



WORKING papers in Management Science

WORMS/16/09

# Business model taking into account intellectual property protection

Aldona M. Dereń

Department of Infrastructure of Management,  
Wrocław University of Science and Technology, Poland

WORMS is a joint initiative of the Management Science departments  
of the Wrocław University of Science and Technology,  
Wyb. Wyspiańskiego 27, 50-370 Wrocław, Poland

## **Business model taking into account intellectual property protection**

### **Abstract**

Dynamic, often turbulent changes in the environment require new business management methods and principles to be used. What matters here is mainly reasonable selection and use of resources, introduction of new, innovative products, as well as the application of different management processes and systems than in the past. These activities are identified in the business model adopted in the enterprise. The article presents characteristics of business models as a concept of business management. An attempt was made to characterize the business model innovation, which takes account of intellectual property protection referred to SMEs.

Keywords: enterprise, model, business, protection, intellectual property

### **Introduction**

Interest in the issues of business models has persisted for several years, both in scientific-research and practical-experimental aspects. It becomes a canon that a business model may be/is a key attribute in the market competition. This growing interest in business models is influenced by the contemporary realities of economic phenomena, such as dynamic development of the Internet, fast growth in emerging markets and – consequently – extension of industry, as well as increasing dependence of organizations on new technologies.

The scale and scope of these changes make product or process innovations alone seem insufficient. R. Amit and Ch. Zott<sup>1</sup> believe that only innovations within the whole business model can save the enterprise in the times of crisis and ensure its constant development. A similar view is represented by J. Sinfield et al.<sup>2</sup>, indicating the need for experiments with new business models as an important competence of an enterprise that wants to succeed in introducing innovations.

Changes made in the business model are so significant that in the literature on management the concept of Business Model-Driven Enterprise emerged, according to which shaping and changes in business model are the basic system in business management. According to this concept there is no business model constituting an ideal solution, and a model once adopted is not eternal.

The need for changes in business models is also confirmed by the findings of research conducted in recent years<sup>3</sup> that indicate that the development of an innovative business model is one of the most important priorities for top managers, regardless of industry in which they operate<sup>4</sup>.

In Poland – as B. Stokalski writes<sup>5</sup> – enterprises are rarely seeking for new business models, and a tendency to change is not yet visibly formed. Little over 20% of the enterprises introduce changes in this area. Other enterprises understand innovativeness mainly in a traditional manner – as the introduction of new technologies and projects.

The purpose of the article is to present intellectual property protection as one of more important instruments for introducing the business model innovation in the enterprise.

---

<sup>1</sup> Amit, R. i Zott, Ch. (2012). *Creating Value Through Business Model Innovation*. MIT Sloan Management Review, 53(3).

<sup>2</sup> Sinfield, J., Calder, E., McConnell, B. i Colson, S. (2012). *How to Identify New Business Models*. MIT Sloan Management Review, Winter, p. 84–91.

<sup>3</sup> Johnson, M., Christensen, C., Kagermann, H. (2009), *How fundamentally to change the business model*. Harvard Review Business Poland, July-August, p. 155–163.

<sup>4</sup> Casadesus-Masanell, R. i Ricart, J.E. (2011), *How to construct the victorious business model*, Harvard Business Poland, 2011, September, p. 76.

<sup>5</sup> Stokalski, B. (2009), *Polish companies rarely search for new business models*, Harvard Review Business Poland, July-August, p. 164–165.

## Term of business model and its characteristics

The term "business model" was formulated for the first time in 1957 by Richard Bellman and Charles E. Clark in the paper entitled "*On the construction of a Multi-Stage, Multi-Person Business Game*"<sup>6</sup> devoted to creating games for the needs of training. During the next decades, this term was used only incidentally. No sooner than with dynamic development of information and communication technologies, the term became the object of analyses and scientific discussions in different areas, among others, management, marketing, banking, use of IT technologies in an organization, innovativeness or technology management.

In the literature on the subject the notion of "business model" is defined in numerous manners. A.N. Afuah defines business model as "*a set of actions conducted by the enterprise, methods and time of their conducting, using resources to ensure benefits to customers and gain profit*"<sup>7</sup>.

R. Amit and Zott believe that the business model may be treated as a specific template indicating how the enterprise runs its operations, how it delivers value to stakeholders, (e.g. focal enterprise, customers, business partners, etc.) how it connects products markets and manufacturing factors<sup>8</sup>.

