Advanced Strategy

WEEK 2: CESIM BASICS

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Participant in

Main objective and winning criteria

<u>Cumulative</u> <u>shareholder return</u>

- Share price
- Dividends paid

Grade

- Highest in section gets 20 / 20
- Second, third, etc.
 get grade depending
 on how far they are
 from the first group
- Minimum of 11 / 20

Cumulative shareholder return	Grade
19.93	15
19.79	15
18.55	14
26.54	20
5.37	11
16	12
22.04	17
21.25	16



Firm Performance

Return on Equity

ROE

 $\frac{\textit{Net Profit}}{\textit{Equity}}$

Asset Turnover $\frac{Revenue}{Assets} \ X \ \frac{Net\ Profit}{Revenue} X \ \frac{Asset}{Equity}$ Financial Leverage

Asset Turnover Tax Efficiency Interest Efficiency Operating Margin Financial Leverage $\frac{Revenue}{Assets} \ X \ \frac{Net\ Profit}{Earnings\ Before\ Tax} \ X \frac{Earnings\ Before\ Tax}{Earnings\ Before\ Interest\ and\ Tax} X \frac{Earnings\ Before\ Interest\ and\ Tax}{Revenue} \ X \frac{Asset}{Equity}$



Firm Performance

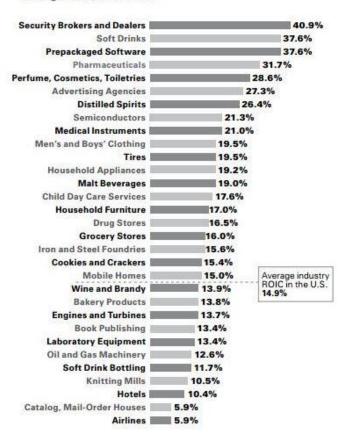
- What explains firm's performance?
 - Industry level factors
 - Firm level factors

Variance Component (in %)	Schmalensee (1985)	Hansen and Wernerfelt (1989)	Rumelt (1991) (sample B)	McGahan and Porter (1997)	Hawawini, Subramanian and Verdin (2003)	Short et al. (2007) (for inductively defined groups)
Firm effect	0.6	37.8	45.8	32	35.8	78.97
Industry effect	19.6	18.5	4	19	8.1	14.68
Context	242 manufacturing industries	60 firms from 300 industries	242 industries	628 industries	55 industries	12 high-technology industries

Source: https://www.researchgate.net/figure/Firm-versus-Industry-Effect-on-Firm-Performance_tbl1_285630171

Profitability of Selected U.S. Industries

Average ROIC, 1992-2006



Source: Harvard Business Review, Michael E. Porter



Firm Performance

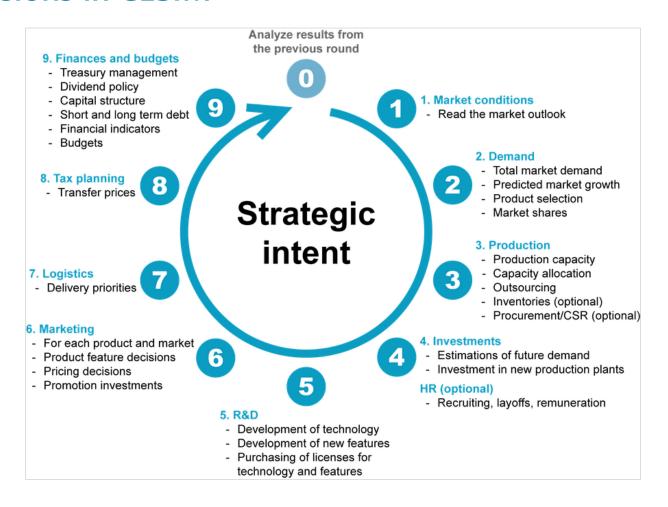
How correlated is performance across countries?



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How to make decisions in CESIM





How to make decisions – 1. Market outlook



Demand

There is a 5% increase in demand across all market regions, as the global economy shows signs of an upturn. Europe has the largest market size, followed by the USA. However, there are indications of growth decline in Europe and, to a lesser extent, in the USA. China's market size is smaller than the other two regions, but it has the highest growth prospects. Last year we decided to expand our manufacturing facilities in both the USA and China in order to meet increasing demand. The new production capacity will be available starting one year from now. The high cost of battery arrays for electric vehicles is currently keeping prices high and market shares low. It's even worse for hydrogen vehicles, with similarly high costs for fuel cell stacks and hydrogen storage tanks. These costs need to drop substantially for there to be any hope of mass adoption in the market place. The hydrogen technology is still in its infancy and, unlike EV technology, is not even open for licensing. One option for us is to develop either one using our own R&D department. Out of the new technologies, hybrid would be within our reach, and we can, with relatively little cost and effort, add it to our product portfolio.

Costs

In the USA, industry is concerned with the availability of the work force for basic operations. This could hit some of our outsourcing partners heavily – especially those that are low-cost.

Finance

The European Central Bank (ECB) is easing its recovery measures, and has announced plans to reduce bond purchasing. They are also raising the interest rate to 0.5%, up from the current 0%. Projected interest rates show an upward trend but the ECB has yet to announce any plans to make additional increases for the time being, owing to fears of an imminent recession. The USA's Federal Reserve (the Fed) is raising its benchmark interest rate more moderately, to 2.6% up from 2.4%, but also raises the likelihood of a future hike. The People's Bank of China (PBOC) was expected to follow the Fed's actions, but has stayed put thus far.

