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An Analysis of trends and practices in corporate finance that are globally accepted as necessary towards investment growth

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Abstract

The main objective of the all business owners and investors is high returns. Providing capital for any project is intended to get more money than invested. Usually, there are plenty of proposed projects, so, investors need to make right decision and choose the project with the highest return.

Previous analysis is required before putting money into any project. These investigations can keep you from misfortunes that may happen. Every venture is surely not generally beneficial. There are likewise drawbacks to be picked up from a speculation. Yet, with great investigation, you can lessen the danger of misfortune and of pick up can be accomplished.

Before contributing, there are essential things that you ought to break down, such as the risk, investment period, parties associated with your venture, etc. Control and constraint of dangers is one of the venture examination should be done to maintain a strategic distance from the unending cash you contribute.

Beneficial investment takings are related to good corporate governance. The main characteristics of the good corporate governance are rule of law, transparency, efficiency, competent governing body etc. For making right investment decisions capital bugeting process have tobe used. There are several methods in this procedure for evaluating projects, such as, NPV and IRR calculations, DCF analysis, WACC, calculation of Cost of capital etc. After all related datas analyzed investment decision can be taken.

Generally, investments lead to the progress in the corporation, as in the whole economy.

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1.Introduction

1.1Research background and motivation

One of the beginnings in the field of corporate finance is the creation of enterprises with capital, and the office of the corporate fund is responsible for organizing the organization's long-term capital. The procedure for choosing capital speculation is mainly concerned with capital planning, the key technology of the corporate fund. Thanks to the planning of capital, the organization allocates capital expenditures, estimates future cash flows from proposed investment projects, contrasts organized speculation and capacity, and chooses which tasks should be included in its capital expenditure plan.

Investing in investments is perhaps the most important corporate return order and can have real business proposals. Poor investment planning, which leads to excessive contributions or underfunding, may put the organization in a weaker cash-related environment, either because of increased funding costs or lack of a working capital.

1.2Purpose of research and research questions

The main purpose of this thesis is an analysis of tools which are important toward investment decisions.

The study is aimed to find answers to research questions. They are followings:

1. Which factors affect investor’s decisions?
2. What are the main tools of investment analysis?
3. What are the risks of poor corporate governance?

1.3Research methodology

Each thesis has its own methodology. This methodology describes the route of a thesis. Hence this study is based on its own research methodology in order to achieve our objectives.

Theoretical and practical approaches are used in the research process. On the one hand, from theoretical prospective, existing trends and formulas are analyzed. On the other hand from empirical prospective, analyzing of a group of companies has done. Hence, these approaches have great roles in accomplishing all objectives of the thesis. The investigation process has done by using different research methods.

1.4 Research structure

The thesis is organized as follows:

At first, some background information of the topic is described. The following, second and third chapters talk about factors in analysis of investment taking. Finally, thesis ends up with the conclusion.

2. Corporate governance

2.1 Corporate stakeholder groups and interests

Corporate governance is the mechanisms, processes and relations by which corporations are controlled and directed.[1] It is the sum of the processes from setting of goals to various activities.

Management mechanisms provide for systematic monitoring of actions, practices and policies, monitoring of resolutions of corporations, their stakeholders and agents.

[1] Shailer, Greg. An Introduction to Corporate Governance in Australia, Sydney, 2004

Corporate governance is involved in increasing the company's accountability and preventing huge disruptions. Its main goal is to equalize the interests of the parties concerned.

A corporate participant is a group, organization or person who is interested or concerned about the corporation. There are two main categories of stakeholders: internal and external.

Internal stakeholders are individuals and parties within the organization, and external stakeholders are in favor of external parties. The following diagram represents the main difference between the two.

BASIS FOR COMPARISON	INTERNAL STAKEHOLDERS	EXTERNAL STAKEHOLDERS
Definition	The parties and individuals within the organization.	The parties or groups that gets affected by organization's activities, although they are not a part of it.
Impact	Direct	Indirect
Who are they?	They perform duties for the organization.	They get affected by the organization's activities.
Hired by the enterprise	Yes	No
Responsibility of the organization towards them	Primary	Secondary
Includes	Workers, Owners, Board of Directors, Investors ,Managers etc.	Providers, Consumers, Creditors, Intermediaries, Rivals, Public, Government etc.

Table1 Comparison Chart of primary and secondary stakeholders

Members of internal stakeholders actively participate in the management of the company. They have bets in the organization, so they can influence and may be affected by the success or failure of the organization. Internal stakeholders are also called key stakeholders. They are dedicated to providing services to the firm. The judgments, profitability, productivity and other actions of the company have a great influence on them. Organizations need internal stakeholders to be able to continue to exist in the long term. In addition, they know all the confidential internal issues of the organization. Internal stakeholders include employees, the board of directors, investors, owners, managers, etc.

External stakeholders are also recognized as secondary stakeholders. They are external parties and do not participate in management. The company's work indirectly affects them. External stakeholders use the financial information of the company to have information about its profitability, productivity and liquidity. They do not know anything about the internal affairs of the company. External stakeholders consist of suppliers, consumers, creditors, intermediaries, competitors, the public, the government, etc.

Different stakeholder groups have different interests and interests. Directors, employees and management receive salaries, benefits, and investors expect to receive a return on investment. The owners of the company are interested in profitability, raising capital, growth, while the government is interested in taxation, truthful communications, lawfulness, etc. Customers are concerned about the reliability of deliveries of goods and services of appropriate value and quality; suppliers are concerned about possible ongoing trade relations or fair business opportunities. These parties provide value to the company in various forms of capital, such as financial, human, physical, and so on.

Confidence of stakeholders that the company will provide the desired results is the main factor in the decision of the party to participate in the activities of the corporation. If groups of stakeholders are not trusted enough that the corporation is managed in accordance with their expected results, they are less likely to be involved in the corporation.

2.2 Functions and responsibilities of a company's board of directors and its committees

To be qualified or qualified, capable and acceptable, what criteria can be included in the choice of the competent governing body? Each branch has its own unique goal and function, a specialized variety of technological professions and processes, complex vocabulary, risk management issues, regulatory imperatives and specific obligations to stakeholders, as well as several fundamental principles of corporate governance. Of course, some individual candidate skills, formal knowledge and experience, practical abilities and ability can be transferred between branches; but some of them are too heterogeneous to facilitate a quick learning curve, if at all.

