

Chapter 2

Basic Misconceptions in Projects

Abstract The chapter begins by questioning the *fundamental distinctions between projects and operations*. While there are significant differences between the two faculties, the reader is also made aware of the marked similarities between them. This helps the reader align better in using the literature and management developments in other areas that are in the other knowledge faculties. The chapter then covers the basics of the interface between the project and the business viz. the *project feasibility study (PFS)*. We then try to understand *the common problems of the PFS* from the perspective of the project manager (who is subsequently responsible for the success of the project). In doing so, we identify the areas of improvement of PFS analyses in practice. An overview of the *financial perspectives of the PFS* is then presented. This is followed by a cursory treatment of *financial appraisal methods*. As a commonly observed conceptual gap in project management, the chapter then goes on to explain the *basic accounting principles in deriving cash flows*. The chapter concludes with an integrated model to evaluate projects using a multiperspective criteria.

Keywords Projects versus operations • Misconceptions in projects • Project feasibility study • Common problems in project feasibility study • Financial perspectives in PFS • Financial appraisal methods in PFS • Time value of money • Discounted cash flows • Net present value • Benefit–cost ratio • Internal rate of return • Basic accounting principles for cash flows • Cash flow principle • Incremental principle • Long-term fund principle • Multiperspective criteria for project evaluation • Profit • Spend • Time to first revenue • Exposure • Stakeholder orientation • Corporate positioning • Environmental considerations

2.1 Hello World!

Most books on project management start with the definition of projects. Well, we too would like to begin with the same. To put matters in perspective, the definition is taken from the PMI PMBoK®. The definition is simple, lucid, and well written.

A project is a temporary endeavor undertaken to create a unique product or service.

Again, literature also elaborates the fundamental differences between projects and operations. This helps the readers understand that projects are a specialized faculty as they are distinctly differentiable from the operations and other faculties. In other words, it is a case of an evolving specialization as a result of differentiation. While this is a must know for any manager, one must also look at the similarities between projects and operations. In most books, this seems to be an ignored area. We try to look at both the sides of the coin as we introduce projects.

2.1.1 Drawing the Line Between Projects and Operations

Let us touch upon these aspects in a little more detail. The first point, therefore, of our discussion, is that the projects are *not very different* from operations unlike what most books seem to say. Every activity does come to an end, even in continuous process plants! Even if one tries to argue otherwise, this is definitely true especially for maintenance work. There are objectives that are specific to a period like the production volume for the period, maintenance downtime for the period, etc. Hence, both projects and operations have a specific objective. In other words, everything is indeed temporary.

Second, it is often said that the project team does not outlive the project ...Well, as shown in a lighter note, that is not entirely true (Fig. 2.1). From a crew perspective, there isn't any difference. A contractor crew is often 'static' in every sense and does the same kind of work over and over again! The only aspect is that they do it at different sites (possibly). So, an electrical crew does wiring at every site in more or less the same way, using the same skill. However, the wires used might be different and the specifications could be different. An offshore IT team, for instance, would be

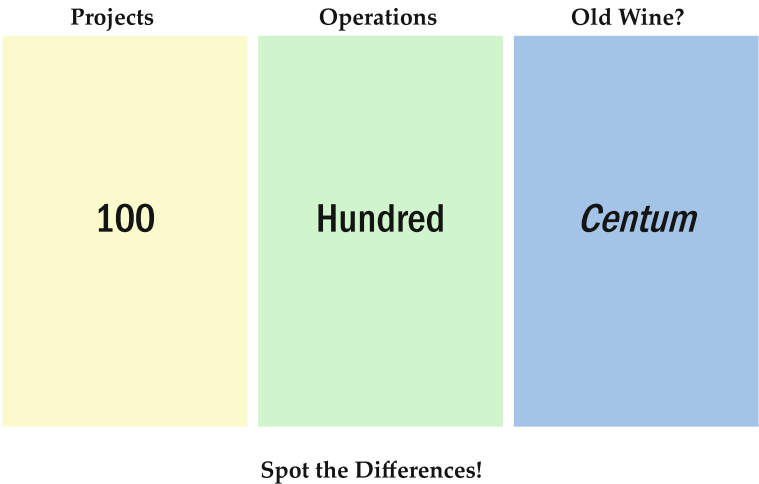


Fig. 2.1 Are projects really different?

working on different projects, but the same way, using the same skill, and at the same location! So, strictly speaking, the project team often outlives the project. Hence, this too is similar to the general understanding of operations.

Third, despite what the literature says, projects are unique, so are operations. One does not have to argue about this. The product mix at a manufacturing company can always be different from its previous month. Hence, it is, in every sense, unique! Like no 2 days in any person's life are the same, so are no two periods. Each has different objectives, different set of challenges, and different ways of overcoming or being successful. So, any particular time-bucket is actually a unique one in itself.

