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GLOBAL CHALLENGE

CASE DESCRIPTION

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PRACTICE MAKES PROFIT

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Mobilé Inc.

CASE COMPANY DESCRIPTION

The US Department of Justice ordered the boards of directors of the major mobile handset manufacturers to dismiss and replace their top management due to years of cartel-like behaviour. Investigations found that the companies' directors had agreed amongst themselves in secret banquets on issues such as deliberately stagnating technology development plans, pricing the handsets artificially high, and other key matters that had set the companies in exactly the same financial and operational position. Finally, the board of directors has understood the serious nature of this situation and hired you to compete against the other restructured companies.

The core operations of the companies operating in the mobile handset manufacturing industry consist of research and development, production and marketing. Sales revenues in the previous financial year were a bit more than 1 billion dollars. Due to collusion, profitability has been good, and the companies are also generating sufficient amounts of cash. This is a good starting point since it is likely that the increased competition and rapid technological evolution over the next years will tax both profitability and cash.

BACKGROUND

HISTORY OF THE INDUSTRY

The first international cellular mobile telephone network, NMT, was introduced in 1981. At the time, the transportable mobile phones were heavy and huge. Towards the end of the 80's actual hand portables came into the market and the era of the mobile phones industry began.

Many of the mobile communications companies have evolved from multi-industry companies as a result of the recession in the end of the 80's and the beginning of the 90's, when the downward spin of the economy slowed down the general economic growth for a couple of years. Despite the economic slowdown, heavy investments in R&D were made in the telecommunications sector. With the birth of a second generation (2G) of mobile telephones, the telecommunications business started to emerge from other business' shadow, and on July 1st, 1991, the world's first genuine GSM call was placed by the prime minister of Finland, Harri Holkeri, to the mayor of Helsinki to discuss the price of Baltic herring. GSM's American counterpart, CDMA, is the world's second most common mobile phone standard, covering a third of the world' s mobile phone subscribers. The constant development of mobile phones in the 90's made the devices smaller and lighter, their technical design more complex, and increased the number of available functions. FOMA, the first 3G (third generation) network was launched in Japan in 2001 by NTT DoCoMo. The new technology made possible the transfer of voice data and non-voice data. This paved the way for data-based mobile services and started to transform the whole industry. By 2009 it had become clear that the overwhelming growth of data traffic could not be sustained with the existing technology and industry started looking for new data-optimized technologies. The first 4G networks were launched by Sprint in the US and TeliaSonera in Scandinavia.

PRESENT DAY

Currently the companies have an annual sales revenue of about 1,2 billion USD and due to relatively large R&D investments the companies' handset businesses have developed favourably. Appealing and customer-driven designs have been named as some of the key success factors in the business.

The companies sell their products in the U.S., Asia, and Europe. Production and R&D have historically been located in Atlanta (GA), but recently the companies have also started building plants in Asia. Some years ago, the possibility to begin production in Europe was investigated as well. It became clear that the more complicated and inflexible labour laws in Europe would make the operations difficult and expensive.

To ensure flexibility in R&D and production, the companies have also actively negotiated agreements for subcontracting parts of their production and R&D.

FUTURE CHALLENGES

The pace of change in the industry has been rapid and great expectations have been set for new technologies. The overall trend is towards increased mobility with tested communication speeds of the 5G technology at 100 megabits per second in metropolitan areas and improved support for device-to-device communication. The overall growth potential of the industry is good, but development can vary heavily from one market to another.

The biggest challenge for a mobile handset manufacturer may be keeping up with technological evolution since R&D requires continuous large investments. Phones have already long been much more than just devices for talking.

It seems that not everything can be developed in-house and therefore partners for technology licensing are needed. The growth in the global markets will probably create momentum for establishing more production facilities at least in Asia.

As the mobile industry evolves into new applications and services, co-operation among industry players has intensified, facilitating a faster adoption of mobile services as well as market growth for the entire mobile industry.