One of the Polish authors who take the floor in the discussion on business models is K.Obój<sup>9</sup> who claims that the business model is a system and thereby a difficult notion. It includes, in his opinion, three main elements: dominant competitive advantage (natural, relational, of service system, entry barriers), main resources and skills of the enterprise and value chain configuration. The above presented review of the selected approaches towards defining the business model indicates that in the traditional perspective this model is a configuration of several basic elements, i.e.: structural relations (networks) between the enterprise (all its internal attributes) and its contractors, broadly understood transactions as well as generating profit and way of profit management.

The recently developed definitions of business model<sup>10</sup> stress very clearly one more important element - so far hardly exhibited - namely knowledge. That aspect was noticed as an important composite of creating innovative business models, based, among others, on intellectual property and modern technologies.

## Innovative business model taking into account intellectual property protection

Innovations in the business model form the so-called innovation chain in the organization. This chain is formed by four components: innovations in the value system, innovations in management, traditional innovativeness and strategic innovations that relate to the formulation of a business model. It should be thus assumed that innovations in formulating business model are "something more" than only a new product, service or technological novelty. While product or process innovations are easy to imitate and generated, as a result of them, competitive advantage is unstable, it is more difficult to duplicate business models characterized by innovativeness since they contain some "indefinable" elements as e.g. personality of managers and other employees. These "indefinable" elements are also ideas, knowledge and solutions constituting property of the organization.

The Business Model Innovation (BMI) is the one that brings benefits to the enterprise. Owing to impact and ways of building competitive advantage in the business model it is important to distinguish two main kinds of innovations: incremental innovations and radical innovations. Incremental innovations are mainly innovations that improve products and technologies. Most often they are introduced systematically, enabling growing gradually or maintaining competitiveness. They can be treated as a factor that has a gradual, linear impact on increase in competitiveness. These actions are reflected in the business model and they should not bring some deep transitions in the model itself. This aspect includes a source of innovativeness resulting e.g. from changes in conditions of intellectual property protection whose effect may be beneficial change in the competitive position.

On the other hand, radical innovations create not only new technologies and products but also new business concepts. Their stepwise or even revolutionary character often makes them provide relatively often sustainable competitive advantage, creating, at the same time, new conditions of competing. Change in the concept of intellectual property protection as a derivative of the above technological and product changes may also be rooted in this stream. Moreover, it cannot be excluded that a new approach to intellectual property protection will be a source of other deep transitions, e.g. method and scope of participation in intellectual

---

<sup>6</sup> Bellman R., Clark R. C., Malcolm D., Craft C., *On the construction of a multi-stage, multiperson business game* "Operations Research" Vol. 5, No. 4, p. 469-503.

<sup>7</sup> Afuah A., *Business models. A Strategic Management Approach*, McGraw-Hill Irwin, Boston, 2004, p. 2.

<sup>8</sup> Zott C., Amit R., *Business model design: An activity system perspective*. "Long Range Planning" 43 (2010), p. 222.

<sup>9</sup> Obłój K. (2002), *Materials of effective strategies*, PWE, Warsaw, 2002, p. 98 – 100.

<sup>10</sup> Mason K., *Markets, Business Models and the Growth of the Firm*, Working Paper, 1 July 2008.

property of the enterprise's employees.

Building business models where both types of innovations are used is clearly associated in with the use of held resources, both tangible and intangible.

Contemporary economy is characterized not only by great dynamics and globalization, but also competition through innovations. The higher the meaning of innovations, the greater the chance for success in business. The business model innovation can thus provide designing of new products or services which fulfil so far unfulfilled needs or may include new, so far unused ways of offering and selling products or services.

The enterprise may implement revolutionary modifications of the selected elements of traditional business or combine known business models functioning so far on the market, creating an innovative model in this way. In each of these cases it is required to conduct analysis of needs of intellectual property protection, especially if the basis for building business based on the innovative model is intangible knowledge or findings of research works.

Protection of intellectual property rights is strictly related to decision of an entrepreneur with regard to the selection of the general concept of legal protection for innovative solutions, knowledge and experiences used in its enterprise. The enterprise that will obtain legal protection of its solution in the Patent Office has a legal monopoly for the use and disposal of these rights. In the case when entrepreneurs do not opt to obtain intellectual property protection with the use of available procedures: national, European or international, they can cover new innovative solutions, the so-called know-how with business secret.

