

Seven answers you need to be able to give about innovation

Considering the current wave of companies that want to implement innovation, there is a specific need for answers to some important questions about the phenomenon. In this article, seven questions that are key to the way you define your strategy and set up your structure for innovation are being addressed. It will help you to take some important decisions for the implementation of innovation within your company.

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Innovation is a hot topic nowadays, therefore companies are rushing to take action on what seems to be fundamental to their survival. At the same time, these companies are having a hard time discovering where and how to start. Defining how to stimulate creativity, how to organize innovation and who should be involved, are some basic questions that are not easily answered by those responsible for thinking out a strategy for innovation.

The following seven key questions will give some insights that will help you better structure the rationale for innovation in your company:

1. Does it make any sense to implement an innovative structure? Is innovation accidental or can it be planned?
2. Should innovation be centralized and organized from the top-down or should it be bottom-up and decentralized?
3. Who should be responsible for innovation?
4. Who should participate in innovation?

5. Should a company focus on break through innovations or continuous improvements?
6. Innovating, looking to the future or using the past?
7. Innovation by individuals or in groups?

Before answering any of these questions, it is important to define the concept of innovation. In Webster's New Unabridged Dictionary "innovation" is defined as the "introduction of new things or methods" and "innovate" is "to make something new or make changes in something established". This is a very broad definition of innovation and where it remains hard to establish a clear difference between, for example, improvements, inventions and innovations¹. Therefore in this article, Frank Bacon's definition will be used - one that is more related to the daily reality of companies. According to Frank Bacon, innovation differs from invention in the sense that invention is a solution to a problem, while innovation is an

¹ Roger Bean and Russell Radford, The Business of Innovation (New York –AMACOM Books, 2002)

invention that can be made commercially relevant to the company². Innovation, then involves not only invention but also a strategic and financial analysis of these inventions and an analysis of the company's capabilities to exploit them with their current resources.

This definition still leaves the range of innovation open, since innovation is seen in many aspects of corporate operations - from the development of new technologies or innovative ways of recruiting, to a new way of managing clients or important improvements in logistics. However, the main focus of this article will be on the development and introduction of products and services.

One thing seems to be clear: innovation is crucial for the company's long-term future. Of course, companies want to control this future and this means they will need to be able to control their innovative capacity. This raises the first questions: Are companies able to control innovation? Can systemic and continuous innovation be secured and deliberately implemented?

1. Does it make any sense to implement an innovative structure: is innovation accidental or can it be planned?

"Systematic innovations", as Peter Drucker describes them, "consist of the deliberate and organized search for changes and in the systematic analysis of opportunities which those changes can offer for economic or social innovation"³. Is it feasible for organizations to pursue this? Are major innovations the product of a deliberate search for opportunities or are they merely due to

opportunistic behavior when individuals or companies are randomly presented with these opportunities? Take the case of a railroad worker from East Japan Railways who discovered that the water that caused trouble when building tunnels for the new bullet train, was actually very good drinking water. The company exploited the opportunity and used it to produce beverages, which resulted in 1994 in US\$ 47 million in sales for the company. Consider the case of Jim Schlatters, of G. D. Searle and Co. When mixing substances for an anti-ulcer drug, he tasted the extreme sweet taste of the substance after some drops had splattered on his bare hands and he licked his fingers. His discovery was pursued by the company and the innovative sweetener called NutraSweet turned a Drug company into billion-dollar Food company⁴.

These are two examples of big breakthrough innovations that came pretty much out of nowhere - unexpected and unplanned. Could they have been planned? Probably not, like many other innovations throughout history. Does this mean that all innovations have been or have to be results of "accidents" and unforeseen opportunities? This question receives another confirmative "no" for an answer. Just take Edison as an example. Edison generated over 400 patents in six years of operation in his Menlo Park laboratory and is a great example of how to plan innovation. He boasted, "a minor invention every ten days and a big thing every six months"⁵.

How about companies such as Ideo, one of America's leading design firms, which year after year brings innovative products to the market based on customer requests? Surely,

² Bacon, Frank & Butler, Thomas, *Achieving Planned Innovation*, (The Free Press, 1998)

³ Peter F. Drucker - *Innovation and entrepreneurship: practices and principles* (New York, Harper and Row, 1985)

⁴ Alan G. Robinson and Sam Stern- *Corporate Creativity: How innovations and improvements really happen* (San Francisco, Berret-Koehler Publishers, Inc, 1997)

⁵ Andrew Haragdon- *How breakthroughs happen: the surprising truth about how companies innovate* (Boston, Harvard Business School Press)

innovation can be planned for. Then again, surely not all of it. That leaves the question: how much of it? Or should the question really be 'how much?' Can both unplanned and planned innovation sit side-by-side within the same organization?

