

Pre-feasibility study

## **Pre-feasibility study on the investment in a new SPA & wellness facility**

**Case Study: based on a hotel-restaurant in Germany**

Moritz Jahn

Thesis

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<p><b>The title of your thesis</b> Pre-feasibility study on the investment in a new spa &amp; wellness facility Case Study: based on a hotel-restaurant in Germany</p>	<p><b>Number of pages and appendices</b> 40 + 33</p>
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<p>The object of investigation has at the present a wellness facility which is however out-dated and does not longer support the general appearance. Therefore, a new investment has to be done which will be assessed with regard to its conceptual, economic and financial viability. In particular, the economic and financial viability of the new SPA &amp; wellness facility by itself had to be assessed, as this is the main criteria for the principal. The extent of the pre-feasibility study is a limited version compared to a regular feasibility study where the content is abridged and obtained market information might be sufficient for rejecting the venture but insufficient for decision-making. The pre-feasibility study was carried out between July 2010 and January 2011. The value date for all calculation within the pre-feasibility study is January 2011.</p> <p>In order to carry out the project, first an initial business contact was made where information on all operated departments at the present was given and the according information on the new SPA &amp; wellness facility was provided.</p> <p>In a second step, a competitor and market research has been carried out. The market research was carried out by the use of a geomarketing software. The competitor analysis has been carried out by an internet and literature research.</p> <p>In a third step, all past procedures and equivalent findings have been used in order to carry out the economic and financial calculations for the new SPA &amp; wellness facility including calculations such as the operating statement of profit and loss, taxes depreciable, debt service, taxes and loss-carry-forward, cash flow in equity after debt services and taxes, residual value / value of continuation at end of year 15, after-tax / before-tax equity internal rate of return, equity investment pay-back period in nominal value of money, total investment pay-back period in nominal value of money, present value and net present value of equity, influences on other departments' net income before and after fixed amount allocation, investment and year-start balance and investment decision comparisons.</p> <p>In a last step, the conceptual, economic and financial viability has been assessed by using a grading from "1" (the worst) to "5" (the best) by evaluating the internal leitmotif of the new venture and the comparison with benchmark figures. If judging the outcomes of the pre-feasibility study by the main criteria of the principal, the venture should be rejected.</p>	
<p><b>Key words</b> pre-feasibility study, wellness, SPA, Day SPA, investment, hotel, restaurant, hotel-restaurant</p>	

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<p><b>Titel der Bachelor Arbeit</b> Vorläufige Machbarkeitsstudie über eine Investition in einen neuen Spa- &amp; Wellness-Bereich Fall-Studie: Hotel-Restaurant Muster in Deutschland</p>	<p><b>Anzahl der Seiten und Anhänge</b> 40 + 33</p>
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<p>Die Fallstudie hat im Moment einen Wellness-Bereich, welcher jedoch nicht dem Image des Gesamtbetriebes gerecht wird. Daher soll in einen neuen SPA- &amp; Wellness-Bereich investiert werden, was auf die konzeptionelle, wirtschaftliche und finanzielle Durchführbarkeit geprüft werden muss. Insbesondere die wirtschaftliche und finanzielle Durchführbarkeit des SPA- &amp; Wellness-Bereichs als eigenständiger Profit-Center ist von großer Bedeutung für den Auftraggeber. Das Ausmaß der vorläufigen Machbarkeitsstudie ist limitiert im Vergleich zu einer vollwertigen Machbarkeitsstudie, insofern dass Marktuntersuchungen nicht in einer positiven Entscheidung zur Investition bei positiven Ergebnissen der vorläufigen Machbarkeitsstudie genutzt werden sollten. Das Ausmaß einer vorläufigen Machbarkeitsstudie reicht jedoch aus, um bei negativen Ergebnissen sich von einer entsprechenden Investition zu distanzieren. Die vorläufige Machbarkeitsstudie wurde im Zeitraum von Juli 2010 bis Januar 2011 durchgeführt. Der Tag der Wertstellung ist der Januar 2011.</p> <p>Um das Projekt durchzuführen, wurde zu Beginn ein Meeting abgehalten in welchem wichtige Informationen zu den bereits vorhandenen Profit-Centern als auch zu dem neuen SPA- &amp; Wellness-Bereich übergeben wurden.</p> <p>In einem zweiten Schritt wurde eine Marktuntersuchung mit Bezug zur Nachfrage und zum Wettbewerb durchgeführt. Die Nachfrageuntersuchung wurde mit Hilfe einer Geomarketing Software durchgeführt. Die Wettbewerbsanalyse basiert auf einer Bücher- und Internetrecherche.</p> <p>In einem dritten Schritt wurden die Ergebnisse der zwei vorherigen Schritte genutzt, um die wirtschaftliche und finanziellen Berechnungen zu dem neuen SPA- &amp; Wellness-Bereich durchzuführen. Die Berechnungen entsprechen unter anderem der Gewinn- und Verlustrech-</p>	

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nung, Abschreibungen, Kapitaldienst, Steuern und Verlustvortrag, Liquidität nach Kapitaldienst und Steuern, Veräußerungswert nach dem 15. Betriebsjahr, interner Zinsfuß nach und vor Steuern und Kapitaldienst, Eigenkapital- und Fremdkapital-Amortisierungsrechnung, Barwert und Kapitalwertrechnungen, Synergien auf andere Abteilungen und Investitionen und Vermögensübersicht im ersten Jahr.

In einem finalen Schritt wurde die konzeptionelle, wirtschaftliche und finanzielle Durchführbarkeit bewertet, indem eine Bewertung der verschiedenen Bereiche auf einer Skala von „1“ (am schlechtesten) bis „5“ (am besten) bewertet wurden. Die Bewertung bezieht sich zum einen auf das interne Leitmotiv, als auch auf den Vergleich des neuen Projektes mit Benchmarkzahlen. Trifft man ein Urteil, basierend auf dem Hauptkriterium der wirtschaftlichen und finanziellen Durchführbarkeit, so sollte das Projekt verworfen werden.

**Stichwörter**

vorläufige Machbarkeitsstudie, Wellness, SPA, Day SPA, Investition, Hotel, Restaurant, Hotel-Restaurant

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# 1 Introduction

The first chapter is divided into three major parts. In the first part, background information on the object of investigation will be provided in order to enable the reader to get an idea of the larger framework. In the second part, objectives with regard to the outcome of the equivalent project will be defined. Moreover, limitations which influence by restricting the outcome will be assessed. In the third part, the principal, contractors and the valued date will be summarized in order to provide a structured picture of all parties involved within the project to potential readers.

## 1.1 Background information on the object of investigation

The object of investigation is a 5-star hotel (certified by DEHOGA an independent third party approval) for business and leisure travellers which can be therefore classified within the first-class hotels. Out of the total number of guests served in the rooms department, 76 % are from national source markets, hence 24 % are from international source markets with regard to the guest arrivals in 2009. The according top three international source markets were France, the Netherlands and Belgium. Moreover, 75 % of the room nights can be traced back to the national source market; the international source markets account for 25 % of the room nights. The according top three international source markets were France, Belgium and the Netherlands. The average room occupancy rate in 2009 was 43 %.

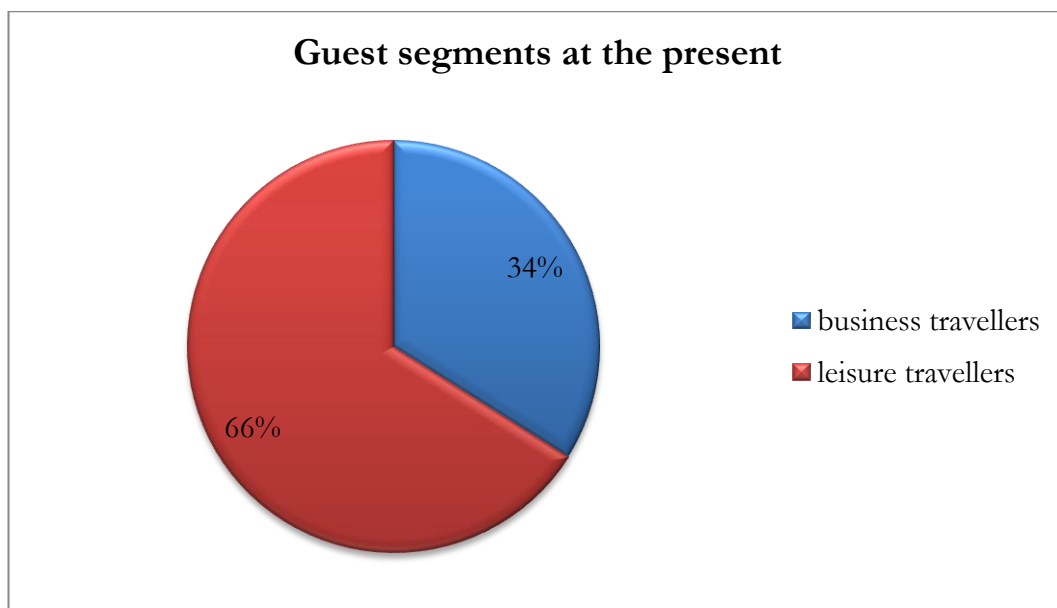


Figure 1: Share between business and leisure travellers in the object of investigation

Within this category, it can be classified as a luxury or five-star de luxe hotel. The hotel is an independent hotel (second tier management company owns and operates) which uses the advantages of being member of “Relais & Chateaux” (affiliate marketing association) representing an exclusive collection of 475 of the finest hotels and gourmet restaurants in 55 countries (Relais & Chateaux 2010.). The location of the hotel is in Germany with a good accessibility through close public transport systems, highways and airports. The hotel itself features a very sophisticated outskirt area. The hotel offers three different categories of rooms and additionally suites. As the object of investigation is a full-service hotel, the hotel offers moreover several restaurant units including catering services and meeting and conference facilities and other services which will not be introduced as these other services are linked mostly to the standard requirements of the DEHOGA’s 5-star-classification with regard to hard- and soft facts. Two restaurant eating out facilities are offered: a fine-dining restaurant (rated by Michelin and Gault Millau) and a more casual restaurant. Additionally, catering services can be provided in-house or out-house. The total size of the meeting and conference facilities is roughly 250 m<sup>2</sup> provided by smaller theme rooms and two additional meeting and conference room. The wellness facility provides at the moment a pool, a steam room, a Finnish sauna, an area for relaxation, a solarium, a whirlpool and a treadmill. The total space of the wellness centre amounts to 300 m<sup>2</sup>. For the several internal and external guests, hotel-owned parking lots are available. In order to end the short presentation of the object of investigation, the 2009’s turnover and number of personnel (year 2010) will be given. 2009’s turnover was 3,034,770 €, coming from 3,292,142 € in 2008. The turnover has been generated as follows:

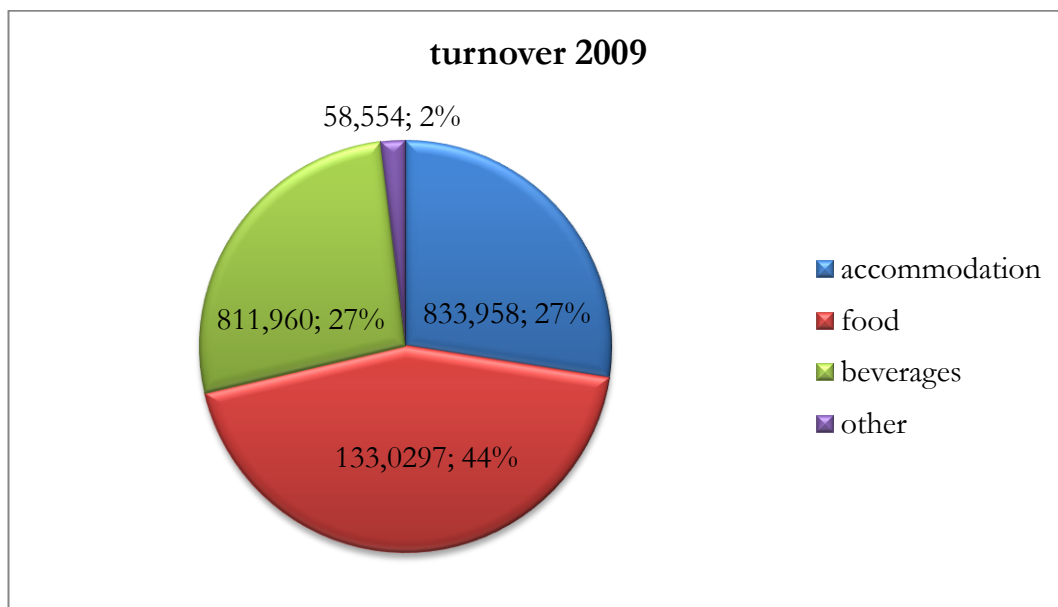


Figure 2: Share of revenues between the several departments in the object of investigation



The cost structure which occurred in 2009 is as follows:

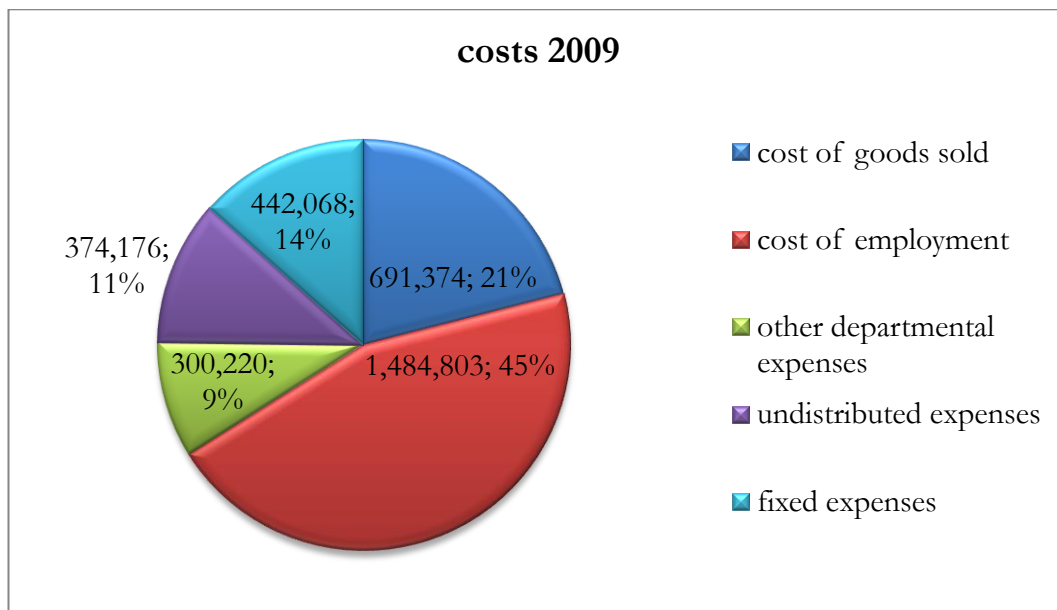


Figure 3: Allocation of costs for the object of investigation

The total costs in 2009 amount to 3,292,640 €, coming from 5,769,165 € in 2008. Hence, both years, generated a loss of 257,296 € in 2009 and 2.438.019 € in 2008.