The purpose of intellectual property management in the enterprise is generation and maximization of benefits for the organization and owners of innovative solutions. Management of intellectual property must take into account the following characteristics of the object of management: intellectual property means intangible resource (protected); it has a certain value, sometimes substantial; it is often identified with an item in the enterprise's balance sheet referred to as intangible assets, another way of determining intellectual property (non-disclosed in the balance sheet) is the difference between the market value of and the carrying value; the value of intellectual property is strictly dependent on its use; valuation is an important problem in the case of acquisitions or merger of enterprises, when making many investment decisions; intellectual property (patent, trademark, etc.) is also a product; it may be the object of trade.

Management of intellectual property may be implemented at different levels, such as<sup>11</sup>: defending market position; controlling costs; profit centre; integration with the strategy; strengthening strategic value.

Usually organizations know or foresee market potential of their own solutions and the necessity for their protection. For this reason, protecting intellectual property and defending market position of the enterprise are considered as the first level of intellectual property management.

Protecting all solutions that are in the possession of the enterprise may be a source of high costs related to the procedures of acquiring and maintaining protection rights. For this reason, with regard to intellectual property objects, it is necessary to consider each time whether and which form of protection to choose. At the same time, it is necessary to consider specific market conditions covering, among others, life span of a specific product, relationship between expenditures related to obtaining the selected form of protection and the estimated potential profits. In addition, it should be assessed what should be patented and covered with secret and how to use new solutions.

In the business model innovation based on protection of intellectual property, efficient innovative solutions depend on many factors, such as e.g. clear specification of the object of protection, precise determination of the scope of protection and use of various, complementary legal tools. Maximization of protection of an innovative solution consists in parallel use of various exclusive rights granted for different types of industrial property. Maximization of legal protection of a specific innovative solution requires protection strategy, which should contain at least the following elements: definition of solution; marking out of goals to be achieved; in particular market goal; identification of time perspective; in which it is intended to use exclusive rights; analysis of types of industrial property which might be useful for achieving goals; identification of a set of solutions whose protection will contribute to defending the market offer against competitors; preparation of project budget, including all components of protection costs; preparation of protection plan containing, among others, dates of notifications and time limits for expiry of exclusive rights.

## **Opportunities and barriers for introduction of the business model innovation taking account of intellectual property protection in SMEs**

---

<sup>11</sup> Davies J., Harrison S., *Edison in the Boardroom: How Leading Companies Realize Value from Their Intellectual Assets*, John Wiley 2001.

Significant market complexity and variability of operating conditions of enterprises requires permanent redefinition of business, change in products and transformation of processes, namely their adjustment to growing requirements of recipients of products and services. The issue is particularly important for SMEs. These are enterprises that include quite a diverse group of entities including both entities employing several people and with more than 200 employees. In connection with a smaller scale of production, small enterprises obtain smaller benefits from innovations. Outlays for innovations are fixed costs that are distributed into a smaller number of sold pieces, which limits the price reduction possibility. On the other hand, margin earned on sale of innovative goods is smaller. As a result, motivation of these enterprises to take innovative activities is smaller and outlays on research and development are smaller.

Small enterprises are characterized by a relative market reliance. Often they do not have possibilities to promote and protect their own trademark. Some cannot afford purchase of a technology ensuring implementation of the whole or part of the value chain that would be sufficient to generate product which can be an independent object of trade on a competitive market.

For Polish enterprises from the SME sector, the greatest practical importance, as asset components, is attained to trademarks and industrial models, mainly due to their marketing character. These intellectual property rights perform a function when making decisions concerning creation of new products, their packaging and distinguishing products by enterprises from products offered by competitors. Slightly smaller meaning for this sector is attained to copyright and patents for inventions, though their role for instance in research and development centres or IT enterprises may be considerably high. If the enterprise has a patent for invention or reserved trademark, license for them can be granted to other enterprises against adequate fee. In this way intellectual property rights enable innovative enterprises to earn revenues by granting licenses, sale or commercialization. Obtaining intellectual property protection by organizations facilitates and improves the process of transfer of scientific knowledge and transformation of scientific discoveries and inventions in products and industrial technologies that lift efficiency and wealth of the whole community.

These, as it seems, obvious claims are not confirmed in practice yet with regard to business model that would take into account intellectual property protection in Polish small and medium-sized enterprises.

Conducted author's own research in a group of 137 SMEs of Lower Silesia indicates that these enterprise do not use, to a sufficient extent, the potential enrooted in intellectual property management and use this property to a small extent to increase their value and operating efficiency. Furthermore, they do not treat intellectual property protection as a tool that may be successfully used for implementation of the business model innovation.

For the investigated entrepreneurs/managers the knowledge of procedures intellectual property protection does not constitute a key factor for conducting business activities. In this way, they do not treat it as a component part of the business model. It is symptomatic for SMEs in Poland, for which problems of financial liquidity or fulfilment of payment obligations are the primary issues with regard to conducting business operations and the implemented business model.

