest in the project or not. The NPV is calculated according to the following formula:

$$(3) \qquad \mathbf{NPV} = \sum_{n=1}^{N} \frac{CF_n}{(1+r)^n} - C_0$$

Where C_0 is the initial investment, CF_n is the cash-flow in year n, r is the discount rate (i. e the cost of capital) and *N* is the lifespan of the project under analysis.

The decision rule is made around 0: if the NPV is greater than zero, we should accept the project because the project can generate more cash flows than the one that was invested and consequently it creates value to the investors; and if the NPV is lower than zero the project should be reject. An NPV equal to zero represent a point of indifference between investing or not. The NPV is the most used indicator as it takes into account the time value of money by using the discounted cash-flows generated by the project and it is very easy to understand and use. But although it is a useful metric for analyzing projects, it also has some drawbacks, namely its sensitivity to the discount rate, i. e. a

small variation in the discount rate will have a considerable effect on the final output. Also regarding the discount rate, the project will not have the same level of risk throughout its time horizon, although the model uses the same discount rate in its entire lifetime. Otherwise the approach becomes too complex and loses one of the most important points in its favor. Also since the project size is not measured, its lifespan may not coincide with the time where the project is being valued. Another disadvantage is that two or more projects with different lifespans cannot be compared.

2.3.4.2 - IRR (Internal Rate of Return)

The internal rate of return is the discount rate that sets the net present value equals to zero. And the rule of thumb is to accept an investment project if and only if the internal rate of return is bigger than the opportunity cost of capital. So, for the decision process, this approach only makes sense when the cost of capital is known. We obtain the IRR by setting the NPV to zero and changing the discount rate as follows:

(4) $$\textbf{NPV} = \sum_{t=0}^{n} \frac{\textbf{CF}_t}{(1+\textbf{IRR})^t} - \textbf{C}_0 = \textbf{0}$$

As it happens with the NPV approach, the IRR has also some disadvantages such as the multiple IRR problem that occurs when some of the cash-flows during the lifetime of the project are negative and as the name suggests gives multiple IRRs. Other disadvantage is the assumption that the generated cash-flows are reinvested at the same IRR (or discount rate).

2.3.4.3 - Payback Period

The payback period is the number of years it takes for the project to pay back the investment made. In other words, it gives us the moment where the cumulative forecasted cash flow matches the initial investment. The rule of thumb is to accept a project if the payback period is lower than the lifetime of the project.

We calculate the payback period using the following formula:

(5)
$$Payback\ Period = years\ full\ recovery + \left(\frac{Unrecovered\ cost\ at\ beginning\ of\ last\ year}{Cash\ flow\ in\ last\ year} \right)$$

We must keep in mind that this approach is flawed as it ignores the time value of money and it also doesn't take into account the cash flows in the later years of a project[8]. Other drawback is that it has difficulties to deal with a project that either has no investments or that has several investments. For those reasons, the decision about going forward or not with the project, should always be made using the payback period together with other methods.

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[8] Discounted payback period solves the "present value of future cash flows" because it uses the discounted cash flows. However still ignores the latest years.

2.3.4.4 - Profitability Index

The Profitability Index shows the profitability that you can get for each unit of invested capital. In other words, it measures the relationship between the net present value and the discounted value of the investment. If it is bigger than one, than the project should be accepted, if not the project should be rejected. The profitability index is calculated as follows:

$$(6) \qquad \textbf{\textit{Profitability Index}} = \frac{\sum_{t=0}^{n} \frac{CF_n}{(1+r)^n}}{Investment}$$

As it happens with the NPV method, the decision rule strongly depends on how the discount rate is calculated.

2.3.5 - Sensitivity Analysis

No matter how you evaluate a company or a project, and since there is uncertainty about the future, all methods will have estimation errors and thus, there are risks associated with it. With the purpose of better taking those risks into consideration, a sensitivity analysis can be an important tool that can be used to help reduce the uncertainty around the decision process. This tool is used to define, ceteris paribus, how inputs in our model will impact its valuation, under a set of assumptions. So, we make inputs change one at a time and see how the valuation changes accordingly. The key variables used in the sensitivity analysis depends on the type of business thus it is very important to choose the right ones when applying this technique. In our industry, the variables that were considered of crucial importance were the average occupation rate, the prices charged and the equity beta.

III – Description and Analysis of the Project

3.1 – Description of the Project

3.1.1 – Characterization of the Project

Our goal is to invest in a land in Algarve where we intend to build a small rural hotel and to do that we calculate the viability of this project, estimating the evolution of the cash flows in a ten-year framework. For estimation purposes, we use the growth in the industry in recent years to forecast the expansion of our business in the near future. In the end of these ten years we believe we could sell the property at a market value that equals its residual value. We want to acquire a land where we intend to build a small rural hotel. The land area is roughly 10 000 m^2 and the selling price is €100 000. The total value of the investment will be €885 790.

We plan to have one main building with twelve suite rooms, one kitchen, one dining room, an entrance, one living room, three restrooms, one office, one laundry room and two pantries. Tables 3 and 4 show data on the size of the hotel rooms and the amount invested to build this main structure.

Table 3 - Size of the Rooms in the Main Building

Main Building	m^2
Suites (12)	300
Kitchen	24
Dining Room	100
Entrance	25
Living Room	50
WC (3)	12
Office	9
Laundry	15
Pantry (2)	20
Total	**555**

Table 4 - Costs Associated with The Main Building

	€
Cost per square meter	850
Total cost	471 750
Design of the project	15 000
Total cost of the main building	486 750

Besides the main building, we will also build four bungalows with two rooms, one kitchenette and one bathroom each.

Table 5 - Initial Investment on Bungalows

	Price/m^2	Area	Price (€)	Other Costs[9](€)	Total Price(€)
Bungalow Cerveira	850	36	30 600	3 410	34 010

The constructions will be completed in January of the first year (i.e. it will take 1 year to conclude the project). In the first year our occupation rate will be 43,3% on average. We are taking a conservative approach assuming this occupation rate (the average occupation rate in Algarve is 62,89%) as the hotel will be new and it will take some time for us to get known. We expect the occupation rate to converge with the average occupation rate in the industry in a four to five year period. The average yearly occupation rate will then be approximately 69,15%. In year 5, our occupation rate is estimated to grow 2,4% and from year 6 until the end of the project, the occupation rate will increase 1% per year, never exceeding 92,5% in August and 90% in June, July and September (months in the high season).

