

PRINCIPLE OF INVENTION GENERATING FOR THE INNOVATION WITHIN THE OPEN INNOVATION SYSTEM

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Abstract: According to the issue of invention sources for innovation nowadays the company gets the ideas from internal as well as external environment. But in addition there is also a specific group of inventions with origin in sources cooperation. They come from corporate innovative machine and in this context of cooperation they are difficult to classify into group of external or internal sources. Different available tools and techniques for corporate innovation machine support can help to develop it and to keep it running. The corporate innovation machine can run based on basic principles of Idea management, Idea Generator and more other tools and techniques, which use for implementation of innovation strategy planning can depends on internal and external company sources.

1 Introduction

The systematic, goal orientation and mainly systematically planning of innovation is necessary for achieving the long-term success of business activity. The innovations come from the ideas which were developed and subsequently implemented [1]. All innovation then come from innovation ideas and generating these ideas is the first phase of any innovation process. The ideas are developed and combined in different way in time. For the purpose of successful innovation the companies should have the sustainable flow of ideas [2]. The innovation processes are the specific tools of business activity, which add to the sources new ability of wealth creation. In essence the innovation creates these sources as well as anything as „source“ does not exist, until the human find the purpose of use and add an economic value to the source [3].

2 Invention sources in the traditional point of view

It is appropriate to have systematically processed the innovation strategy of the company in the form of planned innovation process for fulfilment of the company strategy through methods and techniques supporting innovation strategy. In the case of planned innovation process supporting the innovation strategy the company creates so-called *corporate innovation machine* [4].

The driving force of corporate innovation machine must be a management of the company. It should clearly state the innovation strategy and follow it as first, but also create a corporate culture which motivates the employees to think creatively and to contribute suggestions for company development. The management should actively support them, for example by creating time and space to meet and fulfil their ideas and needs. When thus organised

Power by management the corporate innovation machine works as „perpetuum mobile“ in the way of ideas generation, analysis and implementation. The corporate innovation machine that is built on the positive results of innovation process supports new ideas creation – inventions and subsequently innovation. They can follow the original ones, upgrade unfeasible ones, more precisely evaluate quality of new inventions based on previous experience or create entirely new invention and innovation.

Different available tools and techniques for corporate innovation machine support can help to develop it and to keep it running. The corporate innovation machine can run based on basic principles of Idea management, Idea Generator and more other tools and techniques, which use for implementation of innovation strategy planning can depends on internal and external company sources.

Basically sources of innovation ideas can be divided into internal and external sources. That kind of classification derives from the origin of ideas himself – they can come from inside of the company as well as external environment of the company. The companies can strengthen its base of innovation ideas in addition to the implementation of internal ideas from research and development by importing, developing, analyzing and adapting the ideas from the environment to the company conditions [5].

The important internal innovation ideas source is employees, the external are all sources, which originate out of the company and are available also to another subjects except for the company [6].

Nowadays the increasing importance of external sources of innovation ideas is highlighted since the companies are more and more relying on new technological knowledge when generating the ideas. They are obtained not only by internal departments of research and development but also by the interaction of the

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company and external sources of innovation ideas [7, 8]. That is confirmed also by Kováč [9] according to who the practise shows that 80 % of successful innovation does not come from own sources, but were initiated from external information sources. Therefore the systematic work with information source is important for every innovation oriented company, which must purposefully access to the innovation ideas generating [10].

Important sources of innovation ideas are the environment changes as unexpectedness of events, discrepancy of events, process needs, and changes in the structure of industry and services, demographic changes, changes of viewing and new knowledge [9, 11]. Important external sources of innovation ideas are scientific, technical and commercial publications, patents and licenses, exhibitions and internet. Internal sources represent research and development, marketing surveys and suggestions of own employees, suppliers and customers [9].

The innovation necessity arises when current programme in the medium and long term horizon is not sufficient to achieve business objectives and sustain competitive advantages [6]. Product innovation should contribute to eliminate the risks and weaknesses as well as opportunities and strengths of the company. The innovation necessity changes in time during the innovation process and so we consider it as dynamic. To avoid the investments to poor innovation opportunity it is necessary with increasing concretization of product invention to constantly question it in terms of whether to continue or not until the creation of innovation driving corporate innovation machine. Invention means synthesis of recognition of the potential customers' needs and the way to meet this need by a new solution.

