Strategic Investment using Project Finance: Case study of a start up (TravelMitra)

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Signature
(Rao Randhir Singh)

Self Certification

I, **Rao Randhir Singh**, Roll number **13125042** submit the final report on my Special Study/Project entitled **'Strategic Investment using Project Finance: Case study of a start up (TravelMitra)'**, carried out for the Course Number **MBA 699** during the II Semester 2015, in the Department of Industrial and Management Engineering. I confirm that the topic was approved by my supervisor at the beginning of the semester.

This work contains no material which has been submitted as a part of, or in full, for any other project/review/report.

To the best of my knowledge and belief, this work does not contain any material previously published or written by another person or me, except where due reference has been made in the text. I certify that plagiarism of any kind has not been done by me in producing this report.

The work is based on the research done by me after joining the MBA program in the Department of Industrial and Management Engineering, IIT Kanpur.

Signature of the Student

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1. Introduction

1.1 Project Finance

Project Finance is a new flavour of financing. It is extensively used nowadays to finance various infrastructures (both government and private) and start up projects especially those in developing countries like India! Every project in Project Financing technique of financing as opposed to corporate finance, is considered to be a separate entity or for simpler understanding, a separate company in itself. The cash flows from the project itself are considered to be the source of refinancing the project.

Example of funding using corporate finance and how it is different from funding using Project Finance:
Suppose there are three projects namely P1, P2 and P3 and P1 and P2 are funded only by equity and P3 is funded only by debt. So, in case of profits, the retained earnings from P1 can also be used to fund P2 and so on. Also, if P3 fails and goes into losses, creditors of P3 are paid from the cash flows of P1 and P2 also. However, the scenario is different is case of Project Finance. Here, projects are funded using equity and debt mixture and debt is usually higher than equity, that is, debt/equity > 1. Here, each project is funded only by its own cash flows and nothing else once it becomes operational! Thus, if P3 fails, the investors will not get back anything as P3 cannot raise money from elsewhere and needs to operate on its own profits!

There are usually two types of equity investors namely, **Active** (Sponsors) and **Passive**. Project Finance calls for strong contractual agreement with customers and suppliers (stakeholders) to avoid uncertainties and risks in the cash flows. This is so because the only source of income is the cash flows from the project and the sources of the same shall be very certain and timely. Till the projects become operational, the investment is done in the image of company. Investors look at its assets, history and the strength of the future cash flows from investing.

Most of the equities is privately held with only 1-3 sponsors who only have keen interest in the project. This forms a part of their portfolio of risk.

1.2 Why Project Finance?

a) **Minimizes the Principal Agent problem:** A strong contractual agreement before the commencement of the project helps in eliminating problems like Forward and Backward integrations since the assets that are created are very specific and hence shall not take risk. This thus, makes the nature of Project Finance very less risky. Further to this, managers are given funds only when they achieve milestones (staged investment) and so they are more committed to work well. Only a few shareholders of a company has interest in this project thus eliminates **free rider** problem. Also, as the debt/equity is high and debts are paid through operations, managers are left with minimal cash to do anything else. Also, every party is a stakeholder in the project, so risks are minimized further!

b) Minimizes the under investment problem: This can be shown through an example:

For a company, say **A** its values during various times are mentioned as below:

	Boom	**Recession**	**Expected**
Value	5000	2400	3700
Debt	4000	2400	3200
Equity	1000	0	500

If an investment of 1700 is made the NPV is (1700-1000) = 700. 1000 is an investment opportunity here.

Now after making an investment of 1700 (1000 +700 above),

	Boom	**Recession**	**Expected**
Value	6700	4100	5400
Debt	4000	4000	4000
Equity	2700	100	1400

So, we see that the Expected value increased by 900 (1400-500) upon investing 1000. Thus, the investors will not invest since on an investment of 1000 yields only 900!

Project Finance solves the above problems as it considers one project at a time with larger debts and less equity investment. Positive NPV projects are not overlooked since equity holders might think that their investments are benefitting the debtors only!

