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Investment Decisions and Capital Budgeting

Presented by

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Learning Objectives

By the end of this chapter, participants will be able to:

- Explain investment decisions and capital budgeting
- Identify different types of long-term investments
- Describe the capital-budgeting process
- Estimate relevant project cash flows
- Apply the time value of money
- Calculate Payback Period, ARR, NPV, PI and IRR
- Compare alternative investment projects
- Evaluate mutually exclusive projects
- Incorporate risk, inflation and taxation
- Conduct sensitivity and scenario analysis
- Recommend financially viable investments
- Conduct post-investment reviews

Chapter Roadmap

This chapter covers:

1. Investment decisions
2. Capital-budgeting concepts
3. Project identification and screening
4. Estimation of project cash flows
5. Time value of money
6. Investment-appraisal techniques
 1. Cost of capital
 2. Risk and uncertainty
 3. Project selection
 4. Implementation and post-audit

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SECTION

Introduction to Investment Decisions

What Is an Investment Decision?

An investment decision is a decision to commit financial resources today in expectation of future benefits.

Examples include:

- Purchasing machinery
- Constructing buildings
- Opening a new branch
- Launching a new product
- Replacing old equipment
- Investing in technology
- Expanding production capacity

Characteristics of Investment Decisions

Investment decisions usually involve:

- Large financial commitments
- Long-term consequences
- Future uncertainty
- Irreversible or difficult-to-reverse expenditure
- Multiple stakeholders
- Significant organizational risk
- Expected future cash flows

Why Investment Decisions Matter

Good investment decisions help organizations to:

- Increase profitability
- Improve productivity
- Reduce operating costs
- Expand service delivery
- Strengthen competitiveness
- Replace obsolete assets
- Improve sustainability
- Create long-term value

Consequences of Poor Investment Decisions

Poor decisions may lead to:

- Financial losses
- Cash-flow shortages
- Idle assets
- Excessive debt
- Cost overruns
- Project failure
- Reduced organizational value
- Inability to fund better opportunities

Strategic Importance

Investment decisions should support:

- Organizational mission
- Strategic objectives
- Market demand
- Operational priorities
- Financial sustainability
- Risk appetite
- Environmental and social commitments
- Stakeholder expectations

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SECTION

Capital Budgeting

What Is Capital Budgeting?

Capital budgeting is the systematic process of:

- Identifying investment opportunities
- Estimating costs and benefits
- Assessing financial viability
- Comparing alternatives
- Selecting projects
- Monitoring implementation
- Reviewing actual performance

Capital Expenditure vs Operating Expenditure

Capital Expenditure	Operating Expenditure
Creates long-term benefits	Supports day-to-day operations
Usually large and infrequent	Usually recurring
Capitalized as an asset	Expensed during the period
Examples: machinery, buildings	Examples: salaries, utilities
Evaluated through capital budgeting	Controlled through operating budgets

Types of Capital-Budgeting Decisions

- Expansion projects
- Replacement projects
- Modernization projects
- Cost-reduction projects
- New-product investments
- Research and development
- Information-technology investments
- Regulatory or safety investments
- Social and environmental investments

Expansion Investment

Expansion projects increase:

- Production capacity
- Geographic coverage
- Customer reach
- Service capacity
- Revenue opportunities

Example

Constructing a new production plant to meet increasing demand.

Replacement Investment

Replacement projects involve substituting an existing asset with a new one.

Reasons may include:

- High maintenance costs
- Obsolescence
- Low efficiency
- Frequent breakdowns
- Safety concerns
- Environmental requirements

Mandatory and Discretionary Investments

Mandatory Investment

- Required by law
- Regulation
- Safety standards
- Environmental requirements
- Donor conditions

Discretionary Investment

Selected because it is expected to improve financial or strategic performance.

