

Chapter 2

Literature Review

2.1 Introduction

This chapter critically reviews the existing literature in some areas of business that impact investment appraisal decisions. These areas include capital budgeting, corporate governance, capital markets, accounting practices, and investment appraisal methods. To discuss these concepts and their interrelationships, some relevant theories are discussed including the following: agency theory, stakeholder theory, stewardship theory and resource dependence theory. The capital market variables include interest rates (cost of capital) and agency costs, which impact on corporate governance, which in turn have an impact on capital budgeting decisions (Ruiz-Porras and Lopez-Mateo 2011). There are two main sources of capital – equity and debt (Whitehead 2009). Debt is an external source of capital which bears a specified interest rate. It is mainly supplied by capital markets including commercial banks, investment banks and other financial institutions such as insurance companies, superannuation funds, etc. The company (the borrower) and the financial institution (the lender) enter into a contract which specifies the interest rate to be charged and other restrictive debt conditions which have to be observed during the life of the debt. Through the interest charges and other conditions imposed on the borrower (investor), capital markets influence the firm's corporate governance, agency costs and capital budgeting decisions. Therefore, making capital budgeting decisions without considering capital market interactions ignores one of the major factors that influence investment appraisal decisions.

2.2 Capital Budgeting

Making a capital budgeting decision is one of the most important policy decisions that a firm makes. A firm that does not invest in long-term investment projects does not maximise stakeholder interests, especially shareholder wealth. Optimal decisions

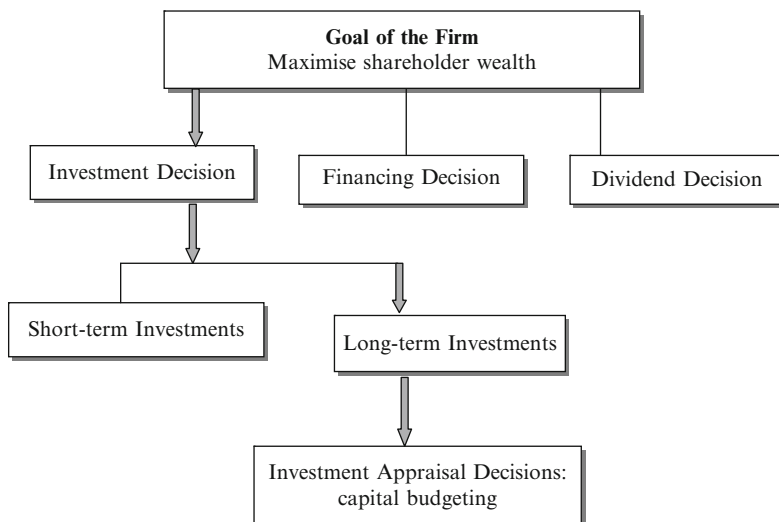


Fig. 2.1 Investment appraisal and goal of the firm

in capital budgeting optimise a firm's main objective – maximising the shareholders' wealth – and also help the firm to stay competitive as it grows and expands. These decisions are some of the integral parts of overall corporate financial management and corporate governance. A company grows when it invests in capital projects, such as plant and machinery, to generate future revenues that are worth more than the initial cost (Ross et al. 2011; Shapiro 2005).

Aggarwal (1993) states that capital budgeting decisions are important because of their long-term financial implications to the firm, and therefore they are crucial. The effects of capital budgeting decisions extend into the future, and the firm endures them for a longer period than the consequences of operating expenditure. Some of the definitions of capital budgeting includes the following: Seitz and Ellison (1999) define capital budgeting as 'the process of selecting capital investments'. According to Agarwal and Taffler (2008) capital budgeting decisions possess the distinguishing characteristics of exchange of funds for future benefits, investment of funds in long-term activities and the occurrence of future benefits over a series of years.

This study uses the term capital budgeting synonymously with investment decision making and investment appraisal. Therefore, capital budgeting may be defined in many ways, but in a nutshell, it is the decisions made by an organisation to allocate capital resources most efficiently in long-term activities in the hope that aggregate future benefits exceed the initial investment so as to maximise shareholders' wealth and other stakeholders' interests. Figure 2.1 shows how investment appraisal is related to other financial decisions and the goal of the firm.

A firm's decision to invest in long-term assets has an impact on the rate and direction of its growth. A wrong decision can prove disastrous for the long-term survival of the firm. The purchase of unwanted long-term capital assets results in unnecessary capital allocation and heavy operating costs to the firm (Aggarwal 1993).

Heavy operating costs may render an organisation unsustainable. Again, the fact that the firm needs to raise and commit 'large sums of money' in long-term capital projects, makes capital budgeting decisions most important, requiring careful planning and implementation (Brealey et al. 2011). Further, once wrong capital budgeting decisions are made, they are not easily reversible and if the firm insists and reverses them, they are costly. Therefore, a company's future direction and the pace of future growth start with capital budgeting decisions which involve investing in viable long-term assets to generate future revenue. Hence, capital budgeting is the most critical decision of any organisation that plans to grow, adequately compete and thrive for a long time. Sub-optimal capital budgeting decisions don't maximise stakeholders' interests in the long run, in particular the share prices or market capitalisation. Share prices are reflected on the capital markets. Since share prices listed on the stock exchange (capital market) are impacted on by various factors and keep changing continuously, then the capital budgeting decisions should be able to factor in those issues which impact on the capital markets.

It is a common occurrence that in the early years of most capital projects, the cash outflow exceeds the cash inflow, which means there is a deficit because of large entry charges. Therefore, the organisation needs to have good financial management to have other means of sourcing cash to cover this deficit until cash from capital projects start coming in. The risk of making negative net cash inflows in the early years is exacerbated if a firm invests in sectors with inherent high business risk, such as the e-commerce sector and the airline industry. These sectors significantly use IT which is changing quickly and have relatively high competition. Schniederjans et al. (2004) acknowledge that investments in IT should not be evaluated using the traditional capital budgeting methods. They should be looked at on a case by case basis. An optimal investment solution in IT requires the use of more than one investment techniques, because of the multidisciplinary impacts and multiple objectives. The techniques should be able to integrate multiple objectives Schniederjans et al. (2004). Similarly, capital investments in the airline industry need capital budgeting models which can factor in financial and managerial flexibility, multiple objectives and corporate governance principles.

The returns of capital investments can be measured in terms of extra net cash inflow and share price maximisation. The cash flows are the most important liquid resources for any business because other resources can be bought if the cash inflows exceed cash outflows. Share prices quoted on stock exchanges are next to cash in terms of liquidity because they can be converted into cash very quickly if the company is listed on the stock exchange. Viable capital investments earn a return in excess of its cost to increase the overall value of the organisation, in other words, the investment should have a positive NPV or the NPV should be greater than zero to add to the value of the firm.

2.2.1 *Significance of Capital Budgeting in Corporate Financial Management*

Corporate financial management includes investing, financing, working capital and dividend decisions (Brealey et al. 2011; Myers and Pogue 1974). Capital budgeting is an integral part of corporate financial management. It requires simultaneous consideration of all of the above types of decisions. It entails planning for the firm to achieve its objective. Decisions in different departments may be decentralised, and they should all be well coordinated to achieve the goal of the firm. Good corporate financial management should include the following, among others:

- *Investment decisions*: Allocating capital resources to projects with the highest NPV.
- *Financing decisions*: Sourcing capital from the cheapest source first – pecking order theory.
- *Working capital*: Managing working capital within business operations to promptly meet its obligations as they fall due. Working capital is calculated by subtracting current liabilities (due rent, telephone bills, wages and salaries, accounts payable, trade advances) from current assets (cash, inventories, accounts receivable). Working capital indicates the firm's ability to meet its short-term liabilities as they fall due. A firm without enough liquid assets to pay off its current liabilities is compelled to borrow on short notice to meet its short-term liabilities. Usually, short-notice borrowings carry high interest rates, which increase the cost expense and in turn increase financial risk to the firm.
- *Dividend decisions*: In theory, dividends to the shareholders should be paid only when available investments with positive NPV are fully financed, because the internal source of capital is the cheapest, followed by debt and then equity last (following the pecking order theory). However, in practice, decisions to pay dividends follow the firm's established dividend policy to keep its existing shareholders and attract more potential shareholders.

