Delta Cafés Institutional Channel Restructuring

A Cost-Benefit Analysis

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Abstract

Companies are constantly presented with numerous project initiatives from which not all are feasible. Thus, managers must be able to evaluate a set of investment options in order to make effective resource allocation decisions. The main objective of this study is to analyse the on-going project "Delta Empresas" carried by Delta Cafés, with the aim of finding at which level the choice to incur this investment was financially sound. In light of the literature review performed, a cost-benefit analysis (CBA) was considered to be the most adequate assessment tool to perform such analysis, which consisted in a 3 year incremental CBA with the inclusion of intangibles via performing interviews and surveys to relevant stakeholders and the definition of KPIs. Then, by building 3 different scenarios, it was possible to conclude that the project will add value to the channel as the estimated NPV variations in relation to the baseline scenario (without project) were positive. Also, by attempting to quantify and include intangible benefits and costs generated by the project in the analysis, this study allowed perceiving the intangibles' impact in such analysis. After performing a standard sensibility analysis the project was classified as low-risk. Concluding, the author was able to recommend the continuance of the development of the project and was able to provide a more in depth analysis to the company. Also, as intended, this study was able to successfully quantify the presence of the intangibles, thus making a positive contribution to the literature.

Keywords: Cost-Benefit analysis, Intangibles quantification, Net Present Value.

1. Introduction

Time never stops advancing neither do companies nor markets. With several major changes in different aspects of the daily life of customers and companies, there is less margin for slacking in innovation and evolution. Continuous progression to keep up with the new technologies, customer perspectives, political views and economic scenarios is the only way of assuring a sustainable growth and success of a company (Delbridge and Barton, 2002). Along with recent developments in electronic channels, new strategic insights have potentiated the competitiveness between both new entrants and existing competitors. According to Payne (2005), "this has created increasing challenges to traditional business models". Many industries, such as the coffee industry, are facing a

reconfiguration to its structure and dynamics in response to new technologies. Therefore, managers need to be more conscious of their industry structure as well of the emerging trends that will possibly affect it in the future. Meanwhile, companies seek advantage and new projects emerge in abundance. This has led managers to have to justify their decisions when comes to select which investment project to opt for. Usually this is most commonly done by looking into quantifiable benefits and costs of each investment and by calculating its return on investment (ROI).

This study's objective is to perform a more in depth financial analysis of the investment initiative of Delta Cafés, the "Delta Empresas" project, with the purpose of assessing the feasibility of the project; this is, finding if its benefits exceed its costs. Also, this study will attempt to quantify and integrate intangible benefits and costs in the analysis, and assess their impact in such analysis.

The motivation leading the presented objectives was primarily providing additional value to the company, which although had already performed a feasibility analysis and taken the decision to advance, could benefit from a more thorough analysis which as it was performed in "media res" is more accurate and complete with the identification and quantification of intangibles. Also, by acknowledging a lack of feasibility studies including the quantification of intangibles, the author considered that by developing this case study, in some extent, literature would benefit by having more attempts in intangibles quantification, thus this case study may be valuable to other authors when performing similar analysis.

2. Literature Review

Before performing the analysis, various case studies were selected and studied, allowing extracting relevant knowledge for this case study. Even though most of the chosen studies originated from distant areas and concerned different topics, which was mainly due to a lack of studies both concerning coffee industry companies and investments projects including CRM software and e-commerce platforms, all the chosen studies implemented the same methodology proposed in this study, a CBA. Kurnia and Swatman (1998), Murphy and Simon (2001), Chen et al. (2016) acknowledged the presence of intangibles with the latter two attempting to quantify them, this allowed the author to extract components from each study and use them in this one, such as performing interviews to relative stakeholders and performing surveys in order to make intangibles quantifiable. This allowed the author to broaden his perspective on the subject and to build a solid basis for the development of the case study analysis.

3. Methodology

After studying Delta Cafés and contextualizing the "Delta Empresas" project, it was considered that a more thorough financial analysis of the project was relevant for ensuring managers that the decision to proceed had a solid financial basis. In order to find the most appropriate tool for this analysis, this study considered 3 popular assessment tools, suggested by the European Commission (2014), they being CBA, CEA and MCA. After defining and exposing the different methods, by presenting its advantages and disadvantages, with the ultimate goal of choosing the most

appropriate method for the study's methodology. CBA was chosen as the most appropriate method for achieving the set goals.

