

Different Forms of Innovations: Meta-Analysis of the Organizational Innovation Surveys

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ABSTRACT

In article on the basis of official data of state statistics analyzes results of the surveys, which were conducted in Europe, in order to investigate the innovation activity of companies. Focuses on organizational innovations. Discusses the definitions of organizational innovations and evolution of innovations.

KEYWORDS

evolution of innovation, organizational innovations, survey, meta-analysis, innovations, innovation activity of the companies

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Различные формы инноваций: мета-анализ исследований

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РЕФЕРАТ

В статье на базе данных официальной статистики анализируются результаты исследований опросов, проведенных в Европе, с целью выявления инновационной активности предприятий. Акцентируется внимание на организационных инновациях. Раскрываются понятия организационных инноваций и эволюции инноваций.

КЛЮЧЕВЫЕ СЛОВА

эволюция инноваций, организационные инновации, опрос, мета-анализ, инновации, инновационная активность предприятий

Introduction

In recent years, there has been growing interest in innovations; this interest is strongly connected with firm's evolution from a rational organization to companies based on knowledge and information. There are several features which support this transition: application of new knowledge to natural resources, equipment, and labor (Powell, 2004). In innovative economy it means the application of new knowledge to knowledge, assuming the application of new knowledge as the most valuable asset.

The main features of innovative economy are defined as: 1. Dramatic increase of the part of knowledge as an asset in business competition; For example, Switzerland performed good results in the sphere of knowledge management, and one of the most outstanding examples is "ABB company" (electrical equipment), that assumes the knowledge as their the most significant asset, proving the basis for achievement of competitive advantages 2. Supporting intangible assets rise. 3. Reducing costs (eco-

conomic and time pace). Therefore, the speed of development and commercialization of new products, became essential in the innovative economy. 4. Creation of a knowledge corporation. Innovation's ability to generate value must be related to the following characteristics: 1. To have unquestionable value for customers; 2. Difficult to copy; 3. Must provide the access to variety of markets. Evidently, the innovation activity of the companies influences on the competitiveness advantages. Innovation management is becoming closely interconnected with strategic management of an entity, being important to consider modern strategy principles and methodological tendencies.

Stages of evolution of innovation management theory in interrelation with strategic management

The first stage of evolution of innovation management theory covers the period from 1900–1950. At that period of time it was focused on the supervision over research activities and it was held by the scientists who were also responsible for selection and execution of projects, while strategic management was on the basis of “control over execution” that means that possible response of the institutions to the alteration was determined only after the events completion.

During the second stage (1950–1970), the innovation management supervision over research activities was held by corporate managers. They paid most attention to the projects, encouraging the company's development; meanwhile the strategic management was based on the extrapolation of the past tendencies (long-term planning).

In third stage (1970–1990) in innovation management, the supervision over research activities was held by corporate managers, taking into account the results of marketing research, while hidden needs of customers remained unsatisfied. At the same time, strategic management conducted the policy of alteration preview (strategic planning).

The fourth stage had begun in 1990 and it continuous until nowadays. In innovation management the supervision over research activities was held by corporate managers trying to satisfy hidden needs of the customers in the interaction with manufactures, customers, suppliers and other interested persons (stakeholders) in development of new production, while strategic management conducted the strategy of construction not from the past to the present, but from the future through the past to the present, hereby combining future and past tendencies. Nowadays science and innovations are becoming one of the most significant spheres. It is possible to trace the relationship chain, from the R&D to innovations, from innovations to key competences, from key competences to economic growth of the company.

Schumpeter's Innovation theory

J. Schumpeter proved that the main causes of economic cycles are innovations, but he also proved that is not sufficient, innovations should be combined with “business spirit”. Thus, Schumpeter reflected the idea of that inventor is an entrepreneur, with a “business spirit”, a person that introduces something new to the market, and who is motivated by the will to find a commercial niche (Schumpeter, 1912). Moreover, in 1942 his followed work “Capitalism, Socialism and Democracy” he emphasized that the capitalism in the way how it was, it would lead to monopolistic structure, which would decrease the entrepreneurship activity. This idea has never seemed as appropriate as in nowadays, when the modern capitalistic system suffers from crisis and loses its power and legitimacy. According to Schumpeter innovations may be divided into several types: 1. Launch of a new product or a new kind of an already existed product. 2. Application of new methods of production or sales of a product. 3. Opening of a new market. 4. Acquiring of new sources of supply of raw material or semi-finished goods. 5. New industry structure, such as creation or destruction of a monopoly position. (Sledzik, 2013) Schumpeter also claimed, that the normal state of healthy economy is not equilibrium but dynamic

disequilibrium, moreover he states, when the economy is in equilibrium, the entrepreneur innovator creates a new combination of factors, meanwhile this combination disturbs the equilibrium. "Schumpeter's shock" occurs in the economy, that leads to the statement that the result of this disequilibrium is economic growth.