Nevertheless, those organizations that have seriously considered what is necessary to effectively fulfill the required duties, responsibilities and reasonable conduct of management, consider the following three items as the main qualifying imperatives:

1. Literacy and use of basic communication devices: with the advent of smartphones, personal computers, e-mail, handhelds, fax machines and other devices, and considering that the current policy of today is very mobile, which makes physical attendance at board meetings difficult at times, a modern member of the board of directors is able to use a significant number of such devices for corporate communications. Modern corporations manage their own safe director's website, which regularly publishes reports on councils, protocols, rules of government, rules and regulations and other important corporate information. It is expected that the

directors will use various technological communication devices to access information on the board, conduct interactive messaging, and participate in online assessments of the CEO and the board of directors; the possibilities are endless. A candidate and / or an incumbent president who can not or do not want to use modern communication technologies is a dubious choice for leadership in a modern organization.

2. Financial acuity: every organization, regardless of its nature, purpose, products, services or corporate structure, must deal with finances. Financial reports, budgetary comparisons and audit reports - balance sheet, profit and loss account, management reports, ratio analysis and other indicators - are used to measure the results of operations. This helps to have a formal background in finance, accounting and related industry experience to objectively analyze and understand how well the business is doing. While it is best to have many talents and disciplines aboard, several accountants and financial experts can be an incentive for meaningful discussions about important financial trends, problems and consequences.

3. Investments in self-development: the popular axiom of the late 1900s called "Engineer half-life" established the generally accepted principle that for five years an engineer who did not engage in in-depth training and new skills development would reduce his competence to 50%. What is the half-life of the corporate director in the rapidly changing economic, social and political environment of today? One three-year term of office, perhaps even less.

The policy of corporate governance in progressive organizations provides for the continuous development of the director to enhance competence. The list of opportunities for development includes basic industry training courses, trade publications, periodic industry conferences and symposiums, necessary reading and many other development initiatives. However, the obligation to independently develop and avoid the half-life syndrome remains with each individual director. Corporate governance committees should keep records of each director's participation

in such development opportunities and, if allowed by policy makers, may refuse to provide support for re-election (a candidate with no approval) for those who have demonstrated a decline in competence. Many organizations already do so.

Undoubtedly, there are many additional requirements for the qualification of the director, which the organization can choose to consolidate in corporate policy. It really depends on the industry, the electoral process, the laws and regulations concerning corporate governance, and the preferences of shareholders.

At a recent industry meeting, participants were asked how many of them are updating their corporate governance policies. Less than half indicated that they were working on it, and about a third admitted that they did not even think about it; this was a common thing with the same retired veterans in the force. If they do not start to seriously update or perhaps not claim any package of financial incentives - political heroin in today's world, the alternative may be that they simply exit the business through a merger or default.

One of the internal stakeholders is the board of directors, and they have a big impact on corporate governance. Directors are elected by shareholders or appointed by other members. They have the right to speak on behalf of the shareholders of the firm. Directors are instructed to make important decisions.

Councils of internal and independent members are often established. These members are the main shareholders, founders and managers. Independent directors are chosen because of their management experience of other large companies. Independent are considered beneficial for management, as they help to equalize the interest of shareholders with interest in insiders.

The distribution of rights and acceptability between different stakeholders in a corporation is determined by state principles and structures.

John G. Smale, who was chairman of the board of General Motors, wrote in 1995: "The board is responsible for the effective distribution of the enterprise. The obligation can not be transferred to the management. They rely on a fundamental role in corporate governance. The Management Board has an obligation regarding: selection and development of the General Director; criticism of the administration on the strategy of the association; remuneration of senior officials; checking financial status, execution and accident; and guaranteeing the association's responsibility to its investors and authorities. Usually the councils have several committees to play their work.

The responsibilities of the Board are presented by the OECD Principles of Corporate Governance (2004); part of them is reduced below:

• The officials of the council should be educated and act morally and in accordance with common decency, with due diligence and care, with the greatest benefit from the company and shareholders.

• Monitor vital acquisitions and sales.

• Review and manage the corporate procedure, target setting, significant activity plans, risk management, investment projects and annual expenditure plans.

• Select, configure, screen and displace key administrators and regulate the organization of progression.

• Align official and corporate compensation with the longer-term interests of the organization and its investors.

• Provide formal and simple party selection and decision-making process.

• Ensuring the reliability of accounting and organizational accounting structures of organizations, including their autonomous review.

• Ensure the correct setting of internal control.

• Monitor the disclosure and compliance procedures.

• Where boards of directors are created, their order, procedure and working methodology should be characterized and disclosed.

2.3 Potential risks of poor corporate governance and stakeholder management

Good management has eight basic characteristics. It is based on a participatory, agreement arranged to be responsible, is straightforward, responsive, successful and proficient, reasonable and comprehensive and takes after the run the show of law. Great administration reacts to the current and future needs of the organization, is cautious in approach improvement and decision-making and takes into consideration the leading interface of all partners.

1. Rule of law

Good governance requires an equitable legal framework that is implemented by an impartial regulator, for the full protection of stakeholders.

2. Transparency

Transparency means that information should be provided in easily understandable forms and in the media; that it should be freely accessible and accessible to those who will be affected by policies and management practices, as well as the results arising from it; and that any decisions taken and their compliance comply with the established rules and regulations.

3. Efficiency

Good governance requires that organizations and their processes be designed to ensure the best interests of stakeholders within a reasonable time frame.

4. Consensus-oriented

The great administration requires a meeting to get its distinctive pf interface partners from it to agree on what is inside the intrigued full partner and how this could be done in a feasible and reasonable way.

5. Ownership and openness

An organization that enables its partners to maintain, move forward, or generally improve their well-being is an advanced.

6. Effectiveness and efficiency

Good governance means that processes undertaken by the organization to produce favorable results, to meet the needs of its stakeholders, and the best use of resources - human, technological, financial, natural and environmental - at its disposal.

7. Responsibility

Accountability is the key to good governance. Who is responsible for what should be documented in political statements. In general, the organization is accountable to those who will be affected by its decisions or actions, as well as applicable law.