OPERATIONS

PRODUCTION

Characteristic to high-tech companies, production is complicated and high costs are incurred in the beginning phases of the production of new models. This, combined with short product life-cycles, forces the companies to adapt the production process to manufacture a new product model as soon as possible, in pursuit of low costs. Eventually, as the company becomes more acquainted with a specific technology, production cost per unit will fall with the learning curve effect. It should be kept in mind that when subcontracting production, the learning curve effect is foregone. On the other hand, since adding new in-house manufacturing capacity comes into effect with delay, the extra capacity from contract manufacturing can become very useful. Also, sometimes the contractors can provide the devices with significantly smaller costs.

CORPORATE SOCIAL RESPONSIBILITY (CSR)

Companies can implement their CSR policies under Procurement section (sub-link to Production) where they can choose between different component suppliers. Each supplier has a separate rating for ethics and sustainability. In addition, the suppliers have different costs for components that they provide.

Social responsibility ratings are shown in stars for each component supplier. The ethics value corresponds to how well suppliers treat their employees and the sustainability value indicates their environmental responsibility. The selection of suppliers influences the company's public image and consequently the demand for its products.

Companies can order objective studies about the component suppliers' ethics and sustainability development. These studies provide indications about how the ratings and component costs are expected to develop in the future.

SALES AND MARKETING

The companies have traditionally operated only in the U.S. market. Over the last years, sales networks have been established in Asia and Europe as well. Marketing plays a significant role in promoting the brand and communicating to consumers about the product. Marketing is particularly important in the U.S. and Europe. In Asia the effect of promotion is less but still considerable. Typical marketing spending in the industry is 3-5% of Sales revenue.

R&D

R&D is extremely important for IT - and other high-tech companies, because of the dynamic nature of the industry. Consumers continuously demand new products and the margins from old products decline rapidly due to tight competition.

The companies have a choice of performing their own R&D or outsourcing the process by purchasing technology licenses for the technologies and their related features. The first step of the R&D process is to develop the base technology upon which up to ten technology-specific product features can be added. There is one notable difference between in-house R&D and technology licenses: when R&D is performed internally, the benefits are available in the next period. If R&D is outsourced, the new technology/feature is available immediately.

The cost of in-house R&D is lower when the process is a gradual one, comparing to a lump-sum investment. Technology licensing fees are one-time payments. The cost of which will decrease as the technology ages. A typical company in the industry spends as much as 10% of Sales revenue on R&D.

It should be noted that R&D expenditure will not be capitalised on the balance sheet. That is, all R&D expenses are considered as operating expenses and as such R&D investments may cause substantial fluctuations to the companies' P&L.

HUMAN RESOURCES

Internal R&D is performed with R&D engineers who need to be hired and retained. At the outset the company's R&D department consists of 200 engineers who can be allocated to different projects. There has been plenty of turnover among the engineers in the past due to high rotation of top management and lack of clarity in the company's strategy. Going forward, 10-12% turnover rate should be achievable. This is important since if the company plans to perform internal development projects they need to both retain their key people and hire significant amounts of new engineers. Salary level, training and development investments, and high utilization rate all contribute to high employer attractiveness.

Also, cumulative training expenditure and low attrition rate contribute to more efficient R&D workforce.

TECHNOLOGIES

So far, the companies have been manufacturing Technology 1 mobile handsets. New mobile networks are developed constantly, and these will require new technology handsets. Therefore, steps should be taken to begin developing new technologies. R&D of new technologies may require relatively large investments, but it is crucial to secure a prosperous future for the company.

It should be mentioned that the technologies are dependent on the networks in which they operate in. Thus, a Technology 2 phone cannot operate in Technology 1 network infrastructure.

You should monitor the network coverage forecasts on the demand-page before you plan your R&D as it indicates when the various technologies are economically viable to be introduced.

FEATURES

The underlying technology for mobile handsets is not very different from one company to another, so product differentiation is done with product features. These may be, for example, design, cover, screen size, processor speed, specific applications, etc. In the simulation you decide about the number of features. Minimum number of features is one and maximum is ten for each technology. Product features have different effects on demand in different market areas.