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[9] Other costs include material expenses and transportation (€500), travels, alimentation and stays for three workers (€2 910)

The property is located in Sargaçal, a rural area near Lagos and is characterized by its unique rustic features. There is an orchard with several types of fruit trees that we will keep and will be used for the guests to take and enjoy, and there are also some vegetables planted in the garden. To improve the guests' experience, the hotel will also have a parking lot, a swimming pool and an area surrounding the pool where the guests can rest and enjoy the country life and its calmness.

Our main goal is to provide the guests with a unique opportunity to enjoy the calm and serenity of the countryside and combine it with the most common type of tourism practiced in Algarve. The location is ideal for this particular project, since it is located in the rural area of Algarve, but it is also close to the historical center of Lagos, where the guests can enjoy the beaches and nightlife.

3.1.2 – Assumptions:

- The project considers no variation in prices (constant prices), both revenue and costs;
- 70% of the capital investment will be funded by a bank loan and the remaining 30% will be financed by equity;
- The working capital will be covered by a shareholders' short-term loan, that will be paid in year 1, funded by the value added tax of the investment, that was not reimbursed by the government in year 0, according with the normal fiscal procedures and will be received in year 1;
- The bank loan will be paid in 8 years;
- The interest rate is obtained through a real simulation with a bank;

- The depreciations are according to the Portuguese legislation[10]. When an item is fully depreciated it is considered not working and without value and therefore is taken out of the balance sheet;

- We considered that in the end of the life expectancy of each investment item the company will invest the same value in the following year;

- The depreciations will be calculated beginning in year 1, which is when the fixed assets begin operating;

- Inventories are 1/12 of the cost of goods sold;

- Clients pay upon reservation or at the check-in, so we have no accounts receivable;

- Suppliers are paid 30 days from the date of the invoice, so the balance at 31/12 is 1/12 of the total general costs plus VAT;

- VAT returns are on a monthly basis, so in the end of each year the balance is for two months according to fiscal legislation;

- VAT of cost of goods is considered at an average rate of 15%, as the different goods are subject to rates of 6%, 13% and 23%;

- The cost of breakfast is €3,5 per person;

- Each guest spends on average 10€ in extras (e. g. food, drinks). Our estimated margin on extras is 50%;

- For cleaning supplies (1,5%), utensils (0,25%), electricity (6%) and water (3%) we assumed the same weight on revenues as in the industry and for commissions it will be considered a cost of 10% of revenues.

- Income tax is 21%

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[10] Regulatory decree n.º 25/2009, 14th of setember

3.1.3- Capital Expenditures

Table 6 describes in detail the capital expenditures made throughout the project:

Table 6 - Capital Expedinture

Item	Investment(€)	Depreciation Rate	Yearly depreciation(€)
Land	100.000		
Builduing and other constructions			
Main Building	486.750	5,0%	24.338
Bungalows (4)	136.040	10,0%	13.604
Pool	50.000	5,0%	2.500
Parking lot	10.000	5,0%	500
Equipment			
Machinery and Equipment	20.000	14,3%	2.856
Furniture	20.000	12,5%	2.500
Automobiles	35.000	25,0%	8.750
Other Assets			
Interior Design	15.000	25,0%	3.750
Blankets	5.000	20,0%	1.000
Linen	2.000	50,0%	1.000
Glassware	3.000	33,3%	1.000
Silver	3.000	25,0%	750
Total	885.790		62.547

The depreciations were calculated according to the fiscal legislation.

As it was said in the assumptions, we considered that in the end of the life expectancy of each investment item, the company will invest the same value in the following year:

Table 7 - Reinvestment in Equipment

Item	Life expectancy (years)	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Equipment									
Machinery and Equipment	7						20.000		
Furniture	8							20.000	
Automobiles	4			35.000				35.000	
Other Assets									
Interior Design	4			15.000				15.000	
Blankets	5				5.000				
Linen	2	2.000		2.000		2.000		2.000	
Glassware	3		3.000			3.000			3.000
Silver	4			3.000				3.000	
Total		2.000	3.000	55.000	5.000	5.000	20.000	75.000	3.000

3.1.4 – Working Capital

The working capital was prepared using the provisional balance sheets, being the difference between accounts receivable plus inventories less accounts payable:

Table 8 - Working capital (in euros)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Accounts receivable+Inventories											
Current tax receivable	75.305	0	0	0	0	12.650	0	0	4.600	17.250	0
Inventories	0	3.917	5.042	5.717	6.130	6.243	6.288	6.330	6.373	6.412	6.449
Total Accounts receivable+Inventories	75.305	3.917	5.042	5.717	6.130	18.893	6.288	6.330	10.973	23.662	6.449
Accounts payable											
Trade and other payables	8.267	18.620	17.981	18.403	19.155	19.235	20.201	20.307	20.435	20.514	20.353
Current tax payable	0	9.237	21.000	31.100	36.394	36.626	34.381	35.497	37.903	38.823	39.125
Total current liabilities	8.267	27.857	38.981	49.503	55.549	55.861	54.582	55.804	58.338	59.337	59.478
Net Working Capital	67.038	(23.939)	(33.939)	(43.786)	(49.419)	(36.968)	(48.294)	(49.474)	(47.365)	(35.675)	(53.029)
Changes in Net Working Capital		(90.977)	(9.999)	(9.848)	(5.632)	12.451	(11.326)	(1.180)	2.109	11.690	(17.354)

3.1.5 – Investment Funding

The Capital Expenditure will be funded as shown in Table 9.