And so, one can argue a whole lot about the similarities between projects and operations. This is, indeed, a dilemma. One could argue both ways and see different outcomes each time. Yet, if one asks a project manager, he does understand that the two are different. And I agree that they are different. However, what I find in the literature is a kind of an overdrive, whereby, authors keep harping about the differences a little too much. This is not a very positive sign. We will just see why.

2.1.2 Similarities Between Projects and Operations

What is essentially important to understand is that:

A project is usually on the 'spend' part of the equation with a potential for a future 'revenue or benefit' of some kind. The gap, therefore, between the spend and the revenue is longer than the typical operations cycle in the company.

Unlike that, operations, are an integral part of the value chain of a company. Hence, they are closely related to the revenues of the current accounting cycle or period.

Why Is This Important?

Barring the fundamental difference given above, there is hardly any difference between the project environment and the operations environment. Although, one would read a lot on the same in literature, let us wisen up to the fact that they are very similar. This has far-reaching consequences.

The first consequence is a simple one. If one truly understands the fact that they are similar, one could stop pushing oneself from going in the wrong direction. Afterall, the 'overdrive' is only going to create a kind of 'alter ego' in the project manager! It is time to work around the same effectively.

Second, submitting to the fact that there are similarities actually provides the project manager to leverage from research conducted in allied management areas. This eases a lot of pressure, because the project manager can now use existing repositories of knowledge from allied areas to help improve his own decision making. In other words, although different, one does not need to reinvent the entire wheel. I see a lot of project managers argue that projects are more 'difficult' than operations.

There is some degree of agreement there. However, let us look at another example to put things in perspective. Suppose one were to give a task to cook chicken and eat it! This would be pretty challenging for many as they need to learn the recipe, get the chicken, prepare for the cooking and, finally, if everything goes well, eat it (with pleasure, of course!). In other words it is difficult, like a project. Now, imagine that you have to cook and eat the chicken the same way everyday! Which of the two situations would be more difficult for you??? While the latter is arguably an operations scenario, I do believe it would be very hard to motivate oneself to cook and eat the chicken the same way everyday. One could try this and ask oneself when one reaches the third day! It does sound challenging and more difficult than the first situation! So, without delving into such sensitive topics, I just want the reader to understand that the similarities could be leveraged.

Third, the similarities do enable us to leverage the fundamental concept of operations viz. the concept of the process. Simplistically stated, a process is defined as a

sequence of interdependent and linked procedures which, at every stage, consume one or more resources (employee time, energy, machines, money) to convert inputs (data, material, parts, etc.) into outputs.

This concept helps us align our thinking to the classical questions of ‘How to’ and ‘Why’. Obviously, the ‘Whats’ are the foundation stones of the projects.

Hence, we do have an existing platform to springboard ourselves into the world of projects :-). I know that some of you might be in a state of ‘shock’ by now, but if project ‘experience’ really counts in the industry, then, the project world is *simplistically put...more similar to the operations world than we think!*. In short, the concept of project experience contradicts the premise of the claims of uniqueness. What good is an experience if it were so unique??? So, let us stop scaring people with technical jargons to prove that we are ‘different’ and start appreciating that our type of work is similar, but our conditions of work are different and that is what differentiates our world from the rest. In short, let us not be under **the misconception that projects are very different from operations**. I hope the above discussion has given it a meaningful closure.

In this book, our approach is precisely going to see how we could leverage existing repositories and add value to the project manager. While doing this, I have tried to make the transition go down with ‘effortless ease’ for the reader. As an advanced level book, it would many times work as an advantage for the reader to go back and do some reading on topics mentioned here, especially from books that are from allied branches. For instance, while talking about risk management, the reader could try and understand risk management from a financial perspective, from a statistical perspective and from an operations perspective *before* delving into the project perspective. That would assist the reader understand the commonalities and the specific aspects regarding the application in a project environment.

2.2 Projects in Business

The difference we mentioned earlier is certainly not a small one. So, it is required to delve into the same a little deeper now.

The first and foremost thing is to understand what a business is! Most people find it difficult to get back to fundamentals. However, we need to make this a practice in order to remind ourselves of the fundamentals that we often encounter. A business is summarized well as:

1. Something that keeps us busy
2. Something that helps us meet our needs
3. Something that adds value to the society

In other words, it is an economically relevant activity that requires time, money and resources. Therefore, most projects are a part of some business activity. In other words,

It is a business need that translates into project activity. And most times, the project has a longer lasting effect than the operations, which implies that the business need creates an asset, in financial accounting terms, at the end of the project.

The understanding of a project in a business environment, therefore, requires an understanding of both the business as well as the project environment. Such a study is called the **Project Feasibility Study (PFS)**.