In order to provide a more exhaustive analysis, this study attempts to include the intangible costs and benefits usually associated with this kind of initiative. For this, data was gathered by making interviews and surveys to relevant stakeholders of the project and then associating them to KPIs. By suggesting three scenarios: a baseline scenario without the project development, other being a with-project scenario, and the last being a with-project scenario with the quantification of intangibles; the author set to perform a quantitative analysis of the project, allowing comparing the various scenarios assessing their financial performance, via NPV (Cash-flow discounting) and other ratios/indicators, and ultimately concluding which alternative was the best. Thus, the CBA analysis will follow an incremental approach where 3 scenarios are going to be compared; two being "with-project" scenarios and the other one being a counterfactual baseline scenario, the "without-the-project" scenario, the latter will either take the form of business-as-usual (BAU) or the do-minimum cost basis (minimum investment). At the time the analysis is going to be performed, the project to be analysed is going to be under implementation, this meaning that the CBA will be performed in 'media res', which although is less accurate than an 'ex-post' analysis, is more accurate than 'ex-ante' analysis (Proag and Proag, 2014).

Analysis Steps

The proposed analysis was set to contain several steps, these being: Definition of the common measurement unit; Identification of all the costs and benefits associated to the project; Definition of the discount rate to be used in the economic performance analysis; Definition of the time horizon for the analysis; Definition of the economic performance indicators to be used in the analysis; Financial analysis; Sensitivity analysis; Recommendations.

Intangibles Quantification

In order to include the intangible costs and benefits in the CBA, they must be translated in monetary terms. According to Murphy and Simon (2001), Hares and Royle (1994) proposed a four step quantification method that allows transforming an intangible cost/benefit into monetary terms. This technique was also used by the authors in a CBA analysis to an ERP system integration. According to the authors, the technique is composed by four steps:

1. The intangible benefits and costs need to be identified. This can be done by making different categories, separating the tangible costs and benefits from the intangibles.
2. After the identification, the intangibles need to be re-expressed into more measurable terms. This can be performed by assigning KPIs to each one.
3. Once measurable, the costs and benefits can be predicted in physical terms. This step is the most difficult as is the most susceptible to subjectivity. There are various methods to conduct this step; Murphy and Simon (2001) proposed performing a market survey or using management estimates when the first is not possible.

4. The final step consists in evaluating the benefits and costs cash flows. In this case, after obtaining the relative cash flows, they were included in the financial analysis.

4. Case Study

Delta Cafés

Delta is more than 60 years old and has been at the top of Portugal coffee industry for 23 years. Delta's success was not by chance, with strong company views implanted throughout the whole organization by the top leaders of the firm, the Nabeiro family, its culture is well known for its customer oriented vision, focusing on customer satisfaction and authenticity. Currently, the coffee market is considered to be solidified in Portugal, with over 30 coffee brands. With Delta Cafés alone holding 32% of the Portuguese market share with the nearest competitors having 11% and 10%.[1]

"Delta Empresas" Project

With the stabilization of Delta's main sales channel, the company is shifting its focus to other channels like the Institutional. Currently working in an Ex-van sales method ("Auto-venda"), it focuses on serving customers, usually other companies, whose main activity does not rely on re-selling coffee or any of its complements.

This channel can benefit from a different management and commercial approach, as its monetization is not at the Horeca's level. Being underdeveloped means that now there is a plain field for growing the channel. With one of the most noticeable differences relying in its selling method; as this channel operates in ex-van sales, already discontinued in the Horeca channel, which now works under the pre-order method. Thus, a change in sales method is natural, and although the results already proved it to be sustainable, Delta now wants to include an outsourced logistic partner which will work side by side with Delta's own distribution team. Along with the necessity of pre-order method implementation, different segments of clients were identified. These segments differ greatly in the way they should be treated and, with the integration of a CRM software, an e-commerce platform along with an exclusive call-center, the Institutional channel is going to be restructured and modernized in order to better fit and serve the different client segments. Although these concepts are not new, its capabilities still fit in perfection Delta's need for client relationship management, improving the quality of contacts/visits and the customer life span.

