

A Service of



Leibniz-Informationszentrum Wirtschaft Leibniz Information Centre

Stoilkovska, Aleksandra; Ristovska, Natasha; Gramatnikovski, Sashko

Article

Innovative business models a factor for competitive advantage of the companies

UTMS Journal of Economics

Provided in Cooperation with:

University of Tourism and Management, Skopje

Suggested Citation: Stoilkovska, Aleksandra; Ristovska, Natasha; Gramatnikovski, Sashko (2015): Innovative business models a factor for competitive advantage of the companies, UTMS Journal of Economics, ISSN 1857-6982, University of Tourism and Management, Skopje, Vol. 6, Iss. 1, pp. 135-146

This Version is available at: https://hdl.handle.net/10419/146299

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



Review (accepted March 29, 2015)

INNOVATIVE BUSINESS MODELS A FACTOR FOR COMPETITIVE ADVANTAGE OF THE COMPANIES

Aleksandra Stoilkovska¹ Natasha Ristovska Sashko Gramatnikovski

Abstract

In contemporary dynamic conditions of functioning of the companies, innovativeness is a key characteristic which can enable a competitive advantage for them. Innovations mean development of new products or services, new technologies and processes, new markets, new innovative business models by supplying incremental innovations, new or different benefits from the application of the existing assortment of products and services, i.e. creating an offer of values for the consumers in a new and unconventional way.

This paper presents an action research in which the current state for business climate in the Republic of Macedonia is presented; also the work of the most successful companies in the country of 2012 is promoted. The competitive advantages of the Macedonian companies and the possibility, the need for their upgrading and its use for enlargement and development of businesses are analyzed. The question concerning the level of innovativeness and creativity of the Macedonian companies is posed, as well as the application and need of encouraging innovative practices, designing innovative business models and their successful implementation in terms of creating and maintaining the competitive advantage and securing a continuous development of the compenies. A hypothesis is being set in this research which connects the innovative business models with the competitive advantage of companies. The supposition has been fully proved with the results from the research.

Keywords: innovations, business model, research and development, competitive advantage, profitability.

Jel Classification: M10

INTRODUCTION

In contemporary working conditions the companies, their market participation and continued existence in the business world is brought into question as a result of the strong competition in national and even more in international terms; hence the

¹ Aleksandra Stoilkovska, PhD, Full Professor; Natasha Ristovska, PhD, Assistant Professor; Sashko Gramatnikovski, PhD, Assistant Professor, University of Tourism and Management in Skopje, Macedonia.

necessity for the companies to continually work on improving their business models and strategies in order to provide the highest value for their consumers.

The creation and maintenance of the competitive advantage is an unavoidable and necessary answer of the companies to the impulses of the surrounding. By creating and implementing the competitive strategy, the company will accomplish its key goals which are to make an above average profit, to create much more values for the buyers in comparison to its competitors and to secure a unique market position. The company will achieve competitive advantage if it works and functions in a different way than its rivals or if it works similarly to its competitors but in a much better way (Zott and Amit 2010, 216–226).

In a turbulent and complex surrounding marked by numerous technological findings and a strong intensity of change, innovativeness is an essential characteristic which can provide the company with a competitive advantage. Innovation doesn't only mean development of new products or new top technologies but also innovative business models aiming to satisfy the unsatisfied group of consumers or unsatisfied needs of the consumers, to provide new or different benefits from the application of the products and services or to deliver values to the consumers in a new and unconventional way.

1. CREATING AND MAINTAINING A COMPETITIVE ADVANTAGE

Challenge is the natural basis of competition in a lot of industrial branches. The pace of changes is ruthless and continues to increase. The competitive ambient conditions result in a dangerous business world in which investments necessary to be competitive in global terms are big and the consequences of failure are very serious (Ireland, Hitt, and Sirmon 2003, 963–989). Hence, hyper-competition is a term often used to express the reality of the competitive ambient in XXI century. The competitiveness of a country is achieved through accumulation of strategic competition of individual companies in the global economy. In order to achieve this, the companies need to increasingly view the world as a unique market.

Technology changes the nature of competition to a great deal. There are three categories of trends connected to this big change: increased rate of technological changes and their diffusion, the information era and the increased knowledge intensity (Hitt, Ireland, and Hoskisson 2007, 20–22).