Table 9 – Capital structure

Item	%	Value (€)
Equity	30%	265.737
Long-Term Bank Loan	70%	620.053
Total	100%	885.790

The long-term bank loan will be available in 3 quarterly installments (in the end of each quarter) in Year 0. The interest rate will be 4%, which is the one currently in the market. The interest for Year 0 will be paid in January, 1st of Year 1. The long-term bank loan will be paid in 8 years. Each payment will be made in the end of the year, 31st December, starting in year 1. The interest will be paid in the same date, as follows:

Table 10 – Debt Payments (in euros)

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Debt at 31/12 before amortization	620.053	620.053	542.546	465.040	387.533	310.027	232.520	155.013	77.507
Yearly amortization		77.507	77.507	77.507	77.507	77.507	77.507	77.507	77.507
Interest	8.267	24.802	21.702	18.602	15.501	12.401	9.301	6.201	3.100
Interest Rate	4,0%								

Schedule of the bank loan in Year 0:

Table 11 – Debt Payments during year 0 (in euros)

	Loan	Interest
30/04	206.684	5.512
31/08	206.684	2.756
31/12	206.684	0
Total Year 0	620.053	8.267

The Working Capital will be funded in year 0 by a short-term shareholders loan in the amount of 75 305 €, which correspond to the VAT included in the payment of the investment and not reimbursed by the fiscal authority in year 0. The VAT reimbursement will be received in Year 1 and the short-term shareholders loan will be repaid in Year 1, without interest.

3.2 – Revenues and Costs

3.2.1 – Revenues

The prices we considered were the average prices in the market for similar units.

Table 12 – Prices (in euros) Charged Including and Excluding VAT

Prices (inc.VAT)	Main Building	Bungalows	Period
Low Season	80	130	Oct-May
High Season	150	200	Jun-Sep
Prices (exc.VAT)	Main Building	Bungalows	
Low Season	75,5	122,6	Oct-May
High Season	141,5	188,7	Jun-Sep
Extras (incl.VAT)	Extras (excl.VAT)	Margin	
10,00	8,85	50%	

We considered that each guest spends on average 10€ in extras (e. g. food, drinks). Our estimated margin on extras is 50%.

The figures for the occupation rate were based on the monthly occupation rates in Algarve in 2016. We used in the first year of the project, monthly figures below the 2016 Algarve monthly figures, because it is a new project.

Table 13 – Occupation Rate and Revenues by Type of Building (year 1-5)

1. Yearly increase due to the grow of occupation rate

Year 1		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		31	28	31	30	31	30	31	31	30	31	30	31	
Occupancy	Quant.	20,0%	25,0%	30,0%	35,0%	45,0%	55,0%	75,0%	85,0%	70,0%	35,0%	25,0%	20,0%	43,3%
Main Building Rooms(€)	12	5.615	6.340	8.423	9.509	12.634	28.019	39.481	44.745	35.660	9.826	6.792	5.615	212.660
Bungalows(€)	4	3.042	3.434	4.562	5.151	6.843	12.453	17.547	19.887	15.849	5.323	3.679	3.042	100.811
Total Accomod.(€)		8.657	9.774	12.985	14.660	19.477	40.472	57.028	64.632	51.509	15.149	10.472	8.657	313.472
Total Extras (€)		2.634	2.973	3.950	4.460	5.926	7.009	9.876	11.193	8.920	4.609	3.186	2.634	67.370
Total (€)														380.842

Year 2		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		31	28	31	30	31	30	31	31	30	31	30	31	
Occupancy	Quant.	32,5%	40,0%	45,0%	50,0%	60,0%	70,0%	82,5%	90,0%	80,0%	55,0%	35,0%	30,0%	55,8%
Main Building Rooms(€)	12	9.125	10.143	12.634	13.585	16.845	35.660	43.429	47.377	40.755	15.442	9.509	8.423	262.927
Bungalows(€)	4	4.942	5.494	6.843	7.358	9.125	10.302	12.546	13.687	11.774	8.364	5.151	4.562	100.149
Total Accomod. (€)		14.067	15.638	19.477	20.943	25.970	45.962	55.975	61.064	52.528	23.806	14.660	12.985	363.076
Total Extras(€)		4.280	4.758	5.926	6.372	7.901	8.920	10.864	11.851	10.195	7.242	4.460	3.950	86.719
Total(€)														449.795

Year 3		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		31	28	31	30	31	30	31	31	30	31	30	31	
Occupancy	Quant.	40,0%	50,0%	55,0%	60,0%	70,0%	80,0%	87,5%	92,5%	85,0%	65,0%	40,0%	35,0%	63,3%
Main Building Rooms(€)	12	11.230	12.679	15.442	16.302	19.653	40.755	46.061	48.693	43.302	18.249	10.868	9.826	293.060
Bungalows(€)	4	6.083	6.868	8.364	8.830	10.645	11.774	13.307	14.067	12.509	9.885	5.887	5.323	113.542
Total Accomod. (€)		17.313	19.547	23.806	25.132	30.298	52.528	59.368	62.760	55.811	28.134	16.755	15.149	406.602
Total Extras(€)		5.267	5.947	7.242	7.646	9.218	10.195	11.522	12.181	10.832	8.559	5.097	4.609	98.315
Total(€)														504.917

Year 4		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		31	29	31	30	31	30	31	31	30	31	30	31	
Occupancy	Quant.	45,0%	55,0%	60,0%	65,0%	75,0%	85,0%	90,0%	92,5%	87,5%	75,0%	45,0%	40,0%	67,9%
Main Building Rooms(€)	12	12.634	14.445	16.845	17.660	21.057	43.302	47.377	48.693	44.575	21.057	12.226	11.230	311.103
Bungalows(€)	4	6.843	7.825	9.125	9.566	11.406	12.509	13.687	14.067	12.877	11.406	6.623	6.083	122.016
Total Accomod. (€)		19.477	22.270	25.970	27.226	32.462	55.811	61.064	62.760	57.453	32.462	18.849	17.313	433.119
Total Extras(€)		5925,6637	6541,593	7900,88	8283,2	9876,106	10831,9	11851,3	12180,5	11150,4	9876,1	5734,5	5267,3	105.419
Total(€)														538.538

Year 5		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		31	28	31	30	31	30	31	31	30	31	30	31	
Occupancy	Quant.	46,1%	56,3%	61,4%	66,6%	76,8%	87,0%	90,0%	92,5%	89,6%	76,8%	46,1%	41,0%	69,2%
Main Building Rooms(€)	12	12.937	14.282	17.250	18.084	21.562	44.341	47.377	48.693	45.645	21.562	12.520	11.500	315.754
Bungalows(€)	4	7.008	7.736	9.344	9.796	11.679	12.810	13.687	14.067	13.186	11.679	6.782	6.229	124.002
Total Accomod. (€)		19.945	22.018	26.593	27.880	33.241	57.151	61.064	62.760	58.832	33.241	19.301	17.729	439.756
Total Extras(€)		6.068	6.699	8.091	8.482	10.113	11.092	11.851	12.181	11.418	10.113	5.872	5.394	107.373
Total(€)														547.128