2. How to analyze financial viabilities of projects:

a) Time value of money: If sum (Benefits)> Sum (Costs) of a project, we will finance the project. This is the basic rule of thumb. Infrastructure projects usually have long life and gestation period and may take years before the project becomes operational. Investment is spread over many years and thus interest can be earned over many years. Thus considering TVM becomes essential for maximizing benefits. Example: 110 after a year at 10% is 100 today! Present value of 100 after 1 year is 100/1.1 = 90.91. Thus you are losing 9.09. So it is important to take TVM into account. Before investing, the present value of all the future cash flows is calculated and then based on the benefits and if they are greater than the project costs, the investment is made.

b) Cost of Capital: Infrastructure projects can be approximated as perpetuity owing to their long lives. Either the cash flows are constant or grow at a constant rate. PV = FV(t)/(1+k)^t where t is the time of cash flows in years and k is the discount rate. 'k' becomes the cost of

capital if the discount rate gives no profit no loss, that is, the cost of raising capitals equals the cash inflows! This in other words, takes care of the investors' opportunity cost of investing into a particular project. If uncertainties in cash flows are higher, it may not fulfill even 'k' discount rate. Contractual agreement mitigates this risk. Also, investors expect higher return for a long term investment as compared to a short term one. WACC = (e/(d+e))*re + (d/(d+e))*rd*(1-t). Debt usually is cheaper than equity. An equity holder expects higher return!

c) **Capital budgeting:** Debt is cheaper than equity because interests are exempted from taxes thus, lesser tax is required to be paid!

Payback period: Time taken to recover the initial investment. Does not take TVM into account. Also, it does not take into account the cash flows that occur after the payback period.

Net present value: Sum(Cash inflows)- Investment. It takes TVM into account. If NPV>0, accept the project.

Profitability index: Sum(Cash inflows)/ Investment. If >1 accept else reject!

Internal rate of return: It is the return that a project earns. If (IRR>COC), accept the project else reject!

3. Project Finance Markets and sources of financing:

Developing countries are the major recipients of project finance loans. Reason is that secors like oil and gas, telecommunications etc easy to use and thus, invest. In developed countries, the country risk is low as the risk level is lower there. The various loan parameters in the context of Project Finance are as below:

1) **Loan Amount:** Higher than corporate loans.
2) **Maturity**: Highest maturity than all the other kind of loans.
3) **Interest rate**: Highest 'fixed' interest rate.
4) **Type of repayment**: **Bullet** where principal is paid at the end, **amortization** where principal is paid back at each step, **Balloon.**

However, a project finance loan is exposed to higher **country risk** and **currency risk**!

A project finance loan can be financed using equity, long term debt, commercial bank loans, loans from insurance and pension funds, supplier credits, government assistance, multilateral and bilateral agencies. Funding from LIC can be for a longer term than that by commercial banks.

The initial, **development** phase is funded by the sponsors. Viability of project's technical as well as financial feasibility shall be established at this stage. Also, contractual agreements etc shall be

drawn out at this stage. For example, equipment finance shall either be done by directly loaning the equipment (Schlumberger) or by loaning money to buy/lease it (SREI).

Another flavor of financing is **Mezzanine Debts.** In this type of financing. **EBIT -> Senior debt interest paid ->Mezzanine Debt interest paid -> Equity payment (Dividends).** Thus, this kind of debt reduces the uncertainties of the shareholders! So, **Sponsor's investment** = **Mezzanine Debts + Equity!**

Mezzanine Debts however reduces the total equity that the firm could otherwise have had.

Other kinds of debts are: **Base Facility**, **Working Capital Facility**, r**evolving credit**, **standby facility** etc.

Return increases more when the project becomes operational and after the fixed costs is covered. Another viable option is to get the resources **leased**!