Lastly there is a focus on the expansion of the range of the channel to new segments, such as the business-to-customer (B2C) segment, it being composed by customers that compose these businesses already served by Delta. By expanding the channel, sales can grow exponentially as a whole new level of customers would be accessible. Nevertheless this will be only possible by the integration of a logistics partner which will allow scaling the channel.

The company expects the following quick-wins from the project:

- Increased sales and better cost performance; Improved customer service;

[1] http://www.deltacafes.pt/DeltaFiles/content/201206/mwrzgs4s.hzr_449f0b99_contentfile.pdf

• Revise and restructure the operational model, valuing new forms of commercial service and other innovative good operating practices.

• Search for differentiation by redesigning Delta's image in this channel, aligning the service with the products offer, achieving greater coherence, allowing a more pronounced and differentiated definition of the channel.

The implementation of the project was divided in the following three phases:

Phase 0 – In this phase the company had support of a consulting firm which after performing an identification of good practices and trends, defined the strategic visioning, and developed a business case which allowing its validation.

Phase 1 – Consists in the implementation of the project to only 5 commercial departments, all in the Lisbon Region. A performance assessment and business case revision for the national roll-out of the project should be performed.

Phase 2 – Project scope revision (if needed); systematization of processes; follow-up and roll-out of the project to the remaining commercial departments.

Main Goals for Phase 1 (2020):

- Expected growth of the customer base by 50%.
- Expected doubling of the channels Gross Profit.
- Expected 65% growth in sales (without counting the usual 5% natural yearly growth of the channel sales).

5. Results and Discussion

As defined in the methods section, for this analysis there were defined three scenarios. The baseline scenario followed the business-as-usual (BAU) approach, however assuming a linear annual growth in sales of 5%, which for simplification reasons were assumed as a 15% sales growth by 2020 when in comparison to 2017, and assuming no investments besides the required investments in coffee machines when acquiring new clients. The channel's costs were assumed constant.

For the two scenarios considering the project presence, one would not consider the presence of intangibles benefit and costs while the other would. Thus, by having these two scenarios, the author could perform a direct comparison between them and see the impact in the NPV when considering or not the presence of intangibles. These scenarios assume variations between each analysis periods, mostly following the company's management estimates/objectives for 2020. For the analysis, the monetary unit set was the Euro (€), the time horizon was 3 years and the discount rate used was 5,78%, which was obtained by following the CAPM method.

Before performing the NPV analysis, the Intangibles were quantified. They being the following:

Project Benefits

Tangible: Increased Sales, Improved Gross Profit, Internal Logistics Savings, and Personnel Savings.

Intangible: Better Sales Practices; Increased Operational Planning; Increased channel productivity; Increased motivation of the sales

force; Increased customer service; Improved image; Improved management strategies; Faster reaction to demand variations; Increased adaptability to new technologies; Increased capability of expansion.

Project costs

Tangible: CRM software, website, SAP, vehicles, tablets and computers, coffee machine investments, labour costs, cogs, marketing, rent, sales team assessment cost, outsourced logistics, consulting services

Intangible: Loss of proximity; Temporary Productivity Loss; Initial Confusion; Internal Resistance to Change.

After identifying the Intangible Benefits and Costs, they were expressed in terms of Sales and Costs generated in the channel. Their cash-flows are exposed in Tables 1 and 2.

Cash Flow Analysis

In order to obtain the project's NPV, it was required to perform a cash-flow analysis. This was done to the 3 scenarios.

Cash-Flows

In order to obtain each period's cash-flows the author performed an income statement for each year. This allowed including all the estimated effects in the channel´s performance derived from the project development. As the goal was finding the cash-flows generated by the project, the author performed the analysis by using the variations of all values in relation to the baseline scenario generated, this being the scenario without the project. By comparing directly in the analysis the expected results from both scenarios, each year's cash-flow was obtained as variations from the baseline scenario. This allowed calculating the NPV for all scenarios.

