ROI = profit / investment

Rate of return on investment

Rate of return on equity

Reason of IT Payoff Measurement

1. competing investment
2. duration of payoff
3. overall economic picture

IT Investment Measurement

* profitability
  + C/B analysis, NPV
  + ROI, IRR
* Productivity
  + Efficiency
  + Quality
* Customer value
  + Greater loyalty & long-term retention

IT Payoff Paradox

Productivity Paradox

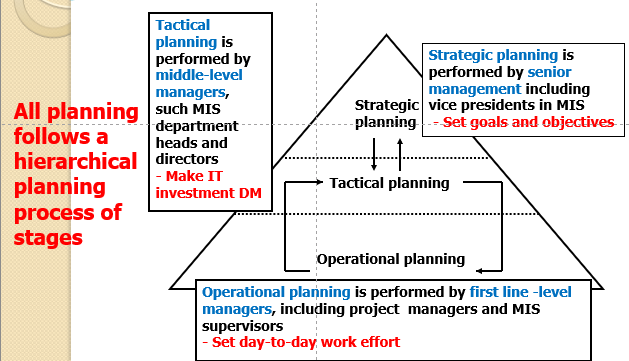
* The absence of a positive relationship between spending on information technology (IT) and its resulting contribution to productivity or profitability.

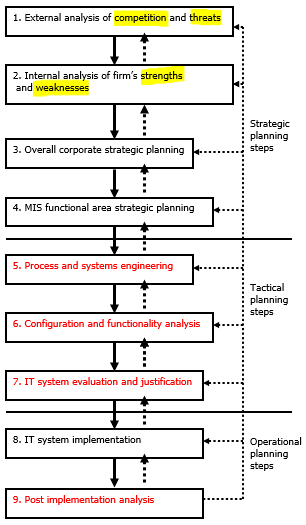
IT Investment

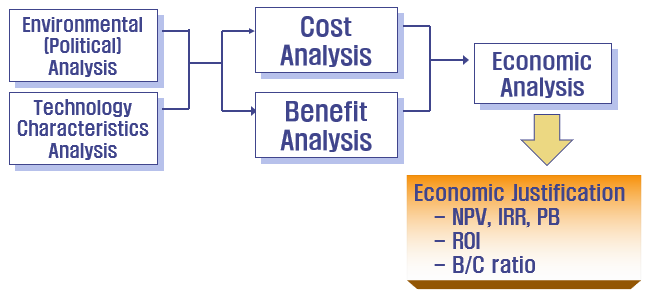
* investment decisions of allocating all types (i.e., human, monetary, physical) of resources to an IS

Competitive Advantage

* By helping stakeholders (stockholders + partnering companies) perform their biz functions much better
* Multiply the efficiency and productivities of one firm over another







Economics of Information

* a systematic series of concepts and theories that explain the role which information and IT play to assist an organization