Corporate financial management also includes the following:

- Reviewing and refining financial budgeting, revenue and cost forecasting;
- Seeking funding options for business expansion – both short and long-term financing;
- Analysing the financial position of the business using various methods including ratios;
- Understanding the various techniques used in project appraisal and asset valuation;
- Applying sound investment appraisal techniques; and
- Understanding valuation techniques for businesses, portfolios and intangible assets.

Figure 2.2 shows that investment appraisal (in bold) is one of the two decisions which has a direct link to all other business activities and objectives via strategic planning. The second decision is financing. Capital budgeting is one of the integral

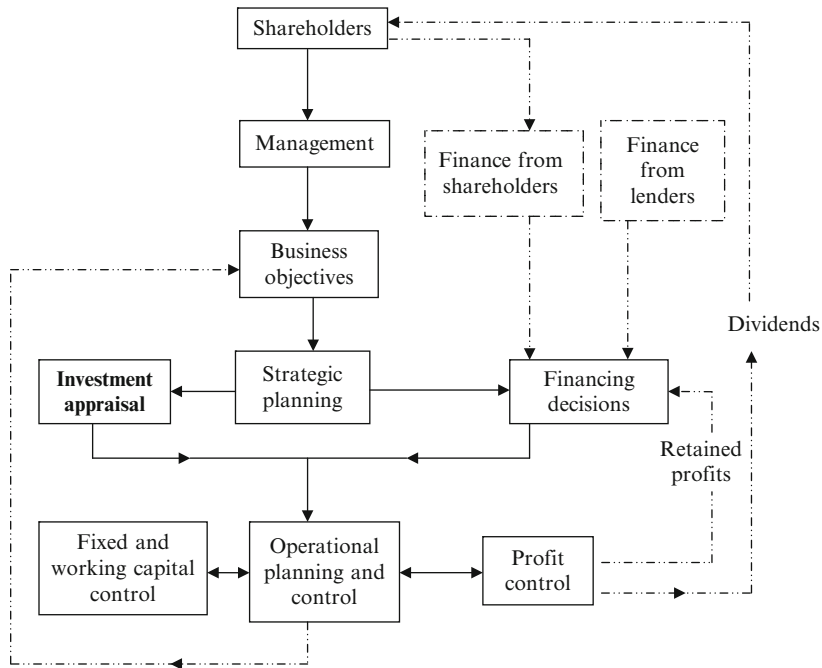


Fig. 2.2 Link between investment, financing/dividend decisions and corporate strategic planning (Source: Knott 2004)

parts of corporate financial management, because without investing in long-term projects, organisations do not grow. Capital budgeting has a direct impact on operational planning and control of a firm. Operational planning and control, in turn, directly impact on the fixed and working capital requirements of a firm and its profitability. Profits can then be either distributed to shareholders in the form of dividends or retained and channelled for financing decisions. Therefore, it can be said that all corporate financial planning activities are interrelated or have to be carried out simultaneously to achieve the goals of the organisation. The different components of corporate financial management have either a direct or an indirect impact on each other.

Firms need money for day-to-day operations and for strategic objectives. Organisations achieve their long-term objectives through allocating capital resources to long-term assets, such as buildings, plant and machinery. Investment projects are evaluated to identify those that maximise the value of the firm by the use of NPV. The two main decisions financial managers make are investment decisions (capital budgeting or investment appraisal) and financing decisions. Financing decisions explain how the chosen capital projects should be funded by equity or debt or a mix of both. If the organisation decides to fund the chosen investments using both equity and debt, the next question is: what should be the proportion? That is, how much should be raised through equity and how much

through debt. The answer to this question is not easy because it depends on various factors, including the level of risk the capital market assigns to the company, the type of industry the company operates in, the written policies and guidelines the company has in place, etc. The investment and financing decisions have a relationship which is complementary, though they are independent of one another; but both aim at maximising the value of the firm.

The most popular traditional investment appraisal method uses net present value (NPV) to measure the performance of capital projects (Seitz and Ellison 1999). The NPV is calculated by discounting future net cash flows using a risk-adjusted discount rate to find the present value (PV) and then subtracting the initial investment from the sum of the present values. The use of NPV alone as the only measure of performance does not serve the interests of all stakeholders, because not all stakeholders are interested in NPV, but in other units of measure such as minimising agency costs, etc. The case study on World Airways modifies the maximisation of the NPV objective by adding mitigation of agency costs. This study uses debt equity ratio as a proxy for reducing agency costs (Cui and Mak 2002; Florackis 2008; Jensen 1986). The DCF approach was not used when Lau (from a consulting firm) evaluated Tom.com, citing the unique characteristics of companies in the e-commerce sector. Lau used a multiple approach using accounting ratios of Amazon.com in the US to evaluate Tom.com located in Hong Kong. However, our study on Tom.com develops a DCF approach for evaluating capital investments in the e-commerce sector in general, and Tom.com in particular. Lau failed to recognise that Tom.com was different from the average e-commerce sector companies. The detailed features of Tom.com are explained in Chap. 4.

2.3 Capital Budgeting Methods and Models

In practice, there are a number of capital budgeting techniques which can be used by financial managers for investment appraisal (Ross et al. 2011). The capital budgeting methods and models are broadly grouped in two categories: the discounted cash flow (DCF) and the non-discounted cash flow (NDCF) methods. The DCF methods (sometimes referred to as sophisticated methods) discount expected net future cash flows using a risk-adjusted discount rate to find the present value, and they consider the time value of money. These include net present value (NPV), the internal rate of return (IRR) and the profitability index (PI). The NDCF methods (sometimes referred to as naive methods) do not discount the net future cash flow, and therefore do not consider the time value of money and ignore project, financial and business risks. These include the payback period (PBP) and the accounting rate of return (ARR). The ARR does not use cash flow, but instead it uses average profit and average investment. The PBP uses cash flow, but it does not discount it. However, the PBP can be modified to use discounted cash flow. The various NDCF and DCF techniques are discussed in detail below.

2.3.1 Accounting Rate of Return

The accounting rate of return (ARR) represents the proportion of the average annual net profits to either the original net investment or the average investment in the project. The formula for ARR is written as follows:

$$ARR = \frac{\text{Average annual net profit}}{\text{Initial investment/Average investment}}$$

Very often ARR is calculated using the original net investment rather than the average investment. Once the ARR has been determined, the next step is to compare it to a desired rate of return. The decision rule is that if the ARR calculated above is equal to or greater than the desired rate of return (subjectively chosen), the project is accepted. When management decides to use ARR for investment appraisal, they have to make a number of assumptions based on the message they want to send to the users of financial statements. The operating corporation tax rate and the depreciation rate for the life of the project have to be assumed.

The disadvantages of ARR include not using the cash flow ignoring the popular metric for measuring wealth and ignoring the time value of money – an important concept in finance. The size of investments in terms of investment outlay is not considered in the ARR calculation. The ARR does not conform to the principles of shareholder wealth maximisation, because wealth is not measured in terms of ARR but in terms of cash flow. The advantage of ARR is that it is simple to understand and easy to calculate, and many financial managers are familiar with it.

2.3.2 Payback Period

The payback period (PBP) represents the number of years required to recover the initial outlay using net cash flows after tax. Once the PBP has been calculated, it is then compared with the minimum acceptable payback period which is chosen arbitrarily (Brealey et al. 2007; Keown et al. 2011). The decision rule is that if the calculated PBP is equal to or less than the desired period, the project is accepted, because, the shorter the time taken to recover the initial investment the better. The disadvantages of PBP include: giving equal weight to all cash flows before the initial investment recovery date; not considering the cash flows beyond the payback period; not using time value of money; not taking into account of project risk; and not distinguishing between projects of different sizes in terms of investment outlay (Campsey and Brigham 1991, p. 499). This can be partly overcome by using the discounted cash flow to calculate payback period. The PBP may be useful as a liquidity measure of the projects, but is not a profitability measure. Moreover, there

are other better methods available for considering risk, time value of money, etc., including the net present value and internal rate of return. The advantages of PBP include being simple to calculate, if and when the initial investment is recovered it can be re-invested to earn more return, and its concept is easy to understand by most investors including non-financial managers. In practice, it is very popular in Japan but not in the West.