The Total Cash-Flow for each period $i \in \{0,1,2,3\}$ was obtained by the following formula:

$$\begin{aligned} &\text{Total Cash Flow}_i \\ &= Investment\ Cash\ Flow_i \\ &+ Operational\ Cash\ Flow_i \end{aligned} \quad (1)$$

Sensitivity Analysis

In order to deal with the uncertainty inherent to investment projects, as recommended by the European Commission (2014), a sensitivity analysis to the analysis should be performed. This step also tests the project robustness against possible adverse risks such as an economy crisis. By performing a sensitivity analysis the author attempted to identify and measure the most critical variables, they being the ones which when varied either positively or negatively made a large impact in the project's financial performance, thus in the analysis' results. As defined by the European Commission (2014), a critical variable would be a variable for which a variation of 1% would generate a variation of more than 1% in the project's NPV. Finally, a scenario analysis was performed, testing the impact of different combinations for the pessimistic values of the critical variables.

Table 1 – Sales won and lost by the presence of intangibles

Each period's (i) sales variance	Period		
	1	2	3
Sales won by benefits	+ 398 295 €	+ 484 531 €	+ 589 404 €
Sales lost by costs	- 118 971 €	- 144 739 €	- 176 056 €
Sales variance	+ 279 324 €	+ 339 801 €	+ 413 348 €

Table 2 – Operational Costs Incurred and Saved due to Intangible Benefits and Costs

Each period's (i) cost variance	Period		
	1	2	3
Costs Incurred	+ 62 678 €	+ 46 258 €	+ 25 036 €
Costs Saved	- 16 661 €	- 12 296 €	- 6 655 €
Cost Variance	+ 46 017 €	+ 33 962 €	+ 18 381 €

Variables Considered

As this was an in 'media res' analysis, some of the variables were already known, such as the values of the initial investments. As per others, they were subject to uncertainty, either because their values originated from management estimates or assumptions by the author, or because they are subject to external factors and may suffer variations over time.

Critical Variables

In order to identify the project's critical variables, they were increased and decreased 1%, each at a time. The ones that provoked a variance of more of 1% in the projects NPV were considered critical. After the calculations, from all the identified variables the critical ones were identified and listed in Table 3.

Scenarios Proposed

It was decided to start the analysis by testing the project when facing the most pessimistic scenario. As if the project NPV remains positive there would not be a need for assessing other scenarios as this analysis' purpose is to see whether the project is feasible or not. Otherwise, various scenarios will be tested by setting some critical variables to the most pessimistic value, thus allowing finding the combinations which lead the project to a negative NPV. The variables are presented in Table 3 along with their optimistic and pessimistic values.

Baseline Scenario Results

For the baseline scenario the channel's NPV was positive with a value of 7 477 355 €, this value is referent to the performance of only the 5 commercial departments that make part of the project's Phase 1. This positive result, was expected as the channel was lucrative at the analysis time and this scenario did not assume any investments besides the investments performed when new clients are acquired, hence the positive results. The values obtained for each period are presented in the Table 4.

Other Scenarios Results

For the project scenario that did not include intangibles the results were also positive, with a variation in the NPV of + 3 556 487 €, representing a 48% increase in comparison to the NPV from the baseline scenario.

Once, the intangibles were quantified and included in the analysis, the NPV for the third scenario was calculated. As the estimated benefits derived from the intangibles were higher than the effect of the intangible costs, this scenario presented a higher variation in the NPV than the previous scenario, resulting in + 4 350 730 €. Thus this scenario represents a 58% increase in the NPV from the baseline scenario. Also, when comparing the scenarios with and without the quantification of intangibles, it is possible to estimate that by including the effect of intangibles, the NPV of the channel is expected to increase approximately 22% facing the scenario without intangibles quantification.

Once the results were compared it was possible to conclude that the presence of intangibles was positive. Nevertheless, all scenarios presented relatively high NPVs, which may be justified by the low investment requirements of the project when in comparison with the management optimistic estimates for growth in revenue and gross profit. This made the requirement for a sensitivity analysis less crucial, as great changes would need to occur in order to the project's performance be negative, but it did not eliminate entirely the need for it.