In direction of creating a competitive advantage, the companies must conduct a continual analysis of the biggest competitors in the sector or industry through gathering, analyzing and interpreting the information about their competition. The closest competitors are those companies that aim to satisfy the same clients and the same needs and those that have similar offers (Kotler and Keller 2006). The more intense rivalry among companies appears when the offer is higher than the demand; this goes for small sale trade as well. The confidential findings about the competitors actually present an ethical gathering of necessary information and data about their goals, strategies, assumptions and competences. Apart from the data on the competitors, the companies should prepare an analysis of the Government policy and factors of the business surrounding in different countries in the world in which they have their own organizational units or intend to make an appearance there. The findings received enable the company to have an insight into the conditions, as well as

the necessary basis for making quality and strategic decisions in spite of the biggest rivals (Porter 1998, 91).

After the conducting of the external and internal research and in accordance with the possibilities and threats on the market and the level of accomplished development of the company, it makes a choice about the right strategy for creating a sustainable competitive advantage (Chesbrough 2010, 354–363).

The company will achieve a sustainable competitive advantage through a strategy which the other companies are either not able to reproduce or is too expensive for them (Terwiesch and Ulrich 2009, 182–190). A precondition for a company to be able to achieve above average profit is to know how to use its competitive advantage (Coff 1999, 119–133). The companies that do not have a competitive advantage and do not compete in the attractive industrial branches, in the best of cases, make an average profit.

The introduction of changes in the working of the company influences the creation of a competitive strategy; thus the strategic flexibility, continuous learning, innovations and creativity are essential competences which the company should possess and develop.

2. INNOVATIONS IN CONTEMPORARY ORGANIZATIONS

In today's times, the main factor that influences the size, power and success of the company is its ability to innovate the processes, products or services, while the main intention of each company is creating and maintaining the competitive advantage on the market. This cannot be achieved only by low prices, high quality or a wide palette of products/services. In order to create or maintain competitive advantage, it is necessary that the company introduces new business models and, of course, the speed with which the company does this is of great importance. Introducing innovations is already a basic ability for survival, whereas the time necessary for innovation becomes the main question for generating advantage. To do something that others cannot do, something that is cheaper on the market, something more efficient and more economical is a big competitive advantage, while the continuity of placing innovative products is of exceptional importance. The new products or the new versions of the existing products enable the conquering of new or keeping the existing part of the market as well as an increased profitability. If the company is not in a position to keep up with the pace of innovativeness, it risks lagging behind the competition.

The basic questions concerning the development of a competitive strategy are identifying the consumers' needs and defining the market. Hence, the innovations that the companies create may either be innovations for the existing market, i.e. for segments of consumers or for a new market.

The main methods for developing new products are based on the supposed constancy of the market and they do not create new categories or new markets. The innovations based on modulations, dimensioning, packaging, design, development of supplements, reduction of effort, costs and risk while buying the product/service all present a continuous varying of the product or service, but without changing their essence. These innovations appear as a part of the existing category of products or services in which the companies compete, because the methods on which they are based presume a fixed market (Kotler and Trias de Bes 2003, 51–65).

The cases in which companies apply different processes and methods in search of new ideas which are developed outside a certain category of products, services or markets are ones that consider establishing a new category or line of products/services or markets and these are innovations that occur outside the scope of the existing market. In this way, new products/services are created or the existing ones are essentially changed and with them new demands, new consumers and new markets are satisfied. Creating a new market or a new category of products is the most efficient way of acquiring a competitive advantage and strategic positioning on the market where the micro-segmenting and the enormous number of brands do not leave enough room for new opportunities (Girotra and Netesine 2013).

3. INNOVATIVE BUSINESS MODELS

Business model is a conceptual frame for identifying the manner in which a company creates, fulfills and extracts values. The innovations in business models are extracted in a significant, even radical manner out of the norms in the industries. The companies do this by satisfying unsatisfied groups of consumers or unsatisfied consumers' needs by supplying new or different benefits from the use of the products or services or through delivering values for the consumers in a new and unconventional way (Skarzynski and Gibson 2008, 155–165). The innovative business models exit the frames of a clean product or technological innovations. The companies create a fortune by moving the boundaries of one or several dimensions of the business model. The acceptance of a holistic approach to innovativeness at the level of business model in the long run will probably bring more profit to the company than if one considers only the innovations in relation to the products, services, technologies and operations.