The number of employees employed is 83, based on October 2010. 36 full-time employees, seven part-time employees, 17 apprentices, 22 temporary personnel and two student apprentices. Outsourced personnel is not in use as compared to outsourced staff members, the identification with the hotel itself is higher which leads to more responsibility if it comes to execution of the own tasks and duties in general. By using the full-time equivalent concept, 60 employees are employed. For more details the following table lists the employees by department and employment (catering services, meeting and conference facilities are included in the F & B department):

Table 1: Employees by department and employment

	<b>rooms</b>	<b>food &amp; beverage</b>	<b>administrative &amp; general</b>	<b>total</b>
<b>full-time</b>	8	24	3	35
<b>part-time</b>	1	4	2	7
<b>apprentice</b>	5	12		17
<b>temporary</b>	14	8		22
<b>student apprentice</b>	1	1		2
<b>total</b>	29	49	5	83

## 1.2 Purpose of work and limitations

The objective of this Bachelor thesis is to carry out a pre-feasibility study with regard to the investment in a new SPA & wellness facility by the object of investigation. The object of investigation has at present a wellness facility which is however out-dated and does not longer support the general appearance of the object of investigation. Therefore, an estimated new investment of 3,500,795 million euro in a SPA & wellness facility based on a Day SPA concept has been planned. A pre-feasibility study is now needed in order to evaluate the new venture. The requirements of the principal are to obtain in the end of the project a pre-feasibility study with equivalent evaluations whether the investment in a new SPA & wellness facility should be carried out if it comes to the three dimensions: conceptual, economic and financial viability. The scope of this thesis is only focusing on carrying out a pre-feasibility study as stated earlier. In other words, in order to stay within the bounds of possibility, a limited version of a feasibility study will be carried out. Therefore, the content will be abridged, obtained market information might be insufficient for decision making however sufficient for rejecting the project in case of negative outcomes and the scope will be a tentative evaluation in order to assess whether it is worth to dig deeper or not.

As the principal of the pre-feasibility study emphasizes in particular on the economic sustainability of the SPA & wellness facility by itself, the focus of this pre-feasibility study will be placed on this requirement. However, in order to assess also potential synergistic and cannibalism effects of the new spa and wellness facility with regard to the already existing profit centres “rooms department”, “food and beverage department” and “other departments”, the

economic sustainability will be assessed including all departments inclusive the new SPA & wellness facility.

The entire pre-feasibility study is subject to any changes arising in the future, in other words after the value date of this pre-feasibility study (e.g. changes in trends in customer wants and needs, etc.). As the pre-feasibility study is made upon assumptions from several contents mentioned in the paragraphs before, the pre-feasibility study is meant to be read as a whole. Therefore, no parts of this pre-feasibility study should be taken, read or relied upon out of context. Any material, data and / or information received from other sources upon which the assumptions of this pre-feasibility study are based, has not been verified as only reliable sources with regard to its author's recognition and expertise have been used. For the reason of a pre-feasibility study, the author does not warrant the completeness of this study. Therefore, the liability resulting from this pre-feasibility study due to persons or entities using in any form parts or the entire pre-feasibility study are not accepted. All intellectual property within this thesis is reserved to the author. Therefore, without prior approval, any part of this pre-feasibility study is subject to authorization of the author. It has to be pointed out that the entire content of the pre-feasibility study will not be presented in this Bachelor thesis as the principal does not support this. Therefore the entire Bachelor thesis keeps the object of investigation and the pre-feasibility study as much as possible anonymous.

### **1.3 Principal, contractors and value date**

The pre-feasibility study is carried out for the owner and operator of the project of investigation. The pre-feasibility study is part of the degree programme in Hotel, Restaurant and Tourism Management at HAAGA-HELIA University of Applied Sciences, Haaga Campus. The contractor is the student Moritz Jahn within the degree programme in Hotel, Restaurant and Tourism Management at HAAGA-HELIA University of Applied Sciences, Haaga Campus. The feasibility study has been carried out between July 2010 and January 2011. The value date of this pre-feasibility study is the January 2011.

## 2 Theoretical part: Literature Review

The second chapter is divided into four major parts. In the first part, background information on (pre-)feasibility studies in general will be provided. In the second part, reasons for (pre-)feasibility studies within the hospitality industry will be focused. In the third part, a focal point on (pre-)feasibility studies within the hospitality industry with regard to investments in Spa & wellness facilities will be of importance. In the fourth part, all essential theoretical background will be presented which has been used in the pre-feasibility study for the object of investigation and the correlations will be explained in order to enable all potential reader to follow the bodywork of pre-feasibility studies such as carried out for the object of investigation.

### 2.1 (Pre-)Feasibility studies

(Pre-)Feasibility studies shall evaluate new ventures and answer to the question: “Will the venture work?”. (Pre-)Feasibility studies evaluate three main dimensions of any venture that has to be assessed: its conceptual, economic and financial viability. Various stakeholders may need (pre-)feasibility studies: lenders, equity investors, guarantors of debts, sources of subvention, municipal authorities and / or operator candidates just to mention a few. Only the perspective of each stakeholder differs from another’s perspective. (Palonperä 2010a, 3.)

The functional viability refers to the business idea and its functionality with respect to the use of space, departmental concepts and everything else about the way to conduct the business. The economic viability refers to the proforma profit or loss resulting from the deduction of expenses from revenues. One the one hand, the EBITDA and on the other hand the net income are major key figures within the economic valuations for operators and real estate owners to decide whether a venture should be carried out or not. Several key figures such as the lease payment capability are used for objective judgements. The financial viability focuses on the investments structure of financing and calculates the ratio between equity and debts, debt service payment capability, lease service payment capability, IRR, present values and net present values just to mention a few. Most important in all three dimensions is the objectivity of the person in charge who is carrying out the (pre-)feasibility study. (Palonperä 2010b, 2-12; Palonperä 2010c, 2-4; Palonperä 2010d, 1-21.)

The content of feasibility and pre-feasibility studies varies from venture to venture. In general, a common introduction provides among others a clear picture of the venture, the objectives,

limitations and all parties involved. Furthermore an internal and external analysis have to be carried out which refers to the intended operating concept, market analysis with regard to the own offer, demand and competitors. Moreover investments have to be calculated and assessed and an operating proforma P & L statement has to be drawn. A conclusion in the end highlights the most important criteria when it comes to accept or decline the new venture. The content of a feasibility study might be abridged. The abridged execution of a feasibility study is called a “pre-feasibility study” which refers to a limited version of a feasibility study. Although the goals of both, feasibility and pre-feasibility studies might be the same (assessing the ventures conceptual, economic and financial viability), a pre-feasibility study cannot guarantee by enough market information the success of a potential venture in question. However, in the case of negative indicators, it enables the decision makers to reject the potential venture. In other words, it answers to questions like “Will it be worth to dig deeper or not?”. (Palonperä 2010b, 8; Palonperä 2010c, 5.)

## **2.2 (Pre-)Feasibility studies in the hospitality industry**

Although no information on how often and in which cases or the present numbers of (pre-)feasibility studies carried out in total could be researched, the following paragraphs shall demonstrate that (pre-)feasibility studies within the hospitality industry are more important than ever before.

New average investments in the German hospitality industry within the last three years are increasing continuously. This fact is shown in particular by the top three investments in Priwall, Berlin and Düsseldorf which account for 335,000,000 € which is an average investment per room of 176,316 €. All hotels are to be classified within the upper mid-class, upscale and upper upscale category. More figures show that future investments will be made: until 2013, 42 new upper upscale hotels, 176 new upper mid-class and 87 new mid-class hotels will be introduced to the German market which will endanger even more any investment by investors in the hospitality industry. (hotelling 2006; Maritim Hotelgesellschaft mbH, Flughafen Düsseldorf GmbH & KG Allgemeine Leasing GmbH & Co. 2006, 1-6; KPMG 2010, 4; Unister Media GmbH 2010.)

The entire industry clearly states that willingness for more investments is predominant as the willingness to invest is increasing more than ever (figure 4) (DEHOGA Bundesverband 2009, 23.):

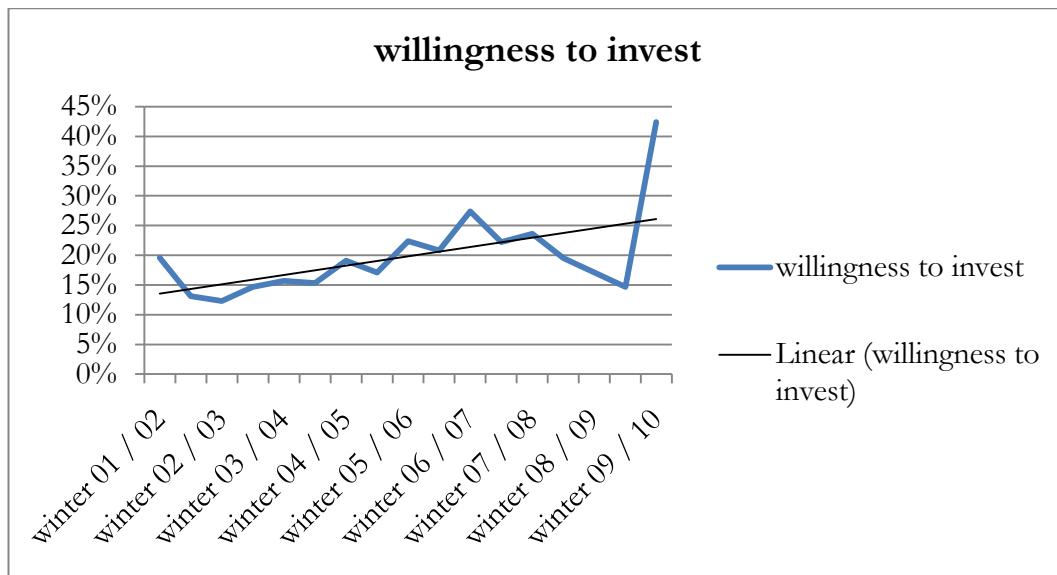


Figure 4: Willingness to invest based on a research carried out in the German hospitality market

However, according to a market research by DEHOGA, 57 % of the hotel keeper in Germany complain of less turnover from October 2009 to March 2010 compared to the same time period in 2008 / 2009, additional 59 % complain of less profit. In 2009, the global German industry accounts a minus of 5 % (in real terms), the hospitality industry accounts for a minus of 6 % (in real terms). (DEHOGA Bundesverband 2009, 1-3.)

Market data shows that more than ever bankruptcies are filed (figure 5) (Scharmann, P. 08.11.2010):

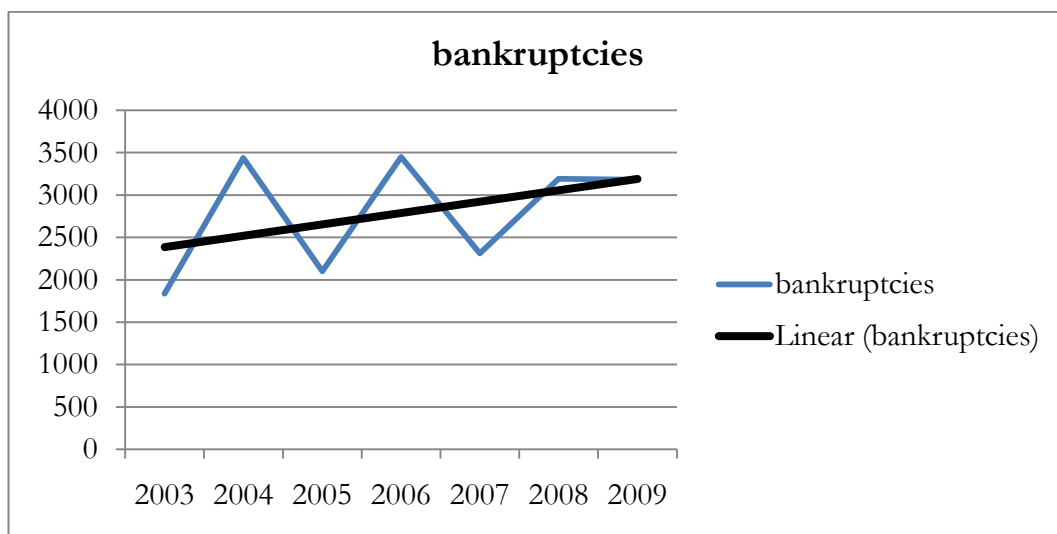


Figure 5: Bankruptcies filed in the German industry

In particular with regard to the investment context in the hospitality industry, fiercer conditions are more and more predominant if it comes to bank loans in general caused by the last recession and world crisis and a clear growth on bankruptcies in the German hospitality industry market. The question whether (pre-)feasibility studies should be carried out in this kind of industry becomes almost negligible. (Vetter 2010, 1.)

Henschel (Henschel 2008, 40-41.) argues that in the hospitality industry a clear and thought through business concept, expertise and sufficient equity are bond to success. As already written, these three success indicators will be part of the focal point within (pre-)feasibility studies. In order to sum up the several reasons for (pre-)feasibility studies within the hospitality industry once more, some of the latest benchmark figures such as average room occupancy, average room rate and RevPAR of 2008 and 2009 will be compared: in secondary locations within Germany, average room occupancies decreased from 67 % to 60 %, the average room rate amounts to 61 € coming from 62 € (-2 %) and the RevPAR dropped more than 8 % from 37 € to 34 €. Therefore, (pre-)feasibility studies should be carried out in order to guarantee a new ventures success. (PKF hotelexperts 2009, 1-3.)

### **2.3 (Pre-)Feasibility studies in the hospitality industry with regard to investments in SPA & wellness facilities**

Cohen and Bodeker (Cohen & Bodeker 2008, 111-129.) argue that “the spa industry in the USA and internationally is one of the fastest growing and most constantly innovating in history”. Due to its significance and fast-moving market trends, “competitive spa research and feasibility have become an important piece in the development of a competitive spa business”. “If built and managed correctly, a spa will add revenue to a hotel’s bottom line by allowing an increase in room rates, which in turn increase revenue per available room, or RevPAR.”