1. Yearly increase due to the grow of occupation rate

Table 14 – Occupation Rate and Revenues by Type of Building (year 6-10)

Year 6		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		31	28	31	30	31	30	31	31	30	31	30	31	
Occupancy	Quant.	46,5%	56,9%	62,1%	67,2%	77,6%	87,9%	90,0%	92,5%	90,0%	77,6%	46,5%	41,4%	69,7%
Main Building Rooms(€)	12	13.067	14.425	17.422	18.265	21.778	44.785	47.377	48.693	45.849	21.778	12.645	11.615	317.698
Bungalows(€)	4	7.078	7.813	9.437	9.894	11.796	12.938	13.687	14.067	13.245	11.796	6.849	6.291	124.892
Total Accomod. (€)		20.144	22.238	26.859	28.159	33.574	57.722	61.064	62.760	59.094	33.574	19.494	17.906	442.589
Total Extras(€)		6.129	6.766	8.171	8.567	10.214	11.203	11.851	12.181	11.469	10.214	5.931	5.448	108.143
Total(€)														550.732

Year 7		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		31	28	31	30	31	30	31	31	30	31	30	31	
Occupancy	Quant.	47,0%	57,5%	62,7%	67,9%	78,3%	88,8%	90,0%	92,5%	90,0%	78,3%	47,0%	41,8%	70,1%
Main Building Rooms(€)	12	13.197	14.569	17.596	18.448	21.995	45.232	47.377	48.693	45.849	21.995	12.771	11.731	319.455
Bungalows(€)	4	7.148	7.892	9.531	9.993	11.914	13.067	13.687	14.067	13.245	11.914	6.918	6.354	125.730
Total Accomod. (€)		20.346	22.460	27.128	28.440	33.910	58.300	61.064	62.760	59.094	33.910	19.689	18.085	445.186
Total Extras(€)		6.190	6.833	8.253	8.652	10.316	11.315	11.851	12.181	11.469	10.316	5.990	5.502	108.869
Total(€)														554.055

Year 8		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		31	29	31	30	31	30	31	31	30	31	30	31	
Occupancy	Quant.	47,5%	58,0%	63,3%	68,6%	79,1%	89,7%	90,0%	92,5%	90,0%	79,1%	47,5%	42,2%	70,6%
Main Building Rooms(€)	12	13.329	15.240	17.772	18.632	22.215	45.685	47.377	48.693	45.849	22.215	12.899	11.848	321.756
Bungalows(€)	4	7.220	8.255	9.627	10.092	12.033	13.198	13.687	14.067	13.245	12.033	6.987	6.418	126.862
Total Accomod. (€)		20.549	23.495	27.399	28.725	34.249	58.883	61.064	62.760	59.094	34.249	19.886	18.266	448.619
Total Extras(€)		6.252	6.902	8.336	8.739	10.420	11.428	11.851	12.181	11.469	10.420	6.050	5.557	109.603
Total(€)														558.222

Year 9		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		31	28	31	30	31	30	31	31	30	31	30	31	
Occupancy	Quant.	48,0%	58,6%	63,9%	69,3%	79,9%	90,0%	90,0%	92,5%	90,0%	79,9%	48,0%	42,6%	71,1%
Main Building Rooms(€)	12	13.462	14.862	17.950	18.819	22.437	45.849	47.377	48.693	45.849	22.437	13.028	11.967	322.731
Bungalows(€)	4	7.292	8.050	9.723	10.193	12.154	13.245	13.687	14.067	13.245	12.154	7.057	6.482	127.349
Total Accomod. (€)		20.755	22.912	27.673	29.012	34.591	59.094	61.064	62.760	59.094	34.591	20.085	18.449	450.080
Total Extras(€)		6.314	6.971	8.419	8.826	10.524	11.469	11.851	12.181	11.469	10.524	6.111	5.613	110.271
Total(€)														560.351

Year 10		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		31	28	31	30	31	30	31	31	30	31	30	31	
Occupancy	Quant.	48,4%	59,2%	64,6%	70,0%	80,7%	90,0%	90,0%	92,5%	90,0%	80,7%	48,4%	43,0%	71,5%
Main Building Rooms(€)	12	13.597	15.010	18.129	19.007	22.662	45.849	47.377	48.693	45.849	22.662	13.158	12.086	324.081
Bungalows(€)	4	7.365	8.131	9.820	10.295	12.275	13.245	13.687	14.067	13.245	12.275	7.128	6.547	128.080
Total Accomod. (€)		20.962	23.141	27.950	29.302	34.937	59.094	61.064	62.760	59.094	34.937	20.286	18.633	452.161
Total Extras(€)		6.377	7.040	8.503	8.915	10.629	11.469	11.851	12.181	11.469	10.629	6.172	5.669	110.904
Total(€)														563.065

3.2.2 – Costs

3.2.2.1-Cost of Goods Sold

The cost of goods sold and consumed has two components: one is the cost of the breakfast (the corresponding revenue is included in the room price), and the other is the cost of the extras. We consider that the cost of the breakfast is 3,5€, and the cost of extras is 50% of its revenue.

3.2.2.2- General Costs

General costs are based in a hotel structure of costs, and has two types of costs: variable costs, like commissions, electricity, water, cleaning supplies and utensils, that are related to the number of guests, and fixed costs, like specialized services, repair and maintenance, insurance and others.

3.2.3- Payroll

In the first four years, we will hire seven employees all year, and an additional two employees for the high season (a total of six months between April and September). In the remaining years, the number of employees will be the same through the low season ,and the number of workers in the high season will rise from two to four. Tables 15 and 16 show figures, in euros, on wages and the respective costs for the company.