Financial intermediation helps raise the loans from the markets. **Investment banks** etc make the **financial feasibility** report of a project and helps raise capitals from the banks. **Consultants** on the other hand help make **technical feasibility** report of the projects. Banks may lend easily to an investment banker than to the actual client given their trust and long term relationship in and with each other! These two services can be classified as **Arranging** and **Advisory** services respectively.

Project Finance woks extensively as **Private Public partnership**. All infrastructure projects are not necessarily PPP. However, all PPP's are project financed! Government hires vendors for performing each and every activity and they mostly are private players and the entities are bounded by contracts thus enabling a PPP structure. Private sector partnership however, increases the cost of a project and hence it is important to assess them well.

4. Risk management:

Project Finance methodology have certain risks inherent to it. Risk in a project may mean differently to different people but we will think from an investor's perspective. It can be categorized as:

1) **Viability analysis of a project**: This can be further subdivided into **Economic viability**, which addresses questions like: Is NPV>0; Is there a market? How much price shall be set? How much to sell? Is the market approachable? What are the operating and financing costs?
   Technical Viability checks for the time and cost effects of a project; contingency analysis; operational costs and hidden costs if any.
   Credit worthiness involves checking if we can lend; what shall be the quantum of lending; kind of repayments; expected profitability (the higher it is, the higher the credit worthiness!).

2) **Risk identification, if the project is viable:** For our purpose, we will look into project specific risks only. Risks can be market risks, country risks etc too.
3) **Assessment of risk:** Risks come in between certainty and uncertainty. Risk can also be termed as 'known unknowns'. Thus, it is important to assess them well in terms of time, budget, performance and payback.
4) **Allocation of risks to ones who can mitigate them well:** For example, to mitigate risk in an ERP implementation, consultants are hired as contractors and implementers as service providers to assign risks of different natures to each of them!

5. Case Study of doing feasibility checks before investing in a start up(TravelMitra)

5.1 A brief introduction to the start up (TravelMitra)

Company's Business: A company that empowers the tourists to buy whatever they wish to, on reasonable prices, with quality assurance and allows them to shop in budget, finally ships all the purchases to their respective places from all across India. Moreover any information required while travelling inside any city will be reliably availed through telephonic assistance.

Mission Statement: To become reliable friends of the tourists, providing them with the authentic information, creating a 'Mitra' culture.

Products: A mobile application, for all three OS, with following facilities:
- Suggestions about the collaborated shops nearby, to get genuine products at genuine prices.
- Suggestions of products mostly bought in any given locality.
- List of items any tourist has selected till then, along-with the costs, and their features.
- Option to upload photo of anything the tourist wants to buy from road-side, non organized or non collaborated shops.
- Maps with the range of fares charged generally for transportation.
- Offline navigation

Other auxiliary services: A telephonic service, through which a tourist can ask anything he/she wishes to, in a particular city, e.g. what can be the best way to go from one place to other etc, cost free.

Impact:
A tourist is empowered to:
- Select everything he/she may wish to buy freely, without worrying about the budget.
- Shop everything he/she wishes without worrying about the quality or price issues.
- Get everything he/she has bought all across his trip in one lot, from one places, hassle free.
- Better negotiation while travelling inside a city and gain of authentic information from a reliable source about anything he/she wishes to know about.

Special Features:

No company integrating the tourists' shopping nation-wide.

- Huge information asymmetry solved.
- No company assisting the independent travelers in the journey, locally.
- No direct competitors.
- **Potential competitors**: trip38.com (a company providing local guides, and on airport services) a logistics' company (very unlikely, doesn't match their business area)
- **Indirect competitors**: tripadvisor.com - Non-collaborated shops (taking away some of our market share)

5.2 Feasibility Analysis

5.2.1 Analysis of 'Economic Feasibility'

Initial Investment required: During its initial phase, the idea is being implemented only in '**Kanchipuram'** area of the country. This also serves the purpose of **'Pilot Implementation** 'and kind of a test run to seal the credibility of the concept and hence get in more funds for the future roll outs across the country! The figures represented below are for '**Kanchipuram'** area only and has been kept very conservative as the whole project is to be funded through debt, at least initially. All the amounts are for the **first two months** before the launch of the service in **Kanchipuram.**

1) **Ad word and social media marketing campaign (facebook, email, twitter etc): Rs 100000**

The amount is a part of the campaign created for marketing the service for the entire country, with Kanchipuram as one of the destinations. Also, '**pay per click'** methodology of ad word marketing has been used to cover unwanted costs in case of ad word marketing part of the campaign. Further, to begin with, only **foreign customers** shall be the **target segment** and of those countries from where people visit Kanchipuram regularly.