8. Participation

The participation of both men and women, directly or through legal representatives, is a key cornerstone of good governance. It is necessary to inform and organize participation, including freedom of expression and zealous concern for the best interests of the organization and society as a whole.

Poor corporate governance can give rise to a feeling of uncertainty about the unshakable quality, honesty, or commitment of investors to investors who may have proposals for welfare related to the company's money. Stability or support of illegal exercises can cause embarrassment, similar to those that shocked Volkswagen AG in

2015, when it became clear that the firm had tested motor emanations in America and Europe. Volkswagen saw that its shares lost almost a significant part of its stimulus in those days after embarrassment began, and its world deals fell 4.5% after the news month after the news.

Organizations that do not adequately coordinate work with evaluators or do not choose examiners with a suitable scale can spread false or rebel financial results. Terrible official tariff plans do not give an ideal incentive for corporate employees. Inadequately organized sheets make it extremely difficult for investors, which makes it impossible to exclude ineffective officials. Corporate governance has become a problem that needs to be addressed after the Sarbanes-Oxley Act was introduced in 2002 in the United States, which was introduced to restore open trust in organizations and markets as a result of accounting that bankrupted prominent organizations such as Enron and WorldCom.

Large corporate administration provides direct harmonization of standards and controls in which investors, managers and officers adapt their impulses. Most organizations tend to have an abnormal state of corporate governance. For some investors it is not enough that the organization is productive; he must also demonstrate excellent corporate citizenship through natural awareness, moral behavior and sound corporate voices.

Disadvantages in the practice of corporate governance and the forms of partner management open the organization and its partners to several dangers. The inverted situation is that a viable practice of corporate governance and administration of partners can make several benefits for the organization and its partners.

Potential risks

1. One collection of partners may not be justified at the expense of other partners because of shortcomings in the management structures of the organization.

2. Managers can rely on unsuccessful variants of speculation, which are beneficial to them, however, unfavorable for investors of the organization.

3. Representation of the organization on legal, administrative and reputational dangers can move upwards. For example, an organization may be subjected to expertise by an administrative specialist because of violations of laws and regulations. The organization can also receive claims from one of its partners because of some mistake. Perhaps this can damage the glory of the organization and lead to a noticeable legal expense.

4. The ability of an organization to honor obligations under obligations can become an obstacle. This opens it to the risk of insolvency if its lessors prefer a legitimate move against it.

Potential Benefits

1. Operational performance can be achieved.

2. The organization's control structures can be improved due to the best work of its supervisory board of trustees and the adequacy of its review framework.

3. Operational and budgetary execution can be strengthened, which can lead to a reduction in costs associated with fragile control systems.

4. The danger to business and speculation can be reduced, which reduces the cost of the organization's capital and its probability by default.

2.4 Effects of environmental, social, and governmental factors in investment analysis

"ESG" is acronym which is used to describe environmental, social and governance factors.

Now variety of methods are used in considering ESG issues towards investment analysis. A main idea in considering these issues is that discussion of ESG factors leads to more accomplished investment analysis and better investment decisions. It is difficult to measure these factors in monetary terms. These factors are often connected with each other, it is difficult to arrange one ESG issue as only one of them. They can be measured, but it is challenging to set these issues a monetary value. The followings are some examples of ESG issues:

- **Environmental factors:**
  - ✓ Air and water pollution;
  - ✓ Climate change;
  - ✓ Disboscation;
  - ✓ Water insufficiency;
  - ✓ Biodiversity; etc.
- **Social factors:**
  - ✓ Human rights;
  - ✓ Labor norms;
  - ✓ Customer pleasure;

- ✓ Involvement of employees;
- ✓ Diversity; etc.

- **Governance factors:**
  - ✓ Corruption and bribery;
  - ✓ Political donations;
  - ✓ Lobbying;
  - ✓ Board compound; etc.

ESG issues are considered for various reasons by different investors, some investors can see them only as an economic risks, while others consider them matter of moral values. Awareness and perception of ESG is growing day by day. One indicator of this consideration is availability of ESG data. Consideration of ESG factors is needed because of several causes, such as requirement of regulation, demand of investors, etc. It can help control risks or find out investment opportunities.

There are two main academic research points about relationship between ESG factors and long-term returns. The first point shows positive relationship between them and it indicates that good ESG performance leads to higher return, whereas other point displays negative connection. The ESG issues are great in number. Hence, investment analyst must identify them clearly to find out the most relevant ones. This process will be different by sector and it requires empirical work. For instance, software providers face environmental risks less than utilities do.

Ecological criteria assess which natural dangers may occur and influence organization's future. One and may be the most important one of the environmental concerns is climate change. If investors want to make right investment decisions it is

necessary consider impact of climate change in all financial calculations. It creates notable risk to infrastructure investments. But it is unknown that which areas and assets will be impacted. Growth in weather events can lead to destruction of buildings, also increase in use of maintenance programs and capital expenditures. Some acts can be taken for reducing climate change risks. To mitigate them investors can invest in assets that have been constructed as weather-resistant, take into account natural disasters, incessantly review of costs and insurance cover, etc.

It is known as 1% decrease in customer pleasure can result approximately 5% reduction in return on investment, and 1% increase in customer satisfaction will cause about 2.3% growth in returns. For those who want to mitigate risks of the company consumer protection is one of the central consideration.

There are some benefits of diversity for companies in recruitment process. Acknowledgement of the force of difference is growing from day to day. Perfect employee relations is also significant factor in assessment of the company.

Corporate governance concerns cover the issues which are related to the management of a company. In recent times power balance between the board of directors and CEO has become more noteworthy. Bonus payments and remuneration are also asked as a catalog of the percentage levels.