Low "commitment" of business models in the issues of intellectual property protection is proved only by residual perception of their significance by entrepreneurs/managers. Only 10 respondents acknowledged intellectual property protection as a factor constituting the basis for their business operations. Some positive option for change in the previous condition is a declaration of 65 entrepreneurs/managers who recognized that protection significantly affects their business operations. For 62 of the surveyed, protection of intellectual property is of no importance for the conducted business operations and is not a component of the adopted business model. Nobody can "deceive himself/herself" that this is already perception of intellectual property importance in the business model from the perspective formed previously e.g. by K. Oblój, but it can be an important strategic factor.

It should be emphasized that the survey covered enterprises characterized by a small product innovativeness, which could not remain without effect on the survey findings. At this point, it is worth emphasizing that the Polish SMEs are in the vast majority imitative enterprises for which innovativeness and R&D activities are not object of basic interest. The adopted business models are based on the concept of business development that induces to seeking opportunity in simple methods of increasing production capacities. Findings confirmed that entrepreneurs have very poor knowledge about principles, procedures and benefits related to protection of intellectual property, which can lead to obtaining and maintaining competitive advantage of the enterprise, regardless of its size. The cross analysis of answers to other questions confirmed a declarative attitude of the surveyed enterprises to the issue of intellectual property protection. Basically the importance of obtaining protection rights for owned intellectual goods is not noticed. Despite the fact that the relation between a strong brand and trust and loyalty of customers is known, the surveyed entrepreneurs have dim awareness that creation of a strong brand and its protection may be key resources in the adopted business model.



## Final conclusions

The creation of an innovative concept of running business is an important but first step to success of the concept. The second, significantly harder, step is its implementation. At the stage of implementation, many technical or technological, organizational, competence, legal, economic, information or psychological difficulties can emerge. In the case of a business model that includes intellectual property protection, it is possible to refer to a barrier of ignorance, or failure to understand its importance in SME management. Lack of access to new technologies and relevant information, lack of relevant education among technical staff and limited scope of cooperation with research and development institutions are factors unfavourable in dealing with this state of affairs.

There are many probable reasons for such a low involvement in the use of intellectual property protection in Polish SMEs. They should be sought, first of all, in barriers faced by these enterprises in their activities. Most of all, these are financial problems that occur practically at every stage of development of the enterprise. Hindered access to external capital makes entrepreneurs incidentally use credits due to concerns about the impossibility to repay high instalments, which would make their enterprise become insolvent.

In most cases, the financial structure of SMEs in Poland is built on the basis of personal property of the owner and their family. First of all, own funds are used, which substantially hinders undertaking activities towards creating a business model innovation focused on expensive and long-term intellectual property protection.

Innovative projects are usually burdened with high risk, especially in the start-up phase, therefore the business model should take account of protection of intellectual property, contain a clearly defined concept of intangible resources management. The business model expands the perception of managers, creates a unique *big picture* of conducted operations and, as a consequence, defines the structure of activities necessary for the organization. Actions from the area of intellectual property protection are in a set of necessary actions that guarantee introduction of innovative solutions, building of new products and introduction of strategic changes in the organization. Unfortunately, only insignificant part of SMEs meets this postulate

## Bibliography

- A. Afuah, *Business models. A Strategic Management Approach*, McGraw-Hill Irwin, Boston, 2004.
- R. Amit, Ch. Zott, *Creating Value Through Business Model Innovation*. MIT Sloan Management Review, 53(3), 2012.
- R. Bellman, R. C. Clark, D. Malcolm, C. Craft, *On the construction of a multi-stage, multiperson business game* "Operations Research" Vol. 5, No.
- R. Casadesus-Masanell, J. E. Ricart, *Jak skonstruować zwięzły model biznesowy*, Harvard Business Polska, 2011, wrzesień
- J. Davies, S. Harrison, *Edison in the Boardroom: How Leading Companies Realize Value from Their Intellectual Assets*, John Wiley 2001.
- K. Mason, *Markets, Business Models and the Growth of the Firm*, Working Paper, lipiec 2008.
- K. Obłój, *Tworzywa skutecznych strategii*, PWE, Warszawa, 2002.
- Sinfield, J., Calder, E., McConnell, B. i Colson, S. (2012). *How to Identify New Business Models*. MIT Sloan Management Review, Winter.
- Zott C., Amit R., *Business model design: An activity system perspective*. "Long Range Planning" 43 (2010).