Table 15 - Costs with Wages Years 1 to 4 (figures in euros)

	Years 1-4		
	Gross Wage	Monthly Cost	Yearly Cost
Manager	1.250	1.559	21.831
2 Recepcionist	800	1.996	27.944
2 Handymen	750	1.871	26.198
2 Maids	650	1.622	22.705
2 Maids (6-month contract)	550	1.372	9.606
Total		**8.421**	**108.283**

Table 16 - Costs with Wages Years 5 to 10 (figures in euros)

	Years 5-10		
	Gross Wage	Monthly Cost	Yearly Cost
Manager	1.250	1.559	21.831
2 Recepcionist	800	1.996	27.944
2 Handymen	750	1.871	26.198
2 Maids	650	1.622	22.705
4 Maids (6-month contract)	550	2.745	19.212
Total		**9.793**	**117.889**

Table 17 – Cost of Wages End of the Year (figures in euros)

	Balance Sheet			
	Gross Wage December(1)	IRS(7,5%)	Social Security	
			employee	company
		0,075	0,11	0,2375
Manager	2.500	187,5	275	594
2 recepcionists	3.200	240	352	760
2 polyvalent employees	3.000	225	330	713
2 maids	2.600	195	286	618
2 maids (6 months) (2)				
Total	11.300	848	1.243	2.684
Balance IRS+SocSecurity in 31/12			Total	4.774
(1) Includes Christmas Subsidy				
(2) This personnel is not working in December.				

3.2.4 – Profit & Loss Account

The Profit & Loss Account is presented using the figures for revenue and costs calculated above.

Table 18 – Profit and Loss Account from Year 0 to 5

	Year 0	Year 1		Year 2		Year 3		Year 4		Year 5	
	Monthly Value	Yearly Value	% Revenue	Yearly Value	% Revenue	Yearly Value	% Revenue	Yearly Value	% Revenue	Yearly Value	% Revenue
Revenue		380.842	100,0%	449.795	100,0%	504.917	100,0%	538.538	100,0%	547.128	100,0%
Costs											
Costs of goods sold		47.007	12,3%	60.508	13,5%	68.599	13,6%	73.556	13,7%	74.919	13,7%
Operational Costs											
Accountancy/Specialized Services	500	6.000	1,6%	6.000	1,3%	6.000	1,3%	6.000	1,3%	6.000	1,3%
Marketing	400	4.800	1,3%	4.800	1,1%	4.800	1,1%	4.800	1,1%	4.800	1,1%
Commissions (10%)		31.347	8,2%	36.308	8,1%	40.660	8,1%	43.312	8,0%	43.976	8,0%
Repairs and Maintenance	300	3.600	0,9%	3.600	0,8%	3.600	0,7%	3.600	0,7%	5.000	0,9%
Utensils	79	952	0,3%	1.124	0,3%	1.262	0,3%	1.346	0,3%	1.368	0,3%
Office Material	100	1.200	0,3%	1.200	0,3%	1.200	0,2%	1.200	0,2%	1.200	0,2%
Eletricity	1.904	22.850	6,0%	26.988	6,0%	30.295	6,0%	32.312	6,0%	32.828	6,0%
Fuel	200	2.400	0,5%	2.400	0,5%	2.400	0,5%	2.400	0,4%	2.400	0,4%
Water	952	11.425	3,0%	13.494	3,0%	15.148	3,0%	16.156	3,0%	16.414	3,0%
Communication	250	3.000	0,8%	3.000	0,7%	3.000	0,6%	3.000	0,6%	3.000	0,5%
Insurance		6.536	1,7%	6.536	1,5%	6.536	1,3%	6.536	1,2%	6.536	1,2%
Cleaning Supplies	476	5.713	1,5%	6.747	1,5%	7.574	1,5%	8.078	1,5%	8.207	1,5%
Other Costs	300	3.600	0,9%	3.600	0,9%	3.600	0,9%	3.600	0,9%	3.600	0,9%
Total General Costs		103.424	27,2%	115.797	25,7%	126.075	25,0%	132.341	24,6%	135.328	24,7%
Payroll		108.283	28,4%	108.283	24,1%	108.283	21,4%	108.283	20,1%	117.889	21,5%
Total Operational Costs		258.714	67,9%	284.588	63,3%	302.957	60,0%	314.181	58,3%	328.136	60,0%
EBITDA		122.127	32%	165.207	37%	201.960	40%	224.358	42%	218.992	40%
Depreciation		62.548	16,4%	62.548	13,9%	62.548	12,4%	62.548	11,6%	62.548	11,4%
EBIT		59.580	15,6%	102.660	22,8%	139.412	27,6%	161.810	30,0%	156.445	28,6%
Interest Expenses	8.267	24.802	6,5%	21.702	4,8%	18.602	3,7%	15.501	2,9%	12.401	2,3%
EBT	-8.267	34.778	9,1%	80.958	18,0%	120.810	23,9%	146.309	27,2%	144.044	26,3%
Income Tax (21%)		5.567	1,5%	17.001	3,8%	25.370	5,0%	30.725	5,7%	30.249	5,5%
Net Profit	-8.267	29.211	7,7%	63.957	14,2%	95.440	18,9%	115.584	21,5%	113.794	20,8%