2.3.3 Internal Rate of Return

The internal rate of return (IRR) is described as the discount rate that equates the present value of the expected future net cash inflows with its initial outlay or which projects have a NPV equal to zero. Another way of describing IRR is the rate of growth a project is expected to generate. In general, the higher the IRR the capital project has the more profitable the project is. The advantages of the IRR include: considering the project risk; considering time value of money; and using cash flows. The disadvantages of the IRR include: assuming that net cash flows may be “re-invested” at a rate of return equal to the IRR; and giving more than one IRR when the cash flows are not conventional. This produces conflicting results including non-separation between mutually exclusive projects of different sizes, and it also assumes that different cash flows have the same opportunity cost (Brealey et al. 2007; Keown et al. 2011). The decision rule is that when the IRR is equal to or greater than the cost of capital after tax, the project is accepted. In case of mutually exclusive projects, the project with the higher IRR is accepted. Despite the number of disadvantages in theory associated with IRR, Hendricks (1980); Anderson (1982) and Mukherjee (1988) found that in practice IRR was the most popular method used in capital decision making in Australia, followed by NPV. However the use of IRR is decreasing and the use of NPV is increasing. The preference for IRR over NPV is based on the convenience and ease of understanding (Mukherjee 1988).

2.3.4 Profitability Index or Benefit-Cost Ratio

The profitability index (PI) includes the discounting of future net cash flows, and then the present values are added up. The sum of all the present values is divided by the initial investment. The decision rule is to accept all capital projects with the PI of one or greater than one. When the PI is greater than one, the present value of future cash flows is greater than the initial outlay. Therefore, the capital project has a positive net present value, so it adds value to the firm and should be accepted. The IRR is similar to NPV but is expressed in different metrics. The IRR uses an index and NPV uses cash flows. The disadvantages of the PI include the possibility of misleading when dealing with two projects which are mutually exclusive. Project one may have a higher positive net present value and project two may have a higher

profitability index, but because they are mutually exclusive, the firm is supposed to choose between the two projects. In such a case Brealey et al. (2007) and Keown et al. (2011) recommend the use of the NPV that adds up, rather than with a PI which does not add up.

2.3.5 Net Present Value

In theory, the net present value (NPV) is the preferred method, and therefore, it is the most popular capital budgeting method with academics. The NPV involves management estimating future relevant revenue and expenses to find expected future net cash flows from the capital project. It is also assumed that the cash flows occur at the end of each period being considered and occur evenly throughout the period – mostly the year. The scrap value of the project is also assumed, but in most cases it is assumed to be negligible or zero.

NPV is calculated by discounting the future net cash flows after tax using the firm's risk-adjusted cost of capital. Then all the present values of the future cash flows are added up. Then the initial outlay is subtracted from the sum of the present values. The decision rule is to accept all projects if the NPV is equal to zero or greater than zero, provided there is no capital rationing. When there is not enough money to cover all projects with a positive NPV, then rationing of the funds is necessary. Then the decision rule is to first accept the capital project with the highest NPV, then the next capital project with the second highest NPV and so on until the available funds are exhausted. A positive NPV means that the capital project adds value to the company and a negative NPV diminishes the value of the company. The advantages of the NPV include considering time value of money, using all cash flows, considering project risk, and its use maximising the value of the company. The disadvantages of NPV include not considering the financing costs in the form of interest and dividends in the calculation of the cash flows, and difficulties in calculation.

2.4 Corporate Governance

Banks (2004, p. 3) defines *corporate governance* as 'the structure and function of a corporation in relation to its stakeholders generally, and its shareholders specifically ...'.

In Australia, the ASX (2007) defines corporate governance as the system used by management to direct and manage companies to maximise the firm's value. The Economist Intelligence Unit (2002, p. 5) defines it as:

Corporate governance is the system by which business corporations are directed and controlled. The corporate governance structure specifies the distribution of rights and responsibilities among different participants in the corporation, such as the board,

managers, shareholders and other stakeholders, and spells out the rules and procedures for making decisions on corporate affairs. By so doing, it also provides the structure through which the company objectives are set, and the means of attaining those objectives and monitoring performance.

The three definitions are similar in the way that all aim at achieving stakeholders interests. Two of the three definitions above acknowledge that the interests of non-financial stakeholders are as important as the interests of financial shareholders. However, the emphasis is on financial shareholders' interests. In April 2006, the UN launched the Principles for Responsible Investment (PRI) at the New York Stock Exchange. They were launched and endorsed by the UN Secretary-General, Ban Ki-moon. These Principles have helped guide financial managers make strategic investment decisions that try to maximise multiple objectives. The Principles have become a benchmark for responsible investing. A large number of international institutional investors have become members by signing the Principles. The market value of the economy controlled by the signatories of these Principles in the first year of their establishment was said to have been greater than US\$8 trillion. The signing of the Principles by high profile international organisations demonstrates support from the top-level decision makers for sustainable investment. The application of the Principles leads to better long-term financial returns and a closer relationship between investors, the company and the community. These Principles also have the potential of minimising agency costs. The UN Secretary-General when launching the Principles said among other things:

By incorporating environmental, social and governance criteria into their investment decision-making and ownership practices, the signatories to the Principles are directly influencing companies to improve performance in these areas (see, PRI, 2006, p. 1). This, in turn, is contributing to our efforts to promote good corporate citizenship and to build a more stable, sustainable and inclusive global economy.¹

Eight hundred and seventy nine signatories from the world have already signed the Principles (see, PRI, 2006). They include 223 asset owners, 490 investment managers and 166 professional service partners.² The signatories committed to adopt and implement the six Principles contained in the UN document. Broadly, the members commit to:

1. Incorporate environmental, social and corporate governance (ESG) issues into analysis and decision-making processes;
2. Be active owners and incorporate ESG issues into their ownership policies and practices;
3. Seek appropriate disclosure on ESG issues by the entities in which they invest;
4. Promote acceptance and implementation of the Principles within the investment industry;

¹ See <http://www.unpri.org/secretary-general-statement/index.php>, accessed 19/02/2011.

² See <http://www.unpri.org/signatories/>, accessed 19/02/2011.

5. Work together to enhance their effectiveness in implementing the Principles; and
6. Each report on their activities and progress towards implementing the Principles.

A decade before the UN Principles were launched in 1996, the Australian Stock Exchange (ASX) introduced a requirement that all listed companies should include a statement of corporate governance in their annual reports under the Listing Rule 4.10.3. The ASX Corporate Governance Council lists ten essential corporate governance principles, which include among others that the board should add value, recognise and manage risk and encourage enhanced performance (Shailer 2004). These principles are broad allowing firms to pick and choose sections of the Listing Rule that send positive messages or good news to the stakeholders or reflect the company in a good light.

In the UK, investment management best practices are contained in the Hermes Principles Statement (Watson and Pitt-Watson 2002, pp. 6–11). The statement contains ten principles. Principles 2 and 3 are directly related to this study.

- Principle 2 states that ‘Companies should have appropriate measures and systems in place to ensure that they know which activities and competencies contribute most to maximising shareholder value’.
- Principle 3 states that ‘Companies should ensure all investment plans have been honestly and critically tested in terms of their ability to deliver long-term shareholder value’.³

The two principles above summarise the main goal of most capital investments, be it private or public investments.