The creation of a business model which cannot be easily imitated entails the integration of a series of complementary components which create a value in order for the effect to be bigger as well. The goal of innovating business models encompasses finding the best opportunities for development by inventing completely new types of business models which previously did not exist in a certain industry or via an evolution of the existing business models (Kaplan 2012, 87).

No matter if the goal of a company is to create a new business model which will revolutionize the industry in which it exists or if it will develop the existing model of the company, reaching a new idea can be intensified through systematic analysis of every component of the business model as an opportunity for innovativeness in the change of the game (Teece 2010, 172–194). The challenge is to think in a holistic way for each component of the business model and to make an attempt to innovate in as many components as possible that present a potential opportunity for creating a value that will diversify and separate them from the industrial norms. This also means a considerable enlargement of the frame of innovativeness of the companies and increasing the chances for creating a sustainable competitive advantage (Skarzynski and Gibson 2008, 156).

4. CURRENT CIRCUMSTANCES

The companies or the country that wants to leave a mark and be competitive, not only on the domestic but the foreign market as well, should encourage and realize innovations on the market or in society.

The following are the main culprits for the non-competitiveness of the Macedonian companies and their products: outdated technology in the companies, low level of technological upgrading and very few investments in research and development. In order to achieve the wanted quality and competitive price on the world market, the Macedonian products in combination with the outdated technology must buy the highest quality production technology and the best and most expensive raw materials.

However, this is not the only reason for non-competitiveness. Even if the companies have the most up-to-date production technology and buy the highest quality raw materials for production, it will not be enough if they do not have the expert personnel for conducting the production. This is why it is of great importance for the working staff to continually receive appropriate expert training.

Proof for the lack of interest for innovativeness among the Macedonian companies is the fact that in the European program for Innovations and Competitiveness, which was valid from 2007 till 2013, until three years ago there was not a single Macedonian company that had applied.

The conclusion of the European innovativeness matrix is that the Macedonian business system does not innovate, has weak financial support for innovativeness, both private and public, there is no national system of innovativeness, the companies do not invest in research and development and they use the innovational technologies in their work at a very low level.

One of the reasons for a statistically low level of investments in research and development is that the companies do not know which costs appear to be costs for research and development (R&D). These costs include: costs for new standards, costs for sending the employees to trainings, buying new technology, entering new markets, applying new management techniques and booking/registering them as such.

The European Union countries have already set a target, to be the most competitive countries in the world by supplying and separating 3% of their national revenue for research and development, for each EY member state separately. Part of the researched companies apply this stated target, which at the same time is the target of the Macedonian Government, so they separate 3% of their total profit annually for research and development activities.

The Macedonian Government, through the Ministry of Economy and with the support of the World Bank, promotes and encourages a program for increasing the competitiveness of the Macedonian economy by encouraging the interest for research and development and innovative activities. This program, i.e. document-report at a state level recommends 3 levels of policies:

- Tax policy-introducing specific and stimulating tax policies aimed at realizing activities for research, development and innovations within the companies;
- Budget (financial) policy-placing appropriate financial tools, services and mechanisms for conducting research, development and innovative activities in the companies, with a special accent on greater opportunities for access to startup capital;
- Competition policy –prioritizing the government funds for innovative companies.
 According to the EU recommendations, the research and development funds should reach 3% of the GDP till 2020.

The following are a part the Government program of policies and reforms for a more dynamic economic development: development of the economy, increasing the economic growth, the domestic and foreign investments as a condition for opening new working positions and creating a better life for the citizens. At the same time these are the main goals of the Government in the following 2 years.

With the Government Work Program new policies, measures and projects have been foreseen, as well as a continuation of the implementation of the already commenced activities and reforms. The economic part of the Program encompasses reform policies and measures in 5 basic groups:

- Stable macroeconomic and fiscal policies
- Tax and customs policy
- Improving the business climate and competitiveness
- Encouraging investments
- Support for the small and medium size companies

In the third group of measures, the Government of the Republic of Macedonia will continue to introduce measures which directly influence the improving of the business climate and increase of competitiveness. In all this, the best European examples have been followed, as well as the recommendations from the World Bank and the international financial institutions. The measures are aimed at reducing the bureaucracy, reducing the costs and procedures for acquiring the necessary documentation, introducing electronic application and licensing, as well as reducing the costs of the companies.