3 Inventions sources for innovation creation within the open innovation system

According to the theoretical knowledge and approach of mentioned authors [5, 6, 7, 8, 9, 11], the ideas (inventions) sources are classified as internal and external sources. According to the observation we can conclude that actually there is a problem to include some inventions sources into the group of the internal or external sources. Therefore the aim of the paper is to define the inventions sources for innovation, in terms of theoretical understanding as they are used today in the business environment, based on the principle of open innovation system.

Basically, in the traditional point of view, the sources of innovation ideas can be divided into internal and external sources.

As internal sources are understood suggestions from employees, which we obtain by use of various tools for generating ideas, such as:

- Idea Management - purposeful systematic process of creating, capturing and evaluating ideas and then implementing the best ideas into practice.
- Idea Generator – generating of new ideas, e.g. inventions, wherein the innovation is implemented invention generated by creativity in order to generate values of a quantitative or qualitative nature of positive effects,
- SkunkWorks – free organized research unit within the company that deals with research innovation,
- Creative point – point where not-conventional, but many problems-solving ideas and invention are created mainly by informal conversation,
- And more other tools use in connection with employees in internal environment of the company.

External sources come from company environment and are represents by:

- Customer suggestions,
- Competitors,
- Scientific research institutions and so on.

The intensity, structure and aggressive competitors' behaviour determine competitive and innovation pressure on the market what causes innovation necessity. When identifying the competitors it is necessary to conclude except of publicly active competitors also those who are not yet on the market or are not engaged in the tender of the industry, but they may have a strategy and inventions potential. As well as the innovation necessity from the target customer and market is related to relatively low risk of failure. The problem here lies in the recognition of gradually manifested offer niche, representing space for inventions and innovation creation. Changing environment conditions influence the other drivers of innovation conditioned by inventions sources as companies, competitors, customers, trade, political and legislative changes or ecological changes of conditions [3, 6, 12].

Following on mentioned facts, actually internal company innovation impulses (inventions) is not possible to derive only from own technological positions, product portfolio and source changes, but also from external sources. The method *Fits and Misfits* signalizes innovation necessity in production programme and strategic goals of the company regarding the environment conditions [13].

The open innovation system helps to understand how to implement innovation strategy to the company effectively. Currently in practise within this open innovation system we obtain invention sources from a majority of sources, which are interconnected and collaborating. That kind of sources obtained by collaboration is then difficult to classify to a category of internal or external invention sources, see Figure 1. They are related to the open innovation system, which is based on the use of external research capacities in cooperation with its corporate internal capacity or orientation to search only certain

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elements of the innovation process in the external environment [3].