In order to make an investment in SPA & wellness facilities profitable, a detailed feasibility study carried out beforehand shall evaluate upon others

- the spa facility (facility design and size),
- the treatment-rooms / treatment spaces,
- the number of treatments offered,
- the treatment pricing,
- the facility amenities,
- the quality of facilities,

- the quality of services,
- the competitive advantage,
- the business model (revenues and expenses),
- the staffing situation,
- the potential demand

and

- the potential competition. (Cohen & Bodeker 2008, 111-129.)

Dr. Hank-Haase & Co. identifies similar positive and negative trends in particular for the German SPA & wellness market:

- more spa & wellness facilities will be offered in future, especially in medium-sized hotel businesses (70 – 100 rooms, upper mid-class, upscale, upper upscale, lifestyle & boutique and luxury) in primary and secondary locations as well as in areas for recreation,
- the demand, national and international, will increase,
- numbers of elaborated concepts with a strong focus on particular target groups will increase,
- foreign competition will increase,
- SPA & wellness facility will be considered as condition of potential bookings instead of incentives,
- higher demand for sustainability within the SPA & wellness concept will be needed from the consumers perspective

and

- the general length of stay becomes shorter, consumer become more price-conscious. (ghh consult GmbH 2009a, 69-70; ghh consult GmbH 2010b, 108-112)

Moreover, Dr. Hank-Haase & Co. clearly states that the economic profitability of SPA & wellness facilities accounts only to 7 % in Holiday-concept based hotels, 3 % in MICE-concept based hotels and 16 % in Wellness-concept based hotels in the best case (table 2).



Average EBITDAs of case studies revealed the following results (ghh consult GmbH 2010b, 90-107.):

Table 2: Study revealing the EBITDAs of several case studies

	Wellness-Hotel			MICE-Hotel
<b>size of SPA &amp; wellness facility</b>	500 m <sup>2</sup>	1,400 m <sup>2</sup>	2,000 m <sup>2</sup>	500 m <sup>2</sup>
<b>revenue of all departments</b>	3,112,428 (100 %)	4,293,346 (100 %)	4,596,071 (100 %)	3,741,040 (100 %)
<b>revenue of SPA &amp; wellness department</b>	344,415 (11 %)	971,839 (23 %)	990,039 (22 %)	153,024 (4 %)
<b>EBITDA of SPA &amp; wellness facility</b>	<b>41,366</b> <b>(12 %)</b>	<b>156,027</b> <b>(16 %)</b>	<b>49,475</b> <b>(5 %)</b>	<b>4,644</b> <b>(3 %)</b>
	<b>MICE-Hotel</b>	<b>Holiday-Hotel</b>		<b>average</b>
<b>size of SPA &amp; wellness facility</b>	1,500 m <sup>2</sup>	800 m <sup>2</sup>	1,500 m <sup>2</sup>	1,171 m <sup>2</sup>
<b>revenue of all departments</b>	4,271,788 (100 %)	2,933,014 (100 %)	3,329,014 (100 %)	3,753,814 (100 %)
<b>revenue of SPA &amp; wellness department</b>	177,882 (4 %)	300,228 (10 %)	355,975 (11 %)	470,486 (12 %)
<b>EBITDA of SPA &amp; wellness facility</b>	<b>-137,729</b> <b>(- 77 %)</b>	<b>20,723</b> <b>(7 %)</b>	<b>-53,148</b> <b>(-15 %)</b>	<b>81,358</b> <b>(- 7 %)</b>

High investment costs, in particular for the SPA & wellness facility hard facts, can rarely be justified by profit-centre-based calculations. However, investments in SPA & wellness facilities often lead to stronger competitiveness, seasonal extension of the general offer and higher room rates in general. After the benchmark figures of Kreuzig & Thiele, an increase of 74 % in RevPAR might be possible at the best. Therefore, (pre-)feasibility studies should be carried out, in order to examine carefully internal strengths and weaknesses of the brainchild when analyzing all external influences such as threats and opportunities. (bbg CONSULTING 2009, 58.)

## 2.4 Essential theoretical background

As already written before, if it comes to the assessment of the economic and financial viability, different key figures and accounting calculations will be used for objective judgements. These key figures are:

- ARR (accounting rate of return),
- debt service coverage ratio,
- EBITDA / NOI (earnings before interest, taxes, depreciation and amortization / net operating profit),
- GOP (gross operating profit),
- IRR (internal rate of return),
- net present value,
- payback period

and

- present value.

Additionally, for the pre-feasibility study carried out, four additionally used technical terms and one accounting concept have to be introduced to the potential readers:

- Day SPA,
- Wellness-Hotel,
- MICE-Hotel,
- Holiday-Hotel

and

- USALI.

### **ARR**

The accounting rate of return, also referred to average rate of return, calculates the return ratio, generated from net income of the potential investment costs. Again, the higher the ac-

counting rate of return is, the better it is. As long as the accounting rate of return is higher than the required accounting rate of return, the project is acceptable from an economically point of view. The accounting rate of return can be used additionally to compare different investments. Compared to the before introduced IRR, the accounting rate of return neglects the timing of money. (Investopedia 2011a; Schmidgall 2002, 593; Averkamp 2010a.)

### **Debt service coverage ratio**

An indicator measuring the availability of liquid means of payment for serving debts, including interests and principals. The higher the ratio is, the better it is, as the ability to generate sufficient liquid means of payment to cover the debts is more guaranteed. (Schmidgall 2002, 218-219; Rushmore & Baum 2011, 337; Investopedia 2011b; Raleigh & Roginsky 1995, 38.)

### **EBITDA / NOI**

An indicator standing for earnings before interests, taxes, depreciation and amortization / net operating profit. With the help of this indicator, it is easier to compare the profitability between projects and industries (for benchmarking purposes) as influences by financing and accounting decisions such as interests, depreciation and amortization are taken off. The EBITDA / NOI can be calculated before and after the reserve for replacement. The difference between the EBITDA / NOI and the later upcoming GOP is that the fixed expenses such as management fees, leasing expenses, equipment rentals, real estate taxes, insurances and leases for space are already considered in the indicator EBITDA / NOI. (Averkamp 2010b; Investopedia 2011c.)

### **GOP**

The GOP stands for gross operating profit. The GOP is an international standard key figure, to compare the profit-turnover-ratio. In order to measure the GOP, cost of goods sold, cost of employment, other departmental expenses and undistributed expenses are deducted from the departmental gross profits of goods sold. The benefit of the GOP is the possibility to compare, irrespective of the equity structure, various businesses. Therefore, as already mentioned, the GOP differs from the EBITDA / NOI as the fixed expenses are not yet deducted. (Hales 2011, 22-23.)

## **IRR**

The internal rate of return is usually used in order to measure and compare the profitability of investments. The higher the internal rate of return is, the more likely it is to undertake the project. In case of several projects, the one with the highest internal rate of return would be undertaken unless all other factors are the same. Compared to the before mentioned ARR, investments with different life-times can be compared. However, it becomes complicated when cash flows are not equal to each other to calculate the indicator manually. IRRs can be calculated before- or after-tax and before or after debt service. (Investopedia 2011d; Schmidgall 2002, 595-597; Harris & Hazzard 1992, 281-294; Averkamp 2010 a; Raleigh & Roginsky 1995, 38-40.)

## **Net present value**

The net present value sums up all present values of the cash flows in future (in- and outflows). It is used to appraise long-term projects. If the result (initial investment costs – sum of all future cash flows) is negative, the project should not be undertaken, if positive, the project should be undertaken from the economical point of view. The critical incident is the fact that it might be difficult to estimate cash flows of future years. (Raleigh & Roginsky 1995, 38-40; Investopedia 2011e; Harris & Hazzard 1992, 281-289.)

## **Payback period**

Measures the period of time needed for the return of an investment to be paid back. Therefore, the total costs of a project are divided by the annual cash flows. It has to be pointed out that the time value of money is not considered. Moreover, the payback period neglects cash flows after the payback period. (Averkamp 2010 a; Investopedia 2011f; Harris & Hazzard 1992, 289-290.)

## **Present value**

The present value reflects the time value of the money and other factors such as investment risk. It measures, in contrast to the future value, the future value of an asset or cash at the present. The higher the risk and the higher the discount rate, the lower the present value. (Raleigh & Roginsky 1995, 38-40; Investopedia 2011g; Harris & Hazzard 1992, 281-289.)

## **Day SPA**

According to Cohen & Bodeker, a Day SPA is characterized by a target group using the SPA & wellness facilities on a daily basis. The name derives from the fact that guests do not intend to stay overnight in general. Services offered are amongst others usually massages, facials and body treatments. Moreover healing and beauty services might be offered. (Burkholder 2007, 3; Cohen & Bodeker 2008, 111.)

## **Wellness-Hotel**

The following three technical terms are used by Dr. Hank-Haase & Co. in her studies in order to refine the results by categorizing the equivalent findings to different hotel concepts: Wellness-Hotel, MICE-Hotel and Holiday-Hotel.

A Wellness-Hotel is characterized by the following facts, according to Dr. Hank-Haase & Co.:

- providing a plentitude of services related to the incorporated SPA & wellness facility
- SPA & wellness is the core strategy within the overall marketing strategy,
- offering a quantitative and qualitative generous entertainment (aqua, sauna, fitness / exercise and aerobic areas amongst others)

and

- rooms department and F & B department is adapted to the general needs of the SPA & wellness facility. (ghh consult GmbH 2010b, 7.)

## **MICE-Hotel**

A MICE-Hotel is characterized by the following facts, according to Dr. Hank-Haase & Co.:

- business travellers are the focal target group, in particular meetings, incentives, conferences and large events
- SPA & wellness facility are only used in order to create a higher competitiveness through more available services than potential competitors

- the sizes of SPA & wellness facilities differ from Wellness-Hotels' and Holiday-Hotels' SPA & wellness facilities

and

- the focal point within the SPA & wellness facility is on saunas and fitness / exercise. (ghh consult GmbH 2010b, 8)

### **Holiday-Hotel**

A Holiday-Hotel is characterized by the following facts, according to Dr. Hank-Haase & Co.:

- leisure travellers are the focal target group, in particular families with children are targeted
- SPA & wellness and all other departments are adapted to family-friendliness
- SPA & wellness is most common used in order to extent the seasonality of the entire business

and

- the focal point is not particularly the SPA & wellness facility itself; the focal point is on all bodily activities indoor and outdoor such as golfing, tennis etc. (ghh consult GmbH 2010b, 7)

### **USALI**

Additionally, the concept of USALI will be used within the feasibility study. USALI stands for "Uniform Systems of Accounts for Hotels" and was published first in 1926 by the Hotel Association of New York City. The purpose was to establish a standardised system of accounts which enables to evaluate by benchmarking where one's business can be located compared to similar competitors. It gives clear instructions on how balance sheets, statement of incomes, statement of owner's equity, statement of cash flows and departmental statements should be structured in order to profit from international benchmarking. Recommendations are to adapt the uniform systems of accounts to the own particular needs and to select only schedules and

accounts required when developing pro-forma calculations for new and existing ventures.  
(Hotel Association of New York 1996, iii-xii.)

### **3 Empirical part: Project Planning**

The third chapter is divided into three major parts. In the first part, administrative pre-requirements for the Bachelor thesis with regard to the pre-feasibility study for the object of investigation will be presented. In the second part, the general course of action and the equivalent follow-ups of the initial business contact and the gathering of information on the new venture will be introduced. In particular, the new venture itself will be presented in the second part to potential readers in the third part.

#### **3.1 Administrative pre-requirements for the Bachelor thesis**

Before the actual Bachelor thesis topic was found and a potential object of investigation could be searched, a plentitude of different tasks such as mind-maps, smaller presentations on potential topics and according subchapters, subject plans and project development plans helped to create the cut and polished diamond which was suitable to be presented to a potential object of investigation and a potential supervisor for the Bachelor thesis. In order to support the process, inputs from other students, from university, from the industry and book- and internet-based research were used. Once the final Bachelor thesis topic was found and a potential object of investigation was in the pipeline everything needed for the first initial face-to-face contact had to be prepared which will be introduced in the following chapter.

#### **3.2 Initial business contact and gathering of information**

In the initial business contact, both parties involved had to present each other. The contractor had to sell himself and the Bachelor thesis topic to the potential principal. The principal had to present the new venture in the SPA & wellness industry. For the presentation of the contractor himself, a short curriculum vitae with the main information on the theoretical and practical expertise in the field of interest was used. Additionally, in order to present the Bachelor thesis topic a subject and project development plan was handed in. As the principal already announced his precondition of business secret towards the new SPA & wellness facility and the present status quo of all other business entities, a solution which considered the in advance signaled requirements of the potential principal was prepared by the contractor. The basic solution was to create three different versions linked to the Bachelor thesis topic. One English version, standing for the regular pre-feasibility study, a second German version, again standing for the pre-feasibility study and a third English version, standing for the project-



based Bachelor thesis itself, making the principal and the according business entities anonymous in a shortened version in order not to exceed the university framework.