Effectiveness

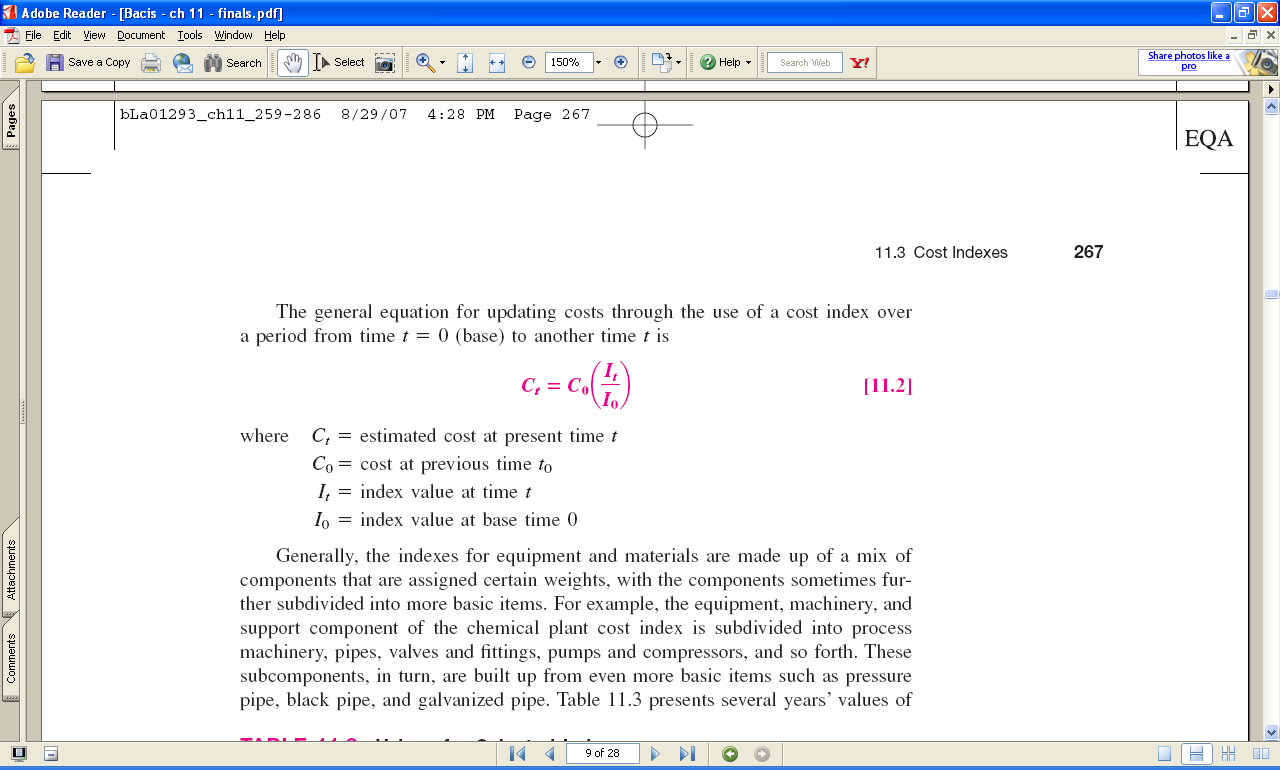
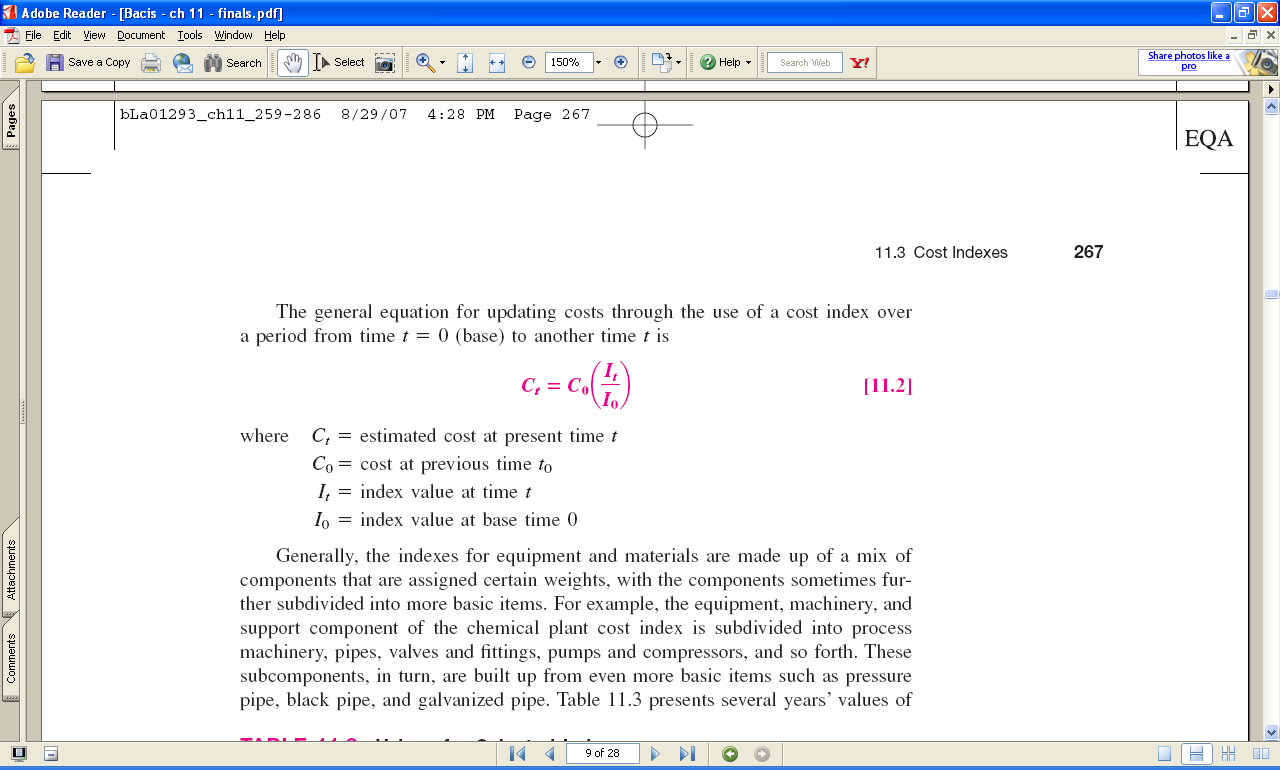
Efficiency