There is a set of measures aimed at improving the competitiveness of the Macedonian economy, especially by connecting the companies with the universities and innovators through implementing research and development projects. Improving the existing and implementing new technologies will contribute to the reduction of the technological gap which Macedonia has in comparison to the EU member states.

Since April 2010, there is an Innovation Center established in Macedonia which has been formed by the USAID Competitiveness Project in order to help the innovators and innovative companies create innovations, new products and services, or commercialize the existing innovations. The Center develops an eco-system which includes councilors for innovations, individuals or for companies which give their services to companies in the domain of commercializing innovations; hence they are interested in taking a part of the deals. These people/institutions have been trained to help the companies choose and implement their strategies for commercialization and resources, inside and outside Macedonia, which can help the entrepreneur business ventures become successful. The Center educates and leads the entrepreneurs through every step in order for them to succeed in realizing their business/innovation and to connect the innovators to the specific knowledge, technologies and financial resources which they need.

Today the picture is different. A growing number of Macedonian companies dedicate more attention to acquiring and maintaining a competitive advantage, also understanding and investing in values which contribute to its achievements such as are innovative, development and research activities.

5. RESEARCH

Through entering and deeply analyzing some of the competitive companies in our country, more precisely 10 of the top 200 companies for 2012, and working on their

business models, their "unpacking and repackaging" can be noticed in the entire organizational process, from supply of raw materials, design, production, determining distribution sources to sales places and all the other sectors in the company. The organizing system of some of the companies is based on the supply chain which is actually a system or organizations, people, technologies, activities, information and resources included in the movement of products or services from the supplier to the consumer.

Hence the problem which is the focus of the research in this paper: Inappropriate (non-innovative) business model negatively reflects the profitability of the company and its competitive advantage.

In this research there are 2 set goals:

Scientific goal: Gaining new findings about the competitive advantage of companies in the Republic of Macedonia, i.e. relatively new and successful competitive strategies and their effective implementation.

A special goal of this research has to do with selected examples of companies in the Republic of Macedonia whose sources and factors led them to create and maintain a competitive advantage on the domestic and foreign market from various industries. The following have been elaborated as variables of the sources of competitive advantage:

- Selection of a target market
- Contemporary information and communication technologies
- The vertical integrated strategy of the company, a vertical demand and supply chain
- Constant communication between the manager and employee
- Valuing, improving and upgrading the knowledge of managers and employees
- Sharing the acquired knowledge
- Valuing and emphasizing the opinion of every employee
- Innovativeness in the company business model
- Innovativeness in the products and services

Practical goal: To present and use the results received from the research of proven and successful companies in other domestic companies so that they can as well gain competitive advantage in the domestic and foreign market.

The research has been conducted in ten of the top 200 most competitive and most successful companies in the Republic of Macedonia in 2012 i.e. a representative number of 267 examinees employed in these companies, managers and their subordinates, i.e. employed in the following sectors of the company, starting from the supply of raw materials, to placing the products or services and their sales to the end users. In all this, it is important to note and emphasize the activities that the employees, i.e. the companies undertake in order to keep or improve their competitive advantage of the company in question.

During the selection of the sample of examinees, special attention was paid to equal representation of managers, managers of sectors, as well as employees in the same sectors in order to avoid any type of discrimination: gender structure, age structure, national structure, level of education and managerial or non-managerial structure.

The general hypothesis which has been set in accordance with the research subject and problem reads: If the company has an innovative business model (introduces new business models or strategic variety) then this company will be profitable and competitive on the market.

6. RESULTS ANALYSIS

The research, i.e. the questionnaire has been conducted on a representative number of 267 examinees, both managers and employees, employed in 10 Macedonian companies which have been ranked in the top 200 most competitive companies in the Republic of Macedonia for 2012.

To the question: *In our company there is a team for research and development of new businesses and/or new markets*, the following answers were received: *Yes, I agree* – 132 examinees, or 49%, *I partially agree* – 48 examinees or 33%, *No* – 87 examinees or 18% (shown in Figure 1).