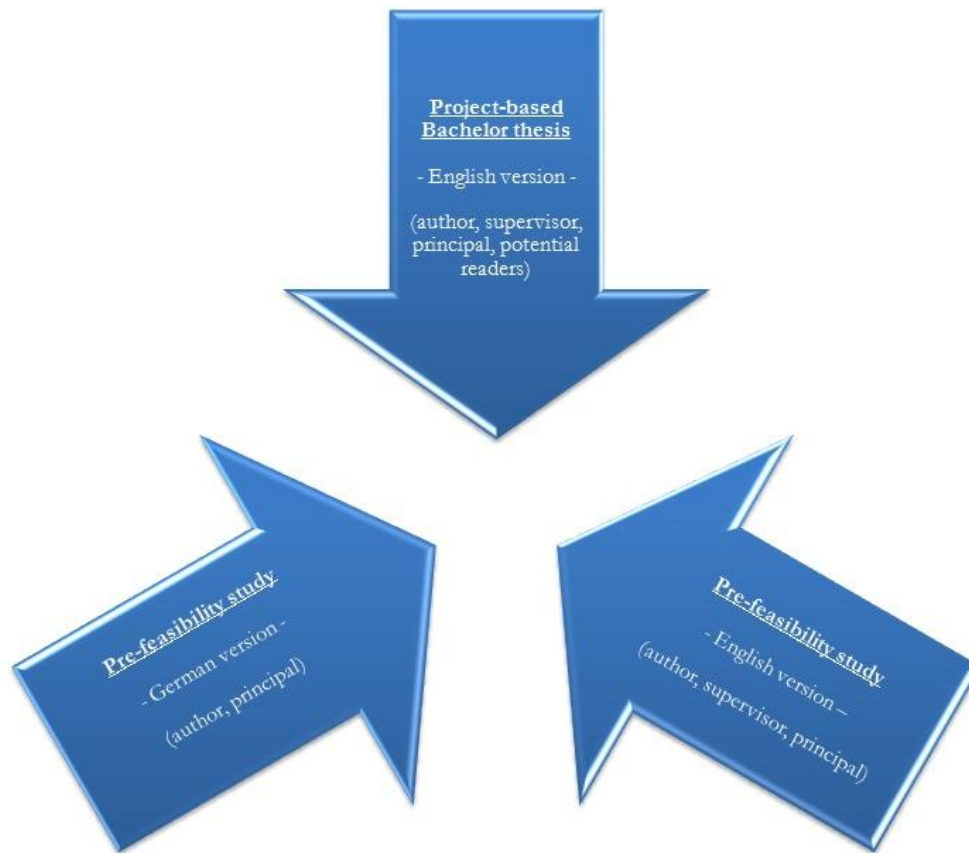


Figure 6: Showing the three versions with regard to the Bachelor thesis topic, the languages used and the main target groups

In order to gather information on the present business entities a hotel tour through all departments such as the rooms and F & B department was provided. In order to secure obtained information a prepared spreadsheet in order to secure basic information was used, acknowledged by the principal. The new venture in the SPA & wellness industry was orally presented and additional written information about the new venture was handed over to the contractor in order to carry out the pre-feasibility study (Attachment 1).

### 3.3 SPA & wellness facility

The general concept of the new SPA & wellness facility is targeting at internal guests of the object of investigation itself using the common services and booking additionally individual treatments as well as external guests using the SPA & wellness facility as Day SPA. Common services are included in the rack rates of the hotel rooms, individual treatments have to be

booked separately. For external guests the common areas as well as the individual treatments are charged. A yearly membership including a share amount on individual treatments will be offered next to the entrance fee for external guests.

The new SPA & wellness facility is seven days a week open. The common services such as fitness / exercise and aerobic room, the pool, the several saunas (bio sauna, Finnish sauna, steam bath and saunarium / light therapy) as well as the included F & B area are open according to the following table:

Table 3: Opening times for the common services (free-flow area)

<b>day</b>	<b>opening time from</b>	<b>opening time to</b>
<b>Monday - Saturday</b>	09:00 am	10:00 pm
<b>Sunday</b>	09:00 am	09:00 pm

The opening times of the treatment rooms and the according individual services are reduced to the following opening times:

Table 4: Opening times for the treatment rooms and according individual services

<b>day</b>	<b>opening time from</b>	<b>opening time to</b>
<b>Monday</b>	01:00 pm	08:00 pm
<b>Tuesday - Saturday</b>	10:00 am	08:00 pm
<b>Sunday</b>	09:00 am	06:00 pm

The entire new SPA & wellness facility stretches over four levels: level 0, level 1, level 2 and level 3 on a surface of almost 1,500 m<sup>2</sup>. The connection between the existing building of the object of investigation and the new SPA & wellness facility is on the level 0 where the connection to the old pool is given too. The entire layout concept is characterized by round surfaces and warm energizing colours.

The first level (level 0) features altogether:

- open changing and locker room including closed showers, lavatories, finish-areas and seating possibilities,

- fitness / exercise room,
- aerobic room,
- loungers in the corridors,
- one solarium,
- several smaller and larger storage rooms for technical, cleaning and offered service purpose

and

- three separated treatment rooms in an own area sharing an additional changing and locker room including one lavatory.

The second and third levels (level 1 and 2) feature altogether:

- loungers in the corridors,
- the SPA reception desk and back office with a counter and in addition two seating possibilities for customers receiving advice on potential treatments,
- the F & B area including a small pantry,
- several smaller and larger storage rooms for technical, cleaning and offered service purpose,
- three lavatories in the open areas,
- two relaxation rooms,
- lounge area offering approximately six seating possibilities and one drinking fountain,
- shower possibilities after the sauna sessions,
- one bio sauna,
- one saunarium / light therapy,
- one Finnish sauna,
- one steam bath,

and

- six separated treatment rooms in an own area including two lavatories.

The fourth level (level 3) features altogether:

- one relaxation room offering three to six sleeping possibilities, six loungers and an additional lounge area providing approximately three seating possibilities.

The individual services offered with regard to the treatment rooms are massages, body and facial treatments as well as physical therapy. All individual services are provided in treatment rooms characterized by a warm atmosphere created by the use of natural resources such as wood and stone. All products used during the treatments can be bought by the customers. Altogether, five single treatment rooms, one soft-pack room, two double treatment rooms and a SPA suite are available. The SPA suite includes an own steam bath, bio sauna and wet-table.

The number of staff members planned amounts to 27: 23 staff members will be employed for the treatments in the individual treatment rooms, three employments will be shared between the sauna and pool supervisor, a wellness trainer and the SPA reception. The remaining one staff member will be a SPA manager.

## **4 Practical part: Actual Project**

The fourth chapter is divided into four major parts. In the first part, the approach within the pre-feasibility study and the according content by presenting the chapters and subchapters will be introduced. The second part illustrates the competitor and market analysis which was carried out in order to evaluate the entire market and its potential influences on the potential of the object of investigation. The third part presents all the calculations based on provided figures and benchmark figures with regard to the new SPA & wellness facility and the potential influences on the net income of other operated departments such as the rooms department and / or the F & B department. The fourth chapter presents the taxonomy in the end of the pre-feasibility study when it comes to the final assessment of the new venture with regard to the three dimensions: conceptual, economic and financial viability.

### **4.1 Content of the pre-feasibility study**

The content of the pre-feasibility study for the object of investigation is divided into eight major parts. An additional executive summary in the beginning and the table of content give the outline. The executive summary summarizes the main background information on the object of investigation including the existing departments and the new SPA & wellness facility and gives an overview of the outcomes of the pre-feasibility study with regard to the before mentioned objectives such as conceptual, economic and financial viability. The introduction as first part of the pre-feasibility study outlines the general approach within the pre-feasibility study. The second part, “purpose of work and limitations”, defines the objectives of the Bachelor thesis and the particular requirements of the principal: assessment of the new venture towards its own economic and financial sustainability. Furthermore the limitations of the pre-feasibility study have been described such as the fact that the pre-feasibility study is a limited version of a general feasibility study where the content might be abridged and the conclusions might be insufficient for decision making however sufficient for rejecting the project in case of negative outcomes. Moreover, the limitation of liability and a copyright notice are to be found within the second part “purpose of work and limitations”. In the third part, “principal, contractor, and value date”, the principal and the contractor are shortly characterized and the reference giving the recommendations for an initial meeting is quoted. Furthermore, the value date of the pre-feasibility study is declared. In the fourth part, basic information on the subject is provided by subchapters such as the location and visibility, the accessibility, the parking possibilities, the ownership of the operating and real estate company and the characterization of the operator. In the fifth part, the entire present operating concept is introduced

giving a general picture of the operating concept, special features of operations (if available), presenting the guest segments at the present and the targeted guest segments in the future, the physical product describing the rooms department, the F & B department, meeting and conference department and the existing SPA & wellness facility, distribution channels, security issues, operational strengths and weaknesses, utilization of space and the new venture with regard to the SPA & wellness facility. The sixth part covers the competitor and market analysis of the new SPA & wellness facility. The seventh part presents all the calculations based on provided figures and benchmark figures, if particular information was not available. In a first step, all calculations with regard to the new SPA & wellness facility will be introduced, including the investment and year-start balance, investment decision comparisons for the several individual treatments, the master data for and the operating profit and loss statement itself, the taxes depreciable, the debt service, the taxes and loss-carry-forward, the cash flow on equity after debt service and taxes, the residual value / value of continuation at end of year 15, the after- and before-tax equity internal rate of return as well as the equity / total investment pay-back period in nominal value of money, including the present value and net present value of equity figures. In a second step, positive influences of the new SPA & wellness facility will be shown based on a summary statement of income for the departments “rooms”, “F & B” and “others”. The eight and last part of the pre-feasibility study is the final assessment of all findings of the previous chapters in order to evaluate the conceptual, economic and financial viability of the venture.

In the following subchapters, the competitor and market analysis as well as the financial data of the pre-feasibility study carried out will be presented, followed by the final conclusion toward the new venture. All other information (basic information on the subject and operating concept) of the pre-feasibility study has been already presented in the previous chapters of this project-based Bachelor thesis.

## **4.2 Competitor and market analysis**

The chapter of the competitor and market analysis focuses on the competitors for the new SPA & wellness facility venture. It presents the competitors offering concepts such as the Day SPA concept to in-house guests and external guests within a catchment area of 200 km. The decision of the 200 km can be traced back to the research by Dr. Hank-Haase & Co. which revealed a potential demand for Day SPAs up to a distance of 100 km. However, as potential customers within the 100 km distance might chose competitors in all directions, the maximum catchment area increases up to 200 km.

For the research of potential competitors book- and internet-based research has been used as well as the information received during the initial business contact. The books used were “HIDEAWAY HOTELS® Die schönsten Spa- und Wellness-Hotels der Welt 2009 / 2010“ and „Spa-Hotels im Trend“ (Klocke 2009; Attinger 2010). Both books present selected SPA- and wellness hotels only. The first book mentioned presents the most beautiful SPA- and wellness hotels of the world including countries such as Germany, Austria, Switzerland, Italy, Spain, Greece, Turkey, Hungary and from Indian Ocean, Africa, Asia, Maldives, Mauritius, Thailand, Indonesia and the Fiji Islands. The second book presents trendy SPA-hotels of Switzerland and the surrounding countries such as Austria and Germany.

Additionally seven internet data bases have been used. These are the following:

- [www.w-h-d.de](http://www.w-h-d.de) (WELLNESS-HOTELS®-DEUTSCHLAND) [wellness-hotels in Germany],
- [www.wellness-regionen.de](http://www.wellness-regionen.de) [wellness regions],
- [www.google.de](http://www.google.de) (Google maps),
- [www.spaworld.de](http://www.spaworld.de),
- [www.wellnessverband.de](http://www.wellnessverband.de) [wellness organisation],
- [www.wellness.de](http://www.wellness.de)

and

- [www.wellness-heaven.net](http://www.wellness-heaven.net).

All WELLNESS-HOTELS®-DEUTSCHLAND hotels are certified by independent third party approval and receive the marketing tag “WELLNESS-HOTELS®-DEUTSCHLAND” and its brand logo. The third party approval focuses on “courtesy”, “sustainability” and “innovation” of the several SPA & wellness hotels. The research included all listed hotels within the 200 km arc radius of the object of investigation.

The websites “wellness-regionen.de”, “google.de (Google maps)”, “spaworld.de”, “wellnessverband.de”, “wellness.de” and “wellness-heaven.net” offer data bases of different countries in order to find the “right” SPA & wellness hotel. The country data bases of the several websites mentioned before and the according research approach have been as follows:

Table 5: Indicating the several countries of the websites and the research approach via the website

website	countries listed	research approach
<b>www.wellness-regionen.de</b>	Germany, Greece, Italy, Croatia, Austria, Poland, Switzerland, Slovakia, Slovenia, Spain, Czech Republic, Hungary	all listed and relevant hotels within the regional postal numbers 3****, 5****, 6****, 7****, 8**** and 9**** according to figure 27
<b>www.google.de</b>	all countries of the world	via Google maps and the search words "wellnesshotel "closest city" ", "spa hotel "closest city" " and "spa & wellness "closest city" ", only the relevant results of the first page
<b>www.spaworld.de</b>	26 countries of Europe, eight countries of Africa, 20 Asian and Arabian countries, three Australian and South Pacific Ocean countries, five countries in North and Central America, three countries in South America	all listed and relevant hotels within the Federal Land "location of the object of investigation" and the category "Spahotels-DaySpas-MedicalSpas"
<b>www.wellnessverband.de</b>	Germany	all listed and relevant hotels within the Federal Land "location of the object of investigation" and the category "Spa & Day SPA"
<b>www.wellness.de</b>	Germany, France, Italy, Austria, Switzerland, Spain, Czech Republic and Hungary	all listed and relevant hotels within the data bases maximum distance of 100 km and the category "Day-SPA & Thermen"
<b>www.wellness-heaven.net</b>	Germany, Austria, Italy,	all listed and relevant hotels



	Greece, France, Croatia, Switzerland, Czech Republic, "Maldiv Islands", "Sey- chelles"	within the Federal Land ” location of the object of in- vestigation”
--	---	--

All in all, 40 competitors have been detected. Two additional competitors might be influencing the object of investigation by 2013 when reopening. Some of the competitors have been detected by more than one source. For better readability a separate spreadsheet has been created (not in the attachment) in order to give the characterization of each of the 40 competitors. The criteria within the characterization address the following issues:

- name,
- location and distance to the object of investigation,
- website-link,
- classification (DEHOGA star-classification),
- room numbers,
- size and / or availability of water elements (indoor pool, outdoor pool, “natural lake”, whirlpool, others),
- availability of several saunas (Finnish sauna, steam sauna, bio sauna, saunarium / light therapy, others),
- availability of several treatments (massages, body and facial treatments, physical therapy, others),
- scientific medicine / advice services,
- Asian medicine / advice services

and

- size and / or availability of sport facilities (fitness / exercise room, aerobic room, others) (Attachment 2).

### 4.3 Financial data

The chapter of the financial data presents the following calculations:

- investment and year-start balance,

- investment decision comparisons for the several individual treatments,
- master data,
- operating profit and loss statement,
- taxes depreciable,
- debt service,
- taxes and loss-carry-forward,
- cash flow on equity after debt service and taxes,
- residual value / value of continuation at end of year 15,
- after- and before-tax equity internal rate of return,
- equity / total investment pay-back period in nominal value of money, including the present value and net present value of equity figures

and

- influences of the new SPA & wellness facility for the departments “rooms”, “F & B” and “others”.

#### **4.3.1 Investment and year-start balance**

The preliminary investment costs of the new SPA & wellness facility have not been provided. Therefore, the entire investment and year-start balance sheet is based on benchmark figures. The several sizes in m<sup>2</sup> of the areas such as aqua, sauna, fitness / exercise and treatments have been multiplied by the according average investment costs per m<sup>2</sup> in the SPA & wellness industry resulting in an estimated investment of 3,450,795 €. Additionally, pre-opening costs of 50,000 € have been budgeted (Attachment 3).