3. Capital budgeting and cost of capital

3.1 Principles of capital budgeting

Every business is aimed to maximize its gains with minimal resources. When there are any costs and opportunities for investment, the business must analyze them. As investment funds limited, they should be used in an effective way. In order to reach

these goals assessment of proposed projects before any investment decision becomes inevitable. This analysis process is called Capital budgeting. In other words, it is the procedure of evaluating and estimating of projects with higher returns. This procedure takes into account long-term investments, such as acquisition new plant, property, buying new machinery or replacement of the old one, development projects, etc. We can classify them in five categories:

1. Replacement or renewal – undertakings to maintain the business. Usually detailed analysis is not required. However some cost reduction projects need particular analysis.
2. Up-to-date market – will need more detailed analysis due to lots of uncertainties.
3. Compulsory projects – can arise according to mandatory requirements. For instance, government may command for regulatory or safety reasons. These projects probably will not generate revenue.
4. Extension projects – are intended to enlarge the business. These considered as complex projects and may require detailed information.
5. Other projects – include the projects other than given above.

As an entrepreneur or a business owner, you are surely always presented with various potential opportunities. There are several steps in Capital budgeting process. The first crucial step in the process of capital budgeting is merely identifying the opportunity available at this moment. Before you make a decision, you must first know the opportunity that is available.

Assessing Opportunities - After you have already identified the opportunities for your company, the next step in the process is to assess them. Assess each opportunity in an individual basis to compare it with the company's statement of mission and vision. Carefully look at the value of each opportunity in order to see if it matches with your own value. Other potential opportunities can possibly be eliminated before you come

across the financial information. Of course, you would want to pursue the opportunities that match your business plan.

Assessment of Cash Flow - Another significant part of the process in capital budgeting include the assessment of cash flow. Once you look at a new project, you can certainly come up with a plan for cash flow.

Estimate the amount of cash required to finally complete your project. Consult one from different experts that can help you right away. For instance, if you likely consider starting a new business, you must consult a builder or an architect in order to determine the cost.

The second part in the assessment of cash flow can help you determine the money that the project could possibly bring in. Never make use of the case scenario when you try to calculate this number. Instead, use a more realistic number in the assessment of your cash flow. This process will help you in order to determine if the project is practical or not.

Making Decisions - Finally, the main objective of capital budgeting is to assist you in making smart decisions for your own business. Take the important steps in order for every opportunity to be evaluated properly. Doing so can help your business avoid any disastrous consequence.

If these steps aren't clearly followed, expect a project that does not add value on your company. It might be the last mistake that your company remakes. Therefore, the process in capital budgeting should be crucially considered before aptly making big decisions for any kind of project.

There are some key principles of Capital budgeting that play a vital role in this process. The followings are examples for them:

- ✓ Decisions are made according to cash flows, not based on net income – Incremental cash flows appear for the changes in gradual cash flows during handling of the project.
- ✓ One of the crucial points is the timing of the cash flows – it considers time value of money. NPV calculation takes into consideration this fact.
- ✓ Cash flows should be measured based on after tax money – measurement of the cash flows before taxes is useless. As taxes are sent to the government, it will not be added to the value of the firm.
- ✓ Not consideration of sunk costs – it is the money has spent and can not be recovered. A business owner should take into account costs and revenues which are changeable due to decision. But sunk costs are not affected by the result of the decision. Thus, they do not need to be considered.
- ✓ Cost of capital is taken as the discount rate. The value of the firm can be increased by virtue of projects with higher rate of return than its cost of capital.

As it mentioned before, capital budgeting helps to business owners to make right investment decisions. Many formal methods are used in capital budgeting, including methods such as

- ✓ Accounting return rate;
- ✓ Payback period;
- ✓ Discounted cash flow;
- ✓ Net present value;
- ✓ Internal rate of return;
- ✓ Valuation of real options;
- ✓ Throughput analysis, etc.

These methods use additional cash flows from each potential investment or project. Although economists do not consider it proper, sometimes methods based on

accounting income and accounting rules are used, Simplified and hybrid methods are also used, such as the payback period and the discounted payback period.

Payback analysis is the simplest form of capital budgeting analysis, and therefore it is the least accurate. However, this method is still used because it is fast. This analysis calculates how long it will take to recoup investment in the project. The payback period is determined by dividing the initial investment by the average annual inflow of cash.

The analysis of DCF is similar to NPV analysis, as it considers the initial outflow of funds needed to finance the project, the combination of cash inflows in the form of income and other future outflows in the form of maintenance costs and other costs. These costs, with the exception of the initial outflow, are discounted to the current date. The final number of DCF analysis is NPV. Projects with the highest NPV should be evaluated compared to others, if only one or more are not mutually exclusive.

NPV is a method of discounting the cash flow for capital budgeting, in which the entire cash flow is discounted to the present value.

Budgeting projects of the budget are classified as Independent projects or Mutual exclusive projects. An independent project is a project whose cash flows are independent of the acceptance / rejection of the solution for other projects. Thus, all Independent projects that meet the criterion of Capital Budgeting should be adopted.

Mutually exclusive projects are a set of projects, of which no more than one will be accepted. For example, a set of projects that must perform the same task. There are two options, the first one is that choosing the best project. However, there is second option, which is about choosing more than one project. In this case these projects should satisfy the criterion of capital budgeting. Of these three, only the rules of net present value and internal rate of return take into account all the project's cash flows

and the time value of money. As we will see, only the net present value rule will always lead to the right decision when choosing between mutually exclusive projects. This is due to the fact that the rules for determining net present value and internal rate of return differ with respect to their assumptions about reinvestment. In the decision rule on net present value it is understood that the project's cash flows can be reinvested at the cost of the firm's capital, while the rule of accepting the rate of return implies that the cash flows can be reinvested in the IRR of the project. Since each project is likely to have another IRR, the assumption underlying the decision rule on net present value is more reasonable.

The IRR method will lead to the same solution as the NPV method for projects in an unrestricted environment, in ordinary cases, when negative cash flow occurs at the beginning of the project, followed by all positive cash flows. In the most realistic cases, all independent projects having an IRR above the barrier one should be accepted. But for mutually exclusive projects, a project with a lower NPV can be chosen by the ruler of the solution.

There are some keys with several NPV discount rates, hence in this case IRR is not sole. IRR exists and is unique if in one or several years of net investment years of net profit follow. But in the event that the signs of cash stream alter more than once, there may be a few IRRs. The IRR condition can not regularly be illuminated logically, but as it were through iterations. One of the disadvantages of the IRR strategy is that, as a run the show, it is erroneous to get it the genuine yearly return on speculations.