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SECTION

Capital-Budgeting Process

The Capital-Budgeting Process

1. Identify investment opportunities
2. Conduct preliminary screening
3. Develop project assumptions
4. Estimate cash flows
5. Determine the discount rate
6. Appraise financial viability
 1. Assess risk
 2. Select and approve the project
 3. Implement and monitor
 4. Conduct a post-investment review

Stage 1 — Project Identification

Investment ideas may originate from:

- Strategic plans
- Market research
- Customer feedback
- Operational problems
- Technology changes
- Staff proposals
- Government policy
- Risk assessments
- Competitor analysis

Stage 2 — Preliminary Screening

Initial screening should consider:

- Strategic alignment
- Market need
- Technical feasibility
- Expected cost
- Funding availability
- Legal requirements
- Environmental and social implications
- Major project risks

Stage 3 — Feasibility Study

A feasibility study commonly includes:

- Market analysis
- Technical analysis
- Operational analysis
- Management analysis
- Financial analysis
- Environmental and social analysis
- Risk analysis
- Implementation planning

Stage 4 — Financial Appraisal

Financial appraisal examines:

- Initial investment
- Operating revenues
- Operating costs
- Working-capital needs
- Tax implications
- Financing costs
- Terminal value
- Project cash flows
- Investment returns

Stage 5 — Approval

Project approval should consider:

- Financial viability
- Strategic relevance
- Funding capacity
- Risk exposure
- Management capability
- Compliance requirements
- Environmental and social impact
- Alternative opportunities

Stage 6 — Implementation

Implementation involves:

- Procurement
- Contracting
- Construction or installation
- Staff recruitment
- Financing
- Quality assurance
- Cost monitoring
- Schedule monitoring
- Risk management

Stage 7 — Post-Investment Review

A post-investment review compares:

- Forecast costs vs actual costs
- Forecast revenue vs actual revenue
- Planned completion vs actual completion
- Expected benefits vs actual benefits
- Forecast risks vs actual risks
- Expected NPV and IRR vs realized performance

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Relevant Project Cash Flows

Profit vs Cash Flow

Investment decisions should generally be based on cash flows, not accounting profit.

Accounting profit includes:

- Non-cash expenses
- Accruals
- Accounting policies

Cash flow reflects the actual movement of financial resources.

Incremental Cash Flow Principle

Include only cash flows that occur because the project is accepted.

Ask:

What cash flows will change if the investment proceeds?

Exclude cash flows that remain unchanged whether the project is accepted or rejected.

Major Project Cash-Flow Categories

Project cash flows usually include:

1. Initial investment
2. Operating cash flows
3. Working-capital investment
4. Tax effects
5. Terminal cash flow

Initial Investment

The initial investment may include:

- Purchase price
- Transportation
- Installation
- Testing
- Consultancy
- Training
- Site preparation
- Initial working capital
- Less proceeds from assets replaced

Operating Cash Inflows

Operating inflows may include:

- Sales revenue
- Service fees
- Cost savings
- Rental income
- Increased production
- Reduced losses
- Additional grants or subsidies

Operating Cash Outflows

Operating outflows may include:

- Raw materials
- Salaries and wages
- Utilities
- Maintenance
- Insurance
- Marketing
- Administration
- Transportation
- Additional working-capital costs

Operating Cash Flow

A simplified operating cash-flow calculation is:

$$\text{Operating Cash Flow} = \text{Revenue} - \text{Cash Operating Costs} - \text{Taxes}$$

When depreciation is included in taxable profit:

$$\text{Operating Cash Flow} = \text{Profit After Tax} + \text{Depreciation}$$

Working Capital

Net working capital may include:

- Inventory
- Receivables
- Minimum cash balances
- Less accounts payable

An increase in working capital is usually treated as a cash outflow.

Recovery of working capital at project completion is usually a cash inflow.

Terminal Cash Flow

Terminal cash flow may include:

- Salvage value
- Sale of assets
- Recovery of working capital
- Closure costs
- Environmental restoration costs
- Tax on disposal gains
- Removal and decommissioning costs

Sunk Costs

A sunk cost is a cost already incurred that cannot be recovered.