In other words, a project feasibility study is an important document that bridges the project with the business environment. It looks at the need of the project and links it with the fulfillment of the Requirement / need. The vehicle of fulfillment is nothing else but the actual project. Since a feasibility study is carried out in the beginning, it is like the *foundation stone* of the project.

For most managers, the feasibility study is a document that loses its utility once the project gets approved! **This, again, is a very common misconception.** One might debate that this isn't so.

A Quick Hands-On

However, ask any project manager, who has been working on a project, the following:

What exact inputs has he given for the preparation of the PFS?
Does he agree with the estimates of the time and cost in the feasibility study?
How often is the PFS referred to during the course of his work?
Does the PFS give him inputs on how one should decide the issue at hand?

And lo! Most often than not, you are bound to find that the PFS is probably an irrelevant document for a project manager in his normal course of work!

Most practicing managers, therefore, believe that the PFS is a document that is normally required for an approval. Typical approvals are from senior management or the stakeholders or some bank or some regulatory body. In literature, the PFS is designated as one of the ‘exit gates’ of the project. In practice, it is indeed an ‘exit gate’ that tells the project manager to move on with his work. But given the fact that it is an exit gate, it is a very important activity. And the importance lies in the fact that:

From a project management perspective, the Project Feasibility Report is the document that provides *the baseline of the business case that is fulfilled by the project.*

What a PFS should, therefore, intrinsically contain are the following:

1. Is the business need identified correctly?
2. Does the project satisfy the business need fully?
3. What is the business risk attached to the project?
4. Is the project return going to be worth it?
5. Are the conditions right to undertake the project?
6. How should the project be undertaken?
7. What are the ‘hard’ and ‘soft’ constraints of the project?
8. A possible description and guidance note on decisions that need to be made at a later date in the project.

A Quick Test

Project Feasibility Studies typically should have the following components:

1. Market and Demand Analysis
2. Technical Analysis
3. Financial Analysis
4. Project Cash Flows
5. Project Model
6. Project Appraisal

Now take six different PFS reports and study them in detail. Next focus on the key questions mentioned above and rate the quality of the reports. Mention all the details you feel are missing in these reports. Develop a detailed format for the PFS report and keep it for your reference.

You will find that the industry norm deviates significantly from the expectation and is more in sync with ‘filling up a format’. This will also explain why the PFS is not taken seriously by most managers! And therefore, the genesis of the second big misconception that is being fuelled by this phenomenon in reality. At this point,

therefore, what needs to be understood is that, although a PFS may not be of the quality it should be, it *still has a few details that are critical for the manager*. Therefore, one should not undermine the value of the PFS and must ensure to use it with the right perspective and objective. A good quality of the PFS is definitely a good start for the project.

The PFS must implicitly contain a detailed understanding of the project, a priority framework for the objectives, an understanding of the ‘boundary conditions’ and the ‘initial conditions’ in the proposed business case and, a meaningful way of fulfilling the needs of the business. A good feasibility report will have a proper guidance note on the execution and would draw a framework for decision-making during the execution.

2.3 Project Approvals are Complex Financial Decisions

Having understood the genesis of projects, and the basic document that interfaces it with the business world, we now delve into the specifics of the Financial Decision. This is important because projects are usually high-value items. And the comfort level in parting with USD 1 is certainly going to be different from the comfort level in parting with USD 1 billion! The more the value, the more the effort in ‘ensuring’ success (again a concept we have discussed earlier).

One of the challenges for project managers, therefore, is to ensure that they understand the three different perspectives involved in any typical project situation viz. the engineering/technology perspective, the financial perspective, and the accounting perspective as shown in Fig. 2.2. They are like three different languages that the project manager must know. They are the three foundation stones for project managers to understand the perspectives involved in financial decisions. While the

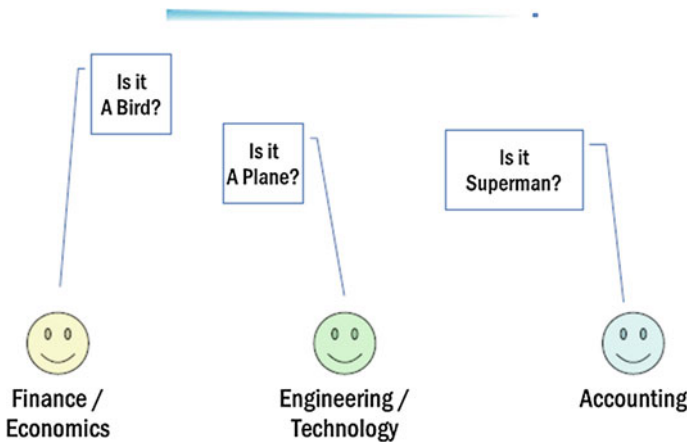


Fig. 2.2 Developing project perspectives

engineering/technology perspective helps the manager to interface well with suppliers, clients, contractors, and customers, the financial perspective is normally more interesting to the stake holders, the markets, the lending agencies, and the layman (who often do not understand the technicalities). The accounting perspective is meant to support the financial perspective in compliances and the technological perspective with the laws of the land. It, therefore, feeds ‘clean data’ to the financial perspective to enable good-quality financial decision-making. This leads us to **the third misconception** among most managers. They believe:

One doesn’t always need to understand ALL the three perspectives to be a good manager. Nothing could be farther from the truth! To be a good manager, one needs to be able to understand and balance the perspectives involved.