Corporate governance became a hot topic of discussion in the economic world after the high profile company failures in the 1990s, including Arthur Andersen, Global Crossing, Enron, WorldCom in the US, and HIH in Australia, etc. In the same year, WorldCom defaulted on US\$23 billion of debt – the largest default in history (Banks 2004, p. 8). In 2002, 234 companies with US\$178 billion in assets filed for bankruptcy (Banks 2004, p. 390). In 2001, 257 public companies with US\$258 billion in assets filed for bankruptcy in the US. After the kind of losses and bankruptcies that were experienced in the late 1990s and early 2000s, stakeholders including shareholders lost confidence and trust in financial reports, directors’ statements and external auditors’ reports (Keasey et al. 1997). A loss of trust in the companies’ official documents impacts negatively on the financial accounting numbers used as inputs in the investment appraisal decision making. The loss of trust and confidence in the company’s ability to invest investors’ money efficiently, prevents new investors from buying shares in the company, existing shareholders may divest, new debts will be charged higher interest rates because of the higher risk expected, etc. All these will increase the total cost of running the company including the cost of capital, thus reducing the net operating income and the net cash flow. Such a financial

³ See http://www.ecgi.org/codes/documents/hermes_principles.pdf, accessed 19/02/2011.

situation does not maximise shareholder wealth which is the main goal of the companies in the first place. Surprisingly, from the reviewed literature in capital budgeting (Dean 1951; Weingartner 1967; Seitz and Ellison 1999; Bierman and Smidt 2007), there is evidence that the boards of directors do not significantly pay attention to long-term investments. Therefore, there is a need for a study such as this one to bring the capital budgeting issues that have been neglected in the board rooms, to the fore. Banks (2004) listed and discussed a sample of 339 significant companies that had governance problems ranging from improperly recognising advertising revenues in 2002 of US\$190 million. All these 339 companies in the US were forced to restate their revenues and earnings in 2002. This confirms that corporate governance has a direct link to the figures reflected in the financial statements.

2.5 Relationship Between Capital Budgeting and Corporate Governance

The firm adopts good corporate governance for the benefit of different stakeholders such as, investors, creditors, directors, managers, employees and various industry groups (Banks 2004). Capital budgeting decisions are made to maximise the net present value of the organisation, which in turn benefits all stakeholders, so they have similar goals. According to Banks (2004) good corporate governance conforms to, among others, the structure and function of a corporation in relation to its stakeholders generally, and its shareholders specifically by aligning conflicting interests such as those which may arise during investing decisions, financing decisions, financial reporting, directors' compensation, directors' selection instilling monitoring and bonding measures, a sense of ethics, and encouraging transparency. The benefits of good governance may include among others, accessing better flow of funds, improved access to lower interest rate sources of funds, better credit ratings, better reputation and more business opportunities, which lead to lower debt funding costs and/or higher share price and lower agency costs. The lower debt funding costs impact on the NPV because the future cash flows are discounted at a lower discount rate. Good corporate governance can reduce inter and intra-firm agency problems (Shleifer and Vishny 1997) and is also associated with higher firm value (Gompers et al. 2003). Figure 2.3 shows the relationship between capital budgeting and corporate governance.

As mentioned before, since the collapse of high profile companies in the US such as Enron, WorldCom, etc., management decisions, both operational and strategic, have come under scrutiny. The common factor in these companies is the astronomical executive remuneration and compensations – agency costs. The executives, whose compensations are based on the annual performance (profits), will want to maximise annual profits in the short term, so that they can receive large amounts of money quickly before their contracts expire. Such executives will be reluctant to make investment appraisal decisions which will bring in profits after their contract period. The minimisation of the short-term executive compensation (agency costs) and

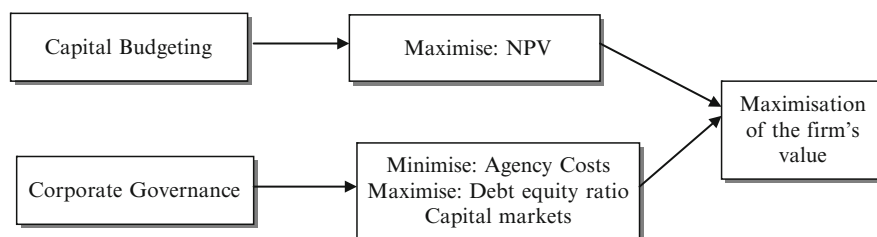


Fig. 2.3 Relationship between capital budgeting and corporate governance

introducing long-term executive compensation, including share options, may persuade executives to invest in long-term capital projects. Therefore, there is a need to integrate corporate governance principles, including minimisation of agency costs, to improve investment appraisal decisions.

2.6 Different Theories to Conceptualise and Incorporate Capital Budgeting and Corporate Governance in Strategic Management Framework

2.6.1 Stakeholder Theory

Freeman and Reed (1983, p. 91) define stakeholders as: ‘any identifiable group or individual who can affect the achievement of an organisation’s objectives, or is affected by the achievement of an organisation’s objectives’. The theory is also defined as “the degree to which managers give priority to competing stakeholder claims”.

This definition does not mention shareholders; they define stakeholders which includes shareholders. The definition implies that it is not the shareholders alone who are affected by the achievement of the organisation’s objective, but also the other stakeholders. Using Figs. 2.4 and 2.5 Donaldson and Preston (1995) show and discuss what managers in the past believed to be the organisations’ main objective (the input–output model) and what the managers of a modern economy believe to be the main objective of the firm (the stakeholder model). The Donaldson and Preston’s stakeholder model is similar to Freeman and Reed’s definition (1983).

Figure 2.4 shows the relationship between the firm and its stakeholders. The number of stakeholders has increased since corporate governance became prominent after the collapse of high profile companies, and the acknowledgement that corporations with good corporate governance perform better than corporations with poor corporate governance. The success of organisations depends on more than just stakeholders with explicit contracts and financial interests such as investors, shareholders, suppliers, employees, customers as in Fig. 2.4; it now depends on all stakeholders with explicit and implicit contracts such as government

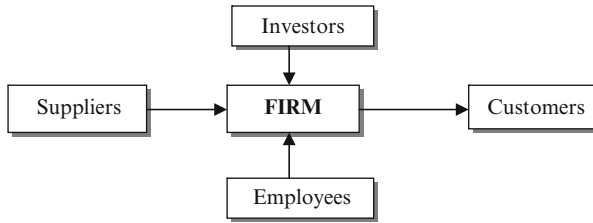


Fig. 2.4 Contrasting models of the corporation: the input–output model (Source: Donaldson and Preston 1995)

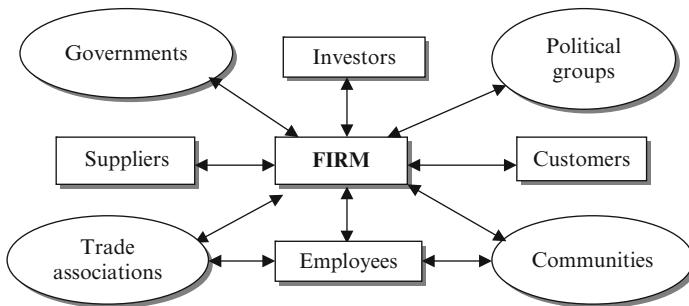


Fig. 2.5 Contrasting model of the corporation: the stakeholder model (Source: Donaldson and Preston 1995)

departments, local communities, trade unions, political groups, etc., as shown in Fig. 2.5 below.

Many researchers (Freeman and Evan 1990; Freeman and Reed 1983; Jensen 2002) concur that all stakeholders are important for the success of organisations. Deegan (2009) further clarified the stakeholder theory by adding that the stakeholder theory protects the stakeholder interests in two ways. The first one is the ethical (moral) or normative one and the second is the positive (managerial) one. The normative one asserts that stakeholder management should lead to improved and efficient financial management, and that, managers should make decisions which benefit all stakeholders and treat stakeholders equally. This view is explained further by Hasnas (1998, p. 32) cited in Deegan (2003, p. 268):

When viewed as a normative (ethical) theory, the stakeholder theory asserts that, regardless of whether stakeholder management leads to improved financial performance, managers should manage the business for the benefit of all stakeholders. It views the firm not as a mechanism for increasing the stockholders’ financial returns, but as a vehicle for coordinating stakeholder interests, and sees management as having a fiduciary relationship not only to the stockholders, but to all stakeholders. According to the normative stakeholder theory, management must give equal consideration to the interests of all stakeholders and, when these interests conflict, manage the business so as to attain the optimal balance among them. This of course implies that there will be times when management is obliged to at least partially sacrifice the interests of the stockholders for those of the other stakeholders.