Sustainability

Previously consumers did not pay that much attention to environmental issues or the working conditions in the automotive industry. However, in recent years there have been signs of a rising awareness amongst consumers as environmental groups have started publishing reports of possible mismanagement at suppliers' sites regarding working conditions and environmental negligence. These groups have been especially active as of late, and as a result the whole automotive industry is now under higher scrutiny. These aforementioned changes in customer behavior are most apparent in Europe, with the USA affected to a somewhat smaller extent.

The GDPR regulations are in full effect in Europe. Any company wishing to collect and analyze user data from that region will need to comply with the regulations. Any enterprise failing to comply with the publicly-set privacy requirements will face a penalty of up to 2% of annual revenue.



How to make decisions – 2. Demand



Total market size is affected by:

- a. Economic conditions
- b. Average price level
- c. Aggregate investments in promotion
- d. Aggregate investments in technology



Demand for different technologies is affected by:

- a. Network coverage
- b. Price level relative to the other technologies
- c. The number of companies offering products in the technology
- d. Total marketing efforts for that technology



Market shares for each team are affected by:

- a. Product (technology + the number of features)
- b. Price
- c. Promotion
- d. Past market share for the product and technology
- a. Various ESG image factors

How ESG decisions impact shareholder returns?



How to make decisions – 2. Demand

Steps for demand estimations

- Estimate total market growth for each market (don't forget to check the market outlook)
- Decide which technology to sell in each market
- Estimate market share for each product (note that the market shares are quoted per market, not per technology)

- Network coverage ≠ Demand
- Inhabitants outside network coverage do not purchase devices
- All else equal, new tech is more attractive than old tech
- Do not try to develop all technologies,
 only two per market



How to make decisions – 3. Production

Steps for production estimations

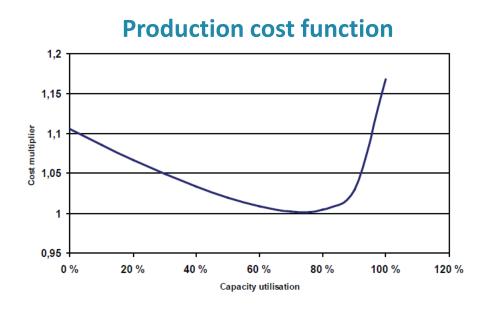
- Estimate production capacity
- In-house manufacturing
- Contract manufacturing
- Inventory
- Investments

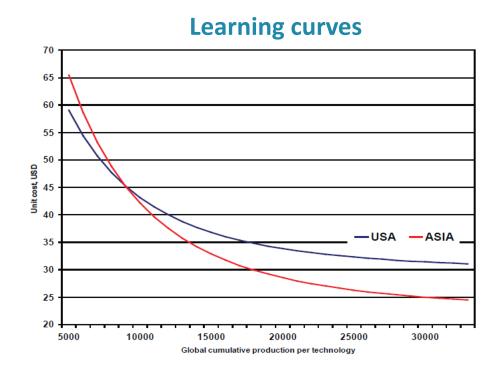
How will you decide between in-house vs contract manufacturing?

- Production does not adjust upwards
- Do not neglect the learning curve effect
- Contract manufacturing amount is limited
- Management cost of inventory
- Two-round lag for investments



How to make decisions – 3. Production





NOTE: Minimization of costs does not always lead to profit maximization



How to make decisions – 4. HR

Steps for HR estimations

- Decide on recruitment / lay-offs
- Wages
- Training investment
- Training priorities
- Labor policies

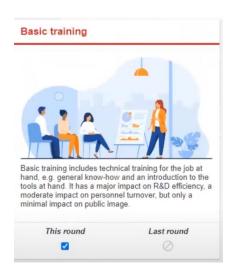
Why employee turnover is a problem?

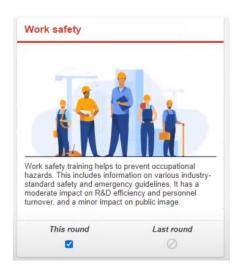
- Underlying issues: employee turnover and employee efficiency
- Focus training priorities
- Manage trade-offs in line with your strategy



How to make decisions – 4. HR

Examples of training priorities





Examples of labor policies





How to make decisions - 5. R&D

Steps for R&D estimations

- Decide the investments in internal R&D for different technologies
- Decide external licensing investments

How will you decide between in-house R&D and licensing-in?

- Do not underestimate learning curve
- License payment gives unlimited use
- Internal and external can be used in combination
- Important to synchronize the HR and the R&D decisions



How to make decisions – 6. Marketing

Steps for Marketing estimations

- Number of features (customer preferences vs costs)
- Price
- Promotion
- Product marketing strategy (balanced, low price, features, sustainability, brand)

- Price dumping where nobody makes a positive return!
- Past market share influences future market share



How to make decisions – 7. Logistics

Steps for Logistics estimations

• Set priorities to satisfy demand

Attention!

• Prioritize high margin markets



How to make decisions – 8. Tax & 9. Financing

Steps for Tax and Financing estimations

- Transfer pricing
- Treasury management (transferring funds between group companies)
- Increases (+) and decreases (-) in long-term loans
- Share issues and buy-backs
- Dividend payments

Short-term debt vs Long-term debt; Debt in USD vs Debt in Euro?

Attention!

- Headquarters is in the USA (parent)
- Avoid short-term debt (cash fall < \$2M)!
- Get loan in USA and then loan it to China/ Europe
- Be conservative with dividend payment policy

Re-investment vs dividend vs buyback?



Wrap-up, Q&A, and next steps



Next steps

Session 3 (20 February): Meeting the groups Submit CESIM initial plan by 21 February 2025 (23:59 hrs.)

Submit decisions for practice round by 21 February 2025 (23:59 hrs.)



Thank you!



















Participant in