2. Should innovation be centralized and organized from the top-down or should it be bottom-up and decentralized?"

There is some disagreement between researchers on what brings more revenue to a company: innovations originating from employees or innovations directed by the companies board and based on the company's strategy. Sam Stern, who undertook research on innovation at the Japan Management Association, found out that more than half of the innovations that received awards from either the Japanese Science and Technology Agency or the Japanese Institute for Invention and Innovations, had been initiated by individuals alone and had not been foreseen or initiated by management. He also found that the benefits from projects initiated by individuals, easily surpassed the benefits gained from projects initiated and directed by the company's management. Do these results mean that companies should have a bottom up approach?

Not necessarily so, both the bottom-up approach and the top down approach can be applied. Working at Royal Dutch/Shell for example, I experienced a more bottom-up approach, which was used in order to stimulate staff to bring forward their ideas. Employee generated ideas went through a "GameChanger" panel, where their ideas were analyzed and provided with the required resources when approved. In 1999, out of the five largest growth initiatives at Shell, four had come through the Game Changer model. Other very successful innovative companies, like 3M, have implemented a company policy

whereby employees are allowed to take a certain amount of their time to work on their own projects. The projects can be completely unrelated to the current work that staff is undertaking. In the category of companies that work with structured and directed innovation, Boeing, Siemens and Dow Chemical have been highly successful as well⁶. Strategic direction given by the company's leaders can be very useful, it keeps employees focused on what really matters to the company.

Both forms, the top-down and bottom-up approach, are possible and can be successful; it depends very much on the company's industry, culture and structure. In order to improve the chances of success, two things are highly important to nurture: an innovative culture, as well as an innovative structure, based on processes, funding and support from the company's board. When lacking these two elements, it would be hard for creative employees to bring forward their ideas and inventions (for which an innovative culture is required) and the organization to turn those ideas into innovations (for which processes, funding and board support are necessary). Innovative culture is something that can only be created over time through strong leadership, supporting company policies and management training. This raises the following question:

3. Who should be responsible for innovation?"

Responsibility for innovation should involve all employees. Each of them should feel the need to contribute with new ideas to the company and create value by innovating. This is a very elegant way of thinking about innovation, but it is not always possible and depends on the structure and culture of the company. HR

⁶ Mohan Sawhney –Managing Business Innovation (Presentation Kellog School of Management, 2002)

departments and internal communication departments are a good place to delegate responsibility for creating this culture, with the constant support of senior management. Apart from this creative aspect, someone also needs to be responsible for implementing, tracking and leading larger innovative projects. Innovation programs need to have a corporate governance model, with a variety of roles and responsibilities for areas participating. It is important that one of the areas has a pre-dominant lead in the governance.

In order to determine which department should have the lead, depends very much on the type of innovation the company wants to pursue. If the focus is on continuous improvements in operational environments, then areas such as operations, maintenance or engineering should probably have the lead. If the focus is on product innovation, then it depends very much on the phase in which the product finds itself within the product life cycle⁷. New, breakthrough products should be the responsibility of research and development, far away from the core of the business, in order to avoid getting sucked into the current market and customer perspectives. This would have a serious negative impact on the innovation. Products that are at the mass-market phase of their lifecycle, and still need improvement to better meet customers' needs will probably best be lead by marketing, as long as marketing holds close contacts with sales.

Determining who will have what responsibilities, varies very much on what your objectives are, where your innovative capacity lies within the organization and how these capacities best can be exploited. Who will be the innovators within your company? Who should participate in the program?

⁷ Geoffrey A. Moore- Darwin and the demon: innovation within established enterprises –Harvard Business Review August 2004

4. Who should participate in innovation?

Where does innovation come from? Is it from the brightest employees? Your clients? Anyone in particular? Various research studies have shown that it is difficult to determine who the innovators in your company are, until they are given the opportunity. Internally, innovation comes from experimenting. If you give your employees a chance to participate, then the innovative ones will come floating up. They might come from all corners of the company, from the board to the machine operator, from HR to Sales, but you will not know until you give them the chance.

