

Creating a suitable strategy for innovation when the industry is frequently changing: The importance of competitive intelligence

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Developing a suitable strategy for innovation can be a challenge, and especially if the industry is constantly changing. It is important for firms to be aware of the external environment to be able to create competitive strategies. The knowledge about how to perform competitive intelligences is essential for managers. It is their job to analyze and take the external factors into consideration when creating unique strategies for the company. The choice of strategy will affect the focus within the firm, resulting in that an analysis of the environment is essential before establishing the strategy. Managers must also build the right organizational structure, to be able to accomplish the goals and objectives. It has been proven that an entrepreneurial culture is profitable for companies and it is therefore important for managers to create strategies where this way of work can be applied. Building alliances can also result in better understanding for the industry and can give better insight in how to handle a changing environment.

Keywords: *competitive intelligence, competitive strategies, strategies, innovation, management*

1. Introduction

Today, many industries are characterized by free competition. This means that the rivalry among companies becomes stronger. At the same time, the customers benefit from the situation since companies must adapt to the customer's preferences to stay alive on the market. It has also been shown that new entrepreneurial companies arise within high-technology industries Bower and Christensen (1995), which means that it is essential for companies to be aware of its external environment. To understand in what direction competitors are acting, it is beneficial to work with competitive intelligence, Sjøilen (2009, pp. 11-14). When companies know their position on the market and what

external factors that may affect their business, it is easier to create suitable strategies. According to Porter (2008), companies has to consider a number of questions when forming their strategies. What drives competition in the industry? What actions are competitors likely to take, and how can our firm respond? How will the industry evolve? How can the firm best be positioned to compete in the long run?

The strategy specifies the firm's direction and explain their goals and objectives. It also contains what value the firm provides to their customer, Magretta (2012, p. 193). To be competitive, firms need to find a suitable position on the market, which can be hard if the industry is constantly changing. In this article, we investigate the importance of competitive intelligence in industries that is frequently changing.

Nowadays, firms put lot of effort in innovation, which force us to look for how firms can create suitable strategies for innovation when the external environment is shifting.

Our qualitative paper is structured as followed. In this section, called introduction, our purpose was to give a brief of the current topic. In section two, we present how information has been gathered and in section three, we present the received data. Section four follows of an analysis, where we also draw parallels to the mobile-phone business, a high technological industry. In this section, our findings are also presented. In section five, we illustrate our analysis with a framework and the proposed factors for the creation of a suitable strategy in a frequently changing industry is shown. In section six, the paper ends up with a conclusion where we also highlight the main parts of the study.

2. Methodology

For our qualitative paper we chose to analyze the importance of competitive intelligence and before we started to collect data, we first decided the title of the project. This helped us to better understand what to look for during the research. In the retrieval of data, we understood that for us to sort out relevant articles connected to competitive intelligence, we had to divide the theory-part into different sections. Since competitive intelligence is about how to understand external factors and how they affect companies, it also affects multiple subsections internally. We chose to divide the theory into external factors, strategy, team structure, networking and management. These factors and competitive intelligence was used as keywords when searching for relevant papers and theories.

We searched for papers, which had been highly cited, via the databases Scopus and Web of science. The papers we chose were

taken from journals and reviews including *Harvard Business Review*, *International Journal of Management Reviews*, *Journal of Product Innovation Management*, *California Management Review*, *Sloan Management Review* and *Global Innovation Science Handbook*. It resulted in a total of 33 references which was a mix of papers and books, that we printed and used for our qualitative research.

3. Received theory

3.1 External factors

Before it is possible to decide a strategy, it is important to make an analysis of the own organization and of the external environment where the organization is acting. When making an external analysis, the organization must look for political, economical, social and technological factors that may influence the way of work. When the external factors are clarified, it is easier to analyze the strengths, weaknesses, opportunities and threats of the own organization, Armstrong et al. (2013, p. 54). The goal is to match the strengths with the opportunities and try to eliminate the weaknesses and threats. When an organization knows what they are good at and what they are less good at it is much easier to work organized and develop a suitable strategy.