But this thinking is fuelled by the way the project managers climb the corporate ladder. Some of them come from the execution side, having a lot of field experience. They are at the receiving ends where all the delays and inappropriate decisions are directly loaded on them! The planners typically interface with the technocrats and the execution team. The project finance group interfaces more with the funding agencies. Each of these experiences focuses on a specific kind of perspective. The perspective, therefore, continues to be their dominant one. While this expertise is the basis for initial promotions, the manager is soon required to develop the other perspectives adequately. The impact of this misconception surfaces at such times.

We will give an overview at this stage. This overview is intended for those project managers who are *not* from a finance background. Taking the financial perspective forward, most project situations work similar to capital budgeting principles of financial management. Therefore, it is important to understand the logic of the management principles as applied to capital budgeting. While a detailed treatment of this is given in most financial management textbooks, we just touch upon one of the tools viz. the cost–benefit analysis as an example. Needless to add, the reader is advised to go through more detailed textbooks in financial management to allow a better understanding of the concepts and the subject.

2.3.1 Cost–Benefit Analysis

While our objective here is not to give a detailed financial perspective, we are going to give a ‘conservative’ perspective to the project manager. The cost–benefit analysis is a financial management procedure to *translate* costs and benefits to *develop* cash flow values. It is, therefore, the first step in any investment modeling process. The more robust the methods are in deriving the cash flows, the more robust the subsequent analysis would be.

Any cost or benefit needs to be shown as a cash flow. That is, it needs to be shown as ‘money’ coming in or going out of the organization with a definitive amount, at an identifiable point in time.

An elementary treatment of the cost–benefit analysis from the financial perspective would reveal the use of certain accounting principles like: Cash Flow Principle, Incremental Principle, Long-term Funds Principle, Interest Exclusion Principle, and the Post-Tax Principle. As a project manager, one needs to know what happens if we choose not to use any one or more of these principles. Moreover, one needs to try a small *test case* to understand how the cash benefit analysis works in practice.

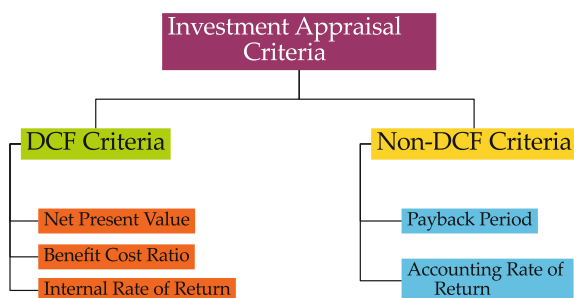
Most importantly, one needs to also stress on understanding the limitations of the cost–benefit analysis. We leave that to advanced reading in financial management rather than discussing it over here. At the same time, one would find it interesting as to how the cash flows are derived in one's own organization. This usually spans multiple functions and the data are collated by the accountant/finance team at the organization. Moreover, every organization has a different method of calculating and assessing their financial situation. Hence, due to the multiple variants possible, we are not going to 'glorify' any single method, thereby misleading the reader!

Though a project manager is many times not expected to have the skill or develop a cost–benefit analysis model, he needs to know the ways to do it. Oftentimes, the project manager needs to develop models along similar lines. These are covered in subsequent sections in the book. Therefore, in the interest of his own normal 'course of work', it is advisable to learn these techniques or at least understand how these are applied in real life. It would also help the project manager interface better with other functional teams within the organization.

2.3.2 Appraise the Investment

While project appraisal is a crucial activity that is included in conventional literature, it is **a common misconception that appraisal is a project management activity**. In fact, as you would see shortly, appraisal is actually the final activity in the business strategy chain. It incorporates details from not just the project phase, but also from the operations phase. It is, therefore, an activity involving the integration of concepts across strategy, marketing, technology, projects, finance, operations and, lastly, accounting. We will delve over this shortly.

Fig. 2.3 Appraisal methods



Coming back to our discussion, the next step in the process is an appraisal of the investment. There are essentially two types of appraisal criteria that are widely used viz. **Discounted Cash Flow Methods and Non-Discounted Cash Flow Methods**. The fundamental difference between the two is straightforward: One uses the time value of money to appraise investments while the other does not. The time value of money is covered in detail in the subsequent sections.

A quick review of some of the methods along with the key characteristics is given below. Let it be reiterated at this point that this is not an exhaustive treatment as these techniques are covered in-depth in books on Financial Management.