Tabela 19 – Profit and Loss Account from Year 6 to 10

	Year 6		Year 7		Year 8		Year 9		Year 10	
	Yearly Value	% Revenue	Yearly Value	% Revenue	Yearly Value	% Revenue	Yearly Value	% Revenue	Yearly Value	% Revenue
Revenue	550.732	100,0%	554.055	100,0%	558.222	100,0%	560.351	100,0%	563.065	100,0%
Costs										
Costs of goods sold	75.457	13,7%	75.964	13,7%	76.476	13,7%	76.942	13,7%	77.383	13,7%
Operational Costs										
Accountancy/Specialized Services	6.000	1,3%	6.000	1,3%	6.000	1,3%	6.000	1,3%	6.000	1,3%
Marketing	4.800	1,1%	4.800	1,1%	4.800	1,1%	4.800	1,1%	4.800	1,1%
Commissions (10%)	44.259	8,0%	44.519	8,0%	44.862	8,0%	45.008	8,0%	45.216	8,0%
Repairs and Maintenance	5.000	0,9%	5.000	0,9%	5.000	0,9%	5.000	0,9%	5.000	0,9%
Utensils	1.377	0,3%	1.385	0,3%	1.396	0,3%	1.401	0,3%	1.408	0,3%
Office Material	1.200	0,2%	1.200	0,2%	1.200	0,2%	1.200	0,2%	1.200	0,2%
Eletricity	33.044	6,0%	33.243	6,0%	33.493	6,0%	33.621	6,0%	33.784	6,0%
Fuel	2.400	0,4%	2.400	0,4%	2.400	0,4%	2.400	0,4%	2.400	0,4%
Water	16.522	3,0%	16.622	3,0%	16.747	3,0%	16.811	3,0%	16.892	3,0%
Communication	3.000	0,5%	3.000	0,5%	3.000	0,5%	3.000	0,5%	3.000	0,5%
Insurance	6.536	1,2%	6.536	1,2%	6.536	1,2%	6.536	1,2%	6.536	1,2%
Cleaning Supplies	8.261	1,5%	8.311	1,5%	8.373	1,5%	8.405	1,5%	5.631	1,0%
Other Costs	3.600	0,9%	3.600	0,9%	3.600	0,9%	3.600	0,9%	3.600	0,9%
Total General Costs	135.999	24,7%	136.616	24,7%	137.407	24,6%	137.782	24,6%	135.467	24,1%
Payroll	117.889	21,4%	117.889	21,3%	117.889	21,1%	117.889	21,0%	117.889	20,9%
Total Operational Costs	329.344	59,8%	330.468	59,6%	331.771	59,4%	332.612	59,4%	330.739	58,7%
EBITDA	221.388	40%	223.587	40%	226.451	41%	227.739	41%	232.327	41%
Depreciation	62.548	11,4%	62.548	11,3%	62.548	11,2%	62.548	11,2%	62.548	11,1%
EBIT	158.840	28,8%	161.040	29,1%	163.903	29,4%	165.191	29,5%	169.779	30,2%
Interest Expenses	9.301	1,7%	6.201	1,1%	3.100	0,6%	0	0,0%	0	0,0%
EBT	149.539	27,2%	154.839	27,9%	160.803	28,8%	165.191	29,5%	169.779	30,2%
Income Tax (21%)	31.403	5,7%	32.516	5,9%	33.769	6,0%	34.690	6,2%	35.654	6,3%
Net Profit	118.136	21,5%	122.323	22,1%	127.034	22,8%	130.501	23,3%	134.125	23,8%

3.2.5 – Balance Sheet

The balance sheets were prepared using the assumptions above mentioned.

Table 20 - Balance Sheet (figures in euros)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets											
Current assets											
Cash	4.263	34.186	93.184	188.444	299.031	337.846	447.350	550.894	640.860	747.218	958.246
Trade and other receivables											
Current tax receivable	75.305	0	0	0	0	12.650	0	0	4.600	17.250	0
Inventories		3.917	5.042	5.717	6.130	6.243	6.288	6.330	6.373	6.412	6.449
Total current assets	79.568	38.103	98.226	194.161	305.161	356.739	453.638	557.224	651.833	770.879	964.694
Property, plant & equipment											
Land	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000
Buildings	682.790	682.790	682.790	682.790	682.790	682.790	682.790	682.790	682.790	682.790	682.790
Equipment	103.000	103.000	103.000	103.000	103.000	103.000	103.000	103.000	103.000	103.000	103.000
Less accum.depreciation		-62.548	-125.095	-185.643	-245.190	-252.738	-310.285	-367.833	-410.380	-397.928	-457.475
Total property, plant & equipment	885.790	823.243	760.695	700.148	640.600	633.053	575.505	517.958	475.410	487.863	428.315
Total assets	965.358	861.346	858.921	894.308	945.761	989.792	1.029.143	1.075.181	1.127.243	1.258.742	1.393.009
Liabilities											
Current liabilities											
Trade and other payables	8.267	18.620	17.981	18.403	19.155	19.235	20.201	20.307	20.435	20.514	20.353
Current tax payable		9.237	21.000	31.100	36.394	36.626	34.381	35.497	37.903	38.823	39.125
Shareholders` short-term loan	75.305	0	0	0	0	0	0	0	0	0	0
Total current liabilities	83.572	27.857	38.981	49.503	55.549	55.861	54.582	55.804	58.338	59.337	59.478
Long-term liabilities											
Long-term debt	620.053	542.546	465.040	387.533	310.027	232.520	155.013	77.507	0	0	0
Total long-term liabilities	620.053	542.546	465.040	387.533	310.027	232.520	155.013	77.507	0	0	0
Total liabilities	703.625	570.403	504.021	437.036	365.575	288.381	209.595	133.311	58.338	59.337	59.478
Shareholders` Equity											
Capital	270.000	270.000	270.000	270.000	270.000	270.000	270.000	270.000	270.000	270.000	270.000
Retained earnings	-8.267	20.944	84.900	187.272	310.185	431.411	549.547	671.870	798.905	929.406	1.063.531
Total stockholders` equity	261.733	290.944	354.900	457.272	580.185	701.411	819.547	941.870	1.068.905	1.199.406	1.333.531
Total liabilities & shareholders` equity	965.358	861.346	858.921	894.308	945.761	989.792	1.029.143	1.075.181	1.127.243	1.258.742	1.393.009

3.3 - Economic and Financial Valuation of the Investment Project

3.3.1 – Discount rate

Cost of debt

Our cost of debt (k_D) for this project is 4,0% and is equal to the interest rate paid in a bank loan with an eight-year maturity. We simulated a bank loan and we were offered an interest rate of 3,0% (0% Euribor 12 months plus a 3% spread) plus a bank commission of 1,0%.

Cost of equity

Calculating the cost of equity is more demanding and has more uncertainty attached to its calculations. The cost of equity (k_E) was obtained through the CAPM, as follows:

$$k_E = r_f + \beta_E x \left[E(r_M) - r_f \right]$$

where,

r_f is the risk-free rate

β_E is the equity beta

$E(r_M) - r_f$ is the expected equity risk premium

The risk-free rate is 3,59% and is equivalent to the yield on a Portugal 10 year Government Bond as of 10th October of 2016. The choice of this particular bond is due to the fact that we want to match the maturity of the bond with the maturity of the project.

According to Damodaran, as of July 2016, the total equity risk premium for Portugal was 10,17%, which includes a mature market premium and an additional country risk premium.