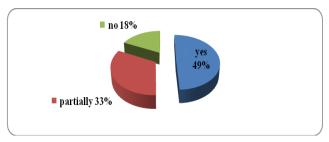


Figure 1. Existence of a research and development team

To the question: *In my company, there is a successful conducting of evolutionizing (changing) already existing products or services*, the following answers were received: *Yes, I agree* – 189 examinees, or 71%, *I partially agree* – 78 examinees or 29% and *No* – no examinees or 0% (shown in Figure 2).

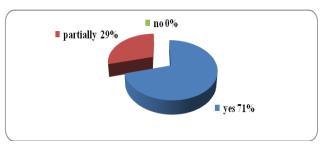


Figure 2. Evolutionizing products (services)

To this question the examinees answered that they recognize the evolutionizing, whereas in the following set of questions they locate the most often recognized changes in products or services and these are: changes in the modulation, dimensioning, packaging, design and development of supplements to existing products or services or changes in the reduction of the efforts for creating the same.

To the question: Every employee, as an individual, participates in giving ideas or suggestions about new, innovative business models, the following answers were received: Yes, I agree - 183 examinees, or 69%, I partially agree - 48 examinees or 18% and No-36 examinees or 13% (shown in Figure 3). The results from the two indicated questions show that in half of the observed companies there is a team that works on research and development, however the employees are free to report their

ideas and suggestions which have an innovative character. A high 69% consider communication to be free. Their freedom speaks of an established organizational culture in which a free two-way communication exists.

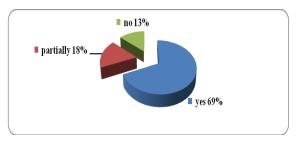


Figure 3. Participation of employees in giving ideas

Not only is communication in these companies free among employees, there is also an established regular communication with clients. To the question: *In my company, we regularly communicate with the consumers in order to design products that fully meet their needs*, the following answers were received: *Yes, I agree* – 186 examinees, or 70%, *I partially agree* – 66 examinees or 25% and No – 15 examinees or 5% (shown in Figure 4).

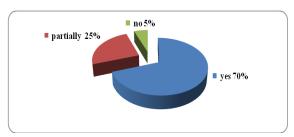


Figure 4. Communication with clients

It is to be expected that the innovative policy of the organization is connected to the monitoring of the improvements in information technology. To the question: My company is always up to date with the changes in the information and communication technologies, the following answers were received: Yes, I agree -132 examinees, or 50%, I partially agree -99 examinees or 36% and No-36 examinees or 14% (shown in Figure 5).

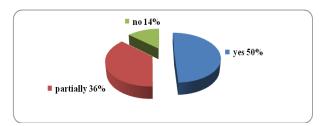


Figure 5. Regular monitoring of the changes in information technology

The examinees were also asked a set of questions which give answers about the conditions of the organizational learning. The results show that half of the employees are satisfied with the effort made on the part of their company to provide them with professional improvement. However, the other half is partially satisfied or is unsatisfied which shows the need of greater engagement from the part of the authority in this direction.

The general hypothesis was analyzed by dividing it into two separate hypotheses; then each of these initial two was further separated into two distinct hypotheses. The answers received have been grouped separately for each dependent and independent variable so that a comparison is made after the calculation of the results. The results have been calculated with an arithmetic mean.

Indicators of the independent variable: The implementation of the innovative business models refers to several segments from the work of the researched companies. The arithmetic mean of all of them was calculated and presented on a continuum line. It totals 4, 09629630.

Indicators of the dependent variable: The competitiveness of the company on the market is an answer to a set of questions and an analysis of the content (the published report of the top 200 most successful and most competitive companies in Macedonia for 2010).

The dependent variable, i.e. the continuum line is the same in all four separate hypotheses, as well as in both separate hypotheses and it totals 4, 97777778 (shown in Figure 6).

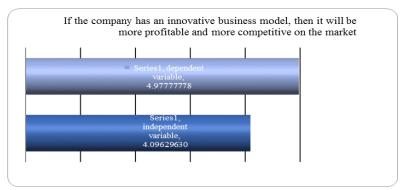


Figure 6. Proof of general hypothesis

CONCLUSION

The research aimed to promote a positive example of implementing projects in the context of innovative business models which succeeded at bringing the companies to the top of competitiveness in the Republic of Macedonia. The researched companies are some of the most competitive in the Republic of Macedonia. These are companies that pay special attention to acquiring and maintaining a competitive advantage and investing in values (innovative, as well as development and research activities) that contribute to its achievement.

