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Notes – Chapter 13

Investment Centers and Transfer Pricing

I. Investment Centers
   a. The highest level of authority that someone can have in a business.
   b. Evolution of management control systems within a firm over time
      i. (There's no necessary path, but this is an example)
      ii. Nothing formal at first
      iii. Formal accounting system established
      iv. Rudimentary Budgets employed
         1. Develops from a need for some kind of control device
         2. Usually static budgeting at first
      v. Standard Costing and Flexible Budgets introduced
      vi. Decentralization
         1. Geographical diversification
         2. Small-size accounting just doesn't work
         3. Delegation of management
         4. Push some authority lower down the hierarchy
         5. Advantages
            a. Better response time
            b. Those with greatest task-specific knowledge are making the decisions related to the task.
            c. It's just plain impractical to micro-manage a giant firm
         6. The Rub
            a. How can goal congruence be maintained?
            b. If everyone is making independent decisions, how can everyone be working toward the same goals?
      vii. Establish formal responsibility accounting centers

II. Some History
   a. EI du Pont de Nemours
   b. Established in 1802 to make black powder
   c. Stats
      i. Revenue is currently $30 billion
      ii. Net Income approximately $10 billion
      iii. About 100 thousand employees
      iv. One hundred thirty-five plants in 70 countries.
   d. Now makes Teflon, Kevlar, etc
   e. In about 1903, the company was on the verge of collapse due to heavy competition
   f. Decided new management technique was necessary for survival.
   g. Cousins Alfred, Coleman, Pierre
      i. Established a new firm; gave stock and bonds to the family
      ii. Began to diversify into other chemi9cals
      iii. Began to vertically integrate with the suppliers and distributors
   h. Had previously been responsible only for managing a manufacturing firm; now had much more to oversee.
   i. This was the first example of the evolution of responsibility centers
   j. F. Donaldson Brown
      i. Want to know how efficient a firm is at using its invested capital and how profitable it is.
      ii. Developed the concept of return on investment
      iii. (Income / Sales) * (Sales / Invested Capital)
      iv. Addresses both of those questions.
      v. ROI = (Income / Invested Capital)
      vi. "The Du Pont Formula"

III. Measuring Performance in Investment Centers
   a. Three different approaches
   b. Return on Investment
      i. ROI = Income / Invested Capital
      ii. Back to Du Point
      iii. To improve ROI, can do two things
         1. Improve sales margin (What can be done to reduce variable costs?)
         2. Improve capital turnover
            a. Could increase sales revenue
            b. More importantly, could decrease investment
            c. Find equipment that will yield more output for less input
            d. If you can avoid making the investment yourself, do so (find a supplier who's already done it)
            e. Take "Off Balance Sheet" opportunities
            f. Variabalize the cost
            g. Investment levels affected by Accounts Payable, Inventory, current assets, etc.
      iv. By far the most common measure used in relation to investment centers
      v. The Rub
         1. Suppose the company's ROI is 20%, the Division is at 25%
         2. An opportunity arises with ROI = 22%
         3. The division probably wouldn't take the opportunity because it hurts the personal perspective
         4. It definitely *should* take the opportunity since it would benefit the whole company
         5. ROI also doesn't consider the cost of capital
   c. Residual Income
      i. RI = Investment Center Profit – Investment Change
      ii. Investment Charge = Capital * Imputed Interest Rate
      iii. Imputed Interest Rate is the investment center's minimum required rate of return
         1. Hurdle Rate
         2. Talking about ROI
      iv. If residual income is positive, take the investment
      v. The Rub
         1. RI deals with absolute figures, so a bigger investment always looks more attractive than a smaller investment, even when the smaller may be more profitable in the ROI sense.
         2. Can't compare divisions of different sizes using strictly ROI.
   d. Economic Value Added
      i. Other methods don't reflect the entire cost of capital.
      ii. Should include both debt and equity.
      iii. Equity can be even more expensive than debt.
      iv. Calculation
         1. EVA = Net Operating Profit After Tax - Cost of Debt – Cost of Capital.
         2. NOPAT – Investment Charge
         3. Investment Charge = (Total Assets – Current Liabilities) * (Weighted Average Cost of Capital)
         4. Weighted Average Cost of Capital = ((After Tax Cost of Debt * Market Value of Debt) + (Cost of Equity * Market Value of Equity)) / (Market Value of Debt + Market Value of Equity)
      v. Cost of Equity is the return to be expected from a company with a similar risk configuration (a percentage – will always be given in problems)
      vi. Want a positive EVA measure.
      vii. Positive EVA means that money is being made above the cost of *all* capital.