Examples:

- Previous feasibility-study cost
- Past research expenditure
- Previous consultancy fee

Sunk costs should not be included in project appraisal.

Opportunity Costs

An opportunity cost is the value of the best alternative use of a resource.

Example

A company-owned building could be rented for ETB 1 million per year.

Using it for a new project creates an opportunity cost of ETB 1 million annually.

Externalities and Side Effects

Projects may affect other operations.

Examples:

- A new product reduces sales of an existing product
- A new branch increases demand for another service
- A project creates environmental costs
- A new system reduces administration costs

These effects should be included when they are measurable and relevant.

Depreciation

Depreciation is a non-cash accounting expense.

It affects project cash flow because it may:

- Reduce taxable profit
- Reduce tax payments
- Create a depreciation tax shield

Depreciation itself is not a direct cash outflow.

Tax Effects

Project appraisal should consider:

- Corporate income tax
- Tax deductions
- Depreciation allowances
- Withholding taxes
- Customs duties
- Tax on asset disposal
- Tax incentives
- Tax-loss carryforwards

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Time Value of Money

Meaning of Time Value of Money

A unit of money today is worth more than the same amount in the future because money today can:

- Earn a return
- Be invested
- Protect against inflation
- Provide liquidity
- Reduce uncertainty

Future Value

Future value measures how much a current amount will grow over time.

$$FV = PV (1 + r)^n$$

Where:

- FV = future value
- PV = present value
- r = rate of return
- n = number of periods

Present Value

Present value converts future cash flows into today's value.

$$PV = FV \div (1 + r)^n$$

Present value is the foundation of discounted cash-flow analysis.

Discounting

Discounting recognizes that future cash flows are worth less than immediate cash flows. The value depends on:

- Amount of the cash flow
- Timing
- Required rate of return
- Risk
- Inflation
- Opportunity cost of capital

Discount Factor

$$\text{Discount Factor} = 1 \div (1 + r)^n$$

Example — at 10%, Year 3

Discount factor: $1 \div 1.10^3 = 0.7513$

ETB 100,000 received in Year 3 has a present value of approximately ETB 75,130.

Annuity

An annuity is a series of equal cash flows occurring at regular intervals.

Examples:

- Annual rental payments
- Equal loan repayments
- Constant annual project savings
- Regular lease payments

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SECTION

Investment-Appraisal Techniques

Main Appraisal Techniques

Non-Discounted Methods

- Payback Period
- Accounting Rate of Return

Discounted Cash-Flow Methods

- Discounted Payback Period
- Net Present Value
- Profitability Index
- Internal Rate of Return
- Modified Internal Rate of Return

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Payback Period

Payback Period

Payback Period measures how long it takes to recover the initial investment from project cash inflows.

Decision Rule

Accept a project when its payback period is within the organization's maximum acceptable period.

Payback with Equal Cash Flows

$$\text{Payback Period} = \text{Initial Investment} \div \text{Annual Cash Inflow}$$

Example

Initial investment: ETB 1,000,000

Annual cash inflow: ETB 250,000

Payback Period = $1,000,000 \div 250,000 = 4$ years

Payback with Unequal Cash Flows

Year	Cash Inflow	Cumulative Cash Flow
1	300,000	300,000
2	350,000	650,000
3	400,000	1,050,000

Initial investment: ETB 900,000

Payback occurs during Year 3.

Advantages of Payback Period

- Simple to calculate
- Easy to understand
- Emphasizes liquidity
- Useful for high-risk projects
- Useful when technology changes quickly
- Supports preliminary screening

Limitations of Payback Period

- Ignores time value of money
- Ignores cash flows after payback
- Does not measure profitability
- Uses an arbitrary cut-off period
- May reject valuable long-term projects

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Discounted Payback Period

Discounted Payback Period

Discounted Payback Period measures how long it takes to recover the investment using discounted cash flows.