The beta was estimated according to comparable beta method. Since this is a new rural tourism project in Portugal, we don't have historical data to estimate our own beta and it is particularly hard to find public data for comparable companies, i.e. firms in the same line of business and with similar characteristics. So we decided to use as comparable firms, all the firms in the hotel and gaming industry in Western Europe[11]. Since companies have different capital structures and those structures have an impact on the risk of each company, we have to use the unlevered beta[12], i.e. the one that doesn't account for capital structure effects. Having the average unlevered beta of the industry, we obtained the equity beta (β_E) for our project as follows:

$$(7) \qquad \boldsymbol{\beta_E = \beta_U \left(1 + (1 - t)\left(\frac{D}{E}\right)\right)}, \text{ where:}$$

- β_E is the levered beta for equity in our project

- β_U is the unlevered beta of the firm (i.e., the beta of the firm without any debt)

- t is the corporate tax rate

- D/E is the debt-to-equity ratio of the project

The β_U is 0,7, the corporate tax in Portugal is 21% and our D/E is equal 0,7/0,3.

Therefore we obtained a β_L of 1,99.

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[11] Data on betas were taken from Damodaran estimations, we used data from Western Europe since there is no public data available from Portuguese companies in this industry

[12] We used unlevered beta and not levered beta because each company has its unique capital structure.

Applying the CAPM formula we have:

$$k_E = R_F + \beta_E (E[R_M] - R_F)$$

$$k_E = 3{,}59\% + 1{,}99 * 10{,}17\%$$

$$k_E = 23{,}83\%$$

Given the high risk of this particular investment, our highly levered capital structure and the market premium in Portugal, a cost of equity of 23,83% makes sense to us. Nonetheless, we know that the estimation errors around the beta are high, especially because the proxy we used for our industry, so we perform later on a sensitivity analysis to see how our valuation changes with small changes in the beta.

3.3.2 - WACC

To calculate the discount rate of the project, we use one of the most commonly used models in this type of investment, the weighted average cost of capital, which combines the cost of debt and cost of equity and weights them with our capital structure:

$$\text{WACC} = \frac{E}{V} * k_E + \frac{D}{V} * k_D (1 - T)$$

$$\text{WACC} = \frac{30\%}{1} * 23.83\% + \frac{70\%}{1} * 4\%(1 - 21\%)$$

$$\text{WACC} = 9.4\%$$

3.3.3 – Free cash flow

We calculate the free cash flows that the project generates each year as follows:

$$(8) \quad FCF = EBIT(1 - t_C) + Depreciations\&Amortizations - \Delta NWC - CAPEX$$

Revenues were calculated based on the occupation rates that were in line with the industry, although with a small difference in the first years. Table 21 shows how our average occupation rate evolves over time. As mentioned before, the average occupation rate in the first year is particularly small, as we expect that will take some time for us to get known, so the number of guests will remain low through the year, even in the high season.

Table 21 - Estimated Monthly Occupation Rates

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
January	20,00%	32,50%	40,00%	45,00%	46,10%	46,50%	47,00%	47,50%	48,00%	48,40%
February	25,00%	40,00%	50,00%	55,00%	56,30%	56,90%	57,50%	58,00%	58,60%	59,20%
March	30,00%	45,00%	55,00%	60,00%	61,40%	62,10%	62,70%	63,30%	63,90%	64,60%
April	35,00%	50,00%	60,00%	65,00%	66,60%	67,20%	67,90%	68,60%	69,30%	70,00%
May	45,00%	60,00%	70,00%	75,00%	76,80%	77,60%	78,30%	79,10%	79,90%	80,70%
June	55,00%	70,00%	80,00%	85,00%	87,00%	87,90%	88,80%	90,00%	90,00%	90,00%
July	75,00%	82,50%	87,50%	90,00%	90,00%	90,00%	90,00%	90,00%	90,00%	90,00%
August	85,00%	90,00%	92,50%	92,50%	92,50%	92,50%	92,50%	92,50%	92,50%	92,50%
September	70,00%	80,00%	85,00%	87,50%	89,60%	90,00%	90,00%	90,00%	90,00%	90,00%
October	35,00%	55,00%	65,00%	75,00%	76,80%	77,60%	78,30%	79,10%	79,90%	80,70%
November	25,00%	35,00%	40,00%	45,00%	46,10%	46,50%	47,00%	47,50%	48,00%	48,40%
December	20,00%	30,00%	35,00%	40,00%	41,00%	41,40%	41,80%	42,20%	42,60%	43,00%
Average	**43,33%**	**55,83%**	**63,33%**	**67,92%**	**69,18%**	**69,68%**	**70,15%**	**70,65%**	**71,06%**	**71,46%**

The prices were estimated through an extensive analysis of the prices practiced by the competition[13]. Algarve's tourism is seasonal and the months in the high season are June, July, August and September. The prices per night that we will charge during thee months in the high season is €150 per room and €200 per bungalow. In the rest of the months of the year (low season) prices practiced will be €80 per room and €130 per bungalow.

Hence, the cash flows and discounted cash flows are:

Table 22 - Cash flows of the project

	1	2	3	4	5	6	7	8	9	10
Cash Flow(€)	200.592	153.648	180.531	193.010	118.688	194.357	185.949	169.922	106.358	211.027
Discounted Cash Flow(€)	183.421	128.469	138.025	134.934	75.872	113.609	99.390	83.049	47.533	86.237

For residual value, it was considered the book value of fixed assets at the end of the tenth period, €428.307.

Adding the discounted residual value (€175.029) to the sum of the discounted cash flows and subtracting the initial investment we obtain a **net present value of €304.474**. So, as the NPV is bigger than zero, the project is viable and we should invest in it.

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[13]http://www.hoteisruraisdeportugal.com/index.php?option=com_jomres&view=default&layout=regions&selected_region=3033&Itemid=233&lang=pt&jomsearch_sortby=3

Table 23 - Residual value (figures given in euros)

Item	Investment	Acumulative depreciation	Residual Value
Land	100.000		100.000
Builduing and other constructions			
Main Building	486.750	243.375	243.375
Bungalows (4)	136.040	136.040	0
Pool	50.000	25.000	25.000
Parking lot	10.000	5.000	5.000
Equipment			
Machinery and Equipment	20.000	8.568	11.432
Furniture	20.000	5.000	15.000
Automobiles	35.000	17.500	17.500
Other Assets			
Interior Design	15.000	7.500	7.500
Blankets	5.000	5.000	0
Linen	2.000	2.000	0
Glassware	3.000	1.000	2.000
Silver	3.000	1.500	1.500
Total	885.790	457.483	428.307

3.4 – Sensitivity Analysis

In the last subsection, we came to the conclusion that this project was a good investment since the NPV was positive. But to attain this NPV we had to do several assumptions and forecasts that are prone to estimation errors. A sensitivity analysis tell us whether our findings are robust to the assumptions and estimations made and it is an important step in the risk assessment of the project. So we need to look at the key variables used on our estimations and analyze how our NPV changes as we shock those variables. For this sensitivity analysis we consider three scenarios in each our variables change.