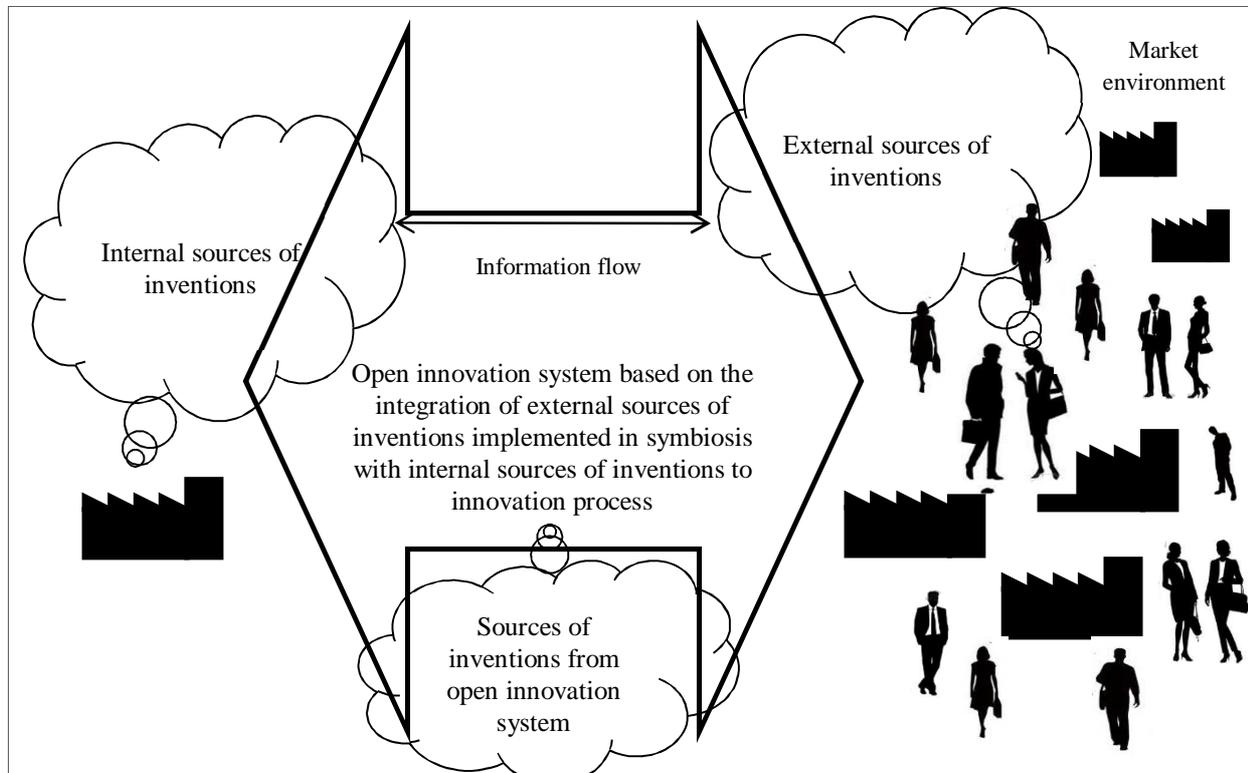


Figure 1 Principle of generating inventions for innovations in an open innovation system

The open approach to the innovation process facilitates innovation flow penetration in a companies or countries. Innovation platforms of information and communication technologies, which stimulate innovation, actually support that [15, 16].

Invention sources from open innovation system are based on the integration of external sources of inventions based on collaboration and synergic effect for all interested subjects in innovation process. They are implemented in symbiosis with internal sources of inventions to innovation process. These sources need specific approach, when market demands are systematically obtained and evaluated to reduce product declines. Particularly important is customer integration into process of new product ideas obtaining. The basics of external sources integration in that way is consumer integration enabling knowledge transfer and extending options of market research. While process, marketing and organizational innovations are focused on internal company's factors such as cost, quality, time etc., on the contrary product innovations are focused on value-creating process in relation to the market for providing new performance.

Only formal receiving and analysing of information coming to the company is not sufficient for active integration of external sources into innovation process and their realisation in symbioses with internal sources. The

company should mainly focus on information obtained by direct contacts and cooperation of company and external subjects. The inventions are then becoming implicit and different from explicit knowledge that are easy structured and defined. The characteristics difficult to define and observe can be derived from that unconscious implicit knowledge. Therefore the implicit ones can be obtain only because of long-term obtaining of practical experiences as part of a continuous process of knowledge in an open innovation system.

Integration of external sources in symbioses with internal is necessary to adjust to constantly deepening segmentation, which reaches personal relationships expressed by one-to-one marketing. Ways of dealing are then the subject of product management. Subsequently it indicates that inside the space for integration we distinguish different levels of "labour division" between interested subjects due to the activities in the process of the value - innovation.

Subjects of internal and external environment become equal partners within companies' innovation process after opening the space for problem solving. They participate in that process as „co-innovators“. The goal of that kind of cooperation in integration of external sources in symbiosis with internal sources into innovation process is the achievement of partnership in the creation of performance

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in community consisting of customers, users, producers, suppliers, traders and other sources of innovative knowledge.

4 Conclusion

According to the theoretical knowledge about obtaining invention sources for innovation creation, we can conclude that the company obtains suggestions and ideas (inventions) from different sources. The sources are from internal and external environment, but nowadays they are interconnected and cooperating. They are produced in an open innovation system that is based on the use of external research capacities in cooperation with its corporate internal capacities. The goal of the cooperation and integration of external and internal sources into innovation process is the achievement of partnership in the creation of performance in community consisting of customers, users, producers, suppliers, traders and other sources of innovative knowledge.

Such an open approach to the innovation process and inventions generating for creating of innovation facilitates penetration of the information flow, inventions, innovation opportunities, but also innovation within organizations and countries. Invention sources from open innovation system usually opens additional options for business start-ups, spin-off respectively spin-out companies. The process of spin-out is the result of different innovations diffusion from parent entity to the newly formed entity, resulting in the formation of start-up company.

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