

Building Strategies in Turbulent Times

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Introduction

Aligning technology, operations and business strategies is a challenging task and has prime importance in a firm's business strategy formulation. Today technology and disruptive manufacturing methodologies can make the difference between a winning or losing competitive strategic alternative. This article aims at formulation of winning business strategies with focus of analysis on technology and operations strategies.

Today there is hardly any industry that can be classified as low tech. Technology is advancing by the minute and in order for industries to remain competitive they need to be with the bandwagon, quick, agile and flexible in adapting to the trends. Technology today plays a key role in restructuring a firm's strategy. At the same time, operations also play a significant role in a company's strategy formulation. Ever since Wickham Skinner¹ wrote his classic paper on the focused factory, manufacturing managers have paid attention to this important and simple concept: A plant cannot do a large variety of very different tasks exceptionally well, a factory with a clear competitive objective that focuses on narrow product mix for a well defined market will outperform a conventional plant with an inconsistent set of manufacturing objectives.

Literature Survey

For Technology Strategy the focus of analysis is the Strategic Technology Unit (STU) which includes the skills or disciplines that are applied to a particular product, service, or process addressing a specific marketing need. Identifying all the relevant STUs of the firm is the critical task in the development of technology strategies. It produces the full portfolio of key technologies the firm needs to embody to achieve key competitive advantage. For this we first identify which key technologies we possess, and which ones we should acquire in order to protect and enhance our competitive capabilities. Defining the core technologies is the core to STU segmentation. Next we analyze the strengths of resulting technology portfolio.

For Operations/Manufacturing strategy the focus of analysis is the Strategic Manufacturing Unit (SMU) which is a group of products sharing the same manufacturing strategic objectives expressed in terms of cost, quality, dependability, flexibility and innovativeness. The key to understanding the degree of focus of a plant is the SMU.²

For business strategy the focus is primarily, a set of well co-ordinated multifunctional programs aimed at creating or reinforcing the competitive standing of the business. Therefore during the process of business strategy formulation, we need to identify all necessary functional support, thus producing most critical set of functional requirements.

Present Business Scenario

Today most companies are reassessing their business plans and reworking on strategies as they struggle to understand the demand picture in the unpredictable months ahead, a few are looking for new opportunities to optimize efficiency and profit from innovative thinking and changes. We can see fear, uncertainty, and cautious approach everywhere. But it is important for industries to renew their commitment to achieve the status of global economic power as we might see a shift in the epicenter of the global economy from the western world to India and China.

The future profitability of all the businesses today depends very much on how well the challenges of the current market situation will be addressed. One has to think beyond cutting costs and execute a real change appropriate to his business model. Managing key clients with appropriate technology solutions and right manufacturing plans is also an important challenge today. The crux of building the apt winning strategy in the current era of turbulence not only encompasses understanding market conditions and technology but also new ways to manage through the slowdown and networking opportunities that can serve as the foundation for developing your business strategies.

The fact that, inspite of so much of turgid theory being available on strategy formulation since over 100 years covering almost all known aspects of strategy formulation³, we still have companies facing failures in strategy formation. This is due to more and more uncertainties involved in the considerations of situation and more so in these turmoil times. While setting up their firm's strategy many visionaries earlier did so on gut feel rather than on hard facts and the result is seen in the shaky fundamentals of many of the firms thus indicating that lot more research needs to be done in this area of Strategy formulation. Moreso with the linking of technology and operations strategies with the business strategy of a firm.

Globally, companies are facing many competitive problems. Technology roadmapping, a form of technology planning, can help deal with this increasingly competitive environment. While it has been used by some companies and industries, the focus has always been on the technology roadmap as a product, not on the process.

Products are becoming more complicated and customized. Product time to market is shrinking. Product life is shortening. A short-term focus is reducing investment funding. There is increased competition. Cut-backs are occurring because of increased competition. These problems require companies to be more focused and better understand both their industry and markets. Better technology planning can help deal with this increasingly competitive environment.

Real time Application

We take a specific automation company under consideration for a real time scenario, where the current business strategy gave no due consideration to technology strengths

of the company and also there had been no specific effort in formulating the basics of manufacturing strengths. The growth of this automation company was stagnated due to low technology focus and also due to general manufacturing strategies with low concentration on total solutions.