Intelligence is not a determining factor for creativity and innovation, as long as a certain level of intelligence is attained. Neither are experience or age. Working in routine activities is also not a barrier to creativity since there will always be some non-routine activities done by the employee⁸. Creativity is highly dependent on the culture that exists within a company. For corporate innovation, a positive view of creativity is a requirement.

After having identified your innovators, you might want to choose to stimulate and support them: by special training, sharing in profits from innovation or through specific career plans. This all depends on cultural aspects, leadership vision and company policies. However, do not limit participation, as this goes against the spirit of creativity. You might have already developed a view, on who should participate in the early stages, but do not hold back the creative power of all the other employees. Your innovation process,

⁸ Alan G. Robinson and Sam Stern- Corporate Creativity: How innovations and improvements really happen (San Francisco, Berret-Koehler Publishers, Inc, 1997)

with its strategic and financial analysis, will filter out the ideas useful to the company.

Not only might you search for creative abilities within your company, but also outside: clients, suppliers, researchers, possible new hires etc. When aiming at improving your products, for example, a great creative participant in the innovative process can be your lead-customer, as is shown by the experience of 3M⁹. Although employees are often the ones able to come up with breakthrough ideas, a company will be able to mold and change its products into commercial successes by working with lead customers.

Not all your customers are good for testing out breakthrough ideas. When working with these types of ideas it is not advisable to work with “followers” or “late adapters”. These customers are better references when you look at improving your current products in the market: by adding or taking away features, improving the design etc. They want to have their current needs better served, but they are not ready for complete new value propositions. The question is: What kind of innovation should you focus on? Innovations that help you serve your current customers and exploit your current market or breakthrough innovations that completely turn the market structure up side down?

5. Should a company focus on breakthrough innovations or continuous improvements?”

Is it possible to focus on breakthrough innovations? Does it make sense to target breakthrough innovations? It does, financially speaking. Although focusing on breakthrough innovations often requires large investments

and brings along quite some risks (What will be the next breakthrough product? Will there be a market for it?), it also brings substantial higher returns than incremental innovations of existing products. In their study on the relationship between innovations and corporate returns, Kim and Mauborgne examined 30 companies across multiple business sectors. In their study, only 14% of new product launches could be marked as innovations; that is, new products. The majority, 86% of the product launches, were line extensions – incremental improvements on existing products. Yet, the true innovations accounted for 38% of the revenues and 61% of the profits¹⁰. Through my experience with idea management and innovation programs at several companies, I have learned that in many cases, 1 or 2 ideas out of a few thousand can pay for the entire innovation program. These breakthrough ideas are the ones that really generate value for the company. An example in Brazil is the natural and environmental friendly cosmetics-line, Ekos, launched by Natura in 2000. By investing heavily in a complete new value proposition, Natura has been using this brand to make its first steps to enter the European market.

So, why then, do companies not focus on breakthrough innovations? The truth is that breakthrough innovations strengthen the long term positioning of companies, yet not always the short term. Companies are bound by shareholders who want quick returns to their investments and by customers who are not interested in products that might fulfill their future needs or those of other customers. Companies automatically fall back into thinking, “let us make some modifications to our product, so we can differentiate us from the competitors”. Nice try! However,

⁹ Eric Von Hippel, Stefan Thomke, and Mary Sonnack- Creating Break Through ideas at 3M (Harvard Business Review on Innovation, Harvard Business School Press, 2001)

¹⁰ W. Chan Kim and Renée Mauborgne, "Value Innovation: The Strategic Logic of High Growth, (Harvard Business Review, January-February 1997)

competitors easily copy these improvements. Companies remain fighting fiercely with other competitors day after day over the same pie of ever lower margin-generating markets.

The focus on improvements is financially less interesting, but at least it is less risky. How many times a decade are there breakthrough innovations that turn whole industries upside down? In some high technology industries, we have seen this happen over the last decade, however in most industries it just does not happen too often. So yes, breakthrough innovations bring the company long-term benefits, but if the likelihood is so low, then is it really worth all the effort? And can't we focus on both? Although it is not always easy to carry out, especially in economic downturns, it can be done. Several companies, like Tesco, do both. Tesco spends money on basic innovations such as the constant improvements in its logistics and at the same time invests in breakthrough innovations such as the highly successful internet delivery business¹¹. If we can focus on both, then how should we start innovating?