Hence, in its normative form, the stakeholder theory does imply that businesses have true social responsibilities.

Jensen (2001, p. 16) concurs with the view above and takes it further in support of what he called 'enlightened value maximization', that 'we cannot maximize the long-term market value of an organization if we ignore or mistreat any important constituency'.

Regarding the positive theory (managerial), managers use financial information to manipulate the stakeholders to gain their support (Gray et al. 1996, p. 46). Stakeholder theory is an extension of agency theory assertions (Shankman 1999) because agency theory only considers the relationship between the principal (shareholders) and the agent (management) (Psaros 2009). Stakeholder theory extends agency theory to include other parties who can affect the achievement of the firm's goals, or who are affected by the achievement of the firm's goals even though their interests are measured in different units. This extension is very timely and appropriate in the current economic environment because of the impact groups in society, such as environmentalists, animal lovers, the greens, etc., have on the firm's reputation, performance and success.

In a broad sense, stakeholder theory is similar to the OECD's definition of corporate governance which encompasses all stakeholders – internal and external (Neville et al. 2011). It is apparent that there are indisputable implicit contracts between society and organisations. Society allows organisations to exploit its natural resources and therefore, organisations are required to compensate society with a form of payment in return for exploiting the natural resources. The payments can be in different forms of return and metrics. There are also explicit contracts between internal stakeholders, such as employees and shareholders, and the organisation. The forms of return for explicit contracts are written in the contracts of employment, articles of association, etc. The academics refer to the implicit and explicit relationship between the organisation and its stakeholders as stakeholder theory (Psaros 2009). The argument is that organisations expand, grow and prosper only when the interests of all stakeholders are maximised or served well to their satisfaction. External stakeholders are vital parts of the various stakeholders. Often, the interests of the different stakeholders conflict with each other. In such a situation, the organisation has to find a balance between the various interests.

There is an apparent conflict between stakeholder theory and agency theory which asserts that the only important relationship the organisation has to cherish and protect is that between the shareholders and the managers (Psaros 2009). Stakeholder theory looks at an organisation from a broad perspective rather than a narrow focus, because there are many other factors that make an organisation a successful entity. For example, unhappy employees, suppliers, customers, government departments, local community, etc., can cause a company to fail in its endeavours, which could lead to the collapse of the organisation. These various stakeholders have an impact on the organisation and the organisation too has an impact on them. It is a symbiotic relationship. The organisation benefits from stakeholders and the stakeholders benefit from the organisations. In conclusion, a

convincing statement regarding the shareholder theory is that it is about achieving the satisfaction of all parties interested in the success of the company comes from Shankman (1999, p. 332) who states that:

The agency theory: (1) must include a recognition of stakeholders; (2) requires a moral minimum to be upheld, which places four moral principles above the interests of any stakeholders, including shareholders; and (3) consists of contradictory assumptions about human nature and which give rise to the equally valid assumptions of trust, honesty and loyalty to be infused in the agency relationship. In this way, stakeholder theory is argued to be the logical conclusion of agency theory.

2.6.2 Stewardship Theory

Psaros (2009) states that similar to stakeholder theory, the views of stewardship theory differ from agency theory. For example, stewardship theory does not support the view that individuals are utility maximisers and also does not support the assertion that all business decisions are based on economic considerations only. It asserts that some business decisions are based on non-economic returns such as those related to social status in the community. Donaldson and Davis (1991) add that some individuals are motivated in their decisions by an intrinsic satisfaction in undertaking a task that challenges them or/and achieving trust from peers and supervisors. The core of stewardship theory is about how individuals rank their social needs in a community, such as being accepted and valued by their peers and supervisors. Similar to executive remuneration or compensation, 'these needs help align the individual's interests with their organisation's goals'. If the organisation maintains a good relationship with the stakeholders, including the local community, individuals would want to make decisions that identify them with the organisation because that would help promote their social status in the community. If the individuals rank social status high on their list of needs, then it would help them perform harder to achieve the organisation's goal. Psaros (2009) asserts that stewardship theory states that managers do not start out with the intention of maximising their own utility at the expense of the interests of other stakeholders. In support of stewardship theory, Kiel and Nicholson (2003, p. 190) state that 'underlying this rationale is the assertion that since managers are naturally trustworthy there will be no major agency costs'.

The acceptance of stewardship theory has adverse implications on one theory that has become widely accepted, that having the chair of the board independent of the CEO gives the organisation legitimacy for claiming to have an efficient or sound financial management in place and hence improving the return on equity (ROE) to the shareholders. However, Kiel and Nicholson (2003) state that their findings support Boyd's (1995) conclusion that the issue of CEO duality is explained better if the size and complexity of the organisations are considered. In highly entrepreneurial firms, for example in the humble beginnings of Microsoft and internet companies the chairman-CEO duality may send a positive message to the market

because it supports stewardship theory and enhances social status by minimizing the agency cost. It can also lead to the organisation being seen as having a clear leadership which may lead to better corporate performance.

2.6.3 Resource Dependent Theory

In addition to the studies investigating the relationship between board composition and firm performance, sociologists have focussed on the relationship between the firm's social network and the firm's performance. These studies formed the resource dependency theory. The resource dependency theory explains how the firm's success is linked to its ability to control its external resources (Psaros 2009). The board of a company plays several vital roles, such as providing advice to management on operational and strategic issues and monitoring management. Besides these, it is also an important link between the organisation and the external resources which an organisation needs to maximise its performance (Hillman et al. 2000; Pfeffer and Salancik 2003). The more control an organisation has on external resources, the lower the costs of resources and the higher the chances that the firm will minimise agency costs. The firm may then maximise the use of resources to maximise the value of the firm. It will also help in making strategic plans more workable and mitigate agency costs. If the success of the organisation depends on external resources, then having its members on the board of directors of the resources company who can help to establish a relationship between the organisation and the external resources improves the financial efficiency and management of the organisation, reduces agency costs and hence maximises the value of the firm. It also reduces uncertainty of accessing the resources, and external dependencies (Psaros 2009). Kiel and Nicholson (2003) argue that agency theory, stewardship theory and resource dependence theory all play a vital role in determining what should be appropriate corporate governance policies and structures.

2.6.4 Agency Theory and Agency Cost

Agency theory forms an important part of the positive accounting theory (PAT) (Gaffikin 2008). PAT attempts to predict such actions as the choices of accounting policies the firm managers will choose to maximise either their own interests or the interests of the firm and how managers will respond to proposed new accounting standards. It also explains what is observed in accounting and auditing practices (Watts and Zimmerman 1990). Furthermore, it is based on the contracts between the organisation and its managers, for example executive compensation and debt contracts (Scott 2006). There are three hypotheses of PAT: the bonus plan hypothesis (BPH), the debt covenant hypothesis (DCH) and the political cost hypothesis (PCH). In both BPH and DCH, the reported earnings are shifted to the current period to increase the bonus payable and reduce the possibility of failing to

pay the interest on debt as it falls due and the principal on retirement. In the case of PCH, reported earnings may be shifted to a future period to defer political cost (Scott 2006).

Agency theory discusses the separation of ownership from control (Kim et al. 2009). In practice, it is the norm that managers or executives make all operational and most strategic decisions in an organisation. In most cases, if not all cases, the managers who make decisions in the organisation do not own shares in the company. By nature, human beings are self-interested and utility or wealth maximisers. Although managers are employed to maximise shareholders' or owners' wealth, it is reasonable to expect that they will not only make decisions that maximise shareholders' wealth all the time, but their own wealth too. They often focus on their own interests first before the shareholders' interests. This is the background for the problems in the agency theory. Agency theory is brought about by managers maximising their own wealth at the expense of shareholders' wealth through excessive self remuneration; making decisions that focus on short-term performance rather than long-term growth (capital budgeting), which is the focus of this study, and avoiding long-term risky projects (Psaros 2009), thus increasing agency costs and impacting on investment appraisal decisions.