The generic classes of methods are shown in Fig. 2.3. A brief is provided below. We have restricted our treatment to Discounted Cash Flow (DF) only.

1. *Net Present Value (NPV)*

The time value of money states that an amount X received after a year has a different 'value' Y today (present day). The amount Y is called the present value of X as it 'displaces' X over time and looks at its value today (present day). The Net Present Value is defined as the sum of the present values (PVs) of incoming and outgoing cash flows over a period of time. Incoming and outgoing cash flows can also be described as benefit and cost cash flows, respectively.

The NPV is based on the assumption that the intermediate cash inflows of the project are reinvested at a rate of return equal to the firm's cost of capital. Cost of capital refers to the opportunity cost of making a specific investment. It is the rate of return that could have been earned by putting the same money into a different investment with equal risk. Thus, the cost of capital is the rate of return required to persuade the investor to make a given investment. For example, for an individual, to invest in a business is riskier than having fixed deposits in the bank. Hence, the business has to give a little more return than the fixed deposit. This return expected by the individual from the business is nothing but the cost of capital of that business. The NPV of a simple project monotonically decreases as the discount rate increases. The decrease in the NPV, however, is at a decreasing rate. The main merit of NPV is that it takes into account the time value of money. It considers the cash flow stream in its entirety. It squares neatly with the financial objective of maximization of wealth of the stockholders (also the key economic objective). NPVs of different projects can be added (additive property).

2. *Benefit–Cost Ratio (BCR)*

BCR is the ratio of the benefits of a project or proposal, expressed in monetary terms, relative to its costs, also expressed in monetary terms. All benefits and costs should be expressed in discounted present values. While the NPV gives a USD figure as the net present value, the BCR is a ratio (it is just a number) having no units.

Since this criterion measures NPV per unit of outlay, it can discriminate better between large and small investments. Under unconstrained conditions, the BCR criteria will accept or reject the same way as the NPV. With budgetary limitations, BCR gives a better mechanism to rank projects.

It, however, cannot aggregate projects. So, it is not additive like the NPV. And when cash outflows occur beyond the current period, BCR is unsuitable.

3. *Internal Rate of Return (IRR)*

This is another tool that leverages from the time value of money and considers cash flow streams in their entirety. The IRR is defined as the discount rate often used in capital budgeting that makes the net present value of all cash flows from a particular project equal to zero. Generally speaking, the higher a project's internal rate of return, the more desirable it is to undertake the project.

It makes sense to businessmen who prefer thinking in terms of rate of return and find an absolute quantity like the NPV somewhat difficult to work with.

The IRR, however, may not be uniquely defined. If a project has streams with more than one change in sign, there is a possibility of having multiple IRRs. Moreover, the IRR calculation cannot distinguish between lending and borrowing and hence a high IRR need not necessarily be a desirable feature.

The IRR can be misleading when choosing between mutually exclusive projects that have substantially different outlays. In such cases, it is advisable to go for marginal IRRs. More details are available in financial management books for the reader to go back and check.

2.3.3 *Recap of Basic Financial Management Concepts*

The Time Value of Money

A commodity worth USD 100 today would cost different after a year. This cost difference is typically called inflation. At the same time, if one is to invest USD 100 in a bank, one gets some interest at the end of a year. Usually, there is a complex economic relation between the inflation and the interest. If one is to borrow USD 100 from a bank, and if one has to pay back the loan after a year, this amount would be a little more than the interest obtained by investing in the bank. The additional amount that one has to pay in order to get USD 100 from the bank is also referred to as the Cost of Capital of the USD 100. It is usually expressed in terms of a percentage rate, very similar to the interest rates.

Very simplistically put, it means one is borrowing cash for one's business. So, like a compound interest formula, one has

$$\text{Principal} = \frac{\text{Amount}}{(1 + r)^n} \quad (2.1)$$

Table 2.1 Future value of the principal P for a cost of capital r

Year	Amount in the beginning	Interest for the year	Amount at the end of the year
1	P	Pr	$P(1 + r)$
2	$P(1 + r)$	$Pr(1 + r)$	$P(1 + r)^2$
3	$P(1 + r)^2$	$P(1 + r)^2r$	$P(1 + r)^3$
n	$P(1 + r)^{(n-1)}$	$P(1 + r)^{(n-1)}r$	$P(1 + r)^n$

Table 2.2 Cases of cost outlay for the USD 100 Million project

Case	Spend in year 1	Spend in year 2	Spend in year 3
1	30	30	40
2	20	40	40
3	50	30	20
4	40	20	40
5	20	30	50

where the Principal is the amount taken from the lending agency and the Amount is the Principal and the Interest that is returned to the agency; r is the rate of the cost of capital.