However, this is not the case, since the interim cash flows are almost never reinvested in the IRR of the project; and, consequently, the actual rate of return is almost certainly lower. Accordingly, a measure, called the Modified Internal Rate of Return (MIRR), is often used.

Despite the strong academic preference for NPV, polls show that managers prefer IRR over NPV, although they should be used in concerts. In an environment with a limited budget, efficiency measures should be used to maximize the overall NPV of the firm. Some managers find it intuitively more attractive to evaluate investments in terms of interest rates of return than dollars NPV.

In 1970s, options pricing models became more complicated. This resulted in becoming important of the analysis of real options. If there are projects such as risky bonds, with determined cash flows, they are evaluated with discounted cash flow methods. But managers will have many options for how to increase cash inflows in the future or reduce future cash flows. In other words, managers get the opportunity to manage projects, and not just accept or reject them. The analysis of real options tries to evaluate the choice - the value of the parameter is what managers will have in the future, and adds these values to the NPV.

The throughput is measured as the amount of material passing through the system. This method is the most difficult form of capital budgeting analysis, as it is the most accurate one. This analysis method helps managers to make decision about the projects should be implemented. This method considers the whole company as a single and profit-generating system.

The analysis assumes that almost all of the costs in the system are operating costs, that the company needs to maximize the throughput of the entire system to pay for costs, and that the maximization of profit is to maximize the throughput that passes through the bottleneck. The bottleneck is the resource in the system, which requires the longest time in operations. It means managers have to be more attentive in these issues.

Investments and projects in this field should be financed with the excess cash. This amount may be received from borrowing capital, equity, or the use of retained earnings. Debt capital is borrowed funds, usually in the form of bank loans or bonds

issued to creditors. Own capital is an investment made by shareholders who buy shares in the company's warehouse. Retained earnings represent an excess of cash surplus from the company's current and past earnings.

3.2 Calculation and interpretation of NPV and IRR

The net present value (NPV) is the difference between the present value of the cash inflow and the present value of the outflow of funds over a certain period of time. NPV is used in capital budgeting to analyze the profitability of a projected investment or project.

Below is the formula for calculating NPV:

In this equation:

C_t = net cash inflow for the period t

C_o = total initial investment costs

r = discount rate and

t = number of time periods

A positive net present value shows that the anticipated come back from the venture or speculation (in current dollars) surpasses the normal expenses (additionally in current dollars). When in doubt, ventures with positive NPV will be productive, and speculations with negative NPV will prompt net misfortunes. This idea is the reason for the net present esteem govern, which manages that the main speculations to be made are those that have positive NPV esteems. At the point when these ventures are related with a securing or a merger, you can likewise utilize the marked down income marker. Notwithstanding the recipe itself, the net present esteem can frequently be

figured utilizing tables, tables, for example, Microsoft Excel, or a possess NPV number cruncher from Investopedia. Deciding the cost of a venture is a troublesome errand, in light of the fact that there are distinctive approaches to quantify the cost of future money streams. Because of the time value of money, money in the present is worth more than the same amount in the future. This is due both to incomes that could potentially be made using money during intermediate time and because of inflation. In other words, a dollar earned in the future will not cost as much as it has earned in the present. The method of discount rate by formula NPV is a way of accounting for this.

Companies often have different ways of determining the discount rate. General methods of determining the discount rate include the use of the expected return of other investment options with a similar level of risk (investors are expected with a return) or the costs associated with borrowing the money needed to finance the project.

For instance, in case a retailer needs to buy an existing store, he will to begin with gauge long term cash streams that will be put away, and at that point spare those cash streams by one protuberance whole of the current sum - say, $ 500,000. If the shop owner was willing to sell his business for less than $ 500,000, the purchase of the company is likely to accept the offer, as it represents a positive investment by the NPV. If the owner agreed to sell the store for $ 300,000, then during the estimated investment period, the investment represents a net profit of $ 200,000 ($ 500,000 to $300,000). This $ 200,000, or a net investment return, is called an integral investment value. Conversely, if the owner does not sell less than $ 500,000, the buyer will not buy the store, since this acquisition will be a negative NPV at that time and, therefore, will reduce the total cost of a larger garment company.

Let's see how this example fits into the formula above. The total current value of $ 500,000 is a part of the formula between the equal sign and the minus sign. The amount that a retailer pays for a store represents Subtract Co with $ 500,000 to get an NPV: if Co is less than $ 500,000, the resulting NPV is positive; If Co is more than $ 500,000, NPV is negative and is not a profitable investment.

One of the main problems with the assessment of ROI with NPV is that NPV relies heavily on numerous assumptions and estimates, so there can be a significant amount of space for errors. Estimated factors include investment costs, discount rate and projected revenues. The project can often require unforeseen expenses to exit the land or may require additional costs at the end of the project. In addition, the discount and cash flow estimates can not initially take into account the risk associated with the project, and may assume the maximum possible inflow of cash during the investment period. This can happen as a means of artificially increasing investor confidence. The payback period or the "payback method" is one popular metric that is often used as an alternative to net present value. This is much simpler than NPV, mainly by measuring the time required after the investment to compensate for the initial costs of this investment. Unlike NPV, the payback period does not take into account the time value of money. Therefore, payback periods ascertained for longer ventures have more noteworthy potential for errors, since they cover additional time amid which expansion may happen, and sideways anticipated pay, and in addition a genuine payback period. In addition, the payback time frame is entirely restricted by the measure of time required to restore the underlying speculation costs. Thus, it also does not take into account the profitability of investments after these investments have reached the end of the payback period. It is possible that the rate of return on investment may subsequently have a sharp drop, a sharp increase or something in between. Thus, a comparison of the payback periods does not necessarily give an accurate idea of the profitability of these investments.