TRANSPORTATION AND LOGISTICS

Transportation to export markets is handled by an independent freight company and the cost of the service cannot be influenced by the teams. The total logistics cost per unit is transportation cost + tariff. There is no logistics cost involved when the good is manufactured and sold in the same area.

INTERNATIONAL TAXATION

International taxation and transfer pricing are sensitive issues. The companies have created a system that allows some flexibility, but the ultimate purpose is to even out the cost-impact of the R&D expenditure. R&D functions are located in connection to the production facilities and the costs are allocated on the profit and loss statements with the following principles:

> Let's assume that we have 10 plants in the US and 2 plants in Asia, i.e., 12 plants in total. Our total R&D expenditure for the period is 200 mUSD. Respectively, 10/12 x 200 mUSD is allocated to the US P&L and 2/12 x 200 mUSD is allocated to the Asian P&L.

While determining transfer prices, multipliers (between 1 and 2) are applied to the direct variable cost of production. In practice this means that the direct variable cost of production can be multiplied with a number between 1 and 2 and the outcome is the transfer price. When used wisely, these multipliers can also be used to benefit from differences in corporate tax rates in different areas. At a minimum, the company should use the multipliers to take benefit from any accumulated losses that may have been created.

FINANCE

In addition to income financing, the companies can obtain financing from equity investors and lending institutions. The companies are listed on the stock exchange, enabling effective equity financing by issuing shares. Shareholders expect a return on the equity invested in the form of dividends and capital gains.

Over the past few years, the industry has been in a rapid growth phase, and shareholders have not been able to enjoy large dividends. On the other hand, the increase in share price has been remarkable and the companies have outperformed the Nasdaq Composite Index over the last couple of years.

You can reward your investors in the form of dividends or share repurchases. Share issues and buybacks are made according to the market valuation at the beginning of the round.

Lending institutions provide short- and long-term loans with an interest rate depending on the company's financial condition. Short-term debt is considered to be the last resort, i.e., emergency funding, and it always carries a premium over the long-term loan rates.

You can also transfer funds between different countries by internal loans (International Treasury Management). You may want to use internal loans if you have accumulated substantial cash reserves in Asia or Europe that can be repatriated and distributed to the owners, or if for instance you need to finance some plant investments in Asia.

MARKET AREAS

USA	EUROPE	ASIA
USA is the local market of Mobilé and at the same time its largest market. The USA is generally known to be a leader in high-tech industries but in the wireless sector the leadership is not that clear due to the multitude of different network technologies. Product features are currently less appreciated than in Europe, but advertising appears to have a good response. Demand is expected to grow steadily about 5-10% p.a. at least for the next 2-3 years. There seems to be no reason why growth should stop even after that. According to some of the least conservative estimates, in a few years with the introduction of new technologies, growth in demand may show peaks of up to 15-20% p.a.	The companies have been exporting products to Europe for a couple of years. Production facilities will not be established in Europe because of the high labour costs. The market growth is expected to be about 10% p.a. and demand is expected to grow steadily for several years to come. This market appears to be the most responsive to product features currently.	It is predicted that the highest growth potential is in fact in Asia. Currently the market grows at 20% p.a., but long-term growth prospects are hard to make. The market is quite polarized between high-spenders who always want to have the latest technologies and late adopters who are happy with their old devices. But on average it seems that consumers are currently less responsive to new technologies and features than their counterparts in USA and Europe. Also, the average responsiveness to prices is higher than elsewhere.

MEASURES OF PERFORMANCE

The primary objective of the firm is to maximize the value to its shareholders. In this case the returns to shareholders are measured by a term called cumulative shareholder return. It takes into consideration both the dividends paid as well as the share price development over time. This ratio is then annualized to portray an annual performance of the company. Share price correlates well with the profitability and growth of the company. Dividends are considered to earn 8-9% annual shareholder return after they have been paid out of the company.