Porter (2008) presents five different forces that influence how attractive it can be in a specific industry. To notice is that if there is a high impact from all the five forces, it is a less profitable market. Further on, he argues that industry competitors, buyers, substitutes, suppliers and new entrants, are forces that shapes the industry. Being aware of the five forces helps the organization create the right position and strategy in its current industry. Being aware of the industry and its changing pace, is also necessary when developing new products.

According to Twiss (1992, pp.1- 40), it is important to consider the external environment while working with innovation. Technical knowledge and knowledge about market needs, must be considered since it is critical factors for success. In order to succeed, the organization have to deliver what the customer wants and it is therefore necessary to look for technology and market changes. It has been shown that successful firms are those who understand the markets, their user, and can use technology from outside, Twiss (1992, pp.1- 40). Further on, technological change can emerge in forms of disruptive technologies, Bower and Christensen (1995). This results in changes in the industry which is critical for companies to analyze in order to adapt to them.

Armstrong et al. (2013, p. 545) argues that benchmarking is a powerful tool when the organization want to improve its competitiveness. The organization is compared with other companies to identify the best practice and improve the own business. According to Trusko and Gupta (2014, p. 144), it also possible to narrow the benchmarking, to make it more suitable for the organization. Strategic benchmarking is for example one type of analysis, which focus on identification of new trends. Trusko and Gupta (2014, p. 157), discuss the fact that the competitive environment in high technological industries have resulted in bankruptcy for many firms, which stresses the importance of being aware of the industry climate.

3.2 Management

To create a functional organization is it important to have a well-designed management. How activities affect each other and how to link them together is crucial for success. Granstrand (1998) argues about the importance of

management and that it is vital for managers to analyze the environment and understand how it can affect the organization. If the manager have good skills in interpreting the external environment, it is also easier to prioritize and allocate resources the right way. Granstrand (1998) argues about the importance of understanding the external environment, while Galbraith (1982) put management in a broader perspective. Galbraith (1982) stress the importance of understanding five design policies. These policies need to be controlled by the management and can influence how employees in an organization behaves. An organization needs a clear strategy since it is the plan of how the company win over other firms. It specifies goals and objectives and describes visions that needs to be followed. The management must also consider the structure of the organization as well as the flow of information, since good communication is needed in an innovative organization. Reward systems is also promoted by Galbraith (1982), but must be compatible with the other five design policies to be effective and give positive outcomes. The people in an organization are those who are doing the work and according to Galbraith (1982), they need the right support from the management to be able to work effective towards the specific goal.

Hersey, Blanchard and Natemeyer (1979) argues that the management must be differently depending on the current situation. The authors argue about a situational leadership and that a group of people go through different phases while learning to know each other. In the beginning, the leader need to give orders but gradually as the group gets more comfortable, the leadership becomes more delegating. Tonnquist (2014, p. 279) presents the X and Y theory, which reflects the leadership style and motivation to work among employees. When the personnel do not want to work, a controlled leadership is

required. In opposite, when the personnel are motivated, the manager must give the employees the right resources and support to reach the goal. What also is important is learning from mistakes. Peter (1990) stress the fact that leaders must create organization where it possible to learn from the past. In this way of work, the organization can grow and building knowledge from previous mistake can be seen as a competitive advantage. In a study presented by Quinn (1979), the result indicates that there is a relationship in how successful large firms and smaller-scale enterprise acts. The study showed that both organizations succeeded in implementing an entrepreneurial culture within the organization. The organizations were characterized by commitment, chaos acceptance, risk-taking and long time horizon, which are aspects that contributes to a better performance and a more productive organization. This reasoning match with the result from a study made by Cooper and Kleinschmidt (1995). They made a study of how to manage innovation and concluded that an entrepreneurial climate is necessary for the creation of good innovations. Allow the employees to work on own projects 20 percent of the work time is one way to stimulate new thinking. Create conditions for skunk works, unofficial projects, also contributes to a more entrepreneurial atmosphere. Creating conditions for skunk works is also something that Peters, (2004) ensures.