	A	B	C	D	E	F	G	H	I
1									
2	The project's cost is $9,000. The cash flows are $2,000 for the first year, $3,000 for the second year, and $4,000 for the last two years.The discount rate is 10%; What is the NPV of this project?								
3									
4									
5									
6									
7		**Year**	**Cash Flow**			**Discount rate**	**10%**		
8		0	$9,000						
9		1	2,000						
10		2	3,000				**NPV=**	**$1,034.834**	
11		3	4,000						
12		4	4,000						
13									
14	The formula entered in cell H10 is =NPV(G7,C9:C12)-C8. NPV function is used to calculate present values of future cash flows, then the initial cost is subtracted to calculate the answer.								
15									

Table2 Calculating the NPV with Spreadsheet

The internal rate of return is another metric commonly used as an alternative to NPV. IRR calculations rely on the same formula as NPV, except for minor adjustments. IRR calculations assume a neutral NPV and are decided for the discount rate. The investment discount rate, when NPV is zero, is the IRR of the investment, mainly representing the projected growth rates for these investments. Since IRR is necessarily annual - it refers to the projected profitability on an annual basis - this makes it easier to compare a wide variety of types and duration of investment.

For example, the IRR can be used to compare the expected return on a three-year investment with an investment of 10 years, because it looks like an annual indicator. If both have an IRR of 18%, then the investments are comparable in some respects, despite the difference in duration. However, the same does not apply to net present value. Unlike IRR, NPV exists as a single value, using the entire planned investment period. If the investment period exceeds one year, NPV does not take into account the rate of profit in a way that makes it easy to compare. Returning to the previous example, a 10-year investment may have a higher NPV than a three-year investment, but this is not necessarily useful information, since the former is more than three times larger than the last, and there is a significant amount of investment opportunities in the difference of seven years between the two investments.

To calculate the IRR using the formula, you could set the NPV to zero and decide for the discount rate (r), which is the IRR. However, because of the nature of the IRR formula, it can not be calculated analytically and instead should be calculated either by trial error or using software programmed to calculate the IRR.

Example. Suppose you have a project that costs $200 today, and pays $220 in one year. We can calculate NPV for our project as,

NPV=-$200+[220/(1+R)]

If we do not know the discount rate, and want to find break-even discount rate, we set NPV zero and solve for R:

NPV=0

-$200+[220/(1+R)]=0

220/(1+R)=200

1+R=1,1

R=10%

This 10 percent is return on an investment. What we have illustrated that the internal rate of return on an investment is the discount rate which makes the NPV equal to zero.

For one period of finding IRR is relatively easy. If we were asked to return for several investment periods, this would be difficult. The common way to find IRR is trial and error. We can find an unknown bet using different discount rates, until we get a zero NPV. We start with 0 percent and continue these calculations to the correct answer. To be more clear, we can make an example below.

Example. A project has an total up-front cost of $481.59.The cash flows are $100 in the first year, $200 in the second year, and $300 in the last year. What is the IRR?

Should we take this investment, if we require an

a)8 percent;

b)12 percent return?

As mentioned above we can find IRR by calculating some NPVs at different discount rates. Beginning with 0 percent, we find:

Discount rate	NPV
0%	$118.41
5	54.21
10	0.00
15	- 46.14

Table 3 NPV at different discount rates

At 10 percent the NPV is zero, it means that, IRR is 10 percent for this project. Based on the IRR rule, we should not take the investment which required return is more than IRR.NPV will be positive at the discount rate which is below 10 percent. Therefore, if we require 8 percent return we can take investment. But in case of 12 percent required return, because of negative NPV we should reject this project.

Generally, the higher the internal rate of profit of the project, the more desirable it is to take. IRR is uniform for investments of various types and, thus, IRR can be used to rank several prospective projects on a relatively equal basis. Assuming that investment costs are equal between different projects, the project with the highest IRR is likely to be considered the best and will be implemented first.

IRR is sometimes referred to as the "economic rate of return" or "discounted cash flow of profit". The use of "internal" means the omission of external factors, such as the cost of capital or inflation, from the calculation.

You can think about the internal rate of return, because it is expected that the growth rate of the project will be generated. While the actual rate of return that this project ultimately creates will often differ from the estimated IRR, a project with a significantly higher IRR cost than other options available will still provide much higher chances for strong growth. One of the popular applications of IRR is comparing the profitability of creating new operations with the possibility of

expanding existing ones. For example, an energy company can use the IRR in deciding whether to open a new power plant or to update and expand a previously existing one. Although both projects can add value to the company, it is likely that this will be a more logical solution, as envisaged by the IRR.

Theoretically, any project with an IRR exceeding its cost of capital is profitable, and therefore the company is interested in such projects. When planning investment projects, firms often set the required rate of return (RRR) to determine the minimum acceptable return percentage that should receive investment capital in order to be useful. Any undertaking with an IRR that surpasses RRR is probably going to be perceived as productive, in spite of the fact that organizations won't really actualize the venture just on this premise. Or maybe, they are probably going to complete tasks with the most astounding contrast amongst IRR and RRR, as they are probably going to be the most productive.

IRR can also be compared with prevailing rates of return on the securities market. If a firm can not find any projects with an IRR greater than the yield that can be generated in the financial markets, it may simply want to invest its retained earnings on the market.

In spite of the fact that the IRR is an alluring metric for some, it ought to dependably be utilized as a part of conjunction with NPV to all the more obviously speak to the esteem spoke to by the potential task that the firm can attempt. In spite of the fact that the IRR is an exceptionally mainstream metric in surveying the benefit of an undertaking, it can be deluding if utilized alone. Depending on the initial investment costs, the project may have a low IRR, but a high NPV, which means that although the pace with which the company sees a return on this project may be slow, the project can also bring more value to the company.

A similar problem occurs when using IRR to compare projects of different lengths. For example, a short-term project may have a high IRR, which makes it an excellent

investment, but it can also have a low NPV. Conversely, a longer project can have a low IRR, income returns slowly and stably, but over time it can add more value to the company.

Another problem with IRR is not strictly inherent in the metric itself, but rather the usual abuse of IRR. People can assume that when positive cash flows are generated during the project (and not at the end), the money will be reinvested at the project profit rate. This is rarely the case. Rather, when positive cash flows are reinvested, it will be at a speed more reminiscent of the cost of capital. Reflection using IRR in this way can lead to the belief that the project is more profitable than it really is. This, along with the fact that long projects with fluctuating cash flows may have several different IRR values, prompted the use of another metric called the modified internal rate of return (MIRR). The MIRR corrects the IRR to eliminate these problems, including the cost of capital as the speed of reinvestment of cash flows and existing as a single cost. Due to the correction of the MIRR of the former IRR issue, the MIRR project will often be significantly lower than the IRR of the same project.