Rule of thumb

Unit method

**CT = u** × **N** (cost of unit \* number of unit)

Cost Index Method

Cost-capacity equation

텍스트이(가) 표시된 사진

자동 생성된 설명텍스트이(가) 표시된 사진

자동 생성된 설명

x = 1, relationship is **linear**

x < 1, economies of scale (larger capacity is **less costly than linear**)

x > 1, diseconomies of scale

텍스트이(가) 표시된 사진

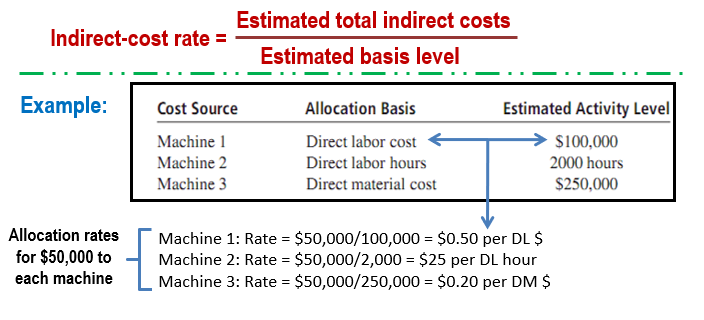
자동 생성된 설명

Factor method

**CT = h** × **CE**

Cost factor h, **h = 1 + Σ fi** (direct costs components)

indirect costs are charged separately against all direct costs, **CT = hCE(1 + findirect)**



Steps to implement ABC:

1. Identify each ***activity*** and its ***total cost*** (e.g., maintenance at $5 million/year)

2. Identify ***cost drivers*** and expected ***volume***

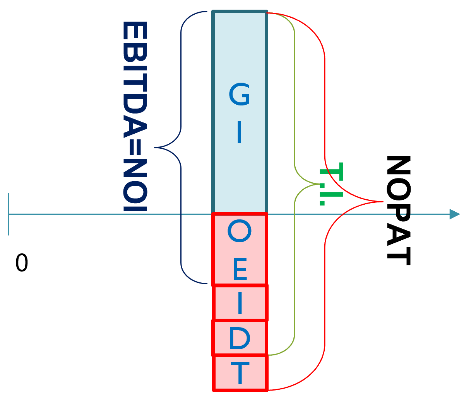
(e.g., 3,500 requested repairs and 500 scheduled maintenances per year)

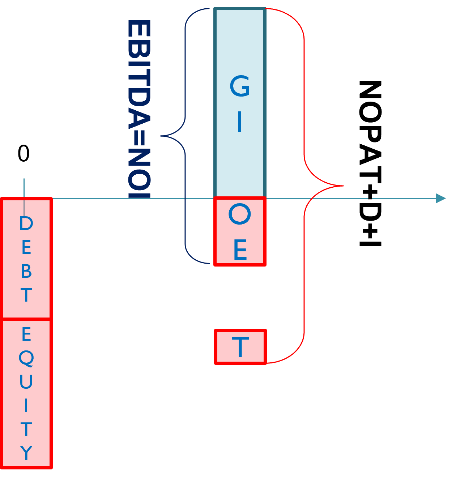
3. Calculate cost rate for each activity using the relation:

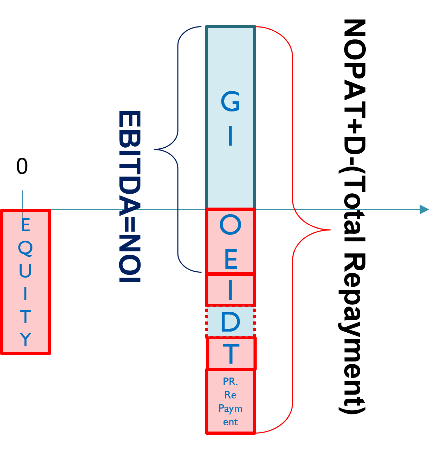
***ABC rate = total activity cost/volume of cost driver***

4. Use ***ABC rate*** to allocate IDC to ***cost centers*** for each activity

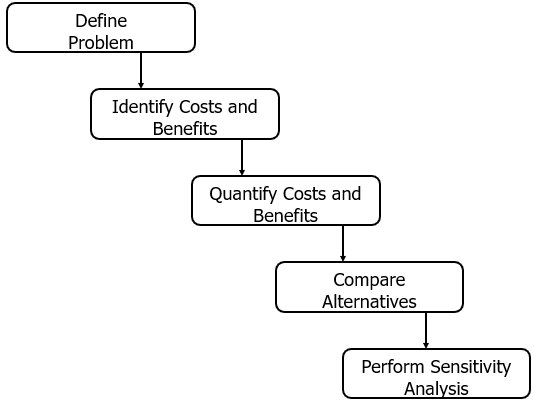
Depreciation.



 ROI

 ROE

Step of B/C Analysis



텍스트이(가) 표시된 사진

자동 생성된 설명

Analytic Hierarchy Process

Steps of the AHP

1. Set up decision hierarchy
2. Make pairwise comparisons of attributes and alternatives
3. Transform comparisons into weight & Score
4. Check consistency
5. Use weights to obtain priorities for options
6. Carry out sensitivity analysis

Multi factor scoring methods