Thus after performing a sensitivity analysis the results were the following

- By lowering the estimated sales growth to 5% (the same as the baseline scenario), both the with-project scenarios would still present a positive NPV (+395 333€), this is if the COGS to sales ratio still drops from 42% to 30%.
- By maintaining the COGS to sales ratio equal to period 0 (42%) throughout the whole analysis and by lowering the estimated sales growth to 5% (the same as the baseline scenario), the NPV would be negative, – 929 095 € in relation to the baseline scenario.
- By keeping the sales estimates and lowering

Table 3 – Critical variables

Variables	Critical	Original Used	Most Pessimistic Value
Sales growth rate from intangibles	Yes	15% (5% per year)	0%
Operational Cost variance due to intangible costs	No	+15% (1st year)	-
COGS/Sales ratio	Yes	30,4% (by 2020)	42%
New clients growth rate	Yes	18,167% and 21,6%	5%
Update rate	No	5.78%	10%
Vehicles residual price	No	5000€ /vehicle	3000€ /vehicle
Project development estimated internal cost	No	76 904 €	+20%
Coffee machine average investment cost	No	150€	250€/new client

the estimated gross profit the NPV would remain positive. With + 2 347 560 € with intangibles and + 1 607 993 € without intangibles.

Concluding, by finding the critical variables it was possible to set various combinations were some variables would be set to their most pessimistic values. This allowed generating various scenarios where the NPV would not be positive, thus where the investment project would not be attractive to the company. As these scenarios (combinations) used the most pessimistic values possible they present a very low probability of occurring. Thus, although it is possible to find scenarios were the project results in a Net Loss, the author attributes a low risk level to the project.

6. Conclusion

After contextualising the problem, Delta Cafés and the "Delta Empresas" project it was possible to comprehend the suitability of such initiative with Delta's vision, "a client is a friend", as it revolves around enhancing Delta's capability of serving its customers, while expanding its services and range of targeted customers. This project comes at a time where Delta is able to provide the necessary resources, in the form of capital, infrastructures and workforce, in order to implement it. Nevertheless, the author considered that a financial analysis of the project was relevant for ensuring managers that the decision to invest has a solid financial basis. The method chosen for the analysis was a CBA as it was found that it was the most adequate for the proposed goals as it allows comparing a project's multiple benefits and costs in the same unit of measure, allowing a ratio between costs and benefits. As this analysis was performed in 'media res', it did not have a decisional value.

According to the results from the intangible's quantification, the sales would increase each period due to the presence of intangibles, as well as the costs. Once having quantified the intangibles the CBA was performed. The results obtained were positive for the 3 scenarios proposed. This allowed concluding that the project was expected to be profitable and that the presence of intangibles would benefit the project performance by 22% by comparing the two 'with-project' scenarios. This was followed by a sensitivity analysis which allowed concluding that the project has a low risk, as the probability of the NPV reaching 0 is very low. Ultimately, the author considers that this study was successful, as the main goal was achieved, and assumes that Delta

Table 4 – Updated Cash-flows and NPV of all scenarios

Updated Cash-flows and NPV of all scenarios		**Period**			
		0	1	2	3
Baseline Scenario	Updated Cash Flows	- €	2 481 373 €	2 493 025 €	2 502 957 €
	NPV	7 477 355 €			
Without Intangibles Scenario	Updated Cash Flows	- 61 873 €	+ 429 643 €	+ 1 164 968 €	+ 2 023 750 €
	Δ NPV	+ 3 556 487 €			
With Intangibles Scenario	Updated Cash Flows	- 61 873 €	+ 506 085 €	+ 1 409 547 €	+ 2 496 971 €
	Δ NPV	+ 4 350 730 €			

will benefit from the results obtained. Also, the author considers that due to a lack of similar studies among the literature, this case study may provide value to academics that may attempt to perform financial analysis including the quantification of intangibles.

7. Limitations and Future Research

The main limitations found during the development of the analysis reside mostly in the uncertainty of some of the data provided. It must be acknowledged that, although most of the data used in the analysis originated from the company itself, there is still a possibility of it not corresponding entirely to reality. This might be due to a poor quality of the database or random errors. Also, another limitation of the study was the reliance on management estimates. As most of the predicted values were extrapolated from management estimates and objectives set for the project, they may be subjective, bias and/or poorly founded. Thus, a dependency in management estimates may represent a weak point in the analysis. The author also found that the quantification of intangibles, although successful, contained some flaws. The most evident ones were the low number of participants when generating data and the reliance on only one manager when choosing between scenarios. These limitations could lead to a less precise quantification. Nevertheless, these points were mitigated by assuming various scenarios in the analysis and by the performance of the sensitivity analysis.

As per future research, the author considers that this study may be replicated for similar projects, thus it is suggested the creation of a model attempting to generalize this analysis applying it for other case studies.

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