



SEMIs

Investment Decisions/Capital Budgeting

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Introduction



In order to develop, produce, treat and distribute high quality/performance seeds to the farmer before any planting season begins, seed company need to have;

1. Seed Processing plant (Owned or hired)
2. Laboratory Facilities (biotechnology, pathology and genetics library)
3. Knowledge of market economics specifically highland and dry lands
4. Subsidiaries (based on value adding mergers or acquisitions)
5. Technology (**Choosing between production technologies**)
6. Research agenda in respect to breeding programs

(List not exhaustive)



Maize



Source: Kenya Seed Company Website



Peas



Source: Kenya Seed Company Website



Introduction...



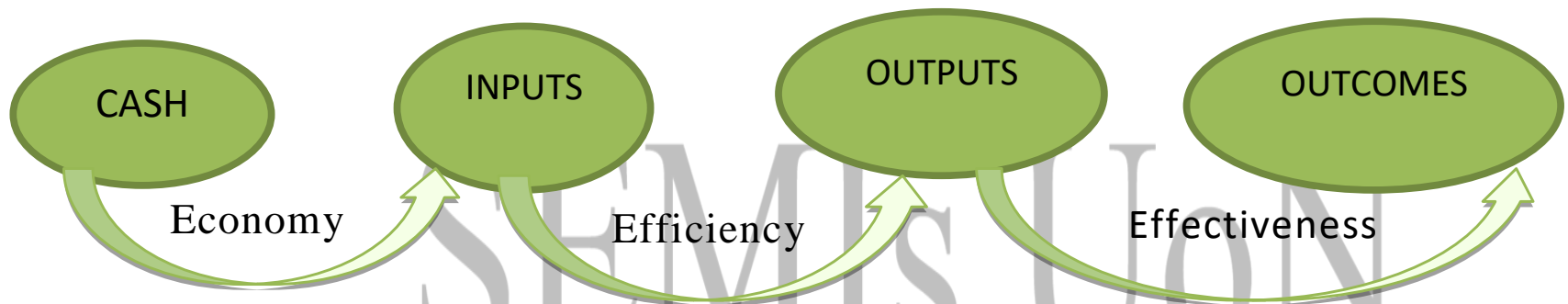
- * Investment decisions you make today is a key determinant of what your seed company will become
- * Investment choices is in the domain every manager in the organization starting at the strategic level (business strategic direction by way of strategic goals)
- * Operational managers come in once the strategic goals are in place and in particular to **generate finite** number of investment ideas/proposals (forms part of concrete action plans → source of competitive advantage)
- * The investment proposals are then subjected to financial appraisal tools (a thorough screening process) to identify candidates for implementation. This culminates into budgeting and the preparation of a capital budget



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- Asses initial outlay today against future expected benefits and the strategic goal employing a value for money techniques as shown below



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Seed Processing Plant (Capital project)



Source: Kenya Seed Company Website



Introduction...



Definitions:

- * **Capital budgeting** is the whole process of analyzing projects and deciding which ones to include in the capital budget. These decisions define a firm's strategic direction (new products, Markets, etc). It is the decision process that managers use to identify those projects that add to the firm's value, and as such perhaps the most important task faced by managers and staff
- * **Capital** is used to refer to long term projects and they constitute the operating assets used in production. They include but not limited to expansion of existing products or markets, replacement decisions, R & D, L/T Contracts
- * **Capital budget:** An outline of planned investments in operating assets



Principles of capital budgeting



1. Decisions are based on cash flows, not accounting income:
2. Cash flows are based on opportunity costs
3. The timing of cash flows is important
4. Cash flows are analysed on an after-tax basis
5. Financing costs are reflected in the project's required rate of return

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Problems face managers when making investment decisions