Corporate governance policies aim to minimise agency costs and maximise the firm's value. A firm uses bonding and monitoring measures to reduce agency costs – the divergence from the main goal of maximising shareholders' wealth. These measures are sometimes referred to as 'the carrot and the stick', which means to reward for good performance and to punish for poor performance. One of the ways that will minimise the possibility of managers avoiding to invest in risky projects thus increasing agency costs, is to develop a corporate policy that assigns decision making to the managers and control to the shareholders, which helps shareholders determine their own level of risk which they can control.

Psaros (2009) also states that managers sometimes may accept short-term riskier investments provided the decision does not jeopardise their short-term interests. The implications of agency theory in organisations can be extended and explained through understanding corporate governance policy. One of the problems with agency theory starts with allowing executives to have the authority to control the firm and make decisions for the firm. The shareholders of the company have no control over the operational decisions, these are entrusted to management. Also, some strategic decisions are left to management depending on the size of the company. The amount of money involved in investment appraisals is often huge, which gives an incentive to managers to make decisions to maximise their own wealth at the expense of the shareholders. The managers will not choose capital investment projects which do not maximise their wealth in the short term. However, this decision will not maximise the shareholders' wealth in the long term. For this reason, firms spend money to limit or minimise the agency costs or the divergence from the goal of maximising shareholders' wealth (Jensen and Meckling 1976). Agency costs include offering various types of incentives to entice managers to act appropriately in the interests of stakeholders. Also the firm develops various policies to monitor management behaviour and specify the kind of penalties if

managers do not act appropriately. Jensen and Meckling (1976) define agency costs as ‘the sum of the monitoring expenditures by shareholders, bonding expenditures by managers and the residual loss.’

Many researchers from different disciplines have discussed corporate governance for decades, from economics (Tirole 2001; Jensen and Meckling 1976), from law (Richards and Stearn 1999), from finance (Fama and Jensen 1983), from sociology (Useem 1984), from strategic management (Boyd 1995) and from organisation theory (Kiel and Nicholson 2003). Having different researchers from different disciplines has resulted in the establishment of different corporate theories. They include agency theory (economics and finance), stakeholder theory, stewardship theory and resource dependency theory. Though academics have often used agency theory to explain the current corporate governance practice, these other theories also contribute to explaining the same.

However, there is no one theory that has a ‘complete explanation’ for the relationship between corporate performance and corporate governance (Kiel and Nicholson 2003). There is a relationship between agency theory and stewardship theory, and stakeholder theory and resource dependency theory, because when there is a conflict of interest (agency theory) in the organisation, then the objectives of the other theories will not be achieved (Psaros 2009). However, the main objective of all organisational theories is to maximise the value of the firm. One of the ways of maximising the value of the firm is by minimising agency costs. This is the focus of the study.

2.7 Capital Budgeting, Corporate Governance and Agency Cost

There is evidence that the gap between normative theory (what should be done) and positive theory (what is done in practice) in capital budgeting has been reduced due to the improved technical facilities available today (Scapens et al. 1984). These technical facilities have helped decision makers develop multi-criteria models that can handle multiple objectives and constraints using mathematical programming software. Agency theory addresses the reduction of conflict of interest between the principals (shareholders) and the agents (management). It has also helped to reduce the gap between normative and positive theories. Positive accounting theory has become more general to accommodate the normative accounting theory as a result of agency theory (Lister et al. 2006). The integration of the agency theory, the theory of property rights and the theory of finance has allowed the development of the theory of ownership structure in the organisation (Jensen and Meckling 1976). Agency theory in this case focuses on the property rights embedded in the contracts between management and owners of the organisation.

The organisation before the law, is considered as having a set of explicit and implicit contracts between itself and its stakeholders who include management, employees, creditors, shareholders, local community, etc. All stakeholders are

wealth maximisers, a fact which causes a conflict of interest and agency costs. The larger the portion of the 'cake' (profits) one group of stakeholders gets from the profits available, the less of the 'cake' the other stakeholders share. The 'cake' is only so big.

There are efforts aimed at reducing or eliminating the conflict of interests. These efforts cost money. The costs are called agency costs. Agency costs are incurred to enable all stakeholders to share the 'cake' (profits), equitably to their satisfaction. These costs include monitoring costs, bonding costs and residual loss. Residual losses are described as the 'real inefficiencies caused by the capital market imperfection of agency costs' (Scapens et al. 1984). Agency costs themselves, such as the purchase of controlling interests by lenders (Fama and Jensen 1983), the purchase of debt by owners, etc., also reduce the 'size of the cake' available for distribution. For example, the purchase of controlling interests may make managers lose their rights to control and make decisions which maximise their wealth, and as a result they would demand compensation in the form of higher remuneration such as high salaries or in kind. The minimisation of the agency costs increases the 'cake' left for distribution.

The pursuit of positive net present values in investment appraisal decisions originates from capital market imperfections and frictions including the treatment of tax on interest on debt payable. In a nutshell, agency theory deals with capital market imperfections that originate in capital control and ownership structure. Lister et al. (2006) state that agency costs impact on project selection in two ways: one, it may cause a conflict which entices shareholders to accept high risk and sub-optimal projects which transfer wealth from bondholders to shareholders; and two, there is motivation for stockholders to give up new profitable investments when existing debt is supported by current assets and the choice to undertake the investments.

Modern finance is founded on utility theory (Lister et al. 2006). There are other theories that stem from utility theory such as marginal utility that impact on the investment appraisal decisions. Marginal utility is defined as the additional benefit (utility) that a consumer derives from consuming an additional unit of the product. Utility theory is appropriately applied to capital budgeting decision making. Financial managers invest in capital projects provided that one additional dollar invested (cash outflow) results in a net benefit (cash inflow). The net benefit keeps on reducing with one extra dollar invested until a breakeven point is reached. Beyond this point, the extra dollar invested results in a negative net cash inflow thus reducing the value of the firm. Further, utility theory extends into modern portfolio theory (MPT) and the utility of mean and variance theory. The main goal of MPT is to invest in projects that give optimal benefits. The mean variance optimization (MVO) is one of the quantitative tool which helps to make investment decisions in MPT by considering the trade-off between risk and return. However, it is important to note that MVO is applied to investment decisions that consider multiple periods as a major input rather than multiple objectives which are the focus of this study.

2.8 Capital Budgeting, Accounting Practices, Capital Markets and Regulations

2.8.1 Capital Budgeting and Accounting Practices

Research in financial accounting reporting has established that patterns of earning management are part and parcel of communicating accounting information (Scott 2006). Earnings management is defined by (Scott 2006, p. 344) as ‘the choice by a manager of accounting policies so as to achieve some specific objective’.

When preparing financial statements which include the performance, financial position and cash flow statements, professional accounting bodies require an entity to prepare them in accordance with the General Accepted Accounting Practices (GAAP). The GAAP principles are broad and give a variety of options, so that managers who prepare financial statements can pick and choose the accounting policies that help achieve their specific objectives. Table 2.1 shows the impact accounting choices have on cash flows.

Ultimately, whatever accounting figures are produced in the financial statements, whether they are within GAAP or violate GAAP, they are all used by investors and financial managers for investment appraisal decisions. However, decisions based on accounting numbers whose financial statements violate GAAP are not optimal as they do not maximise the value of the firm. Such decisions impact on expected future cash flows, future taxable income, tax payable, etc. Therefore, the accounting practice a company adopts impacts on accounting figures in the financial statements and hence on investment appraisal decisions.

Managers, by virtue of their responsibilities, make operational and strategic decisions for the organisation and they have privileged access to inside information which investors can not access; a situation referred to as information asymmetry. Since managers are rational decision makers who are wealth maximisers, they choose accounting policies from accounting standards and use inside information selectively to maximise their wealth, which weakens corporate governance and increases agency costs. In these cases, figures in these financial statements are irrelevant and unreliable to the financial statements users, including shareholders and other stakeholders. Therefore, the projected cash flows and discount rate estimated using such accounting numbers cannot be relied on for making optimal investment appraisal decisions.