3.3 Strategy

Competitive intelligence refers to a company's ability to understand the environment they are acting in. External factors are important to analyze and take into consideration to make the right strategic decisions. Today's companies are facing challenges with turbulence and ambiguity, resulting in that nonrepetitive

tasks are less suitable in the organizations, Trusko and Gupta (2014, p.723). This argument pushes the fact for developing the most suitable strategy for the specific organization.

Depending on what type of industry companies are operating in and what their competitive advantage is, different strategies are suitable. A strategy is used to achieve goals with help from systems and tools in order to avoid mistakes. It is also about understanding the customer's needs and requirements in order to satisfy them. An effective innovation strategy consists of alignment between structures and systems, and a balance between goals and strategic objectives, Trusko and Gupta (2014). Before choosing a strategy, it is important to analyze where the company is positioned in the market and what business they are doing. The transilience map is a tool to identify the company's position but also an opportunity to identify gaps in the market, Abernathy and Clark (1985). Porter (2011) presents three generic competitive strategies that is used for performing above-average in an industry, cost leadership, differentiation and focus. Cost leadership is a strategy that focus on processes, differentiation is focusing on marketing and focus is working towards a specific customer segment. Each of the different strategies are involving different competitive advantages.

Maidique and Patch (1982) states that there are four technological strategies for companies. First to market, also called the leader strategy, is suitable for companies who have a strong focus on R&D and wants to achieve technology leadership. Second to market, the fast follower strategy, is focusing on trying to learn from the innovators mistakes in order to develop an improved product. This strategy needs strong development and engineering capability and the organization has to be flexible. The third strategy is late to market

or minimization strategy, a strategy that is focusing both on the product and process in order to achieve cost advantage over competitors. The last strategy is the market segmentation or specialization strategy, for companies aiming to serve a special demand where the focus is a lot on marketing. Further on, one of these strategies can be related to imitation, Bolton (1982). She argues for the fact that the imitation strategy that is commonly used in Japan, is not something negative as many people argues. She states that “When technology changes quickly, imitators who learn-by-watching will leapfrog pioneers”, Bolton (1982, p.38). The imitation strategy is similar to second to market, where the purpose is to watch and learn in order to come up with an improved better product.

Durand and Stymne (1988) talks about the cost performance curve. They argue that in the beginning of product development, the focus is on the product. When the focus goes from product innovation to process innovation, the cost or performance ratio declines. Related to Maidique and Patch (1982) and their first to market strategy, this results in that companies that are first with launching a new product, must be able to invest much money in R&D. When the demand stabilizes, the focus goes to the process instead of the product, where the second to market-companies emerges. Their focus is on the process and improving the products with a better quality with lower costs. It can therefore be concluded that when more companies enter the market after the stabilization, the cost performance ratio declines in pace with this.

3.4 Team structure

The right team structure for the right organization is essential for the work to go smoothly. Clark and Wheelwright (1992) states that there are four dominant team structures that are suitable for development

projects. Functional team structure, lightweight team structure, heavyweight team structure and autonomous team structure. Functional team structure is often found in larger and mature firms with a high level of expertise. A lightweight team structure consists of a project leader who coordinates the work with a lot of responsibility, which means that this structure is easy to manage for the project leader. The heavyweight team structure also has a project leader that has responsibility but often has a team of people dedicated to NPD (new product development). Autonomous team structure divides people directly into teams where a team leader has the responsibility and reports to the NPD manager where creativity is in focus. For companies working in a dynamic market with disruptive technologies, cross-functional integration is crucial for effective development, Clark and Wheelwright (1992). The term, cross-functional teams, means that the teams are self-managing project groups where representatives from the company’s relevant departments are involved, Ahmad et. al (2013).