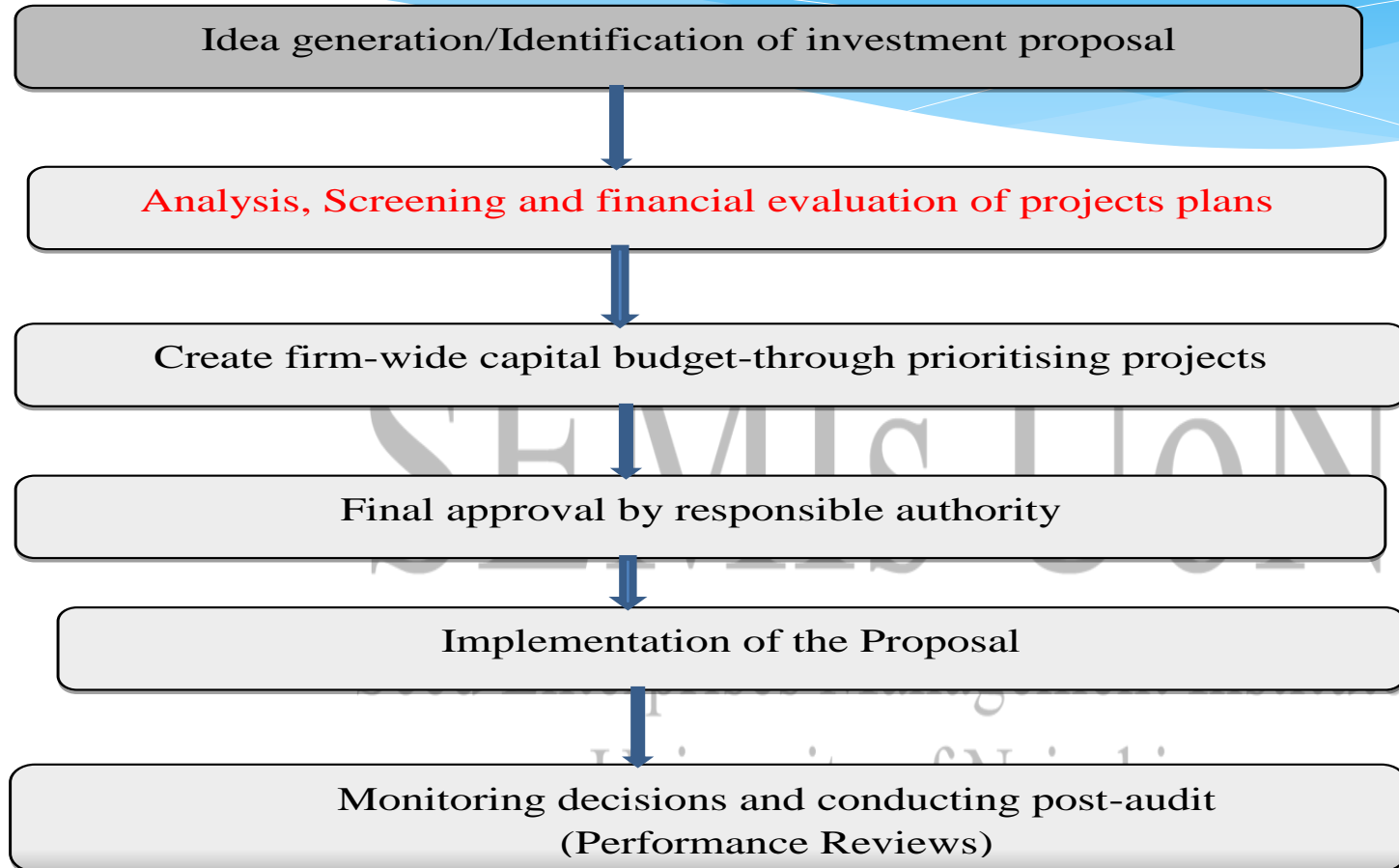


1. They have to search out new investment opportunities in the Market place or new Technologies
2. The expected cash flows from the projects have to be estimated
3. The projects have to be evaluated according to sound decision rules (for modern business)

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ADMINISTRATIVE STEPS or CAPITAL BUDGETING PROCESS





CAPITAL BUDGETING METHODOLOGIES

Traditional Techniques

1. Pay Back Period
2. Accounting Rate of Return (ARR)

Discounted Cash flow Techniques

1. Net Present Value (NPV)
2. Internal Rate of Return (IRR)
3. Benefit cost ratio (BC-R)

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The payback period



It is simply the number of years it takes to recover the initial cash outlay (The original investment) on a project

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Accounting Rate of Return (ARR)



ARR is the average after-tax profit divided by the initial cash outlay

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Discounted Cash flow Techniques



It is undoubtedly the backbone of modern financial evaluation of any investment opportunity and it involves three discrete steps

1. Estimation of cash flows that are relevant to the project (incremental or otherwise) **← Most Challenging but must done (an art) and it encompasses understanding of the seed (company markets, Competitive position, Strategic goals and intentions, Financing costs, Issues to do with depreciation, Working capital requirements, Production capacity, contingencies, etc.)**
2. Computation of what Robert Higgins in his book refers to as 'figure of merit' which summarizes worth on an investment proposal
3. Reject or accept based on established criterion



Net present Value (NPV)



- * NPV is computed by finding the sum of the discounted and the cash flows at the firm's opportunity cost of capital.
- * NPV criterion will accept projects that have an NPV greater than zero.

$$NPV = \sum_{t=0}^n CF_t / (1+k)^t$$

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IRR



- * IRR is that rate which equates the PV of the cash outflows and inflows. The rate that makes the computed NPV exactly zero.
- * It is the rate of return on invested capital that the project is returning to the firm.
- * Choose those projects whose IRR is greater than the firm's cost of capital.

$$NPV = 0 = \sum_{t=0}^N \frac{FCF_t}{(1 + IRR)^t}$$

- * Simplified Formula:

$$IRR = Lr + \frac{\text{Positive NPV}}{\text{Positive NPV} - \text{Negative NPV}} * (Hr - Lr)$$



BC-R /Profitability Index



- * It is the Present value of a project's future cash flows divided by the initial cash outlay
- * It shows the relative profitability of any project, or the PV per shilling of initial cost.
- * Accept a project whose PI is greater than 1. It can thus be used in ranking projects especially when faced with capital rationing

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Example

Each project has a cost of \$ 10,000 and the cost of capital for each project is 12%. The projects expected net cash flow are as follows.

Evaluate the proposed projects X and Y using NPV and BC-R.

YEAR	PROJECT X	PROJECT Y
0	(10,000)	(10,000)
1	6,500	3,500
2	3,000	3,500
3	3,000	3,500
4	1,000	3,500

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End of Presentation

Thank You

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