If one divides the time periods and understands the value of the amount, it will show us a trend as shown in Table 2.1. This appears trivial when put in the equation; however, in reality, one needs to understand the impact of different values of r on the amounts that need to be paid. This is a more complex issue for a project manager. In a project, the greater the initial spend, the greater is the amount to be repaid. And longer the project, greater the amount to be repaid.

In order to get a good handle of the issue, one needs to pick values and establish these relationships. Needless to say, a graphical approach works best here. Let us assume a project that runs for 3 years. Let us assume it to cost USD 100 million. Let us assume that there are three scenarios for the cost of capital viz. 6, 12, and 24 %. Now, depending on the outlay of the project, several scenarios are possible. The potential spread of cost outlays is shown in Table 2.2. While this is purely an academic exercise, most projects will have a distribution that can be easily derived and treated as a baseline for any ‘analysis’.

For the purpose of our illustration, let us now assume that the spend is done in the beginning of the year. Therefore, using the relationships of the Time Value of Money, we get a value spectrum for the various rates of the cost of capital as shown in Table 2.3. One needs to note the trend: the earlier one spends, the more the value and the larger the cost of capital, the larger the value. The variance in the case represented here is around 40 % with a change in the cost of capital. If one is doing an international project, one would understand the implications easily. Some

Table 2.3 Value of the USD 100 Million project at the end of 3 years

Case	Calculated with cost of capital 6 %	Calculated with cost of capital 12 %	Calculated with cost of capital 24 %
1	111.84	124.58	152.93
2	111.16	123.07	149.24
3	114.46	130.28	166.26
4	112.51	126.09	156.62
5	110.53	121.73	146.26

countries have a low rate while others have a much higher rate. Even the changes in the outlay could bring a change of anywhere worth of 3 % (and upto 20 %).

Basic Accounting Principles

In a simplistic sense, assume one spent USD 100,000 when one invested in a fast-food business. Now let us assume that the total expenditure to use that asset was USD 20,000 per year and the amount of revenue/sales was USD 32,000 per year. In short, one had a return of USD 12,000 per year. The financial analysis is simple.

In the corporate world, however, there are certain real flows that are obtained after the application of notional elements. For instance, one could have to pay tax for the business mentioned. However, the tax rate allows for a notional cost factor called the depreciation to be treated as an expense. This *reduces* the tax liability. The project world is a similar one. While doing the analysis of the overall project and operations, the end result of the project is treated (most times) as an asset that can be depreciated or amortized over a longer period in time, reducing the tax. Thus, cash flow analysis for the cost–benefit ratio needs to take this into consideration. This is shown in Fig. 2.4. The derivation of real cost elements, the cash flow, involves data that have to come from the project manager’s estimates, the business case information (from the marketing and operations people), and the accountant’s desk (to affix the notional values and estimates). Thus, accounting information needs to be processed by taking into consideration the wide range of notional as well as real flows.

While a project manager is technically sound, he also needs to understand the right terminology to ensure that the right message is being communicated with the financial controllers and other stakeholders in his project. This is often a point of contention because most project managers tend to use terms rather ‘loosely’, thereby making the jargon-centric CFOs rather suspicious of their capabilities.

Fortunately, this is an extremely well-researched area and there are many books that deal exclusively with this subject. One of the best resources for understanding the various perspectives involved while using these principles is given in the resource of the Stern School of Business authored by Damodaran [5]. The treatment is fairly elaborate. In this book, we are only touching the overview and not demonstrating the detail.

The Basic Accounting Principles involved in the Financial Decision Making of Projects are the following:

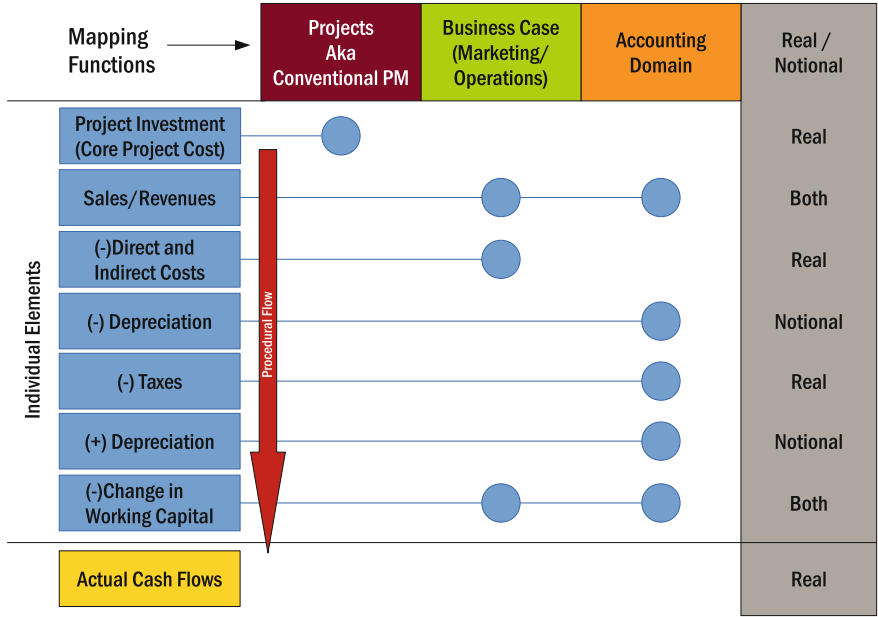


Fig. 2.4 Process and function flow in deriving cash flow

1. Cash Flow Principle

The cash flow principle states that one has to take the *actual costs and not the expenses* as per the accounting convention. This therefore, involves a serious analysis of credit sales and purchases as well as items like depreciation. At the end of the day, the project manager must think as plainly as the cashier in a bank and look at the actual cash that is paid out, rather than those that are notional in nature.

In accrual accounting, one shows the revenues when the products are sold or the services are provided and not when they are actually paid for. Similarly, it shows expenses associated with these revenues rather than restricting oneself to the cash expenses.

2. Incremental Principle

While understanding the costs associated with a project, the project manager must also understand these cost heads from an incremental perspective. That is, how much of the cost is actually due to the current project. This is particularly important because some companies tend to ‘load’ the project with other costs and that tends to squeeze the budget, making it hard for the project manager to justify the costs. This analysis helps to choose the best project by taking into consideration the accurate reflection of the cash flows based on an accurate reflection of the allocated funds.

3. Long-term Funds Principle

In a project, there are tricky issues regarding the reference points for the funds.

In other words, while the manager thinks like the ‘cashier’ he needs to know the components of his kitty to start with. There are four distinct points of view and managers could use any one of them to define their cash-boxes viz. (a) equity point of view, (b) long-term funds point of view, (c) explicit cost funds point of view, and (d) total funds point of view. The equity point of view considers only the equity component in the project investment and uses that as a basis for decision making. In the long-term funds point of view, the equity and long-term debts are taken as a combined entity to evaluate the projects. Explicit cost funds point of view considers both equity and long-term debts and also incorporates short-term bank advances. These short-term bank advances are funds taken on a short-term basis to cover certain ‘spikes’ in the fund requirements. The total funds point of view also considers the creditors that are supplying material to the project.

While a project manager might just say he is looking at the ‘entire’ cash, the general convention is to restrict the perspective to the long-term funds. Long-term funds comprise of equity and long-term debt which are efficient instruments for project financing. Bank advances and creditors would be more expensive during the course of the project. This would disturb the cost of the capital assumptions of the project. Hence, while calculating the costs and the benefits, the reference point is the supplier of the long-term funds.

That being said, today, large organizations tend to leverage from the total cost perspective. For instance, contract conditions where the equipment suppliers need to provide credit to the buyer are not uncommon. In such situations, the cash outflow for the buyer is minimal, but the total fund perspective would indicate a large spontaneous liability. This trend has not percolated into common business practice, especially among mid-value projects. Hence, one should normally restrict the analysis to the long-term funds point of view.

4. The other principles are interest exclusion principle whereby the interest is not separately calculated for the LT Debt as it is already a part of the cost of capital rate and the post-tax principle whereby the cash flow must incorporate the tax flows as well to ensure that it is accurate in terms of the representation of the cost. Both these are incorporated in our analysis structure outlined in Fig. 2.4.

While interfacing with other functional teams, the project manager needs to understand these dynamics so as to be able to read the accounting and financial statements in a better way.

A Quick Test

To get a firm handle of the various elements involved, it is advisable to try out excel-based models for NPV, BCR, IRR, ARR, and Payback Period. This helps the manager to understand the specific formulae and the calculations. It would be interesting for any manager to take the last 10 strategic projects of

the organization and look at how the parameters panned out. This would also give a feel for how the stakeholders are deciding in the company. It is very important for any manager to understand how the stakeholders decide so as to enable him to align his thinking along their priorities.

While you do so, also try to derive an excel sheet to calculate the payback period with unequal cash flows.

2.4 A More Balanced Perspective of Project Evaluation

It is indeed a fact that the appraisal methods mentioned above are used across a very wide spectrum of industries. However, there are a lot of ‘company-specific’ criteria that go beyond the realms of these conventional tools. These tools are many times used in program management as well as portfolio management. We call this framework the Balanced Project Evaluation Framework. In consulting, we often tend to advise clients on projects based on these factors as shown in Fig. 2.5.