3.3 Calculation and interpretation of weighted average cost of capital

Weighted average cost of capital (WACC) is a calculation of the cost of a firm's capital, in which each category of capital is proportionally weighed.

All sources of capital, including ordinary shares, preferred shares, bonds and any other long-term debt, are included in the WACC calculation. WACC firms are increasing, as the beta and the rate of return on the increase in equity, since an increase in WACC means a reduction in valuation and an increase in risk.

To calculate the WACC, multiply the cost of each component of capital by its proportional weight and take the sum of the results. The WACC calculation method can be expressed in the following formula:

$$WACC = E / V * Re + D / V * Rd (1-Tc)$$

The cost of capital (Re) can be a little difficult to calculate, since equity capital is technically not explicit. When companies pay a debt, the amount they pay has a predetermined linked interest rate, which depends on the size and duration of the debt, although the cost is relatively fixed. On the other hand, unlike debt, equity does not have a specific price that a company must pay. However, this does not mean that there is no fairness value. Since shareholders will expect to receive a certain return on their investments in the company, the required rate of return of shareholders is the cost from the company's perspective, because if the company fails to provide the expected profit, shareholders will simply sell their shares, which leads to a decrease in the share price and company value . Thus, the cost of capital is, in fact, the amount that a company must spend in order to maintain a share price that will satisfy its investors.

The calculation of the cost of debt (R_d), on the other hand, is a relatively simple process. To determine the cost of debt, use the market rate that the company currently pays for its debt. If a company pays a course other than a market one, you can assess the relevant market rate and instead replace it in your calculations.

There are tax deductions for interest paid, which is often an advantage of companies. Because of this, the net worth of companies' debts is the amount of interest they pay, less the amount they will save in taxes as a result of their interest-deductible interest. That is why the cost of debt after tax is R_d (1 - corporate tax rate).

In a broad sense, the company finances its assets either through debt, or with the help of its own capital. WACC is the average cost of these types of financing, each of which is weighted by its proportional use in this situation. By adopting a weighted average in this way, we can determine how much per cent the company owes for every dollar it funds.

Debt and capital are two components that make up the company's capital financing. Creditors and shareholders will receive a certain profit from the funds or capital they have provided. Since the cost of capital is the income that owners (or stockholders) of shares and debt holders expect, the WACC indicates income that can count on getting both stakeholders (owners of capital and creditors). In other words, the WACC is an alternative opportunity for the investor to assume the risk of investing money in the company.

The company's WACC is the total required profit for the firm. In this regard, the directors of the company will often use the WACC within the country to make decisions, such as determining the economic feasibility of mergers and other expansion opportunities. WACC is the discount rate that should be used for cash flows at a risk similar to the risk for the entire firm.

To help understand the WACC, try to think of the company as a pool of money. Money comes to the pool from two separate sources: debt and capital. Revenue received from business transactions is not considered a third source, since after the debt is repaid the company retains the remaining money that is not returned to shareholders (in the form of dividends) on behalf of these shareholders.

Suppose that creditors require a 10% return on the money they have provided to the firm, and assume that shareholders require a minimum 20% return on their investments to maintain their holdings in the firm. On average, then projects funded from the company's pool of money will have to return 15% to meet debts and

shareholders. 15% is the WACC. If the only money in the pool were $ 50 in contributions of debt holders and $ 50 in equity investments, and the company invested $ 100 in the project to satisfy the anticipated creditors and shareholders, the project would have to receive an income of $ 5 each year for creditors and $ 10 per year for the company's shareholders. This will require a total profit of $ 15 per year or 15% of the WACC.

Securities analysts use the WACC all the time when they evaluate and choose investments. In the analysis of discounted cash flows, for example, WACC is used as the discount rate applied to future cash flows to obtain the net present value of the business. WACC can be used as an obstacle by which you can evaluate the effectiveness of ROIC. It also plays a key role in calculations with the economic added value (EVA).

WACC is a tool to decide whether to invest by investors. WACC is the minimum rate of return at which the company makes the value of its investors. Suppose that the company returns 18% and has a WACC of 10%. This means that for every dollar the company invests in capital, the company creates eight cents. In contrast, if the company's revenue is less than WACC, the company loses value, which indicates that investors must invest their money in other places.

WACC fills in as a valuable rude awakening for financial specialists. To be limit, the normal financial specialist likely would not have made a big deal about figuring the WACC, on the grounds that it is a mind boggling measure, requiring a considerable measure of itemized data about the organization. All things considered, it enables financial specialists to know the estimation of WACC when they see it in examiners' reports to a business organization. The cost of capital can be somewhat hard to figure, since the offer capital does not manage "express" expenses. Dissimilar to an obligation that an organization must pay as predefined intrigue, shares don't have a

particular value that the organization must pay, however this does not imply that the cost of capital does not exist. Normal investors hope to get a specific profit for their interests in the organization's offer capital. The necessary rate of return of shareholders is the cost from the company's point of view, because if the company does not fulfill this expected profit, shareholders will simply sell their shares, which will lead to lower prices. The cost of equity is mainly that companies should support a theoretically acceptable price for investors. Proceeding from this, the most common method of calculating the cost of capital comes from the pricing model for capital assets awarded by the Nobel Prize

(CAPM): $R_e = R_f + \text{Beta}\ (R_m - R_f)$.

But what does it mean?

• R_f - risk-free rate is the amount received from investing in securities that are considered free from credit risk, such as government bonds of developed countries. The interest rate on US Treasury bills is often used as a proxy for a risk-free rate.

• ß - Beta - this determines how much the stock price of the company reacts to the market as a whole. For example, a beta version of one of them indicates that the company is moving in accordance with the market. If the beta exceeds one, the share exaggerates the market movement; Less than one means that the share is more stable. Once in a while an organization may have a negative beta (for instance, a gold mining organization), which implies that the stock value moves the other way to a more extensive market. For open organizations, you can discover database benefits that distribute beta renditions of organizations. Less administrations assess beta superior to BARRA. In spite of the fact that you will most likely be unable to buy in to the beta assessment benefit, this site portrays the procedure by which they think of "major" beta adaptations. Bloomberg and Ibbotson are other profitable wellsprings of industry beta.