Burns (1963) writes about mechanistic and organismic structures within organizations. Mechanistic is adapted to relatively stable conditions while organismic adapts to changing conditions. A mechanistic structure refers to tasks broken down into specialism. An organismic organization refers to when the conditions often are changing and a structured and well-defined organization is less suitable. In this structure the individuals have more responsibility and freedom. In a mechanistic organization, the individuals get clear structures to follow, what to work with and not. Further on, organismic structure is common to cross-functional integration, where organizations are working in frequently changing environments.

Every organization needs different work roles for the organization to function. A mix of different people, skills and behavior is necessary to have an effective organization. Five work roles that are critical to innovation is stated by Roberts and Fusfeld (1981).

- Idea generator: A person that generates new ideas and test their feasibility
- Entrepreneur: Sells new ideas to the manager
- Project leader: Focusing on providing team leadership and motivation and having overall control
- Gatekeeper: Responsible for that information is provided
- Coach: Helps people develop their talents and providing resources

3.5 Networking

Granstrand (1998) argues that technical competence is important for firms and can lead to diversification and entering new markets. Pappas (1984) also strengthen this fact, and that it is of high importance to develop a technological strategy. When firms are entering new markets, or change its business base, Granstrand (1998) indicate that it is important to understand that new knowledge may be needed. It is a constant iteration between the business base and the resource base over time. According to Twiss (1992, pp. 90-121) there are four different stages of how to find and capture new technology when it is needed. First, sources need to be identified. New knowledge occurs constantly and it is therefore important for the firm to find the knowledge that is suitable for its business. Second, the firm must know how to use the sources. Knowledge can be obtained from various sources, for example from relationships to experts or collaboration

with universities. It is also possible to locate the business in areas with concentrated knowledge. Third, it is always necessary to evaluate the new knowledge with help from specialists. It is important to consider its effects and implications or if other technologies are more suitable. Four, transfer the knowledge into the company. This activity can often be a challenging if the technology does not exist in the organization already. If the organization need temporary knowledge, one way can be to collaborate with universities and experts. When the knowledge is needed for a longer time, it can be more profitable to build up a good capacity of knowledge in house.

According to Doz and Hamel (1998), another way to capture new technology, is to learn from other companies and collaborate via alliances. In a collaboration, two parties benefit from exchanged knowledge. Alliances can take different forms and it is possible to establish global standards and markets. When creating an alliance, it is also important to create a partnership with open communication to succeed. Niesten and Jolink (2015) argues that the development of alliance structures affects the flow of information and sharing knowledge among the firms. Good alliance structures also result in a good understanding of the collective goals for both companies.

4. Analysis and findings

The following section consist of an analysis of the received theory and a presentation of a chosen scenario. With this scenario in mind, it is possible for us to explain our thoughts and draw parallels to our findings in a understandable way.

4.1 Scenario

Being an actor on the mobile-phone market today requires knowledge in how to apply new technologies. An entrepreneurial climate and clear goals are necessary to deliver high qualified products. Historically, the mobile phone industry has changed drastic during the years. The physical mobile-phone has developed from a large and ungraceful communication tool to a small flexible product, possible to fit into your pocket. The competition among firms has also changed since different trends come and go. In our opinion, the most successful mobile phone companies today are Apple and Samsung. They practically own the market, and serve the customer with new features and models of phones constantly. When new technologies are launched, it is often possible to integrate it in mobile phones in one way or another. To keep the customer and find new ones, it is important for mobile-phone firms to intercept new technologies in its products. Summarizing, the phone is a product that nowadays plays an important role in many people's everyday life and new technologies need to be integrated in order to match the requirements from the customer. With this background, we chose to let the scenario of a company working in the mobile phone industry influence our analysis. This is to be able to explain our thoughts and examples in a more detailed way.

4.2 Analysis

The previously presented theory shows a broad mix of strategies, pushing the importance of choosing the right strategy for the right type of company. External factors, in changing environments, are essential for companies to understand. As presented in the theory, different models can be used to analyze the environment,

such as five forces which has shown to have impact on the outcome, Porter (2008). Competitive intelligence within companies refers to the fact that the management understand the factors they cannot affect, but adapt to. Factors that can influence is, competitors, technology changes and supplier's etcetera.