6. Innovating, looking to the future or using the past?

When thinking about innovation, people automatically think about the future. They start projecting macro economic trends and how the world or their specific customer market will look like in 5 or 10 years time. They start visualizing what kind of technologies will be available in the future and how they could use these technologies to develop new products and deliver new services to the customers.

Although these are very useful exercises and they will help you to open your mind for

¹¹ Incremental or Radical? Shape the agenda/The chartered institute of Marketing- Harvard Management Review, nr. 49 –April-May 2005.

potential opportunities, innovation is mostly to do with using the past. A large part of innovation is about the combination of already existing technologies in a different way or applying already known processes or techniques to different situations. Most innovations are not as revolutionary or breakthrough as they seem. Although the introduction of new products in a market can be revolutionary, most of the technologies used in these products already existed. Take for example, the cellular phone. Although you can view the introduction of the cellular phone into the mass market as revolutionary, the technology that the cellular telephone was based on had existed for quite some time.

So, look at current economic, political and social developments to determine patterns and look at the future to determine future markets and customer needs, but think about a different use or new combinations of existing technologies and practices to serve these needs.

How do I ensure that this happens in the best way? Should I concentrate on recruiting or fostering some geniuses? Should I stimulate group work? Does invention and innovation come about from individuals or groups?

7. Innovation by individuals or in groups?

The myth that innovation depends on lonely geniuses that come up with one innovation after another, without being in contact with the rest of the world is a persistent, but erroneous way of seeing innovation. Although these geniuses certainly exist, most of them work or have worked with teams of specialists to inspire invention and make their inventions commercially viable. Thomas Edison has become a legend to many people, as a one man patent machine. In fact, he worked with a group of around fourteen researchers at his

laboratory at Menlo Park, even splitting revenues from the inventions with them. Besides, Edison sustained and exploited a wide network of other inventors, building upon their ideas. A great example of this is the platinum light bulb, which was hanging in his own laboratory long before he “invented” it. In fact, it had been developed more than 20 years earlier by one of his regular contacts, Moses Farmer.¹²

In our age of innovation and speedy internet connections, the phenomenon of networks is becoming more popular again, with companies and even competitors sharing and working together to direct breakthrough innovations - take for example Philips and Sony in the development of the CD. Companies connect themselves to the outside world to engage with researchers, lead-customers and suppliers to help them to innovate. Internally, companies construct networks to stimulate the exchange of views between employees from a wide range of fields and departments. This does not mean that these people get together in a brainstorming session without any specific target in minds or problems that need solving. Group creativity should be guided by a goal. This logic brings us back to our definition of innovation at the beginning of this article, which states that we should focus on innovation that is strategically relevant to the organization.

Conclusion

Although innovation is sometimes accidental, innovation can, and should be, managed. Many companies have shown that this is possible and history tells us that it is pretty much the only alternative to ensure long-term

¹² Andrew Haragdon- How breakthroughs happen: the surprising truth about how companies innovate (Boston, Harvard Business School Press)

survival. Strong leadership that stimulates a culture open to creativity will enhance the innovative potential of the company. Strategic direction, well-defined processes, user-friendly technology and an established governance model will enable companies exploit this potential, while leaving the door open for some unforeseen ideas to flourish.

How to give strategic direction to innovation and which department should lead your innovative program will be determined by the strategic objectives you set. This definition is critical, since different departments will have different focuses (operation vs. client focused; break through innovations vs. continuous improvements) and ways of evaluating strategic relevance. Although one department might have the lead, everyone in the company should be able to participate in the process. Limiting participation, will handicap the creative potential of your company.

Make sure you use some of the company's money for research in breakthrough ideas as these are the ones that will ensure your future. At the same time, do not forget to strengthen your short-term performance through continuous improvements by looking at the future, exploiting already existing knowledge and technology and applying it in new ways, new combinations or in different situations. Throughout this explorative process, you should not just focus on the lonely genius. You should lay your emphasis on stimulating networking between creative people from diverse backgrounds, those with different ranges of knowledge and by including third parties in your innovation process.

Innovation is essential for the survival of your company and it is possible to implement a structure that strengthens innovative capacity. Form alliances with peers and key stakeholders to ensure the subject ends up on the executive agenda. Legitimize the move towards becoming an innovative company by

highlighting the successes of other companies in similar or the same industry as yours.

You'd better start working at it, before your competitors get too far ahead of you!

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