

Business Management and Innovation Technology

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Abstract

This paper explores the evolution of corporate organization with special attention to the organization of R&D. More specifically, the paper addresses the comparative long-term organizational dynamics of management of innovation and technology in two different types of technology-based industrial companies: the ‘related diversifier’ pursuing ‘synergistic economies’ and the ‘vertical integrator’ pursuing ‘vertical economies’. These types of companies are illustrated by case studies of two large Danish manufacturing companies. The analysis aligns the strategic management literature on strategy and structure in large companies with the literature on management of innovation and technology. It is argued that the organizational design for managing innovation and technology is contingent on both the overall strategy–structure profile and dynamics of the companies, and on key characteristics of their particular innovation and technology strategies.

Key Word: Technology, Vertical Indicator, Innovation

Introduction

At present, the life cycle of products, i.e. the time span from a product launch in the market until it becomes mature, is constantly shrinking. In fact, in some sectors, such as personal computers, the technological ageing of products takes place within just a few months. Therefore, the capacity to introduce new products in the market anticipating their competitors, earning in this way significant shares of sales, constitutes a big competitive advantage for companies. Companies, hence, should be in a position to constantly ‘innovate’ in order to preserve and improve their market position. Many would define innovation as ‘something new, an invention, a

new idea'. In reality though, innovation does not only constitute the birth of a new product or process-related idea; it does include all stages, from the design and the evaluation of the way this idea is translated into action effectively. An innovation takes effect with the first commercial transaction regarding a new or improved accessory, product, process or system. On the contrary, the invention is an idea, a design or a model of an improved or new accessory that in most of the times does not result in any commercial transaction, although it could lead to a patent. Many researches have shown that innovative enterprises, namely the ones that constantly innovate, present on average double profit compared to the rest. However, innovation management is particularly difficult, hence the failure of many new ideas to result in successful new products or services. For this reason, various innovation management models have been developed.

Objectives

- To develop in students an enthusiasm for studying business and Introduction to Business and Management
- To provide students with a sound knowledge of the key principles and concepts on which business, Introduction to Business and Management and finance practice are based.
- To make students aware of the role of corporate governance in organizations and the ethical issues faced by organizations and the individuals in them.
- To gain an holistic understanding of business and organizations.
- To encourage students to engage critically with theory, by generating creative solutions to business problems and issues presented as case studies and by evaluating theory in extended pieces of writing.
- Students will also have opportunities to demonstrate the skills necessary to study effectively at Henley Business School including decision making, problem solving, challenging assumptions and quantifying and managing information.

Scope

- Most companies are organized to manage business units, regional operations and functions.

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- Many have gone further by allocating specific responsibilities and setting up dedicated mechanisms to manage cross-functional processes, for example new product development.
- But how can they stimulate, steer and sustain innovation, an ongoing transformational endeavor that is increasingly becoming a corporate imperative.
- Certainly, innovation consists of several cross-functional processes from generating ideas to taking technologies to market, but there is more to it.
- It deals with “hard” business issues like growth strategy, technological investments, project portfolios and the creation of new businesses.
- But it also relates to “softer” challenges, like promoting creativity and discipline, stimulating entrepreneurship, accepting risk, encouraging teamwork, fostering learning and change, and facilitating networking and communications; in short, it requires a special type of organizational culture.
- Like marketing, innovation is a mindset that should pervade the whole organization

Limitations

- Technological advances occur continuously, and businesses often feel the need to implement the latest changes to keep up with the competition.
- In business, technological innovation can take many forms, including computerization and mechanization of necessary systems and processes.
- For small business owners, technological innovation can offer a number of important advantages as well as possible.
- New technology can be necessary to making your business more efficient and helping you keep up with the competition.
- The temptation can be to purchase new technology outright and use it as you see fit. However, there are advantages and disadvantages to buying new technology that a small business owner needs to consider. You may find that leasing may be more appropriate, depending on the situation.