Choosing the right strategy for the company is critical for success. We believe that for a company working in a changing environment with regard to the above-mentioned scenario, a first to market or second to market strategy is optimal, Maidique and Patch (1982). We base this on the fact that if a company is working in the mobile phone industry where a lot of new technologies emerges, they either need to be the ones presenting the news or as Bolton (1982) said, quick to imitate, in order for them to take market shares and be profitable. In the beginning of a new technology change, the company's strategy should not be on cost leadership where the focus is on processes. It should rather be on differentiation and focus, specifically on the product, Porter (2011).

An example of a company which has chosen to be first to market since the beginning, is Apple. This is a company that entered the market with the launch of their iPhone, which at the time was something completely new in comparison to the present mobile phones. Apple have an ability to understand the environment and what is requested at the specific time.

The management of a company plays an important role in understanding the environment. Managers are the ones setting the rules, the strategies and are responsible for that everything goes according to plan. The management should coordinate and act with consideration to the situation and the project team, Hersey, Blanchard and Natemeyer (1979). Because of the changes in the industry, companies are facing new challenges with new products and new

teams. This states the importance of a situational leadership in the beginning, where the main point is to be adaptive to the situation. An example of a founder that influenced the whole company and its way of thinking was Steve Jobs. There is no person in this world that hears Apple without thinking about Steve Jobs. Steve had a clear vision of what he wanted to achieve with Apple, what type of products they should deliver, what type of customer segment to focus on and what their competitive advantage should be. Obviously, he had the ability to understand the industry good enough to launch a completely new type of mobile phone in 2007 that has changed the industry forever ever since.

Changes in the environment does not only affect management, it also influence the organization. Based on presented theory, we think that the most suitable team structure within an organization is not something that involves repetitive work. It should rather be an organismic structure with less hierarchy and more self-determination, Burns (1963). We also believe in the importance of cross-functional integration for companies working in changing environments. By putting together teams with different knowledge and competence it is possible to meet new changes in an effective way, Clark and Wheelwright (1992). Related to this, the autonomous structure presented by the same authors is suitable in the sense that it reminds of cross-functional integration. The following quote explains our opinion of how a team should be organized and managed:

“True freedom is not the absent of structure. Letting the employees go off and do whatever they want – but rather a clear structure that enables people to work within established boundaries in an autonomous and creative way.”, Judge, Fryxell and Dooley (1997, p. 83). The quote states that

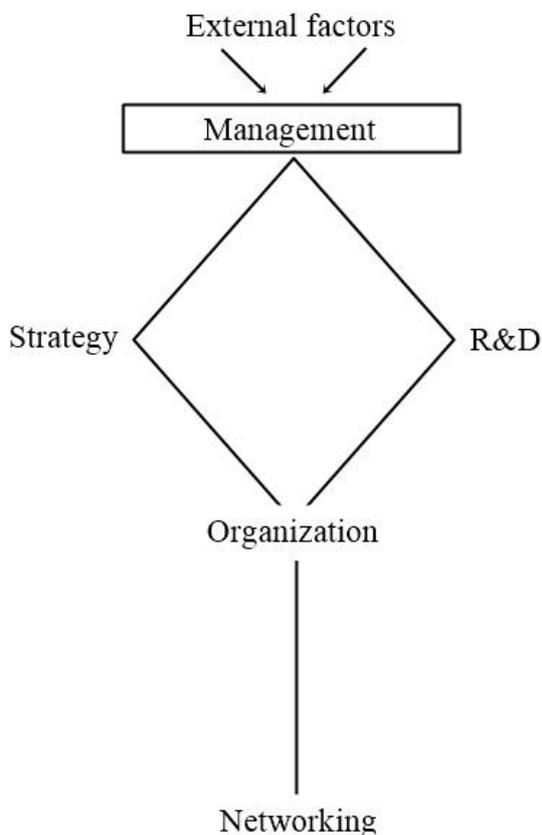
an organization must have a creative environment and therefore it is important to have a strategy that supports it. We believe that Google is a good example of a creative company with an autonomous structure. One part of Google’s culture is “to say yes”. The company encourage failure, referring to the saying of Eric Schmidt “*Please fail very quickly—so that you can try again*”, Iyer, B., & Davenport, T. H. (2008, p.10). They are aiming to have a company where people say yes and are allowed to takes risks and chances, a company that is doing too much instead of too little and wants to innovate and are not afraid of failing.