It improves on ordinary payback by considering the time value of money.

Discounted Payback Decision Rule

Accept the project when:

- Discounted cash inflows recover the investment
- Recovery occurs within the organization's acceptable period

However, the method still ignores cash flows after the payback point.

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Accounting Rate of Return

Accounting Rate of Return

ARR measures average accounting profit as a percentage of investment.

$$\text{ARR} = (\text{Average Annual Accounting Profit} \div \text{Average Investment}) \times 100$$

ARR Example

- Average annual accounting profit: ETB 240,000
- Average investment: ETB 1,200,000

$$\text{ARR} = 240,000 \div 1,200,000 \times 100 = 20\%$$

Advantages and Limitations of ARR

Advantages

- Simple
- Uses accounting information
- Familiar to managers
- Measures reported profitability

Limitations

- Ignores cash flows
- Ignores time value of money
- Depends on accounting policies
- May produce inconsistent decisions

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Net Present Value

Net Present Value

Net Present Value measures the difference between the present value of future cash inflows and the present value of project cash outflows.

$$\text{NPV} = \text{Present Value of Cash Inflows} - \text{Initial Investment}$$

NPV Decision Rule

- NPV greater than zero: Accept
- NPV equal to zero: Financially indifferent
- NPV less than zero: Reject

A positive NPV indicates that the investment is expected to create value.

NPV Example

Initial investment: ETB 1,000,000 · Discount rate: 10%

Year	Cash Flow	Discount Factor	Present Value
1	400,000	0.909	363,600
2	400,000	0.826	330,400
3	400,000	0.751	300,400
4	300,000	0.683	204,900
Total Present Value			1,199,300

Initial investment: ETB 1,000,000 · NPV = ETB 199,300

Advantages of NPV

NPV:

- Considers time value of money
- Uses all project cash flows
- Measures value creation
- Incorporates project risk through the discount rate
- Supports comparison of investment alternatives
- Is consistent with maximizing organizational value

Limitations of NPV

NPV requires:

- Reliable cash-flow forecasts
- Appropriate discount rate
- Clear project life
- Accurate tax assumptions
- Consistent treatment of inflation

Results may change substantially when assumptions change.

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Profitability Index

Profitability Index

Profitability Index measures the present value generated per unit of investment.

$$\text{PI} = \text{Present Value of Future Cash Inflows} \div \text{Initial Investment}$$

Profitability Index Decision Rule

- PI greater than 1: Accept
- PI equal to 1: Financially indifferent
- PI less than 1: Reject

Example

Present value of inflows: ETB 1,200,000 · Initial investment: ETB 1,000,000 · $PI = 1.20$

Use of Profitability Index

Profitability Index is especially useful when:

- Capital is limited
- Several projects compete for funding
- Management must rank projects
- Investment efficiency is important

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Internal Rate of Return

Internal Rate of Return

IRR is the discount rate that makes the project's NPV equal to zero.

It represents the project's estimated percentage return.

IRR Decision Rule

- Accept when IRR exceeds the required rate of return
- Reject when IRR is below the required rate
- At equality, the organization is financially indifferent

IRR Interpretation

Suppose:

- Project IRR = 18%
- Required return = 13%

The project provides an estimated return five percentage points above the required rate.
Subject to risk and strategic considerations, the project may be accepted.

Advantages of IRR

- Considers time value of money
- Uses all project cash flows
- Expresses return as a percentage
- Easy to communicate
- Supports comparison with financing cost
- Widely used in investment decisions

Limitations of IRR

IRR may be misleading when:

- Cash flows change signs more than once
- Projects differ significantly in scale
- Projects have different lives
- Projects are mutually exclusive
- Reinvestment assumptions are unrealistic
- Multiple IRRs exist

NPV vs IRR

NPV	IRR
Measures value in currency	Measures percentage return
Assumes reinvestment at cost of capital	Traditionally assumes reinvestment at IRR
Better for maximizing value	Easier to communicate
Preferred for conflicting rankings	Useful as a supplementary measure

When NPV and IRR conflict, NPV is generally preferred.