#### **4.3.2 Investment decision comparisons for the several individual treatments**

The target was to compare, with the help of the accounting rate of return, the different treatment rooms. The calculations only include the individual treatment rooms as these are the future major source of income within the SPA & wellness facility, next to the “fixed amount allocation + entrance fee” and might determine its profitability in the end. First the average investments per unit such as “single treatment room”, “double treatment room”, “soft pack treatment room”, “SPA suite” and “solarium” had to be calculated. The single m<sup>2</sup>, the investments per m<sup>2</sup> in €, the potential amount of guests using the unit at the same time and the un-

distributed investments due to common shared area (tread, lavatories, etc.) have been determined in order to calculate the total investments which have been averaged in the end per unit. In a next step, the potential generation of turnover (100 % basis) has been determined with the help of two figures: total opening times and benchmark figures for the individual treatments' prices. In a next step the cash flow after the cost of goods sold, cost of employment, direct costs and cleaning expenses had to be calculated. All other costs such as fixed, undistributed costs etc. have not been included, as the purpose was to evaluate the strengths of investments between the different units and not the actual ARR. The disposal value at the end of the life-cycle was estimated at 0 € (Attachment 4).

### **4.3.3 Master data**

The “master data” is basically used for the upcoming calculations. All figures within the master data have been estimated based on benchmark figures and some provided figures by the principal such as the targeted entrance fee and membership fee (Attachment 5).

### **4.3.4 Operating profit and loss statement**

The operating statement of profit and loss has been carried out on a 15 year basis which is very unusual in the accounting world. However, it has been used, as the lifecycle of the SPA & wellness facility and the according concept it is based on is not expected to last longer than 15 years. Therefore, it shows, taking into consideration some minor prediction mistakes, the profits and or losses during the entire lifecycle. Ratios have been used for the later upcoming conclusion on the ventures economic and financial viability when comparing the figures not only internally but also to benchmark figures of the industry (Attachment 6).

### **4.3.5 Taxes depreciable**

The tax depreciable is divided into six sections: site, connection charges (water, sewage, electricity, district heating), building or buildings, fixed equipments (if separated from value of building), furniture, fixtures and equipment and pre-opening costs. At the end of year 15, the total remaining book values account for 1,716,157 € (Attachment 7).

#### **4.3.6 Debt service**

No figures have been provided for the calculation of the debt services. Therefore, the figures concerning the share of equity, share of debt, average interest on debt, grace year and the loan period have been estimated on industry averages. The loan is based on an annuity loan (Attachment 8).

#### **4.3.7 Taxes and loss-carry-forward**

For the calculation of the taxes and the loss-carry-forward, the interest and depreciation have been taken off from the EBITDA / NOI before RfR. Losses have been taken forward on a cumulative basis. The income tax represents the taxable income after loss-carry-forward multiplied by the estimated income tax of 33 %. As the difference of EBITDA / NOI before RfR and the interests and depreciation remain in a loss, no income taxes have to be paid for the new venture (Attachment 9).

#### **4.3.8 Cash flow on equity after debt service and taxes**

The cash flow on equity after debt service has been calculated in order to decide whether further monetary funding are needed in order to equalize losses. The debt service coverage ratio shows whether the debt service is possible. The minimum ratio of the debt service coverage ratio should be at "1" in order to be able to come up for the debt service. The higher the ratio is, the better it is. A ratio more than "1" guarantees the possibility to serve the debts. In the case of the object of investigation, the debt service cannot be guaranteed during the entire life-cycle. According to the results of the debt service coverage ratio, the after-tax cash flow on equity remains negative over the entire life-cycle too (Attachment 10).

#### **4.3.9 Residual value / value of continuation at end of year 15**

For the residual value / value of continuation at end of year 15 the buyer's short term equity yield rate RE (before tax and debt service) all figures needed have been estimated. The calculated residual value / value of continuation results in a loss for the object of investigation (Attachment 11).

#### **4.3.10 After- and before-tax equity internal rate of return**

The after-tax (and after debt service) equity internal rate of return could not be calculated as the after-tax cash flow on equity is negative during the entire period of 15 years and would not equalize for the original equity investment of 875,199 €. The after-tax (and after debt service) equity internal rate of return includes the RfR. The before-tax (and before debt service) equity internal rate of return includes the RfR. The IRR is - 1 % (Attachment 12; Attachment 13).

#### **4.3.11 Equity / total investment pay-back period in nominal value of money, including the present value and net present value of equity figures**

The calculations regarding the equity / total investment pay-back period in nominal value of money show that the costs occurring by the new venture will not be paid back within the operating period of 15 years. Furthermore, the present value and the net present value of equity are both negative, meaning that the venture should not be undertaken when neglecting potential synergies with other departments which will be presented in the following subchapter. For the present value and net present value of equity calculations a long-term after-tax discount rate of 5 % has been applied (Attachment 14; Attachment 15; Attachment 16).

#### **4.3.12 Influences of the new SPA & wellness facility for the departments “rooms”, “F & B” and “others”**

For the entire object of investigation the major influences of the new SPA & wellness facility detected might be an increase in the average occupancy rate (rooms), average length of stay, RevPAR, GOPPAR and number of persons served in the F & B department. In order to quantify the potential influences, several scenarios have been calculated by increasing the average occupancy rate (rooms) and the number of persons served in the F & B department. Additionally the cost of employment for the object of investigation has been decreased to 35 % average benchmark figures in order to make the scenario calculation possible. The outcomes of the several scenarios show that the SPA & wellness facility has most probably not the potential to positively influence the net income of the other operated departments which could offset the negative cash flows of the SPA & wellness facility and the additional fixed amount allocation which has to be paid by the rooms department for internal guests using the SPA & wellness facility (Attachment 17).

#### 4.4 Conclusion

All before mentioned steps had to be done in order to assess the potential venture in the SPA & wellness market according to three dimensions: its conceptual, economic and financial viability. The entire approach of the assessment is characterized by the internal leitmotif assessment of the SPA & wellness facility itself as well as the comparison to external benchmarks. All external benchmarks are based on the Dr. Hank-Haase & Co. market researches: “Wirtschaftlichkeit und Rentabilität von Wellnessbereichen in Hotels” and “ERFOLGSMODELL DAY-SPA – Das Konzept der Zukunft rentabel gestalten” (ghh consult GmbH 2009a; ghh consult GmbH, 2010b). Therefore different criteria have been chosen which were once more revised and graded on a scale from “1” to “5” (“1” the worst grade, “5” the best grade). All grades were equally weighted.

Different issues were addressed within the assessment of the conceptual, economic and financial viability based on the internal leitmotif and the according benchmark figures of Dr. Hank-Haase & Co.. Within the assessment of the conceptual viability, the brainchild, the location, the human resources strategy, the operational concept, the sales strategy and the target group were assessed towards the according strengths and weaknesses. Amongst these major criteria, the brainchild, the location, the operational concept and the sales strategy were assessed in more detail. For the evaluation of the brainchild, subchapters such as influences of SPA & wellness facilities on potential guests’ booking behaviour, day SPA in hotels and demand for Day SPA were taken into consideration. For the evaluation of the location, subchapters such as the location criteria, the location and number of competitors and the market research with regard to the population within a 100 km distance were taken into consideration. For the evaluation of the operational concept, subchapters such as focal points, highlights, USPs and the occupancy and capacities with regard to micro environments were taken into consideration. For the evaluation of the sales strategy, subchapters such as internal and external guests, availability of daily entrance fees and membership fees, average daily entrance fees and potential demand, average membership fees and potential demand, the booking possibilities with regard to individual booking and package booking and the average prices with regard to individual bookings were taken into consideration. Within the assessment of the economic and financial viability, the investment costs and allocation, the investment decision comparisons for several individual treatments, share of sales of the entire object of investigation, share of sales of the SPA & wellness facility, share of costs of the SPA & wellness facility, key figures such as EBITDA, debt service coverage ratio, residual value, cash flow, internal rate of return, present value and net present value, pay-back period in nominal value (equity / total invest-

ment) and the influences on other departments were assessed towards the according strengths and weaknesses.

## **5 Conclusions & Implications**

The fifth chapter is divided into two major parts. In the first part, the final assessment of the new investment in the SPA & wellness facility will be presented. In the second part, suggestions and recommendations for other contractors carrying out (pre-)feasibility studies within the framework of a Bachelor or Master thesis will be given based on the experiences made during the entire development.

### **5.1 Final assessment of the new Spa & wellness facility**

Once more it has to be highlighted that the main target of the owner and operator concerning the new SPA & wellness facility is a department characterized by an own economic and financial sustainability. This main criterion cannot be fulfilled according to the pre-feasibility study outcome. One can argue that for several other reasons such as keeping the hotel competitive, improvement of image and awareness, gain of new customers, increase of the average occupancy rate and / or average room rate, the venture should still be undertaken.

The following figure shows the summarized grades which have been given in the last pages within the three dimensions “conceptual”, “economic” and “financial” viability and their according categories in order not to decline the venture due to non-fulfilment of the principal’s main criteria “economic and financial sustainability of the SPA & wellness facility by itself”. The figure enables to detect further criteria which should probably be improved in order to guarantee the conceptual, economic and financial viability of a modified new SPA & wellness project.



## Final assessment of the three dimensions

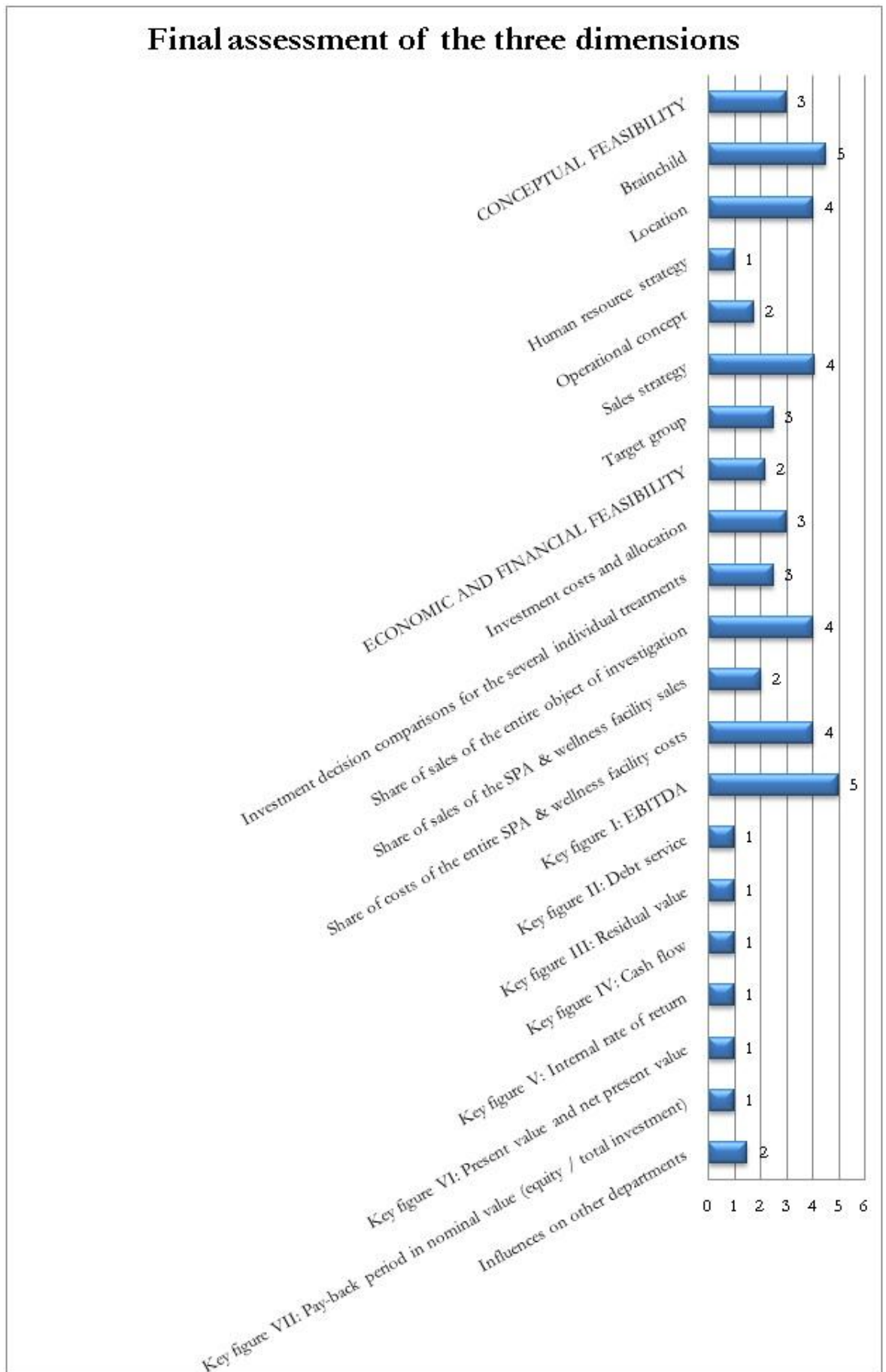


Figure 7: Final assessment

## **5.2 Suggestions and recommendations for carrying out pre-feasibility studies within academic studies**

The probably most important is the own motivation towards carrying out a pre-feasibility study. One has to ask himself in the beginning where the particular interest and the challenge in the topic for the own motivation is based on. Otherwise the compulsory consistency and / or focus might dilute within the development of the pre-feasibility study.

Another question of utmost importance is whether a potential object of investigation can be found in order to receive needed documents and figures on the according object of investigation and the new venture(s). If a potential object of investigation is found it should be reconsidered if the cooperation is suitable for the required academic specifications.

Should a topic be found which is interesting and challenging at the same time, should a potential object of investigation be found providing enough support in form of documents and figures it should be made sure that for academic purposes a reasonable range of sources are available. Therefore, a preliminary review of available sources is recommended as for some topics, in particular if concise, quantitative and qualitative sources might not be sufficiently available.

The basic philosophy of a pre-feasibility study is that it might lead to an end but it is not the end itself. During the entire development, possibilities for improvement might be found in order to ameliorate the ventures outcome. Hence, it is recommended to take notes at all times which could be forwarded to the according principal.

A last recommendation is addressing the time management. A pre-feasibility study within an academic framework involves at least three parties: the principal, the contractor and the university. Therefore, enough buffer time should be considered in the project schedule as all parties involved might impair the development of the pre-feasibility study at some instance if buffer times are not sufficiently planned.