To understand the environment and widen the technical knowledge of the industry, networking with other companies is an effective way to be competitive. An example of companies that both were in the same industry but successful in different areas, was Sony Corporation and Ericsson. Together they started the company Sony Ericsson in 2001. The purpose was to combine the knowledge of the two companies to produce better mobile phones, Ericsson’s Annual Report (2001). This was a company that after three years had a striking upcurve but in the later years when Apple entered the market they failed to meet the demand because of an aging product portfolio. Even though Ericsson sold their part to Sony Corporation in 2011, this is a good example of an alliance, where both companies learned and could benefit from the cooperation. This stresses the fact that networking in smaller and wider forms are beneficial for companies in forms of knowledge and experience, Doz and Hamel (1998).

Our theory of the analysis and the relationship between external and internal factors that are related to competitive intelligence, is presented below with a model to clarify our theory.

4.3 Findings

The analysis, based on the received data, indicates that there is a relationship between several parameters. A theoretical model, called the Dragon model, has been developed to describe the relationship and is illustrated down below. It explains the connection and interaction between the different parameters and the importance of managers to read the external environment.



It can be concluded that management has the most important role in the creation of suitable strategies for the firm. To develop the right strategy, it is necessary for the management to consider the external environment. As mentioned earlier, Granstrand (1998) states the importance of a manager who is aware of the outside situation of the company. This ensures our

findings about the relevance of the management. The right strategies also affect how the management structures the organization and set-up the right teams. Moreover, interacting with the external environment is important to meet the demand. When the management knows who the customer is, it is possible to set up a strategy to meet the demand. The external environment and the management also influences the need and possibility to spend money on technical knowledge inside the firm. It can be concluded that depending on the chosen strategy, the investment in knowledge differ. How much investment spent on R&D also affect the creation and structure of the organization. Referring to the theory, Doz and Hamel (1998) and Niesten and Jolink (2015), is possible to build alliances with other companies to higher the level of competitiveness. In this framework, collaborations with other companies is suggested when the organization is stable and the need of new angles is high.

5. Statements

Based on the above analysis and the presented framework, we have created five statements to have in consideration when creating a suitable strategy for innovation in a changing industry. The statements are the following:

- Managers are those who set up the rules for the company and has the most important role since they must lead the firm in the right direction. Knowledge about how to perform competitive intelligences are needed for managers, because the external environment affect what strategies that are suitable for the company.

- The choice of strategy will affect the focus within the firm. For example, if strategy is being first to market, the firm will be pervaded with a strong focus on R&D.
- Managers set up strategies with the help of competitive intelligences but that is not enough to be competitive. Managers must also involve the organization and motivate the employees by creating the right structure, to be able to fulfill the strategies.
- It has been proven that an entrepreneurial culture is profitable for companies in changing environments. It is therefore important for managers to create strategies where this way of work can be applied.
- Entering a strong alliance leads to exchange of knowledge and contributes to a better understanding of the industry. What one party has knowledge within, the other one might lack and vice versa. This results in better insight in how to handle a changing environment.

6. Conclusion

It can be concluded that the management has the most important role in understanding and managing the company's competitive intelligence. This is because they affect all the subsections in the company and how they interact with each other. If they are unable to understand their industry and the requirements, the management will fail to implement a suitable strategy into the company and organization. Our theory states that the management are the key to competitive

intelligence.

Future research can be done more detailed into the different factors of the theory. We also suggest further research to be done more detailed into networking, since an alliance of companies can benefit the parties in profitability but most importantly in new knowledge about the specific industry. This is an aspect we really consider as a factor of competitive intelligence and put more research into.

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