Table 2.1 shows some of the activities, when earnings management becomes relevant, reliable, legal and acceptable, and when it becomes fraudulent. Figure 2.6 shows the impact various economic issues have on accounting practices and on financial statements users. It shows the relationship between accounting theory and the standard setting process and factors which impact on accounting practices. It can be seen that economic conditions such as the inflation rate, unemployment rate, foreign exchange rate, etc., impact on political factors and accounting theory, and so directly impact on accounting practice. In turn, they affect the numbers in the

Table 2.1 Earnings management

Accounting choices		"Real" cash flow choices
	Within GAAP	
"Conservative" accounting	Overly aggressive recognition of provisions or reserves	Delaying sales
	Overvaluation of acquired in-process R&D in purchase acquisitions	Accelerating R&D or advertising expenditure
	Overstatement of restructuring charges and asset write-offs	
"Neutral" earnings	Earnings that result from a neutral operation of the process	
"Aggressive" accounting	Understatement of the provision for bad debts	Postponing R&D or advertising expenditures
	Drawing down provisions or reserves in an overly aggressive manner	Accelerating sales
	Violates GAAP	
"Fraudulent" accounting	Recording sales before they are "realisable"	
	Recording fictitious sales	
	Backdating sales invoices	
	Overstating inventory by recording fictitious inventory	

Source: Dechow and Skinner 2000

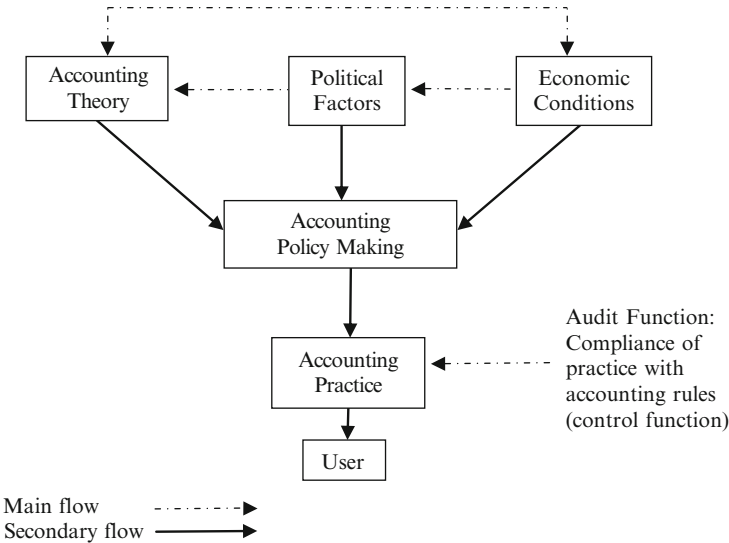


Fig. 2.6 The financial accounting environment (Source: Wolk et al. 2004)

financial statements on which investments and economic decisions are based. The political factors include rules or regulations which impact on decision making. They also include auditors who represent accounting and financial professionals, financial analysts who represent investors and government organisations such as the Australian Securities and Investment Commission (ASIC) representing public interest. Accounting theory is a well developed process explaining the role and responsibility of an accountant as a result of accounting research. The users include all stakeholders such as creditors, investors, suppliers, shareholders, debt holders and the community (Wolk et al. 2004).

2.8.2 Capital Budgeting, and Capital Markets and Regulations

In Australia there are three corporate regulators: the Australian Competition and Consumer Commission (ACCC), the Australian Securities and Investments Commission (ASIC) and the Australian Prudential Regulation Authority (APRA). The ACCC has the responsibility of protecting consumers' interests from unscrupulous companies which try to reduce competition in the market. The ASIC protects investors' and consumers' interests who deal with financial institutions, including capital markets such as banks and the stock exchange. The APRA is responsible for making sure that prudential institutions such as deposit takers, insurance companies and superannuation funds maintain a minimum level of financial soundness.

Based on stakeholder theory, corporate regulators protect weak consumers, investors and creditors by ensuring that companies and financial institutions comply with company and competition laws. Corporate regulators are treated as stakeholders because through fulfilling their responsibilities, companies operate diligently, which minimises agency costs, lessens stakeholders' losses and protects stakeholders' interests. Table 2.2 is a summary of the literature review on capital budgeting.

2.9 Limitations of Existing Literature and Motivation for This Study

As summarised in Table 2.2, in theory NPV is the most popular of the three DCF methods, but IRR is preferred in practice. However, non-DCF techniques are still used in some countries including Japan and New Zealand. Some of the advantages of NPV include the use of cash flow (creates economic value); time value of money; using a risk-adjusted discount rate; and being a measure of wealth. However, NPV as a technique is not without limitations. The limitations include:

- Difficulty in accurately forecasting future cash flows;
- No universal or standard method for setting the discount rate;
- Assuming the estimated discount rate will be the same for the life of the project;

Table 2.2 Extract of literature review

	Author(s)	Year	Country	Findings
1	Donaldson 1972	1972	USA	Traditional bottom-up concept of a capital budgeting selection process, in which individual proposals are screened against a cost-of-capital hurdle rate, results in economically wrong issues being raised at the wrong level of management.
2	Ang 1973	1973	USA	Firms using marginal WACC are likely to accept projects whose returns are above the weighted cost but below the “true” cost, especially for firms with high level of leverage, and expected dividend growth rate, a likely combination for “growth companies”. There is a need to review most of existing theory in the area where WACC has been assumed.
3	Reilly et al. 1974	1974	USA	If both debt and equity were to change so as to maintain proportionality, WACC would be equal to “true” cost. A properly constructed WACC does not generate biased estimate of a firm’s cost of capital. Even with constant debt/equity ratio assumption, weighted cost of capital will not equal “true” cost of capital, because keeping debt/equity constant requires marginal refinancing in every period, uneconomical and unobtainable because firm’s cash flows are only approximated by the constant growth for expediency.
4	Hastie 1974	1974	USA	To rely on DCF or other refined evaluation techniques for “improvement in decision making” is an error. “What are needed are approximate answers to the precise problems rather than a precise answer to the approximate problems”. Hastie suggested improved use of sensibility analysis and the communication of its results to top management.
5	Brigham 1975	1975	USA	DCF is used by both academics and in practice and sophisticated techniques for quantifying risk analysis are increasing. <63 % of the 33 firms surveyed used a hurdle rate based on the cost of capital. <53 % used more than one hurdle rate. <50 % changed their hurdle rates once a year. Managers do not use DCF because: (1) some techniques are new; (2) some of the operating personnel are “checked out” on these new techniques; and (3) measurement of average cost of capital, project risk and discount rates is difficult.
6	McMahon 1981	1981	Australia	The gap between theory and practice in capital budgeting reduced during the 1970s. Use of DCF and WACC increased (i.e. the mechanics), but there is too little understanding of ideas and concepts on which DCF techniques are set.

(continued)

Table 2.2 (continued)

	Author(s)	Year	Country	Findings
				Determination and use of hurdle rates was at a relatively unsophisticated level.
7	Hendricks 1980	1980	USA	The limitations of WACC were not fully understood. In practice IRR was more popular than NPV. But found that NPV maximises the net present value of expected cash flows in capital budgeting decisions.
				NPV techniques resulted in a better ranking than IRR.
				IRR could give an incorrect ranking of mutually exclusive projects or multiple rates of return.
				NPV provided unambiguous, optimal project selection when capital rationing exists.
8	Rege and Baxter 1982	1982	Canada	The paper suggested the use of WACC as a cut-off rate for investment decisions.
9	Anderson 1982	1982	Australia	IRR was the most popular method in making capital budgeting decisions, followed by ARR. Nearly two-thirds of respondents considered risk-adjusted rate of return being the most popular method used. Australian firms were using more sophisticated methods of analysis in capital budgeting process than indicated in previous empirical studies.
10	Gitman and Mercurio 1982	1982	USA	The gap between financial theory and practice remains.
				The transfer of knowledge from academics to managers has not been effective as most academics might expect.
11	Pike 1982	1982	U.K.	Pike found 69 % of the respondents use DCF in UK which falls well below the level suggested by surveys conducted in the 1970s by Carsberg and Hope (1976) – 85 % and Westwick and Shohet (1976) – 80 %. Pike found that size of annual capital expenditure is highly associated with the use of discounted methods – particularly the IRR method.
12	Pike 1983	1983	U.K	DCF techniques and practices advocated in capital budgeting literature are found in very large firms. But in practice, sound decision models in theory are not viewed as synonymous with optimal choice. Subjectivity and gut feeling are often relied on. The paper revealed a great progress in areas of inflation, hurdle rates, post audit, DCF methods and risk analysis.
13	Lilleyman 1984	1984	Australia	A significant gap between financial theory and practice still exists. A number of firms seemed to be clinging to the established procedures rather