In modern literature, there are two approaches of vision of innovations. The first one considers innovation as a result of any process, while the second one is treated to be the process of a novelty's implementation. According to the first approach innovation is a result, while novelty is not innovation. Novelty becomes innovation from the moment of acceptance for implementation. It's a definitive result of scientific R&D: patents, licenses, know-how, discovery, invention and trademark. Considering in terms of time, the period between the end of novelty and start of innovation is called "commercialization", while the period between the beginning of a novelty and the beginning of innovation is an innovational lag. Innovation results in alteration of production factors and the object of management, as well it reflects the result of novelty implementation.

Considering the "source of innovation", the modern literature defines two approaches as well. The first one, emphasizes the innovation is a result of an R&D activity and novelty implementation, while the second considers interactions and informal relationships that facilitate the exchange of knowledge (Lundvall, 1992).

Analysis of definitions of organizational innovations

Considering the innovations as a product or process, it is important to highlight such a distinct group of innovations as organizational innovations, which mean accomplished new methods of doing business, organizing workplaces, external communications. They are focused on increasing of enterprise's efficiency, due to reduction of administrative and transaction costs, improving the organization of workplaces (work time), that leads to the labor productivity and the access to the absent assets.

As defined by the Oslo Manual, organizational innovation is the "implementation of a new organizational method in the firm's business practices, workplace organization or external relations". Business practices include "organizing routines and procedures for the conduct of work", workplace organization covers "new methods for distributing responsibilities and decision-making among employees (...), as well as new concepts for the structuring of activities" and new methods for external relations "involve the implementation of new ways of organizing relations with other firms or public institutions, (...) new methods of integration with suppliers". These changes aim to improve firm performance directly in terms of quality, flexibility, productivity or speed and can therefore be considered a distinct form of innovation. Also organizational innovation can function as an enabler for other types of innovation, supplementing the implementation and use of other innovations, or as a prerequisite for knowledge accumulation within the firm by increasing the ability to acquire, create and make the best use of competencies, skills and knowledge.

Organizational innovations in business may include wide range of activities: development of new business strategy; implementation of new management methods (based on IT), development and implementation of new organizational structures; novelty in the labor time; implementations of quality control systems, certifications, modernization and implementation of new logistic system; creation of R&D departments, implementation of knowledge management; creation of new partnership. However, the way of changing of doing business, organization of workplaces or external connections, which are based on the methods that have already been implemented in the company should not be considered as organizational innovations.

A first literature strand focuses on the identification of the structural characteristics of an innovative organization and its effects on product and technical process innovations (Burns and Stalker, 1961; Mintzberg, 1979; Teece, 1998).

Meta-analysis of Organizational Innovation Surveys

Survey title & Date; Country or Region; Number of the companies which are participated	Areas of industries	Features	Focus	Aims
1	2	3	4	5
NUTEK survey “Towards Flexible Organizations”; (1995); Sweden; 700 companies	Mining and Manufacturing, Construction, Retail, Wholesale, Hotels and Restaurants, Transport and Communication	Description of the present organization; organizational changes	Staff and qualification, work organization, technology and product/service development as well as external relations important changes in the organization of the work place on a generic level	To analyze the importance and distribution of flexible work organization in the Swedish economy
DRUID project “DISCO” (1996); Denmark; 1900 companies	Manufacturing, services and construction	Explore delegation of responsibility, cross-occupational working groups, quality circles, integration of functions, job rotation and systems of collecting proposals from employees	Focused mainly on flexibility	To understand developing new products and new technological processes based on integrative organizational forms and a culture oriented towards renewal and learning
EPOC survey; (1996); Denmark, Germany, France, United Kingdom, Ireland, Italy, Netherlands, Portugal, Spain, Sweden; 5786 companies	Different industries	Did not ask directly about the existence of different forms of work organization using “labels”, but concluded the existence of specific work	Investigation of the forms of direct participation of the employees. If this was the case, they were also to provide information about how long they had been	Diffusion of direct employee participation (e.g., consultative participation, delegative participation) in the European economy