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SECTION

Modified Internal Rate of Return

Modified Internal Rate of Return

MIRR addresses some weaknesses of IRR by assuming:

- Positive cash flows are reinvested at a realistic reinvestment rate
- Negative cash flows are financed at an appropriate finance rate

MIRR normally produces one clear rate of return.

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Cost of Capital

What Is the Cost of Capital?

The cost of capital is the minimum return required by providers of finance.

It reflects:

- Cost of debt
- Cost of equity
- Financial risk
- Business risk
- Market conditions
- Opportunity cost

Weighted Average Cost of Capital

WACC combines the after-tax cost of debt and the cost of equity according to their financing weights.

$$\text{WACC} = (\text{Weight of Equity} \times \text{Cost of Equity}) \\ + (\text{Weight of Debt} \times \text{After-Tax Cost of Debt})$$

Selecting a Discount Rate

The discount rate should reflect:

- Project risk
- Financing structure
- Inflation
- Opportunity cost
- Currency risk
- Country risk
- Industry risk
- Organizational risk appetite

A project with higher risk generally requires a higher discount rate.

Project-Specific Discount Rate

Not all projects should use the same discount rate. A project may require adjustment when it:

- Enters a new market
- Uses untested technology
- Operates in a high-risk location
- Has uncertain demand
- Uses foreign currency
- Depends on volatile commodity prices

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SECTION

Inflation and Capital Budgeting

Inflation

Inflation affects:

- Sales prices
- Operating costs
- Salaries
- Working capital
- Asset replacement cost
- Discount rates
- Financing requirements

Inflation should be treated consistently.

Nominal and Real Cash Flows

Use nominal cash flows with a nominal discount rate, and real cash flows with a real discount rate. Do not mix the two.

Nominal Cash Flows

Include expected inflation. Discount using a nominal discount rate.

Real Cash Flows

Exclude inflation and use constant purchasing power. Discount using a real discount rate.

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SECTION

Risk and Uncertainty

Sources of Project Risk

Project risk may arise from:

- Market demand
- Selling prices
- Input costs
- Construction delays
- Exchange rates
- Interest rates
- Technology failure
- Regulatory changes
- Political instability
- Environmental and social factors

Risk-Analysis Techniques

Common techniques include:

- Sensitivity analysis
- Scenario analysis
- Break-even analysis
- Decision-tree analysis
- Probability analysis
- Simulation
- Risk-adjusted discount rates
- Certainty-equivalent cash flows

Sensitivity Analysis

Sensitivity analysis examines how project results change when one assumption changes. Common variables include:

- Sales volume
- Selling price
- Operating cost
- Initial investment
- Project life
- Discount rate
- Salvage value

Sensitivity Analysis Example

Base-case NPV: ETB 2 million

Change	Revised NPV
Sales decrease by 10%	ETB 0.6 million
Costs increase by 10%	ETB 0.9 million
Investment increases by 10%	ETB 1.4 million
Discount rate increases	ETB 1.2 million

Sales volume is the most sensitive variable.

Scenario Analysis

Scenario analysis changes several assumptions together.

Optimistic

- Strong sales
- Lower costs
- Timely implementation

Base

- Most likely assumptions

Pessimistic

- Lower sales
- Higher costs
- Delayed implementation

Break-Even Analysis

Break-even analysis identifies the level at which:

- Revenue equals total cost
- NPV equals zero
- The project becomes financially viable

It may be expressed in:

- Units sold
- Sales revenue
- Capacity utilization
- Operating years

Decision Trees

Decision trees are useful when investment decisions occur in stages. They show:

- Decision points
- Possible outcomes
- Probabilities
- Future decisions
- Expected values
- Abandonment or expansion options

Risk Register for Investment Projects

A capital-project risk register may include:

Risk	Likelihood	Impact	Mitigation	Owner
Construction delay	High	High	Performance clauses	Project Manager
Cost escalation	Medium	High	Contingency budget	Finance Director
Low demand	Medium	High	Market validation	Commercial Manager
Equipment failure	Low	High	Warranty and maintenance	Operations Manager

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SECTION

Project Selection

Independent Projects

Independent projects do not directly compete with one another.