e. The Rub
    i. All investment center measures can be too short-term (myopic) in focus.
    ii. Investments themselves are almost always long-term.
    iii. Cannot ever pick a single method exclusively or you'll always incorporate some error.
    iv. Follow up on investments with auditing.
    v. Hold accountable whatever individuals made incorrect promises about some investment

IV. Calculating Investment Capital
- a. ROI, RI, and EVA are all measured over time.
- b. Asset balances are taken at some point in time.
- c. Usually just average the change in assets to get the value for the period.
- d. But what's the total? Total productive assets? Total assets less current liabilities?
- e. It depends on the particular situation at a company
- f. Gross Book Value or Net Book Value
    - i. Net = Acquisition Cost less Accumulated Depreciation
- g. Advantages to using Net Book Value
    - i. This is what's reflected on the balance sheet, so it lends consistency in that regard.
    - ii. Income also reflects depreciation.
- h. Advantages to using Gross Book Value
    - i. Depreciation methods are arbitrary
    - ii. ROI will increase over time ceteris paribus if depreciation is included in its calculation.
- i. There's no particular global rule defining what's best.
- j. Use whatever is appropriate, and make sure everybody is aware of the choice and its implications.

V. Transfer Pricing
- a. When one division within a company sells to another, what price should it use?
- b. Need a price that makes sense both with respect to each division, and with respect to the company as a whole.
- c. Consider a transfer of parts from B to A
- d. B's Books
    - i. DR Inter-company Receivables Due from A 110
    - ii. CR Inter-company Receivables 110
    - iii. DR COGS 100
    - iv. CR Inventory 100
- e. A's Books
    - i. DR Inventory 110
    - ii. CR Inter-company Payables 110
- f. In the end, sales between divisions should become invisible from the outside.
    - i. Sales to the outside aren't a problem.
    - ii. Inter-company profit needs to be eliminated
    - iii. Elimination Entry
        1. DR Sales Inter-Company 110
        2. CR COGS 100
        3. CR Inventory 10
    - iv. Total sales needs to reflect any sales to the outside and inventory needs to reflect cost without markups.
- g. What is the ideal transfer price?
    - i. Want to incentivize individual managers to do well with their department.
    - ii. Want departments to work together to boost performance of the whole company.
    - iii. No Excess Capacity
        1. Transfer Price = Outlay Cost = Opportunity Cost

2. Opportunity Cost is the contribution margin foregone by not selling to the outside.
3. So the transfer price gets set at the marker price.
4. When in a short-term distressed market that may change a little.

iv. Excess Capacity
  1. There’s no opportunity cost if all capacity can’t even be used.
  2. Transfer Price = Outlay Cost

h. Establishing Transfer Prices
  i. Not all companies are consistent and rational.
  ii. Prices may be centrally established, and divisions then decide how to react.
  iii. Can have both managers (buying and selling) negotiate together
    1. One manager may be a better negotiator.
    2. Want to build constraints into the incentive system to keep anybody from trying to hurt some other division.

i. Cost-Based Transfer Pricing
  i. Don’t treat unit fixed costs as variable!
  ii. Want to be using standard costs to keep managers from pushing their inefficiencies onto other departments

j. International Perspective
  i. Having divisions in many countries allows some fun games to be played.
  ii. Want to increase revenues in low-tax countries
  iii. Want to increase costs in high-tax countries
  iv. Sell from low-=tax to high-tax countries and get both benefits at once.