To address the problems this company faced, first of all we identified the strengths in-house and focused our business growth areas to the domain expertise we had acquired over the past years. We also identified global and local partners with those domain expertise with whom we could tie up in order to bring in those expertise required to put this company on a high growth path. These tie ups were achieved over a period of six months.

Today's emerging technologies⁴ which are in their infancy or adolescence are highly likely to replace legacy technologies partially or completely in the near future were identified. These emerging technologies have been broadly classified to belong to one of the 6 categories listed below

1. Energy Technologies
2. Transportation
3. Information Technologies
4. Bio Technologies
5. Robotics
6. Materials Science

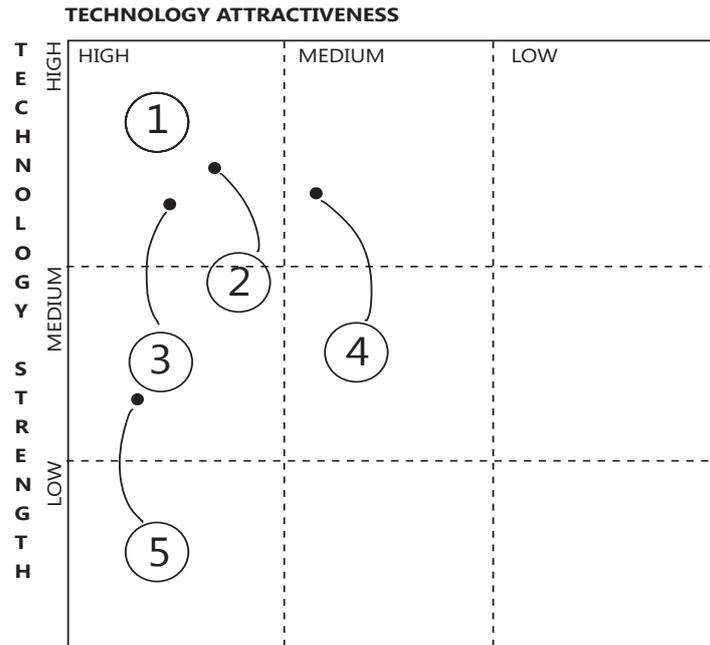
We ensured that the technology roadmap focused on those industrial sectors where the company's domain expertise was already present or acquired by virtue of strategic business tie-ups. Hence we chose to focus our efforts on the following Business Growth Areas

- a) Robotics
- b) Machine Tools
- c) Advanced Control Systems
- d) Flow forming
- e) Manufacturing Execution Systems

Technology Roadmapping⁵ methodologies used were successfully done by SWOT analysis. SWOT Analysis involved the collection of information about internal and external factors which have or may have an impact on the development of strategy of our organization. This technique helped us to analyze our own strengths, minimize weaknesses and take possible advantages of opportunities available.

Technology Portfolio Matrix⁶

STU Representation



1. ROBOTICS
2. MACHINE TOOLS
3. ADVANCED CONTROL SYSTEMS
4. FLOW FORMING
5. MANUFACTURING EXECUTION SOLUTIONS

The figure above shows the technology portfolio matrix for the automation firm. The circle identifies the existing position of each STU and dots the future position. Ideally we would have all the STUs in the high attractiveness, high strength cell similar to STU 1. What is critical is to reflect on the competitive moves that have to be made in order to gain competitive strength in highly attractive STUs such as 2, 3 and 5. The amount of effort and resources to be allocated to each STU depends both on our ability to gain competitive advantage and the projection of future attractiveness of a given STU.

The next step is the formulation of strategic action programs and budgets. To be consistent with the frameworks proposed in the earlier section the action programs were made such that it:-

- Responded to the technological requirements emanating from corporate and business strategies
- Seized the opportunities and neutralized the threats identified in the environmental scanning process
- Reinforced the strengths and eliminated the weaknesses detected in the internal scrutiny process
- Addressed all the issues linked to the strengthening of the portfolio of technologies of the firm.

Conclusion

By shifting focus to multiple business growth areas the company did not put all its eggs in the same basket. Each business growth area would be a separate 'S' curve and we have high probability of success in atleast a few of them. The automation company successfully experienced exponential growth in spite of slow down.

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