• ($R_m - R_f$) = Market risk premium of shares - the risk premium in the stock market (EMRP) is the return that investors expect to compensate them for additional risk by investing in the stock market above the norm without risk. In other words, this is the difference between a risk-free rate and a market rate. This is a very controversial figure. Many commentators claim that it grew because of the fact that holding stocks have become more risky.

The often quoted EMRP is based on the historical average annual excess of profit received from investing in the stock market above the level of risk-free. The average value can be calculated using the arithmetic mean or geometric mean. The geometric mean ensures an annual shrinkage of the excess income norm and in most cases will be below the arithmetic mean. Both methods are popular, but the arithmetic mean has been widely recognized.

After calculating the cost of equity, adjustments may be made to take into account the risk factors specific to the company, which may increase or decrease the company's risk profile in the company. Such factors include the size of the company, the expected litigation, the concentration of the client base and dependence on key employees. Adjustments are entirely dependent on the judgment of investors and vary from company to company.

In comparison with the cost of equity, the cost of debt is fairly simple to calculate. The rate used to determine the cost of debt (R_d) must correspond to the current market rate that the company pays for its debt. If the company does not pay market rates, it is necessary to assess the relevant market rate payable by the company.

Since companies benefit from tax deductions available on interest paid, the net debt value is in fact the interest paid after deducting the tax savings associated with the payment of tax on interest deductions. Thus, the cost of debt after tax is R_d (1 - corporate tax rate).

WACC is the weighted average of the cost of capital and the cost of debt on the basis of the proportion of debt and capital in the company's capital structure. The share of debt is represented by D / V, the ratio that compares the company's debt with the total value of the company (equity + debt). The share of capital is represented by E / V, the ratio that compares the company's capital with the total value of the company (equity + debt). The following is the formula of the WACC:

$$WACC = R_e \times E / V + R_d \times (1 - \text{corporate tax rate}) \times D / V$$

It is a function of combining the value of debt and capital. On the one hand, in the past few years, interest rate cuts have led to a reduction in WACC companies. On the other hand, the flow of corporate disasters, such as Enron and WorldCom, increased the perceived risk of investment in equity.

3.4 Description of cost of equity, the capital asset pricing model approach, the dividend discount model approach

The pricing model for fixed assets (CAPM) is a model that reflects the relationship between the methodological hazard and the expected return on resources, especially stocks. CAPM usually uses funds to assess unsafe securities, creating the expected return from resources. Equation for the sound of the following:

The general idea behind the CAPM is that financial professionals should receive remuneration in two ways: assessing time in cash and risk. The estimation of time in cash is determined by the recurrence-free (r_f) rate in the recipe and the return of speculators for investing money in an enterprise for one time. A risk-free rate is usually a return on government securities, such as US Treasury bonds.

The other part of the CAPM equations speaks with an accident and sets a measure of payment for the financial specialist's requirements for access to the limb. (R_m-r_f): the arrival of the market in abundance of the risk-free rate. Beta reflects how dangerous the advantage is, comparable to the overall market probability, and is a component of the instability of the advantages and market and, in addition, the relationship between them. For stocks, as a rule, they speak in the market, since the S & P 500, in addition, one can speak about stronger reports.

The CAPM exhibition says that the normal return of a security or portfolio depends on the level of safety without danger in addition to the risk premiums. In the event that this normal income does not correspond or does not generate the required income, at this point, speculation should not be attempted. The safety showcase line shows the consequences of CAPM for each individual hazard (beta version).

Using the CAPM demonstration and the accompanying assumptions, we can determine the normal return for the shares:

The risk-free rate is 3%, and the beta (random measure) is 3. The normal market return is 10%, so it is implied that the risk premium on the market is 7% (10% -3%) in after the interest was deducted without normal market income. CAPM above, we get a normal return of 24% for shares:

24% = 3% + 3 x (10% -3%)

The cost of the cost is the arrival that the organization must choose if the enterprise meets the need for a return of capital. It is often used as a capital planning limit for the required profit. The value of the value indicates the reward that the market requires in exchange for obtaining rights and the danger of possession. The conventional cost-of-value (COE) equations are an indicator of the capitalization of profit and the model for estimating capital resources.

The cost of the cost refers to two separate ideas related to the collection. In the event that you are a financial specialist, the value of the cost is the rate of return required for interest in the value. If you are an organization, the value of the value is used to determine the required profit for a specific enterprise or speculation.

There are two ways in which an organization can attract capital: an obligation or value. The obligation is modest, but it must be returned. The cost should not be returned, but rather for the most part is worth more than the commitment because of the points of interest of intrigues. The trailblazers evaluate the cost value using platforms and capital resources.

The development forecast is used to determine the value of the cost, but this requires that the organization pay a profit. The calculation depends on future profits. The hypothesis underlying this condition is the obligation of the organization to pay a profit - this is the cost of paying investors and thus the cost of value. This is a limited model in the understanding of costs. The model for estimating capital resources, however, can be applied at any auction, regardless of whether the profit is paid. So, the hypothesis underlying CAPM is more confused. The hypothesis recommends that you earn on yourself and at a level of risk that contrasts with the common market.

CAPM recipe:

Cost of capital = risk-free rate of return + beta * (market rate of return - risk-free rate of return).

In this state, the rate without risk is the rate of profit paid for random free enterprises, for example, Treasuries. Beta is a measure of risk, established as a recurrence of the value of shares in organizations. The market rate of return is the normal market rate, which for the most part was considered 11-12% in recent years. In general, an

organization with a high beta version, that is, an organization with a high level of danger, will pay more to get value. Example for the calculation of CAMP:

- ✓ The beta of the stock=1.25
- ✓ The current yield=2%
- ✓ Market return premium=7%

Expected return= 2% + 1.25x7% = 10.75%

Conclusion

This study has examined and focused the issues such as the importance of NPV and IRR analysis in decision making towards investment growth. It is not focused only NPV and IRR, it also has taken account other analysis tools, such as weighted average cost, capital asset pricing method, etc.

Due to the results of the research, we found out that, global accepted trends and practices are important towards investment growth. Investment growth in corporations leads to general growth in economy of the country. Therefore, good investment decisions increase not only finance of investors, it also serve to welfare of the country.

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