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## Attachments

- Appendix 1. Spreadsheet for gathering and securing information on the status quo (part 1)
- Appendix 2. Spreadsheet for competitor and market analysis (part 1 – 2)
- Appendix 3. Showing the according extract of the excel spreadsheet for the “investment and year-start balance”
- Appendix 4. ARR (part 1 – 5)
- Appendix 5. Master data (part 1 – 2)
- Appendix 6. Operating statement of profit and loss (part 1 – 6)
- Appendix 7. Taxes depreciable
- Appendix 8. Debt service
- Appendix 9. Taxes and loss-carry-forward
- Appendix 10. Cash flow in equity after debt services and taxes
- Appendix 11. Residual value / value of continuation at end of year 15
- Appendix 12. After-tax equity internal rate of return
- Appendix 13. Before-tax equity internal rate of return
- Appendix 14. Equity investment pay-back period in nominal value of money
- Appendix 15. Total investment pay-back period in nominal value of money
- Appendix 16. Present value and net present value of equity
- Appendix 17. Influences on other departments’ net income before and after fixed amount allocation

Appendix 1. Spreadsheet for gathering and securing information on the status quo (part 1)  
(page 19)

The legal form of the object of investigation is a "...", no distinction between the operating and the real estate company exists. Are my assumptions right?

yes	<input type="checkbox"/>
no	<input type="checkbox"/>
comments	<input type="text"/>

What are the present target groups? What are the future target groups?

		present	future	in %	
				present	future
business travellers	local companies + contract				
	national companies + contract				
	international companies + contract				
	local companies - contract				
	national companies - contract				
	international companies - contract				
	www business travellers				
	others				
	others				
	others				
leisure travellers	groups				
	individual				
	www leisure travellers				
	agencies				
	walk-in				
	short vacation 2 - 4 nights)				
	holiday (5 nights and more)				
	others				
	others				
others					
others	others				
	others				
	others				
	others				
	others				
	others				
	others				
	others				
	others				
	others				

Figure 8: Spreadsheet for gathering and securing information on the status quo (part 1)



Appendix 1. Spreadsheet for gathering and securing information on the status quo (part 2)  
(page 19)

What is the size of the outskirt area?

in m <sup>2</sup>	
-------------------	--

How many car parking lots are available?

hotel owned	
others	
total number	0

The operated profit centres within the entire company are rooms department and F & B department. Is my assumption right?

profit centres	yes	no
rooms department		
F & B department		
others		
others		
others		
others		

Number of employees according to profit centres or departments and employment:

employment / profit centre or department	rooms department	F & B department	administrative and general	others	others	others	total
full-time							0
part-time							0
apprentice							0
temporary							0
student apprentice							0
others							0
others							0
others							0
others							0
total	0	0	0	0	0	0	0

Figure 9: Spreadsheet for gathering and securing information on the status quo (part 2)

Appendix 1. Spreadsheet for gathering and securing information on the status quo (part 3)  
(page 19)

All rooms can be occupied by two people. Is my assumption right?

	number	d. occupation possible	comments
suites			
category 1			
category 2			
category 3			

Outlets:

others
others
others
others
others
others
others
others
others
others
others
others
others
others
others

What is the size of the present SPA & wellness facility? Which areas and individual treatments are provided (such as pool, steam sauna, Finnish sauna, relaxation area, etc.)?

in m<sup>2</sup>  (m<sup>2</sup>)

areas and individual treatments
others
others
others
others
others
others
others
others
others
others
others
others
others
others
others
others

Figure 10: Spreadsheet for gathering and securing information on the status quo (part 3)

Appendix 1. Spreadsheet for gathering and securing information on the status quo (part 4)  
(page 19)

Operational key figures:

	2008		2009		2010		other comments
	incl. VAT	excl. VAT	incl. VAT	excl. VAT	incl. VAT	excl. VAT	
average revenue per occupied room		0.00		0.00		0.00	
average revenue per occupied bed		0.00		0.00		0.00	
RevPAR		0.00		0.00		0.00	
	2008		2009		2010		other comments
	incl. VAT	excl. VAT	incl. VAT	excl. VAT	incl. VAT	excl. VAT	
average occupancy rate rooms							
average occupancy rate beds							
share of rooms occupied by two people							
average duration of lengths							
	2008		2009		2010		other comments
	incl. VAT	excl. VAT	incl. VAT	excl. VAT	incl. VAT	excl. VAT	
breakfast internal guests (price per day)		0.00		0.00		0.00	
breakfast external guests (price per day)		0.00		0.00		0.00	
parking lot (price per day)		0.00		0.00		0.00	
	2008		2009		2010		other comments
	incl. VAT	excl. VAT	incl. VAT	excl. VAT	incl. VAT	excl. VAT	
[average number of restaurant guests per day]							
restaurant 1							
restaurant 2							
others							
others							
others							
others							
others							
	2008		2009		2010		other comments
	incl. VAT	excl. VAT	incl. VAT	excl. VAT	incl. VAT	excl. VAT	
[average spending per head]							
restaurant 1		0.00		0.00		0.00	
restaurant 2		0.00		0.00		0.00	
others		0.00		0.00		0.00	
others		0.00		0.00		0.00	
others		0.00		0.00		0.00	
others		0.00		0.00		0.00	
others		0.00		0.00		0.00	
others		0.00		0.00		0.00	
	2008		2009		2010		other comments
	incl. VAT	excl. VAT	incl. VAT	excl. VAT	incl. VAT	excl. VAT	
[seating possibilities]							
restaurant 1							
restaurant 2							
others							
others							
others							
others							
others							

Figure 11: Spreadsheet for gathering and securing information on the status quo (part 4)

Appendix 1. Spreadsheet for gathering and securing information on the status quo (part 5)  
(page 19)

Meeting package:		2008		2009		2010		other comments
	incl. VAT	excl. VAT	incl. VAT	excl. VAT	incl. VAT	excl. VAT		
meeting package 1			0.00		0.00		0.00	
others			0.00		0.00		0.00	
others			0.00		0.00		0.00	
others			0.00		0.00		0.00	

What are the elements included in the meeting package influencing the meeting package's price?

meeting package 1		others		others		others	
	incl. VAT	excl. VAT		incl. VAT	excl. VAT		incl. VAT
space rent							
food							
beverage							
others							
total	0.00						0.00

	Euro	in %	#DIV/0!
space rent			
food			
beverage			
others			
total	0.00		

Financial structure and debt service:

	prime example	Object of investigation:
market value	5 000 000	market value
share of equity	2 500 000	share of equity
share of debt	2 500 000	share of debt
average interest rate	5.60%	average interest rate
loan period	30	loan period
grace year?	yes, first year	grace year?

Prime example:  
The hotel has a market value of 5,000,000 € (building or buildings, outdoor area, FF&E etc.). The share of equity is 2,500,000 €. The average interest rates for the loan are 5.60 %, the loan period is 30 years, a grace year is included.

	present	future
market value	0.00%	0.00%
share of equity	0.00%	0.00%
share of debt	0.00%	0.00%
average interest rate		
loan period		
grace year?		

Figure 12: Spreadsheet for gathering and securing information on the status quo (part 5)





Appendix 3. Showing the according extract of the excel spreadsheet for the “investment and year-start balance”  
 (page 28)

	total existing	total purchase / new investment
site	0	0
connection charges (water, sewage, electricity, district heating) building or buildings	0	0
fixed equipments (if separated from value of building)	0	1 887 950
furniture, fixtures and equipment	0	0
pre-opening costs	0	1 562 845
		50 000
<b>Σ in €</b>	<b>3 500 795,00</b>	

Figure 15: Showing the according extract of the excel spreadsheet for the “investment and year-start balance”

## Appendix 4. ARR (part 1)

(page 28)

<b>single treatment room</b>	
investment	62 819.14
disposal value	0.00
cash flow	2 072 030.82
depreciation	62 819.14
profit	2 009 211.68
<b>ARR</b>	<b>3198.41%</b>

Figure 16: Single treatment room ARR



## Appendix 4. ARR (part 2)

(page 28)

<b>double treatment room</b>	
investment	90 126.43
disposal value	0.00
cash flow	4 189 157.18
depreciation	90 126.43
profit	4 099 030.75
<b>ARR</b>	<b>4548.09%</b>

Figure 17: Double treatment room ARR

## Appendix 4. ARR (part 3)

(page 28)

<b>soft pack treatment room</b>	
investment	61 676.43
disposal value	0.00
cash flow	2 073 429.93
depreciation	61 676.43
profit	2 011 753.50
<b>ARR</b>	<b>3261.79%</b>

Figure 18: Soft pack treatment room ARR

## Appendix 4. ARR (part 4)

(page 28)

<b>SPA suite</b>	
investment	184 600.00
disposal value	0.00
cash flow	4 076 664.99
depreciation	184 600.00
profit	3 892 064.99
<b>ARR</b>	<b>2108.38%</b>

Figure 19: SPA suite ARR

## Appendix 4. ARR (part 5)

(page 28)

<b>solarium</b>	
investment	35 310.00
disposal value	0.00
cash flow	1 632 393.38
depreciation	35 310.00
profit	1 597 083.38
<b>ARR</b>	<b>4523.03%</b>

Figure 20: Solarium ARR

## Appendix 5. Master data (part 1)

(page 28)

<b>MASTER DATA</b>				
<b>Base-year market data</b>				
opening year (also value year)	2011			
expected average yearly inflation	1.25%			
internal guests (conversion rate)	48.00%			
membership (conversion rate, only external guests)*	2.00%			
* beginning from the second operating year				
<b>Basic assumptions</b>	<b>year 1</b>	<b>year 2</b>	<b>year 3</b>	<b>as of year 4</b>
	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
internal guests (excluding conversion rate)	5 535	6 642	7 749	7 749
internal guests (including conversion rate)	2 657	3 188	3 720	3 720
external guests	3 893	6 677	9 462	9 462
average guests (internal & external) per day	18	27	36	36
fixed amount allocation (internal guests) total	70 000	70 000	70 000	70 000
fixed amount allocation (internal guests) per guest	26.35	21.96	18.82	18.82
entrance fee (external guests)	30.00	32.00	32.00	34.00
<b>internal guests</b>				
share of individual treatments	23.33%	25.00%	25.00%	25.00%
absolute frequency	1.50	1.50	2.00	2.00
share of F & B services	50.00%	50.00%	50.00%	50.00%
share of (merchandise) products	10.00%	10.00%	10.00%	10.00%
average price individual treatments	53.95	67.44	80.93	80.93
average price F & B services	10.00	10.00	10.00	10.00
average price of (merchandise) products	45.00	40.00	35.00	35.00
<b>external guests</b>				
share of individual treatments	23.33%	25.00%	25.00%	25.00%
absolute frequency	1.50	1.50	2.00	2.00
share of F & B services	75.00%	75.00%	75.00%	75.00%
share of (merchandise) products	10.00%	10.00%	10.00%	10.00%
average price individual treatments	53.95	67.44	80.93	80.93
average price F & B services	10.00	10.00	10.00	10.00
average price of (merchandise) products	45.00	40.00	35.00	35.00
memberships	0	78	134	189
average price of membership	1 900.00	1 900.00	1 900.00	1 900.00
share of entrance fees included (flat rate)	73.68%	73.68%	73.68%	73.68%
share of individual treatments included (no flat rate)	26.32%	26.32%	26.32%	26.32%

Figure 21: Master data (part 1)

## Appendix 5. Master data (part 2)

(page 28)

Basic assumptions - percent departmental cost of goods sold (departmental revenue x cost of goods sold)					
fixed amount allocation & entrance fee	0.00%	0.00%	0.00%	0.00%	
individual treatments	17.50%	17.50%	15.00%	15.00%	
F & B services	30.00%	30.00%	30.00%	30.00%	
(merchandise) products	50.00%	50.00%	45.00%	45.00%	
memberships	0.00%	0.00%	0.00%	0.00%	
Basic assumptions - percent departmental employee and employee related costs (departmental revenue x cost percent)					
SPA & wellness	35.00%	35.00%	35.00%	35.00%	
Basic assumptions - percent departmental direct costs (departmental revenue x cost percent)					
SPA & wellness	9.00%	9.00%	9.00%	9.00%	
Basic assumptions - cleaning expenses (0.10 € per opening day per m <sup>2</sup> )					
opening days per year	365	m <sup>2</sup> of SPA & wellness	1 500	average cleaning expense	0.10
Basic assumptions - undistributed expenses					
Administration % of total revenue	6.00%	6.00%	6.00%	6.00%	
Marketing % of total revenue	7.00%	7.00%	7.00%	7.00%	
Franchise fees % of total revenue	0.00%	0.00%	0.00%	0.00%	
Property operations and maintenance % of total revenue	6.00%	7.00%	8.00%	8.00%	
Utilities (electricity, heat, water and sewage) % of total revenue	15.00%	14.00%	13.00%	12.00%	
Basic assumptions - fixed expenses					
Management fees					
Basic fee % of total revenue	0.00%	0.00%	0.00%	0.00%	
Incentive fee % of gross operating profit GOP	0.00%	0.00%	0.00%	0.00%	
Leasing expenses	0	0	0	0	
Telephone, TV and internet equipment leases (% total revenue)	0.00%	0.00%	0.00%	0.00%	
Real estate (r. e.) tax	other co. 1, same co. 0		conversion		
	r. e. tax		r. e. value to be converted		
	0	0	0	0	
Insurances % of total revenue	1.70%	1.70%	1.70%	1.70%	
A) 100 % variable lease					
Lease % of fixed amount allocation + entrance fee	0.00%	0.00%	0.00%	0.00%	
Lease % of individual treatments	0.00%	0.00%	0.00%	0.00%	
Lease % of F & B services	0.00%	0.00%	0.00%	0.00%	
Lease % of (merchandise) products	0.00%	0.00%	0.00%	0.00%	
Lease % of memberships	0.00%	0.00%	0.00%	0.00%	
B) Fixed or partly fixed lease					
percent of inflation on fixed part of the lease	1.25%	occupied capital		3 500 795	
Fixed lease % of total capital occupied by real estate	0.00%	0.00%	0.00%	0.00%	
Variable lease % of total revenue	0.00%	0.00%	0.00%	0.00%	
Reserve for replacement of total revenue	1.00%	1.00%	1.00%	1.00%	

Figure 22: Master data (part 2)

Appendix 6. Operating statement of profit and loss (part 1)  
(page 29)