The research has given substantial results. The companies aim at introducing new and innovative products or services into their portfolios of existing products or services and the employees are free to express their opinion and be heard by their superiors if they have a new idea or suggestion for a new product or service, and the motivation and rewarding of the employees goes in favor of both parties, meaning the company and the employees.

In the majority of the researched companies there is a research and development team. However, from the answers to these questions we reached the conclusion that some of the examinees have not been informed at all and do not know if such a team exists in their company, which leads to the conclusion that there are uninterested individuals.

The opinion that the companies should always promote new products or services is pretty much in line with the opinion of conducting the activities for evolutionizing the already existing products or services by using methods which have already been tested and promoted by other world companies, such as are: changes in the modulation of the product or service, changes in the dimensioning, packaging, design or development of data for the product or service, as well as the scamper method.

The awareness for further development or training is ever higher among the employees in the company. The employees are aware that for their individual improvement and success in the company, knowledge is a key factor. Even though the examinees share the opinion that the organizing of such trainings should be intensified, the interest and desire for sharing the acquired knowledge from these trainings with their colleagues is at an unsatisfactory level.

The communication with the consumers, i.e. clients and receiving feedback signals from that communication is important for the company and its employees. Accordingly, the reaction is appropriate and activities are undertaken, i.e. measures for increasing or decreasing the production of the product, changing some part of the product, redirecting the sales to another market or other changes occur. The pyramidal hierarchical structure in the company is well known and understood by each employee. Even though the communication among employees in the same sector or in the relation subordinate – superior is done two-ways, the well-known hierarchical structure is unfortunately over emphasized in our companies.

The most pointed drawback of the Macedonian companies, the outdated technology and its upgrading in these companies is not that big of a problem. The investments in the upgrading of the company yield results and the adjusting of the contemporary technological and production technologies is also accepted by the employees. As a supplement to these information – communication, information and technological and production changes as well as their adjustment are more easily conducted and with less disapproval with each introduction of a change in the company, even if restructuring is needed.

REFERENCES

Chesbrough, Henry. 2010. Business model innovation: Opportunities and barriers. *Long Range Planning* 43 (2–3): 354–363.

Coff, Russell W. 1999. When Competitive Advantage Doesn't Lead to Performance: The Resource-Based View and Stakeholder Bargaining Power. *Organization Science* 10 (2): 119–133.

Girotra, Karan, and Serguei Netessine. 2013. Business Model Innovation for Sustainability. INSEAD Working Paper no. 2013/64/TOM. http://www.insead.edu/facultyresearch/research/doc.cfm?did=52400 (accessed January 26, 2015).

- Hitt, Michael A., R. Duane Ireland, and Robert E. Hoskisson. 2007. Strategic Management, Competitiveness and Globalization (Concept and Cases). Mason: Thomson Higher Education.
- Ireland, Duane, Michael A. Hitt, and David G. Sirmon. 2003. A Model of Strategic Entrepreneurship: The Construct and its Dimensions. *Journal of Management* 29(6): 963–989.
- Kaplan, Saul. 2012. The Business Model Innovation Factory: How to Stay Relevant When The World is Changing. New York: Wiley.
- Kotler, Philip, and Fernando Trias de Bes. 2003. Lateral Marketing: New Techniques for Finding Breakthrough Ideas. Hoboken, NJ: John Wiley & Sons Inc.
- Porter, E. Michael. 1998. Competitive Strategy: Techniques for Analyzing Industries and Competitors. New York: Free Press.
- Skarzynski, Peter, and Rowan Gibson. 2008. Innovation to the core: A blueprint for transforming the way your company innovates. Boston: Harvard Business School Publisher.
- Teece, J. David. 2010. Business models, business strategy and innovation. *Long Range Planning* 43 (2–3): 172–194.
- Terwiesch, Christian, and Karl Ulrich. 2009. Innovation Tournaments: Creating and Selecting Exceptional Opportunities. New York: Harvard Business Review Press.
- Zott, Christoph, and Rapfael Amit. 2010. Business model design: An activity system perspective. *Long Range Planning* 43 (2–3): 216–226.