2) **Banners/ advertisements through sign boards and hoardings etc.: Rs 50000**

To save on costs and given the proximity of Chennai to Kanchipuram, sign boards and hoardings shall be shown at the airports itself. Also, such banners and sign boards shall also be placed at the railway and the bus stations. This helps the marketing very impulsive and eye catchy as people coming out of these areas are in fact looking out for options related to everything! Again, this amount is only the initial requirement and will grow up as the project spreads its footprints in other areas.

3) **Application development phase**: **Rs 250000**

5 interns have been hired on a monthly salary of Rs 9000/month to initiate the development process. Also, other costs such as set up costs, license costs of software etc makes the amount this much.

4) **Admin costs and other set up costs etc: Rs 100000**

Thus, the above analysis makes the initial investment requirement as **Rs 500000**.

Opearational Expenses per month:

1) **Support, maintenance and enhancement costs of the software**: **Rs 100000**

   After the initial development through the interns, this shall be outsourced to some professional organization working in this field. This will minimize risk too!

2) **Employees and their salaries etc: Rs 50000**

3) **Rent, utility bills and other administrative costs: Rs 50000**

4) **Monthly rent to the distribution partner: Rs 60000**

This has assumed to be like this as the actual contract has not been signed yet (It could also be on the percentage of profit basis!)

Thus, the above analysis makes the operational expenses as **Rs 260000/month.** This is only an initial projection and for the first year of business.

Initially, this whole expense is being borne as incurred by 'Kanchipuram' area. However, this will reduce when the service will be launched in other areas, since the first point of expenses shown above would be a common expense to all and would thus be shared to reduce with each roll out! For our purpose, just for projection purpose, we have assumed that no roll outs occur until the initial investment for Kanchipuram area is paid off. Thus, the above operational expense will keep incurring until the complete payback initial investment. Also, even the initial investments in other areas won't have the development cost of the software however; it may have more of the other costs depending on the requirements of the other areas where the roll outs will occur in future!

Market Analysis:

No of customers (only foreigners – our initial target segment) visiting Kanchipuram per year = 20% of 4 million (no of customers visiting TamilNadu each year. 20% of them for sure visit Kanchipuram given its proximity and good connectivity to Chennai and it also being a major tourist attraction) = **0.8 million foreign tourists per year = 2191 foreigners per day** on an average.

Average amount that a tourist spends on shopping = 20$ per day

Customers willing to pay for their shopping with un collaborated and un organized shop which they earlier did not use to do because of variability in prices and quality of the stuff bought (These facts were revealed through '**hidden issue'** questioning technique while administering the questionnaire to them regarding their willingness to do such shopping if the application was good and the service was authentic from our end. Incidents of the vendors misbehaving and too much coaxing was also revealed) = **8$ per day of the 20$ that they spend.** This is also because they want to explore such markets for cheaper and more 'Indian' goods which they might be buying in a branded shop by paying more.

Also**, three samples of 25 tourists** each were asked on their willingness to use the service. **80%, 80% and 84%** of them respectively agreed to use the service. Also, **86%** of the tourists do not take help of any other agency for shopping.

Now, there are several advantages to the launch in that there is the first mover advantage, there are no direct competitors, rise of potential customers will be delayed as all the business will be through contracts with the shop owners, so they will not be able to switch easily. Further, if the market is created quickly, there would be significant entry barriers for other players. Also, all the customers who were interviewed were sent the link to download and sign up to the application to their emails and all of them who were willing to use it, signed up! Also, many shop owners wanted to collaborate as this will definitely increase their sales. Also, it is a conceptualized by IITians, so the perceived value is high (example of Flipkart).