Departmental revenues €															
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
<b>A) Internal guests</b>															
fixed amount allocation	-70 000	-70 000	-70 000	-70 000	-70 875	-71 761	-72 658	-73 566	-74 486	-75 417	-76 360	-77 314	-78 280	-79 259	-80 250
individual treatments	50 160	80 626	150 501	150 501	152 382	154 287	156 216	158 168	160 146	162 147	164 174	166 226	168 304	170 408	172 538
F & B services	13 284	15 941	18 598	18 598	18 830	19 065	19 304	19 545	19 789	20 037	20 287	20 541	20 798	21 058	21 321
(merchandise) products	11 956	12 733	13 018	13 018	13 181	13 346	13 513	13 682	13 853	14 026	14 201	14 379	14 558	14 740	14 925
<b>B) External guests</b>															
entrance fee	116 790	322 662	489 729	586 629	593 962	601 386	608 904	616 513	624 221	632 024	639 924	647 923	656 022	664 223	672 528
individual treatments	79 499	207 791	449 637	477 491	483 460	489 503	495 622	501 817	508 090	514 441	520 872	527 383	533 975	540 649	547 408
F & B services	29 198	50 078	70 965	70 965	71 852	72 750	73 660	74 580	75 513	76 456	77 412	78 380	79 360	80 352	81 356
(merchandise) products	17 519	26 708	33 117	33 117	33 531	33 950	34 374	34 804	35 239	35 680	36 126	36 577	37 034	37 497	37 966
memberships (split 73,68 % entrance fee & 26,32 % individual treatments)															
	352 405	766 538	1 295 565	1 420 319	1 438 073	1 456 049	1 474 250	1 492 678	1 511 336	1 530 228	1 549 356	1 568 723	1 588 332	1 608 186	1 628 288
<b>Ratios Part I: Departmental revenue %</b>															
<b>A) Internal guests</b>															
fixed amount allocation	18%	9%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
individual treatments	13%	10%	12%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
F & B services	3%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
(merchandise) products	3%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
<b>B) External guests</b>															
entrance fee	31%	41%	38%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
individual treatments	19%	20%	35%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%
F & B services	8%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
(merchandise) products	5%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
memberships (split 73,68 % entrance fee & 26,32 % individual treatments)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Figure 23: Operating statement of profit and loss (part 1)



Appendix 6. Operating statement of profit and loss (part 2)

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Basis: Part II: Departmental revenue %															
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
A) + B) Internal guests + External guests	49%	50%	43%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%
fixed amount allocation + entrance fee	32%	31%	46%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
individual treatments	11%	8%	7%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
F & B services	8%	5%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
(merchandise) products	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
memberships (split 73.68 % entrance fee & 26.32 % individual treatments)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Σ	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Departmental cost of goods sold															
A) + B) Internal guests + External guests	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
fixed amount allocation + entrance fee	21 640	50 473	90 021	94 199	95 376	96 569	97 776	98 998	100 235	101 488	102 757	104 041	105 342	106 659	107 992
individual treatments	12 744	19 805	26 869	26 869	27 205	27 545	27 889	28 238	28 591	28 948	29 310	29 676	30 047	30 423	30 803
F & B services	14 737	19 730	20 761	20 761	21 020	21 283	21 549	21 819	22 091	22 367	22 647	22 930	23 217	23 507	23 801
(merchandise) products	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
memberships (split 73.68 % entrance fee & 26.32 % individual treatments)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Σ	49 122	90 009	137 650	141 829	143 601	145 396	147 214	149 054	150 917	152 804	154 714	156 648	158 606	160 588	162 598
Departmental cost of employment															
A) + B) Internal guests + External guests	133 842	273 295	453 448	497 112	503 326	509 617	515 987	522 437	528 868	535 380	542 273	549 053	555 916	562 865	569 901
Σ	34 416	70 790	116 601	127 829	129 427	131 044	132 682	134 341	136 020	137 721	139 442	141 185	142 950	144 737	146 548
Departmental direct cost															
A) + B) Internal guests + External guests	54 750	55 434	56 127	56 839	57 539	58 238	58 987	59 724	60 471	61 226	61 992	62 767	63 551	64 346	65 156
Σ	54 750	55 434	56 127	56 839	57 539	58 238	58 987	59 724	60 471	61 226	61 992	62 767	63 551	64 346	65 156

Figure 24: Operating statement of profit and loss (part 2)



## Appendix 6. Operating statement of profit and loss (part 3)

(page 29)

Gross departmental profits A €															
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
A) + B) Internal guests + External guests															
on cost of employment (a) (equals to revenue ./.(a))	-248 563	311 262	842 117	923 207	934 748	946 432	958 262	970 241	982 369	994 648	1 007 081	1 019 670	1 032 416	1 045 321	1 058 387
on cost of goods sold (b) (equals to revenue ./.(b))	199 441	421 254	704 467	781 379	791 146	801 035	811 048	821 187	831 451	841 845	852 368	863 022	873 810	884 733	895 792
on direct cost (c) (equals to revenue ./.(c))	163 025	350 463	587 866	653 550	661 220	669 991	678 366	686 846	695 431	704 124	712 826	721 837	730 860	739 996	749 246
on cleaning expenses (d) (equals to revenue ./.(d))	110 275	292 029	531 739	596 721	604 180	611 733	619 379	627 121	634 960	642 893	650 934	659 070	667 309	675 650	684 098
<b>Σ (b) + (c) + (d) in €</b>	<b>272 130</b>	<b>491 528</b>	<b>763 826</b>	<b>823 398</b>	<b>833 803</b>	<b>844 316</b>	<b>854 878</b>	<b>865 556</b>	<b>876 376</b>	<b>887 330</b>	<b>898 422</b>	<b>909 632</b>	<b>921 023</b>	<b>932 536</b>	<b>944 193</b>
<b>Ratio Part III: Departmental gross profits A %</b>															
A) + B) Internal guests + External guests															
on cost of employment (a) (equals to revenue ./.(a))	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
on cost of goods sold (b) (equals to revenue ./.(b))	32%	34%	34%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
on direct cost (c) (equals to revenue ./.(c))	43%	45%	45%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%
on cleaning expenses (d) (equals to revenue ./.(d))	29%	38%	41%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%
<b>Σ (b) + (c) + (d) in %</b>	<b>71%</b>	<b>62%</b>	<b>59%</b>	<b>58%</b>	<b>58%</b>	<b>58%</b>	<b>58%</b>	<b>58%</b>	<b>58%</b>	<b>58%</b>	<b>58%</b>	<b>58%</b>	<b>58%</b>	<b>58%</b>	<b>58%</b>
<b>Undistributed expenses</b>															
A) + B) Internal guests + External guests															
Administration	22 944	47 193	77 734	85 219	86 234	87 363	88 455	89 561	90 680	91 814	92 961	94 123	95 300	96 491	97 697
Marketing	26 768	55 059	90 690	99 422	100 665	101 923	103 197	104 487	105 794	107 116	108 453	109 811	111 183	112 573	113 980
Franchise Fees	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Property operations and maintenance	22 944	55 029	103 645	113 626	115 046	116 484	117 940	119 414	120 907	122 418	123 948	125 498	127 067	128 655	130 263
Utilities (electricity, heat, water and sewage)	57 561	110 118	168 423	170 438	172 569	174 726	176 910	179 121	181 360	183 627	185 923	188 247	190 600	192 982	195 395
<b>Σ</b>	<b>130 018</b>	<b>307 430</b>	<b>440 492</b>	<b>468 703</b>	<b>474 564</b>	<b>480 496</b>	<b>486 502</b>	<b>492 584</b>	<b>498 741</b>	<b>504 875</b>	<b>511 287</b>	<b>517 679</b>	<b>524 156</b>	<b>530 701</b>	<b>537 332</b>

Figure 25: Operating statement of profit and loss (part 3)

Appendix 6. Operating statement of profit and loss (part 4)

(page 29)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
<b>Gross departmental profits B €</b>															
A) + B) Internal guests + External guests on administration (e)	87 330	247 836	454 005	511 502	517 896	524 370	530 924	537 561	544 280	551 084	557 972	564 947	572 009	579 139	586 398
(equals to gross departmental profits A./.(e))															
on marketing (f)	60 562	192 777	363 315	412 080	417 231	422 446	427 727	433 073	438 487	443 968	449 517	455 136	460 826	466 586	472 418
(equals to gross departmental profits A./.(f))															
on franchise fees (g)	60 562	192 777	363 315	412 080	417 231	422 446	427 727	433 073	438 487	443 968	449 517	455 136	460 826	466 586	472 418
(equals to gross departmental profits A./.(g))															
on property operations and maintenance (h)	37 618	137 718	259 670	298 454	302 185	305 962	309 787	313 659	317 580	321 550	325 569	329 639	333 759	337 931	342 155
(equals to gross departmental profits A./.(h))															
on military (i)	-19 743	27 600	91 247	128 016	129 616	131 236	132 877	134 538	136 220	137 922	139 646	141 392	143 159	144 949	146 761
(equals to gross departmental profits A./.(i))															
<b>Σ (e) + (f) + (g) + (h) + (i) in €</b>	<b>130 018</b>	<b>207 430</b>	<b>440 492</b>	<b>468 705</b>	<b>474 564</b>	<b>480 498</b>	<b>486 502</b>	<b>492 584</b>	<b>498 741</b>	<b>504 975</b>	<b>511 287</b>	<b>517 679</b>	<b>524 156</b>	<b>530 701</b>	<b>537 335</b>
<b>Ratios Part IV: Gross departmental profits B %</b>															
A) + B) Internal guests + External guests on administration (e)	23%	32%	35%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%
(equals to gross departmental profits A./.(e))															
on marketing (f)	16%	25%	28%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%
(equals to gross departmental profits A./.(f))															
on franchise fees (g)	16%	25%	28%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%
(equals to gross departmental profits A./.(g))															
on property operations and maintenance (h)	10%	18%	20%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
(equals to gross departmental profits A./.(h))															
on military (i)	-5%	4%	7%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
(equals to gross departmental profits A./.(i))															
<b>Σ (e) + (f) + (g) + (h) + (i) in €</b>	<b>34%</b>	<b>34%</b>	<b>34%</b>	<b>33%</b>	<b>33%</b>	<b>33%</b>	<b>33%</b>	<b>33%</b>	<b>33%</b>	<b>33%</b>	<b>33%</b>	<b>33%</b>	<b>33%</b>	<b>33%</b>	<b>33%</b>
<b>Fixed expenses</b>															
A) + B) Internal guests + External guests															
Management fees	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Basic fee	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Incentive fee	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leasing expenses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Telephone, TV and internet equipment lease	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Real estate tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Insurances	6 501	13 371	22 025	24 145	24 447	24 753	25 062	25 376	25 693	26 014	26 339	26 668	27 002	27 339	27 681
Variable lease	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fixed or partly variable lease	6 501	13 371	22 025	24 145	24 447	24 753	25 062	25 376	25 693	26 014	26 339	26 668	27 002	27 339	27 681
<b>Σ</b>	<b>6 501</b>	<b>13 371</b>	<b>22 025</b>	<b>24 145</b>	<b>24 447</b>	<b>24 753</b>	<b>25 062</b>	<b>25 376</b>	<b>25 693</b>	<b>26 014</b>	<b>26 339</b>	<b>26 668</b>	<b>27 002</b>	<b>27 339</b>	<b>27 681</b>

Figure 26: Operating statement of profit and loss (part 4)

Appendix 6. Operating statement of profit and loss (part 5)  
(page 29)

Gross departmental profits C €	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
A) + B) Internal guests + External guests on management fees	-19 743	27 600	91 247	128 016	129 616	131 236	132 877	134 538	136 220	137 922	139 646	141 392	143 159	144 949	146 761
on basic fee (I) (equals to gross departmental profits B ./. (I))															
on incentive fee (K) (equals to gross departmental profits B ./. (I) ./. (K))	-19 743	27 600	91 247	128 016	129 616	131 236	132 877	134 538	136 220	137 922	139 646	141 392	143 159	144 949	146 761
on leasing expenses (I) (equals to gross departmental profits B ./. (I) ./. (K) ./. (I))	-19 743	27 600	91 247	128 016	129 616	131 236	132 877	134 538	136 220	137 922	139 646	141 392	143 159	144 949	146 761
on telephone, TV and internet equipment lease (m) (equals to gross departmental profits B ./. (I) ./. (K) ./. (m))	-19 743	27 600	91 247	128 016	129 616	131 236	132 877	134 538	136 220	137 922	139 646	141 392	143 159	144 949	146 761
on real estate tax (O) (equals to gross departmental profits B ./. (I) ./. (K) ./. (m) ./. (O))	-19 743	27 600	91 247	128 016	129 616	131 236	132 877	134 538	136 220	137 922	139 646	141 392	143 159	144 949	146 761
on insurances (O) (equals to gross departmental profits B ./. (I) ./. (K) ./. (m) ./. (O))	-26 244	14 228	69 222	103 871	105 169	106 484	107 815	109 162	110 527	111 908	113 307	114 724	116 158	117 610	119 080
on variable lease (P) (equals to gross departmental profits B ./. (I) ./. (K) ./. (m) ./. (O) ./. (P))	-26 244	14 228	69 222	103 871	105 169	106 484	107 815	109 162	110 527	111 908	113 307	114 724	116 158	117 610	119 080
on force or partly variable lease (Q) (equals to gross departmental profits B ./. (I) ./. (K) ./. (m) ./. (O) ./. (P) ./. (Q))	-26 244	14 228	69 222	103 871	105 169	106 484	107 815	109 162	110 527	111 908	113 307	114 724	116 158	117 610	119 080
<b>X (I) + (K) + (O) + (m) + (n) + (p) + (q) in €</b>	<b>6 501</b>	<b>13 371</b>	<b>22 025</b>	<b>24 145</b>	<b>24 441</b>	<b>24 753</b>	<b>25 062</b>	<b>25 376</b>	<b>25 693</b>	<b>26 014</b>	<b>26 339</b>	<b>26 668</b>	<b>27 002</b>	<b>27 339</b>	<b>27 681</b>

Figure 27: Operating statement of profit and loss (part 5)

Appendix 6. Operating statement of profit and loss (part 6)

(page 29)