1. *Environmental Considerations*

This is fundamentally an ‘external-focused view’. It looks at the competitive strategy of the company and the variables in the external environment. Critical issues of project selection include aspects like:

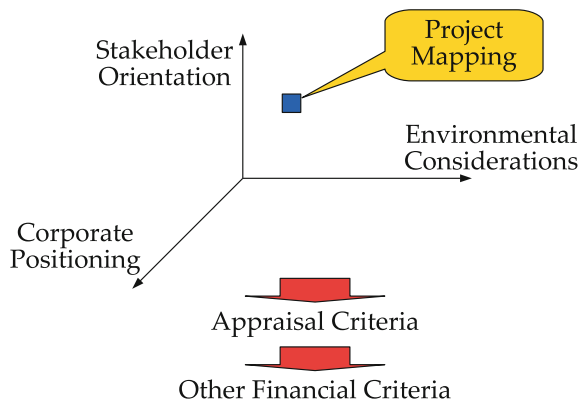
How is the current project going to help the organization compete?

Does the success have a direct linkage to the success of the organization?

How does one circumvent the challenges posed by factors like high inflation rates in the economy?, etc.

In other words, this is the proposed or potential interface with external entities.

Fig. 2.5 Perspectives in project evaluation



2. *Corporate Positioning*

This is an ‘internally focused view’. In other words, it looks at the corporate strategy of the organization and the variables in the internal environment. In other words, issues that are under consideration here include:

How does this project synergize with the existing operations?

Is the organization having the required technological preparedness?, etc.

This is again, a detailed perspective of how a project will be interfacing with internal entities.

3. *Stakeholder Orientation*

While strategy (both competitive and corporate) is one side of the equation, the other side actually is the stakeholder orientation. This aspect has been covered in the stakeholder management faculty in most books. However, it is an important selection criterion. Stakeholders may or may not be aligned with the strategy. One often sees this phenomenon in several organizations, where the projects are well aligned with the strategic objectives, but the stakeholders simply do not want to digest them for some reason (aka *gut feeling*:--)).

Thus, stakeholder orientation is extremely important. Most literature in project management tends to ignore this issue. We are bringing this up as a separate dimension because this could ‘defy’ logic at times. Hollywood movies too seem to promote this idea! Essentially, stakeholders could cause a lot of ‘surprises’ in conventional business practices (John Grisham’s *Pelican Brief* as an example). We deal with this issue again in subsequent chapters where we discuss stakeholder management.

4. *Normal Appraisal Criteria*

This is nothing but the criteria explained in the previous section involving the conventional financial analysis. It is always advisable for the project manager to choose *two of the criteria* to ensure a better quality of decision making.

5. *Exposure*

This is one of the fundamental factors that one checks immediately after the application of the appraisal methods, the maximum cost (or capital or reputation, etc.) that is at stake through the lifecycle of the project. So, even if a project passes through the previous ‘factor-tests’, it might just get rejected because of the exposure it warrants.

6. *Profit/Spend*

This is a relatively new metric where companies are looking at the spend in terms of costs, manhours, etc. Many recent acquisitions have shown that companies are intrinsically unable to justify the *spend at the projects phase* and prefer, therefore, to acquire existing facilities. In short, the project dynamics is changing in today’s business environment.

7. *Time for First Revenue*

With business environments becoming more and more unpredictable and dynamic, the time when the project actually starts ‘showing’ its benefits is becoming more and more important among business circles. This is particularly true with invest-

ments in third-world countries like India, China, Brazil, etc. where the regulatory environment is less static and tends to pose problems to the project sponsors.

At this stage, we would also like to make it clear that, many times, project managers are well aware of these factors and they have a tendency to 'present' beautiful reports to ensure their projects go through seamlessly. It is very likely that such situations snowball into huge issues and the projects could be prematurely terminated. All said, this rampant practice is something that the reader needs to be aware of...to start with!

That being said, a whole lot of organizations do have a well-structured and a well-managed selection process. So let us not paint all the cars black! One needs to be cautious while working on project selection and appraisal, and I believe this has been reasonably conveyed at this stage.

2.5 Key Takeaways

The project world is actually not very different from the operations world. Accepting this opens a new world of possibilities to use and leverage from the innovations in the faculties of general operations in the project world. We will be seeing how to practically implement this in subsequent chapters.

A strong project-to-business interface is defined by the Project Feasibility Study. However, there are reasons why this report is not very 'usable' in everyday life. This again hovers around the short-cycle that treats the project feasibility study as a necessary-for-approval document rather than a necessary-for-manager document.

Understanding basic principles of Finance is an important point for most project managers as they need to relate to the perspectives used in decision making at the stakeholder level. Developing the right perspective is an essential part of project management education. However, this is not always appreciated in practice. We have tried to touch upon this misconception and have provided a few guidelines for the users to enable them take it up with the right perspective. In doing so, one needs to understand the finance world as well as the accounting world and the mechanism/manner in which they impact financial decision making.

Unlike the conventional approach where the project manager focuses on financial evaluation alone, we have presented a more realistic framework to assess the project and identify whether they are 'indeed' feasible in the true sense. This is discussed toward the end of the chapter.

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