Market Expansion

Innovative technology can help even smaller businesses compete on a global stage. Innovations such as the Internet, for example, allow a sole proprietor to offer her products or services to prospects around the world through the use of a website. She can provide detailed product descriptions and photos of her products to provide prospects with all the information they need to make an informed buying decision. Social media vehicles like Facebook and Twitter also allow her to network with others who may have an interest in her business, without the need for face-to-face interaction.

Cutting Costs

Innovation can also help business owners keep costs to a minimum. With the use of automation, a small manufacturer can reduce his dependence on human beings to perform some of the necessary production processes. As a result, the business can reduce employee expenses such as salary, benefits and turnover. Technology can also help to streamline the production process, eliminating costly waste. Implementing a "lean" manufacturing process like Six Sigma, for instance, offers the opportunity to meet customer demand more quickly and efficiently.

Employee Concerns

While innovative technology may reduce the dependence on a workforce, the flip side is that employees lose jobs in the process. In the case of a small business owner, this may mean she needs to make a difficult choice between increasing profits or letting go long-time employees. Even if the implementation does not result in job loss, some employees may have difficulty adapting to the change. There may also be a learning curve when instituting the change, resulting in reduced productivity in the short term.

Upfront Costs

While new technology can result in savings in the long run, it sometimes results in a significant upfront expense. A small business owner may not have the resources to purchase a state-of-the-art computer system or new machinery, or may need to borrow the money to do so.

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If the new purchase doesn't increase production or reduce expenses over the long haul, it could have a crippling effect on the long-term viability of the operation.

Ownership

When you purchase new technology, you own it outright. You can upgrade or alter the technology any way you want to accommodate your business needs. You determine the equipment's maintenance schedule and create the guidelines for repairing or replacing it. Conversely, when you lease equipment, you need to run customization ideas past the leasing company and hope that the implementation goes correctly. You are not in control of repair and replacement, which means that if a piece of leased equipment goes down, you could be without its services for an extended period of time.

Tax Deductions

Section 179 of the IRS tax code says that the purchase of qualifying new equipment is subject to a tax deduction for the company. In 2010, the limit for new equipment purchase deductions under Section 179 was \$500,000. Most business property qualifies for the Section 179 deduction with the exception of equipment you lease to another company, residential real estate purchased by the company and any equipment used to distribute or generate solar energy. Any other business property bought new qualifies as a tax deduction.

Antiquated Equipment

One of the advantages of leasing that becomes a disadvantage of ownership occurs when it comes time to replace the once-new technology. When the equipment reaches the point where upgrades no longer make it relevant, you will need to replace it. If you purchased the equipment, then the cost of replacing it is yours. If you leased it, you can negotiate bringing in replacement equipment without the significant cost associated with ownership.

Payments

When you finance new technology, you often need to put down a down payment of up to 20 percent on bank finance, according to the "Forbes" website. If your company is short on cash

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reserves, then even the convenience of bank financing may be significantly more expensive than leasing. Financing requires you to take on interest debt, which can make your monthly payments high. Leasing payments are not based on principle and interest, and tend to be lower, according to Pam Newman, writing on the "Entrepreneur" website.

Conclusion

Joe Violette, who reminded us that innovation (as opposed to invention) is most often carried out in teams, suggested that leadership's role is also "to provide a work environment of openness built on trust where every member of the team feels free to express their views/opinions without fear of ridicule or reprisal." Debbe Kennedy called for management to insure diversity in "people, ideas...." Dhruva Trivedy called on leadership to "involve people at all levels...." Pablo Lira suggested the importance of "facilitating calculated testing environments to evaluate and secure viability of new ideas."

Other models for innovation were suggested. Lamenting that "inculcating the burning drive of the inspired entrepreneur into a large R&D staff over a sustained period is next to impossible," Wayne Hosking suggested that these ideas need "to incorporate some analysis of the venture capital model." At the HBS colloquium, participants raised questions suggesting other models. For example, given the proliferation of networking technologies, will more and more innovation be carried out in communities that cross corporate lines? Following from this, one has to ask whether truly large innovations needed by society will be achieved without traditional leadership or even, up to some point in the process, traditional rules of competition in so-called "open source" environments of the kind that have prevailed up to now largely in academia.

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