An organization may accept all independent projects that:

- Have positive NPV
- Meet strategic requirements
- Are affordable
- Have acceptable risk

Mutually Exclusive Projects

Mutually exclusive projects compete because only one can be selected.

- Two alternative production technologies
- Two possible project locations
- Leasing versus purchasing
- Repairing versus replacing equipment

For conflicting rankings, select the alternative with the highest positive NPV.

Capital Rationing

Capital rationing occurs when investment funds are limited. Management must select the combination of projects that:

- Fits available capital
- Produces maximum total value
- Maintains acceptable risk
- Supports strategic priorities

Project Ranking Criteria

Projects may be ranked using:

- NPV
- Profitability Index
- IRR
- Payback Period
- Strategic importance
- Risk
- Social impact
- Environmental impact
- Regulatory necessity
- Funding availability

Financial and Non-Financial Criteria

A project with strong financial returns may still be rejected because of:

- Strategic misalignment
- Excessive risk
- Environmental harm
- Social harm
- Legal restrictions
- Weak management capacity
- Reputational concerns

Financial appraisal informs the decision; it does not replace managerial judgment.

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SECTION

Environmental, Social and Governance Considerations

Sustainable Investment Decisions

Capital-budgeting decisions should consider:

- Environmental impact
- Community impact
- Employee safety
- Energy efficiency
- Climate resilience
- Gender and inclusion
- Regulatory compliance
- Ethical sourcing
- Long-term sustainability

Social and Development Investments

Not every valuable investment produces direct financial revenue.

- Safeguarding systems
- Health and safety equipment
- Disability-access improvements
- Environmental protection
- Community infrastructure
- Staff-capacity development

Such projects may be evaluated using cost-effectiveness and social-benefit analysis.

MODULE

Practical Exercise

Practical Exercise: Evaluate a Capital-Investment Proposal

Participants will:

- Identify relevant cash flows
- Calculate Payback Period
- Calculate ARR
- Calculate NPV
- Calculate Profitability Index
- Interpret IRR
- Conduct sensitivity analysis
- Recommend whether to accept the project

Exercise Scenario

A company is considering new equipment.

- Equipment cost: ETB 5,000,000
- Installation cost: ETB 500,000
- Initial working capital: ETB 300,000
- Project life: 5 years
- Salvage value: ETB 500,000
- Working capital recovered in Year 5
- Required return: 12%

Expected Annual Cash Flows

Year	Operating Cash Inflow
1	1,600,000
2	1,800,000
3	2,000,000
4	1,900,000
5	1,700,000

Year 5 also includes

Salvage value: ETB 500,000 · Working-capital recovery: ETB 300,000

Step 1 — Initial Investment

- Equipment: ETB 5,000,000
- Installation: ETB 500,000
- Working capital: ETB 300,000

Total Initial Investment = ETB 5,800,000

Step 2 — Payback Period

Cumulative cash flows:

Year	Cash Flow	Cumulative
1	1,600,000	1,600,000
2	1,800,000	3,400,000
3	2,000,000	5,400,000
4	1,900,000	7,300,000

Outstanding after Year 3: $5,800,000 - 5,400,000 = \text{ETB } 400,000$

Fraction of Year 4: $400,000 \div 1,900,000 = 0.21$

Payback Period = 3.21 years

Step 3 — Discount the Cash Flows

Year	Cash Flow	Discount Factor at 12%	Present Value
1	1,600,000	0.893	1,428,800
2	1,800,000	0.797	1,434,600
3	2,000,000	0.712	1,424,000
4	1,900,000	0.636	1,208,400
5	2,500,000	0.567	1,417,500