(continued)

Table 2.2 (continued)

Author(s)	Year	Country	Findings
			than drawing from the growing body of financial literature. DCF methods of capital budgeting, e.g. NPV, IRR or profitability index, were commonly used by most major firms.
14 Ross 1986	1986	USA	The use of DCF is widespread especially IRR. Also many firms continue to use simple payback period. The study found that many firms use either WACC or the cost of a specific source of funds for the discount rate.
15 Andrews and Firer 1987	1987	South Africa	Single target hurdle rate for a firm with divisions makes no allowance for different risks and differing debt levels within the divisions.
16 Gordon et al. 1988	1988	USA	DCF methods of capital budgeting are commonly used but the use of naïve methods is still widespread. One possible explanation for the continued use of naïve methods is the agency theory.
17 Mukherjee 1988	1988	USA	Projects are identified and usually developed at the lower level of management and flows upwards. Most firms use cash flows as cost/benefit data for capital budgeting decision. The use of DCF is almost universal IRR is the most popular tool, followed by payback period. The use of WACC increased. Sensitivity analysis is a popular risk assessment method, while risk-adjusted rate is the favoured risk adjustment vehicle. Most firms have some sort of post-audit system in place.
18 Pike 1988	1988	U.K	There was a very significant increase in the use of DCF capital budgeting techniques between 1975 and 1986. This was accompanied by higher levels of capital investment effectiveness. The firms' performance was found to have improved during this period.
19 Patterson 1989	1989	New Zealand and Canada	New Zealand firms rely on accounting-based rather than market-based criteria in capital budgeting, which is not the case in USA and Australia. ARR and payback period are used at a greater extent by firms in New Zealand than in USA and Australia. The use of DCF and WACC in New Zealand is comparably low, and the use of cost of debt alone is high. The most used hurdle rate was judgement-based target return.
20 Reimann 1990	1990	USA	Value-based planners will be better off if they do not adjust divisional hurdle rates for differences in risk. Instead, cash flows should be adjusted for their relative uncertainty. It allows the managers to focus on cash flows that create economic value.

(continued)

Table 2.2 (continued)

	Author(s)	Year	Country	Findings
21	Allen 1993	1993	Australia	Firms preferred debt as an external funding source to bridge investment projects. It would not be regarded as being subjected to either external or internal funding limits. All firms surveyed agreed that funds would be found for unplanned projects if they were of sufficient merit.
22	Cheng et al. 1994	1994	USA	In theory, NPV is considered superior to IRR. NPV is compatible with wealth maximisation and makes realistic reinvestment rate assumptions. Practitioners prefer IRR to NPV; however the use of NPV is on the increase and the use of IRR decreasing. The preference of IRR to NPV is based on the “convenience” and “understandability”.
23	Graham and Harvey 2002	2002	USA	The most popular capital budgeting technique is the IRR followed closely by NPV. Profitability index is rarely used. Most firms use NPV to evaluate new projects. Surprisingly, simple payback period is more popular than discounted payback period.
24	Ehrhardt and Wachowicz 2006	2006	USA	According to the survey, most companies use DCF methods to evaluate capital budgeting decisions. DCF methods assume that initial cash outlay (ICO) is known with certainty. However many ICO are uncertain such as the construction of new facility. This risk affects both ICO and depreciation tax shields. This risk is not considered by many companies. Sensitivity analysis may address this risk.
25	Lobe et al. 2008	2008	Germany	All companies listed on Germany stock exchange – CDAX – were surveyed to establish capital budgeting methods used in Germany. Findings: German managers do not follow the shareholder value when applying capital budgeting methods. They do not use residual income valuation methods measure ex-post performance of a company.
26	Brijlal and Quesada 2009	2009	South Africa	Surveyed about capital budgeting (CB) practices in small, medium and large firms in the Western Cape province of South Africa. Findings: the most used CB technique is payback period followed by NPV. Sixty-four percentage of all firms surveyed use only one technique, 32 % use two to three techniques. Large firms favour NPV and IRR. Project definition was the most important stage of CB process and implementation stage was the most difficult stage for manufacturing companies. Most firms used cost of bank loan as the discount rate.

(continued)

Table 2.2 (continued)

	Author(s)	Year	Country	Findings
27	Leon et al. 2008	2008	Indonesia	Surveyed companies listed on Jakarta Stock Exchange about their capital budgeting (CB) practices. Findings: The majority use DCF methods as their primary measure for evaluating capital projects. Scenario and sensitivity analysis are most used risk assessment methods. Risk-adjusted discount rate and CAPM are not widely used. The most important goal of capital budgeting is growth in cash flows and long-term earnings followed by growth in share price.
28	Bennouna et al. 2010	2010	Canada	Surveyed 88 large firms in Canada. Findings: The use of DCF continued, however 17 % did not use DCF. Of those firms which used DCF the majority preferred NPV and IRR. Only 8 % used real options.

- Ignoring the impact the different amounts invested have on the NPV – a capital project that has a high NPV may not necessarily be the best if it requires relatively more capital than other capital projects;
- Ignoring the impact of unequal lives of the capital projects on the NPV – a capital project that has a longer life may not necessarily be the best if it requires relatively more capital than other capital projects;
- Failure to factor in financial, technological and management flexibility and changes that are common in a modern economy;
- It is a one-off time technique – economic conditions do not stay the same throughout the life of the capital project;
- It cannot handle multiple objectives; and
- It cannot handle multi-criteria problems.

NPV analysis is just one of the many useful capital budgeting tools. Capital budgeting techniques, whether naïve or advanced, have the following common limitations:

- They consider each project as an individual undertaking as opposed to considering the project as part of the overall organisation structure;
- They fail to consider the relationship between the investments and the impact it may have on the goals of different investments and the firm as a whole; and
- They assume that the investments need to achieve just one objective – to maximise share prices, and they ignore the interests of other stakeholders.

2.10 Conclusion

The literature review above indicates that the gap between theory and practice still exists. It also found that capital markets and accounting practices impact on investment appraisal decisions significantly. Although the use of NPV has been increasing, it is deficient in that it ignores the impact of the capital markets, agency costs, accounting practices in the form of earnings management, etc., on investment appraisal decisions. It must be noted that the studies reviewed in this chapter were conducted in different timeframes, in different countries, using different samples, different methods and different valuation techniques. However, it can be safely concluded that all ‘sing one chorus’ – maximisation of NPV. It is the most popular method in theory. However, it ignores the impact of other internal and external economic factors, such as agency costs, multiple objectives, etc., in investment appraisal decisions. This failure provides a justification for this study to develop a new integrated approach in the form of MOLP model to investment appraisal to be applied in the e-commerce sector and the airline industry that use IT as a major source of information and have an inherent high risk. Significant amount of research with multiple objectives in other sectors such as health, manufacturing, hospitality, etc., and in capital markets, has been conducted but no study has integrated them to find their impact on investment appraisal decisions.

The first section of the next Chap. 3 discusses the new directions in accounting research, different types of research methodology, discounted cash flow analysis and cash flow estimation in the context of project appraisal in the e-commerce sector. The second section of Chap. 3 discusses solving an optimisation problem which has multiple objectives and constraints, incorporating agency costs in the investment appraisal decisions and identifying the suitable model for use in the airline industry. This study attempts to bridge the gap in the existing literature and practice by incorporating the principles of corporate governance, capital markets and capital budgeting.

Corporate Governance, Capital Markets, and Capital
Budgeting

An Integrated Approach

Kalyebara, B.; Islam, S.M.N.

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