First, and given its importance, we decided to consider two scenarios for the discount rate (±25%) apart from the expected one, as shown in Table 24.

Table 24 - Scenario Analysis for the Discount Rate

	Pessimistic	Expected	Optimistic
Rate	11,70%	9,36%	7,02%
NPV	€169.936,00	€304.474,00	€465.284,00
ΔNPV	*-44%*	*-*	*53%*

As table 23 shows, on the pessimistic scenario, and with a 25% increase in the discount rate, the NPV decreases more than 40% but is still positive. On the opposite side, a negative variation of roughly 25%, increases the NPV by more than 50%. As expected, the valuation of our project is somewhat sensitive to changes in the discount rate.

Since the beta was estimated using data on hotel/gaming industry in Western Europe, it is likely that the calculated beta is not as accurate, so we decided to also analyze the impact of changes in the equity beta in the net present value, as shown in Table 25.

Table 25 - Scenario Analysis on the Equity Beta

	Pessimistic	Expected	Optimistic
Beta	2,7	1,99	1,3
NPV	€179.217,00	€304.474,00	€447.837,00
ΔNPV	*-41%*		*+47%*

As we can see in Table 24, all scenarios give us positive net present values, with NPV changing less than 50%, even with significant changes in the beta. This is a rather important result, as the beta most likely involves a significant estimation error.

Next, we change all prices in ±25% and then again, we analyzed the scenarios. All results are shown in Tables 26 and 27.

Table 26 - Prices Charged in Each Scenario

		Pessimistic	Expected	Optimistic
Rooms	**Low**	60	80	100
	High	112,5	150	187,5
Bungalow	**Low**	97,5	130	162,5
	High	150	200	250

As result of those variations, we obtained the net present values presented in Table 26.

Table 27 - Scenario Analysis for the Price

	Pessimistic	Expected	Optimistic
NPV	(€103.003,00)	€304.474,00	€711.950,00
ΔNPV	*-134%*		*+134%*

Estimations of revenues seem to have a big impact on the NPV: a decrease of only 25% in the prices charged makes the NPV go down by more than 130% to a negative value. On the other side, an increase of 25% in prices increases the NPV in 134% as well.

Finally, and in order to support this evidence, we decided to see how changes in the occupation rate would impact our investment decision. We only considered a negative scenario, in which in the first year we would have the same occupation rates as in our base case, but after the first year the increase on those occupation rates would be much lower (+2,4%), never being able to catch with Algarve's average occupation rates for the industry. In this case, the net present value would be equal to -€76 708 (Δ=-125%).

We know that sensitivity analyzes have its limitations. First, we can only analyze one variable at a time, and we may have crossed results from other underlying variables that

are impacting the NPV. Also, it may give ambiguous results. But they also provide relevant results and in our case was no different. The results show that the decision to invest or not is most sensitive to changes in annual revenues (both from the price side and the occupation side). If the prices we could charge were only 25% below our estimations or if occupation rates were smaller than expected our project would not be worth investing in. One consequence of these results could be to invest heavily in marketing and divulgation of our hotel in the first year or so.

3.5 – Analysis of the Main Indicators

As showed above, the NPV is significantly above zero, 304.474 €, which indicates that the project should go forward. The NPV is the most used approach, but we should analyze others indicators to see if they support our investment decision. We look at the internal rate of return, the payback period and the profitability index of our project.

The internal rate of return is the return obtained if the NPV was zero, as follows:

$$NPV = \sum_{t=0}^{10} \frac{CF_t}{(1+IRR)^t} - 961\,095 = 0 \Rightarrow IRR = 12{,}43\%$$

Since the internal rate of return is bigger than the discount rate (9,36%) we should invest in the project, as indicated by the NPV.

To calculate the payback period, we start by identifying the year where the cumulative cash flows become positive, which in our case is year 6. After that, we calculated the average monthly cash flow generated in 2016 (€16 196,43). Then, dividing the cumulative cash flow from year 5 by the average monthly cash flows of year 6, we reached a value of approximately 7 months that is the number of months that take to

achieve the moment when the cumulative cash flow is 0. Therefore, the payback period is six years and seven months. As it is lower than the lifetime of the project under analysis, it corroborates with each of the previous indicators.

Finally, for the last indicator, we obtain a profitability index of 1,32, which is bigger than 1. Then again, and in line with the other indicators, we should accept the project.

IV - Conclusion

This work is motivated by the boom that has been seen in Portugal's, and specially in Algarve's tourism, observed in the last years. Tourism figures are not only very promising, but the rural sector also shows potential, gaining popularity over the years. We decided to consider the possibility of buying a rural land in Sargaçal, Lagos and invest in a rural tourism project. The investment includes the purchase of a plot of land with a area of 10 000 square meters for the price of €100 000. On that land we plan constructing a main building with twelve rooms, four 2-bedroom bungalows and several amenities that will give guests the opportunity to appreciate the rural side of Algarve. That will represent a total capital expenditure of 885 790€.

After a detailed analysis of the tourism industry in Algarve, we obtained our revenue forecasts. Having occupation rates and prices in line with the ones practiced in the industry we are in, we obtained positive free cash flows throughout the lifespan of the project and we attained an NPV of €304 474,00.

Having in mind that NPV, although the most common used approach, has its drawbacks we decided to look at other financial indicators. All the results point in the same direction, being the investment a good decision. To consolidate our decision, we also did a sensitivity analysis. We looked at several inputs, and we concluded that our valuation was most sensitive to changes in revenues. This is a rather important result, and shows us how a few bad years in terms of occupation (or if prices drop) can have such an impact on our business. So our decision is to go forward with the project and invest in this rural tourism hotel, always focusing on a high-quality service and investing in marketing to acquire new customers and improve our reviews on search-engine websites.

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