Total present value: ETB 6,913,300

Step 4 — Calculate NPV and PI

Net Present Value (NPV)

$$\text{NPV} = \text{ETB } 6,913,300 - \text{ETB } 5,800,000 = \text{ETB } 1,113,300$$

Profitability Index (PI)

$$\text{PI} = \text{ETB } 6,913,300 \div \text{ETB } 5,800,000 = 1.19$$

Step 5 — Interpretation

The project:

- Has a positive NPV
- Has a PI above 1
- Recovers its investment in approximately 3.21 years
- Is expected to generate value above the required 12% return

Subject to risk and strategic analysis, the project should be considered for acceptance.

Exercise Extension — Sensitivity Analysis

Recalculate the project if:

- Annual operating cash flows decrease by 15%
- Initial investment increases by 10%
- Project completion is delayed by one year
- Required return rises to 16%
- Salvage value becomes zero

Identify which assumption creates the greatest financial risk.

Group Presentation

Each group should present:

1. Relevant cash flows
2. Payback Period
3. NPV
4. Profitability Index
5. Key risks
1. Sensitivity findings
2. Final recommendation
3. Conditions for approval

MODULE

Chapter Review

Common Capital-Budgeting Mistakes

- Using accounting profit instead of cash flow
- Including sunk costs
- Ignoring opportunity costs
- Excluding working capital
- Ignoring tax
- Mixing real and nominal amounts
- Using an inappropriate discount rate
- Overestimating revenue
- Underestimating implementation costs
- Ignoring project risk

Capital-Budgeting Checklist

Before approving a project, confirm:

- Strategic alignment
- Complete initial cost
- Realistic cash-flow forecasts
- Working-capital requirements
- Tax implications
- Appropriate discount rate
- Positive NPV
- Acceptable risk
- Funding availability
- Implementation capacity
- Environmental and social compliance
- Post-investment review plan

Knowledge Check

1. What is capital budgeting?
2. Why should investment appraisal use cash flows?
3. What is an incremental cash flow?
4. Why are sunk costs excluded?
5. What is an opportunity cost?
6. How is Payback Period calculated?
1. What does a positive NPV mean?
2. How does IRR differ from NPV?
3. When is Profitability Index useful?
4. Why is sensitivity analysis important?

Knowledge Check Answers

1. A systematic process for evaluating long-term investments
2. Cash flows represent actual financial benefits and costs
3. A cash flow caused directly by accepting the project
4. They have already been incurred and cannot be changed
5. The value of the best alternative use of a resource
6. By measuring the time required to recover the initial investment
1. The project is expected to create value
2. IRR gives a percentage return; NPV gives currency value
3. When investment capital is limited
4. It identifies assumptions with the greatest impact on viability

Action Plan

Select one proposed investment in your organization and identify:

- Strategic purpose
- Initial investment
- Expected cash inflows
- Expected cash outflows
- Project life
- Required rate of return
- Major risks
- NPV
- Payback Period
- Recommended decision

Chapter Summary

- Investment decisions have long-term financial consequences.
- Capital budgeting provides a structured appraisal process.
- Relevant project cash flows should be incremental.
- Sunk costs should be excluded.
- Opportunity costs and working capital should be included.
- Time value of money is fundamental to investment appraisal.
- NPV is generally the strongest value-based decision criterion.
- IRR, Payback and PI provide additional insights.
- Risk analysis is essential before project approval.
- Post-investment review strengthens future decisions.

Key Message

A financially attractive investment is not simply one that earns revenue. It is one that:

- Generates sufficient cash flow
- Covers its opportunity cost
- Creates positive value
- Maintains manageable risk
- Supports organizational strategy
- Produces sustainable benefits

THANK YOU

Questions and Discussion

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Effective capital budgeting turns strategic ideas into disciplined investment decisions. It ensures that scarce financial resources are committed to projects that create sustainable value, manage risk and contribute meaningfully to organizational objectives.