Business Part V: Gross departmental profits C %	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
A) + B) Internal guests + External guests on management fees															
on basic fee (f)															
(equals to gross departmental profits B ./.(f))															
on incentive fee (k)	-5%	4%	7%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
(equals to gross departmental profits B ./.(k))															
on leasing expenses (l)	-5%	4%	7%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
(equals to gross departmental profits B ./.(l))															
on telephone, TV and internet equipment lease (m)	-5%	4%	7%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
(equals to gross departmental profits B ./.(m))															
on real estate tax (n)	-5%	4%	7%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
(equals to gross departmental profits B ./.(n))															
on insurances (o)	-5%	4%	7%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
(equals to gross departmental profits B ./.(o))															
on variable lease (p)	-7%	2%	5%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
(equals to gross departmental profits B ./.(p))															
on lease or party variable lease (q)	-7%	2%	5%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
(equals to gross departmental profits B ./.(q))															
<b>Σ ((f) + (k) + (l) + (m) + (n) + (o) + (p) + (q)) in %</b>															
<b>EBITDA or NOI (earnings before interest, taxes, depreciation and amortization OR net operating income (before reserve of replacement</b>															
<b>A) + B) Internal guests + External guests</b>															
EBITDA or NOI in €	-26 244	14 228	69 222	103 871	105 169	106 484	107 815	109 162	110 527	111 908	113 307	114 724	116 138	117 610	119 080
EBITDA or NOI in %	-2%	2%	5%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
reserve for replacement (RBR)	3 824	7 866	12 956	14 203	14 381	14 560	14 742	14 927	15 113	15 302	15 494	15 687	15 883	16 082	16 283
EBITDA or NOI in € after RBR	-30 068	6 362	56 266	89 667	90 788	91 923	93 072	94 235	95 413	96 606	97 814	99 036	100 254	101 528	102 797
EBITDA or NOI in % after RBR	-7,86%	0,81%	4,34%	6,31%	6,31%	6,31%	6,31%	6,31%	6,31%	6,31%	6,31%	6,31%	6,31%	6,31%	6,31%

Figure 28: Operating statement of profit and loss (part 6)

Appendix 7. Taxes depreciable

(page 29)

<b>TAX DEPRECIABLE</b>															
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
./ depreciation on site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
remaining balance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
connection charges (water, sewage, electricity, district heating)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
./ depreciation on connection charges (water, sewage, electricity, district heating)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
remaining balance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
building or buildings	1 887 920	1 850 191	1 813 187	1 776 923	1 741 385	1 706 535	1 672 426	1 638 978	1 606 198	1 574 074	1 542 593	1 511 741	1 481 506	1 451 876	1 422 838
./ depreciation on building or buildings	37 759	37 004	36 264	35 538	34 828	34 131	33 449	32 780	32 124	31 481	30 852	30 233	29 630	29 038	28 457
remaining balance	1 850 191	1 813 187	1 776 923	1 741 385	1 706 557	1 672 426	1 638 978	1 606 198	1 574 074	1 542 593	1 511 741	1 481 506	1 451 876	1 422 838	1 394 382
fixed equipments (if separated from value of building)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
./ depreciation on fixed equipments (if separated from value of building)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
remaining balance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
furniture, fixtures and equipment	1 562 845	1 406 501	1 265 904	1 139 314	1 025 383	922 844	830 560	747 504	672 754	605 478	544 930	490 437	441 394	397 234	357 529
./ depreciation on furniture, fixtures and equipment	156 285	140 656	126 590	113 931	102 538	92 284	83 056	74 756	67 272	60 548	54 493	49 044	44 139	39 735	35 733
remaining balance	1 406 561	1 265 904	1 139 314	1 025 383	922 844	830 560	747 504	672 754	605 478	544 930	490 437	441 394	397 234	357 529	321 796
pre-opening costs	50 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
./ depreciation on pre-opening costs	50 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
remaining balance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total of yearly tax depreciation</b>	<b>244 044</b>	<b>177 660</b>	<b>162 854</b>	<b>149 470</b>	<b>137 366</b>	<b>126 416</b>	<b>116 505</b>	<b>107 350</b>	<b>99 399</b>	<b>92 029</b>	<b>85 345</b>	<b>79 279</b>	<b>73 769</b>	<b>68 763</b>	<b>64 210</b>
<b>Total of book values / balances at end of year 15</b>															<b>1 716 127</b>

Figure 29: Tax depreciable

## Appendix 8. Debt service

(page 29)

<b>DEBT SERVICE</b>					
occupied capital					3 500 795
share of equity					25%
share of debt					75%
average interest on debt					3,75%
grace year of debt (0 or 1)					1
loan period with grace year included					30
loan period without grace year					29

	Beginning balance	Payment	Interest	Amortization	Ending balance
Year 1	2 625 596	0	98 460	0	2 625 596
Year 2	2 625 596	150 053	98 460	51 593	2 574 004
Year 3	2 574 004	150 053	96 525	53 527	2 520 476
Year 4	2 520 476	150 053	94 518	55 535	2 464 941
Year 5	2 464 941	150 053	92 435	57 617	2 407 324
Year 6	2 407 324	150 053	90 275	59 778	2 347 546
Year 7	2 347 546	150 053	88 033	62 020	2 285 527
Year 8	2 285 527	150 053	85 707	64 345	2 221 181
Year 9	2 221 181	150 053	83 294	66 758	2 154 423
Year 10	2 154 423	150 053	80 791	69 262	2 085 161
Year 11	2 085 161	150 053	78 194	71 859	2 013 302
Year 12	2 013 302	150 053	75 499	74 554	1 938 748
Year 13	1 938 748	150 053	72 703	77 350	1 861 399
Year 14	1 861 399	150 053	69 802	80 250	1 781 149
Year 15	1 781 149	150 053	66 793	83 259	1 697 889

Figure 30: Debt service



Appendix 9. Taxes and loss-carry-forward  
(page 29)

TAXES AND LOSS-CARRY-FORWARD															
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
EBITDA / or NOI in € before IIR	-26 244	14 228	69 222	103 871	105 169	106 484	107 815	109 162	110 527	111 908	113 307	114 724	116 158	117 610	119 080
Interest	98 460	98 460	96 525	94 518	92 435	90 275	88 033	85 707	83 294	80 791	78 194	75 499	72 703	69 802	66 793
Depreciation	244 044	177 660	162 854	149 470	137 366	126 416	116 505	107 350	99 399	92 029	85 345	79 279	73 769	68 763	64 210
Taxable Income	-368 747	-261 892	-190 157	-140 117	-124 632	-110 207	-96 723	-84 075	-72 167	-60 912	-50 231	-40 054	-30 315	-20 956	-11 923
Loss-carry-forward	-368 747	-630 639	-820 796	-960 913	-1 085 545	-1 195 752	-1 292 473	-1 376 550	-1 448 717	-1 509 629	-1 559 800	-1 599 914	-1 630 238	-1 651 134	-1 663 107
Taxable Income after loss-carry-forward	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Income tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
															33.307 (estimated)

Figure 31: Taxes and loss-carry-forward

Appendix 10. Cash flow in equity after debt services and taxes  
(page 30)

CASH FLOW ON EQUITY AFTER DEBT SERVICE AND TAXES															
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
EBITDA / or NOI in € after RR	6 362	56 266	89 667	90 788	91 923	93 072	94 235	95 413	96 606	97 814	99 036	100 274	101 528	102 797	104 081
Debt service	0	150 033	150 033	150 033	150 033	150 033	150 033	150 033	150 033	150 033	150 033	150 033	150 033	150 033	150 033
Taxes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
After-tax cash flow on equity	-30 068	-143 690	-93 786	-60 385	-59 264	-58 130	-56 980	-55 817	-54 639	-53 446	-52 239	-51 016	-49 778	-48 525	-47 256
Debt service coverage ratio	#DIV/0!	0.04	0.37	0.60	0.61	0.61	0.62	0.63	0.64	0.64	0.65	0.66	0.67	0.68	0.69

Figure 32: Cash flow in equity after debt services and taxes



## Appendix 11. Residual value / value of continuation at end of year 15

(page 30)

<b>RESIDUAL VALUE / VALUE OF CONTINUATION AT END OF YEAR 15</b>		
EBITDA / net income after RfR in year 15	102 797	
Estimated average yearly percent of inflation	1.25%	
EBITDA / net income in year 16	104 082	
Buyer's short term equity yield rate $R_E$ (before tax)	8.50%	
financing structure		
equity	25.00%	
debt	75.00%	
loan pay-back-period	30	
loan interest (assumed average)	6.00%	
debt / mortgage constant	0.0726489	
weighed average of equity and debt, and cap rate	0.0757367	
Selling price at end of year 15	1 374 259	
./. Selling expenses	41 228	3.00% (rough figure)
Net selling price	1 333 031	
./. Remaining book balance at end of year 15	1 716 157	
Taxable capital gain	-383 127	
./. Tax on capital gain	0	33.30% (estimated)
Cash flow from sales	1 333 031	
./. Remaining debt / mortgage balance at end of year 15	1 697 889	
Residual value / value of continuation	-365 000	

Figure 33: Residual value / value of continuation at end of year 15

## Appendix 12. After-tax equity internal rate of return

(page 30)

<b>AFTER-TAX EQUITY INTERNAL RATE OF RETURN</b>	
Original equity investment	-875 199
Year 1 after-tax cash flow on equity	-30 068
Year 2 after-tax cash flow on equity	-143 690
Year 3 after-tax cash flow on equity	-93 786
Year 4 after-tax cash flow on equity	-60 385
Year 5 after-tax cash flow on equity	-59 264
Year 6 after-tax cash flow on equity	-58 130
Year 7 after-tax cash flow on equity	-56 980
Year 8 after-tax cash flow on equity	-55 817
Year 9 after-tax cash flow on equity	-54 639
Year 10 after-tax cash flow on equity	-53 446
Year 11 after-tax cash flow on equity	-52 239
Year 12 after-tax cash flow on equity	-51 016
Year 13 after-tax cash flow on equity	-49 778
Year 14 after-tax cash flow on equity	-48 525
Year 15 after-tax equity cash flow + residual value	-412 256
<b>IRR</b>	#DIV/0! (including RfR)

Figure 34: After-tax equity internal rate of return

## Appendix 13. Before-tax equity internal rate of return

(page 30)

<b>BEFORE-TAX EQUITY INTERNAL RATE OF RETURN</b>	
Original equity investment	-875 199
Year 1 before-tax cash flow on equity	-30 068
Year 2 before-tax cash flow on equity	6 362
Year 3 before-tax cash flow on equity	56 266
Year 4 before-tax cash flow on equity	89 667
Year 5 before-tax cash flow on equity	90 788
Year 6 before-tax cash flow on equity	91 923
Year 7 before-tax cash flow on equity	93 072
Year 8 before-tax cash flow on equity	94 235
Year 9 before-tax cash flow on equity	95 413
Year 10 before-tax cash flow on equity	96 606
Year 11 before-tax cash flow on equity	97 814
Year 12 before-tax cash flow on equity	99 036
Year 13 before-tax cash flow on equity	100 274
Year 14 before-tax cash flow on equity	101 528
Year 15 before-tax equity cash flow + residual value	-262 203
<b>IRR</b>	<b>-0.91%</b> (including RfR)

Figure 35: Before-tax equity internal rate of return

## Appendix 14. Equity investment pay-back period in nominal value of money

(page 30)

	Equity pay-back period in nominal value of money			
	cumulative cash flows without residual value	equity investment on cash flow	years	months
	875 199			
year 1	-30 068	-0.03	1	0
year 2	-173 758	-0.20	2	0
year 3	-267 544	-0.31	3	0
year 4	-327 929	-0.37	4	0
year 5	-387 194	-0.44	5	0
year 6	-445 323	-0.51	6	0
year 7	-502 304	-0.57	7	0
year 8	-558 121	-0.64	8	0
year 9	-612 760	-0.70	9	0
year 10	-666 206	-0.76	10	0
year 11	-718 445	-0.82	11	0
year 12	-769 461	-0.88	12	0
year 13	-819 240	-0.94	13	0
year 14	-867 764	-0.99	14	0
year 15	-915 020	-1.05	15	0

Figure 36: Equity investment pay-back period in nominal value of money

## Appendix 15. Total investment pay-back period in nominal value of money

(page 30)

	Total investment pay-back period in nominal value of money			
	cumulative cash flows without residual value	equity investment on cash flow	years	months
	3 500 795			
year 1	-30 068	-0.03	1	0
year 2	-122 165	-0.14	2	0
year 3	-162 424	-0.19	3	0
year 4	-167 274	-0.19	4	0
year 5	-168 921	-0.19	5	0
year 6	-167 273	-0.19	6	0
year 7	-162 234	-0.19	7	0
year 8	-153 706	-0.18	8	0
year 9	-141 587	-0.16	9	0
year 10	-125 771	-0.14	10	0
year 11	-106 151	-0.12	11	0
year 12	-82 614	-0.09	12	0
year 13	-55 042	-0.06	13	0
year 14	-23 317	-0.03	14	0
year 15	12 687	0.01	15	0

Figure 37: Total investment pay-back period in nominal value of money

## Appendix 16. Present value and net present value of equity

(page 30)

long-term after-tax discount rate			5.00%
	cash flow on equity*	discount factor	present value
year 1	-30 068	0.95238	-28 636
year 2	-143 690	0.90703	-130 331
year 3	-93 786	0.86384	-81 016
year 4	-60 385	0.82270	-49 679
year 5	-59 264	0.78353	-46 435
year 6	-58 130	0.74622	-43 377
year 7	-56 980	0.71068	-40 495
year 8	-55 817	0.67684	-37 779
year 9	-54 639	0.64461	-35 221
year 10	-53 446	0.61391	-32 811
year 11	-52 239	0.58468	-30 543
year 12	-51 016	0.55684	-28 408
year 13	-49 778	0.53032	-26 398
year 14	-48 525	0.50507	-24 508
year 15	-412 256	0.48102	-198 302
	*after-tax	<b>Present value</b>	-833 941
		<b>Net present value of equity</b>	-1 709 139

Figure 38: Present value and net present value of equity

Appendix 17. Influences on other departments' net income before and after fixed amount allocation  
 allocation  
 (page 31)

	occupancy rate (rooms)	number persons served fine-dining (included increase 3.54 %)	number persons served casual restaurant (included increase 6.75 %)	number persons served catering department (included increase 71.74 %)	difference net income (basis year 2009 with 35 % cost of employment - /. according year)	fixed amount allocation	difference net income
year 1	50.00%	15 192.00	16 440.00	2 873.00	60 978.01	70 000.00	-9 021.99
year 2	60.00%	15 192.00	16 440.00	2 873.00	99 587.20	70 000.00	29 587.20
year 3	70.00%	15 192.00	16 440.00	2 873.00	138 196.39	70 000.00	68 196.39

Figure 39: Influences on other departments' net income before and after fixed amount allocation