1	2	3	4	5
		organization concepts from questions about the forms of direct participation; no enquire about changes in the last years	practicing them, which specific characteristics were involved, the reasons for introducing these practices and what consequences these concepts had on the qualification and remuneration of employees	
The INNFORM survey; (1997); Europe, Japan, UK, USA; 500 companies;	Different industries	The questionnaire is retrospective (dynamic change is visible); questionnaire asked about organizational innovations using particular labels	Investigation of company structure and changes in company structure; which decision-making is decentralized; linkages between headquarter and business units; use of IT; use of certain human resources practices, etc. Exploring organizational and managerial innovations on three levels: unit, organizational and inter-organizational	To map the contours of contemporary organizational innovation, to examine the management practices and to test for the performance benefits of these changes
Community Innovation Survey—CIS; (2001-2006); Sweden, Germany, France, Denmark, Romania, Luxemburg	Small and medium-sized enterprises https://play.google.com/store/apps/details?id=com.orangeapps.candyvalley	The methodological basis of CIS is provided by the Oslo Manual but not further differentiating concrete	Measuring innovation activities at firm level. Efforts have been made to broaden the concept of innovation	Better understanding of the “non-technological” aspects of innovation; designed to cover technical

1	2	3	4	5
		organizational concepts such as teamwork or supply chain management. This approach provides limited response options (yes and no) and asks about change within the last 3 years, not about the share of establishments using an innovative organizational concept	to include organizational, marketing and service innovations	aspects of product and process innovation
Survey “Changements Organisationnels et l’Informatisation (COI)” (1998); France; 400 companies	Industrial firms	Questions about ICT innovations in combination with organizational change	Investigate company’s functional structure, devices to manage task and work time-sharing, relations with other firms, etc.) and the use of information technologies (equipment, organization of the computer function, data transfers, etc.)	To identify the changes that had occurred between 1994 and 1997 in work organization

A second literature strand — theories of organizational change and development—aims to analyze and understand how organizations change. This field of research includes models of how organizational change may occur (e. g., Greiner, 1967; Hannan and Freeman, 1977, 1984) as well as classifications of different types of organizational changes from evolutionary to revolutionary (e. g., Levayand Merry, 1986).

It aims at understanding the resistance to organizational change and how to overcome the inertia of organizations and enable them to better adapt to changing environments and technologies (e. g., Lewin, 1958; Lawrence, 1954).

A third strand of literature focuses on how organizational innovations emerge, develop and grow at the microlevel within the organization. This strand focuses on theories of organizational cognition and learning (e. g., Argyris and Schön, 1978; Duncan and Weiss, 1979) as well as on theories of organizational creativity (e. g., Amabile, 1988).

Hence, all the approaches are focused on how and under which circumstances organizations change. Nevertheless, these approaches do not focus on the resulting status of the converted organization or the concrete new elements of managerial and work practice, making it difficult to measure and compare the results of organizational innovations.

In addition the term organizational innovation has different interpretations, still it did not find a deep reflection in theoretical framework and it could be considered in distinct ways, as it was mentioned above.

However, authors consider another important view of Diemann J., Stehnen T. (2012) organizational innovations related to the link between structural forms and the propensity of an organization to innovate (Burns and Stalker 1961; Lawrence and Lorsch 1967; Mintzberg 1979). The related work of Argyris and Schon (1978) and Nonaka (1994) cover the field of research related to understand the capacity of companies to create and integrate new knowledge crucial for innovation activity. In this sense, organizational innovation can be interpreted as a shift in underlying organizational assumptions, discontinuous from previous practice, and provide new pathways to creating public value (Richard Evans, 2013).

Nonetheless, the term topic of organizational innovation was underestimated until, in the late 1980s, MIT's study of the automobile industries in Japan, the USA and Germany turned the attention of researchers and managers to organizational innovations as a driving factor for companies' competitiveness (Womack et al., 1990). It became a pulse for development of conception of lean production which included variety of new organizational concepts such as teamwork, job enrichment and enlargement, decentralization of planning, operating and controlling functions, manufacturing cells, quality circles, continuous improvement processes, zero buffer principles (kanban), simultaneous engineering and just-in-time delivery, which they discovered to be the main cause of the superiority of the Japanese car industry at this time.

Lately, several large-scale surveys (Table 1) were conducted to estimate the organizational innovation in the manufacture of several European countries, which are: NUTEK survey "Towards Flexible Organizations", DRUID project "DISCO", EPOC survey, The INNFORM survey, survey "Changements Organisationnels et l'Informatisation (COI)", Community Innovation Survey-CIS.

Conclusion

To conclude, we presented these surveys in order to demonstrate how different the attempts are to monitor organizational innovations using large-scale surveys. However, it is obvious that the research of such topic as organizational innovations was not conducted deeply and precisely. This research attempts a more detailed definition and measurement of organizational innovations by providing a typology of organizational innovations and contrasting different approaches of measuring organizational innovations.

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