Thus, assuming that all those who signed up will use the service (**Best Case analysis**), the **Total Addressable Market** = **Rs 268488508 per year = Rs 22374042 per month.**

Now, if initially, only **20%** of the above market is being tapped for our purpose, we have total market available as (**Worst Case Analysis** given the advantages this service has as mentioned above and hence, the whole market can be tapped). This can also be perceived as a cumulative factor of some customers running away and not the whole market being tapped! **= Rs 4474808 per month.**

If the commission is contracted to be at **8.5%** of the sales, income obtained per month = **Rs 380358 per month.**

Interest rate applicable (15% per annum – They are getting this funded through SIDBI); Payback period = 1 Year (this may increase if some unexpected cost come up or the business does not go as expected. This will be more risky for the investor and the rate of interest may increase!)

1) **Operating Income = 9*380358 = Rs 3423228 in the first year.**
2) **Operational Expenses = 9*260000 = Rs 2340000 in the first year.**

3) **Operating Income = (1) –(2) = Rs 1083228 per year.**
4) **Interest paid = 0.15*500000 = Rs 75000.**

5) **Earnings before tax = (3) – (4) = Rs 1008228**
6) **Tax paid = 0.3*716862 = Rs 302468**

7) **Profit after tax = (5) – (6) = Rs 705759**
8) **Principal repaid = Rs 500000**

9) **Retained earnings = (7) – (8) = Rs 205759 in the first year!**

Net Present Value = [705759]/1.15 – 500000 = 113703 which is greater than 0.

Internal Rate of Return = 41.15%; Cost of Capital = 10.5% (IRR > COC).

5.2.2 Analysis of 'Technical Feasibility':

The team has not come up with too much of technical implementation yet but below guidelines can be followed while developing the application as well as the entire prototype of the project:

1) **Development Cost** of the application should not be sky high since its authenticity would be checked only after a few implementations. Additional features could be incorporated later when it becomes fully operational and is not short of funds. Also, the **professionalism** and **knowledge levels** of the interns being hired for this purpose should be something between adequate and high.

2) The software should be **robust** and **flexible** to handle any sudden requirements that may creep in or any failure etc that it may occasionally encounter.

3) The software shall be **scalable** to address any future enhancements in the features to make it more competitive, attractive and easy to use. It should have enriched **UI** and **graphics** with facilities like uploading photos, rich texts etc.

4) The software shall have an architectural design that permits it to work even in **low connectivity** regions well.

5) **Cross Platform Integration** feature shall be there and the application should be **compatible** with any OS. For example, OLA CAB application is not downloadable on BlackBerry OS!

6) Out of **web design**, **hybrid design** and **native design** methods of **mobile application development**, **hybrid** shall be used as it works well with zero internet connectivity also with the application working offline too! Further, it is compatible with most OS unlike the other two styles of mobile application development.

7) C**ontingency** plans shall be devised. For example, if a person is making a list of items in the low connectivity reason and is not able to submit the data, provision should be there to save the data well and submit later. This will lead to more satisfied customers.

8) Employees that are hired for other jobs shall be professional; call centre people should be well trained, courteous and enthusiastic. Also, the other employees shall be innovative to contribute to business, more of owner than employee (the start up culture!)

Thus, it is difficult to manage everything by interns only. Risk shall be allocated to those who can manage it the best. Thus, the maintenance, support and enhancement part of the software shall be outsourced to a more professional organization to manage it more professionally!

5.2.3 Analysis of 'Credit Worthiness':

1) **Risk Analysis:** The value of the project is **low** as there is no equity contribution in it. Thus, the overall risk is on the higher side. It is a start up and is not in operation yet. This makes it a good candidate for project finance structure; taking each launch as a separate project and funding only that. This is kind of a **'Pilot Implementation'** to establish the idea/concept's credibility and authenticity.

Risk	Low Impact	Medium Impact	High Impact
Low Likelihood of Occurrence	**Employee turnover.**		**Downtime/crash of application.** This may lead to dissatisfaction and lost sales.
Medium Likelihood of Occurrence		**Increase in marketing and other costs.** For example, the pay per click for the ad words may increase dynamically!	
High Likelihood of Occurrence		**Rise of competitors.** Collaboration through contracts will keep these competitors at bay at least for some time. Only risk is that this might be competed with in other markets. Simultaneous roll outs are not possible due to lack of funds!	**Customers not using the service after agreeing to use it.** This will increase the payback time of the project and may result in an increase in rate of interest. The projections are based only on survey and hence, this may happen in the real time scenario.

2) **Expected profitability:** This should be high for the project. This is so because the customers have shown willingness; Shop Owners are excited to implement this to increase their sales and most importantly, the 'guaranteed' sales; No Direct competition; new concept; first mover advantage; concepts of IITians hence the perceived value is high (example of Flipkart!).

6. How does the 'Project Finance' structure fit in here?

1) It is a start up with no initial funding, thus debt is 100% and equity is zero which is how the project finance scenario works where debt is very high as compared to the equity. This mitigates risks too by minimizing the **Principal Agent** and **Under Investment** problems!

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2) Each roll out is a separate project and has been identified to be funded through separate debts. Risk, thus is specific to a market and hence a project here and doesn't affect the other ongoing or forthcoming projects chances of making profits!

3) Only those shareholders who might be interested in other launches shall go for it; the others may not participate as active investors in those launches. This minimizes the risks of shareholders who are not investing!

4) All the launches are done based on contracts signed by the shop owners and affirmation through sign ups shown by the customers (virtual contracts with them). Also, the financial projections for launches in other markets are difficult to show at this stage, so each launch is taken as a project and separate projection being shown for each of them.

5) Enhance Kanchipuram market by targeting the Indian customers too! This can be done simultaneously with other roll outs. Since, these are mutually exclusive to each other, the planning and working of one project does not affect that of the other! The projects behave as separate companies in their own.

6) Mitigates risk if the launch fails in one region. The region that is doing well is not affected by it. Every project is to be funded through its own operational profits. Minimum involvement of equity and debt/equity ratio is maintained on a higher side. For other launches, some equity may be poured in but the initial launch in Kanchipuram is through 100% debt!

7. Conclusion

Project Finance is the new flavour of financing. The companies are increasingly using it to fund their projects given the several advantages that it has to offer as mentioned in the previous sections of this study. Through this project, I have looked into the viabilities of a particular project from the perspective of an investor and have tried to analyze the various feasibility criteria that the project must fulfil so that an investment can be made into it. For **TravelMitra,** further launches will involve more of marketing, set up and co ordination costs along with the maintenance and enhancement costs of the application and the costs involved to launch the auxiliary services that have been mentioned in an earlier section. This launch however has not been included for the purpose of current study. In brief, it would involve establishing a localized call centre specific to a particular region where the service would operate and would be involved in helping the tourists by guiding them on various aspects/mode of travelling while in India. This however is beyond the

scope of this study. What can be done is that a separate marketing campaign can be simultaneously used along with the marketing of the core service to achieve the purpose!

For every other launch, the company can take debt at the very beginning only. In Kanchipuram's case, these debts will be taken after the first debt is paid back and after more customers are taken in both, from foreign as well as from the Indian segments. The latter should be targeted once competitors creep up and start targeting the foreigners' segment!

This study has helped me to gain insight into the fact that how an investor invests in a project and what analysis he/she carries out before investing. For my understanding purpose, I have tried to use the **Project Finance** structure of financing into this particular study as opposed to the traditional, **Corporate Finance** structure of the same. The study has helped me gain considerable knowledge about the benefits of **Project Finance**, its very structure and how to check the various kinds of viabilities of a particular project before making an investment into it!