

Radul Milutnović, Biljana Stošić

University of Belgrade, Faculty of Organizational Sciences

# Key Elements of Innovation Project Management in Services

UDC: 005.591.6:005.8 ; 330.341.1:338.46

DOI: 10.7595/management.fon.2013.0027

This subject of this paper is related to service innovation, which represents one of the most important drivers of economic growth. In accordance with the fact that most of the people are employed in the service sector, elaboration of this topic has become a necessity. The initial part of the paper presents innovation projects as the foundation for the successful service innovation development. Also, the significance, innovations and classifications of the services proposed by relevant scholars and institutions are explained. Since the emphasis in this paper is placed on the elements for the successful new service development, special attention is dedicated to factors that influence the new service development projects and new service development models.

**Keywords:** Innovation, Innovation Projects, Services, Models

## 1. Introduction

Innovation is a widely examined area of management, since it is identified as an essential development and competitiveness factor, with rising importance in the age of knowledge-driven economy directly based on the production, distribution and use of knowledge and information (Stošić, Vasiljević & Milutinović, 2012). Companies have to be prepared to adapt and develop if they want to survive in today's volatile business surroundings. They operate with an awareness that their competitors will inevitably come to market with a product that is going to change the basis of competition. Being prepared for changes and adaptation became fundamental for the market survival. In almost every industry - air, pharmaceutical, auto, computer industry, market leaders demonstrate the aptitude to innovate. The analysis of the economic history shows that industrial technological innovations lead to significant economic benefits for innovative companies and innovation in general. Innovations claim to be the growth engine of modern economy and they ensure growth regardless of the economic situation (Tidd & Bessant, 2009).

Scholars and practitioners from various applied sciences have explored the nature of innovation and in most of the cases their research has mainly been focused on the aspect of product innovation. On the other hand, service companies have been generally associated with suppliers and therefore have been considered poorly innovative. However, recent studies have shown that many service companies and the industry as a whole are very innovative. The service sector is slowly becoming one of the most important drivers of economic growth. In developed countries, two thirds of the employees work in the service sector. According to the International Labour Organization 2006, for the first time in history the service sector has engaged more employees than the agricultural and manufacturing sectors. In Germany, the share of services in gross value added, has increased over the share of manufacturing industry in the 90's. The service sector in Germany today refers to 69.8% of gross value added compared to 29.4% of the manufacturing industry (Leich, Gök-duman & Baaken, 2010).

Literature related to new service development (NSD) encompasses a few models of new service development, even though this number is far from close to the number of new product development models (NPD). The earliest NSD models were based on the NPD models that were used in manufacturing industry, and this is the fact which can also be found in some of today's NSD models. However, the services possess certain characteristics that substantially separate them from the products, and hence demand an optimal development model. When it comes to development models, the interesting thing is that they consist of specific phases of which

some are common for all kind of industries, while the others are unique and depend on service features and the sector they are related to. The usual number of phases in models is five to six, but there can be more or fewer and this determines the product or services complexity. More important than the number of phases is what happens in each phase. This is exactly the part where industry and companies make their mark.

## 2. Innovation project management

The development of project management and the emergence of new management disciplines are primarily based on the fact that this discipline can be effectively implemented in every area of human life and work (Jovanović, Čolić, Ćorđević & Mitić, 2012). Innovation project management is based on the principles and elements of innovation management and project management, starting from the approach where the models of innovation and innovation process, from idea to implementation, can be defined as a specific project category. From a theoretical aspect, innovation management and project management have been developed over time as independent disciplines, and practice has shown that the most effective way of managing the life cycle of innovation is precisely the application of project management. Projects innovation category (IP) stands out, especially in relation to the key features of the first change and the implementation in a particular area - hence, it is the first implementation of the project in the given conditions, which implies a high degree of risk and the impact of human factors - creativity in the ideation stage and ability to change (Filippov & Mooi, 2010; Stošić, 2013).

Various innovation classifications can be found, but the most significant is one given in the guidelines for collecting and interpreting innovation data, well-known in innovation field as the Oslo Manual (2005), saying that innovation represents the implementation of a new or significantly improved product (goods or service), or process, or a new marketing or organizational method. Generally speaking, every innovation can be seen as a project, bearing in mind that innovation represents a series of related actions. Given that, there are four types of innovations/innovation projects (Oslo Manual, 2005):

1. product/service innovations;
2. process innovations;
3. organizational innovations;
4. marketing innovations.

The object of this paper is the identification of the key service innovation project management elements, so the following sections will be focused on services and elements that influence the successful new service development projects.

## 3. Service and service innovation

Services progressively become the drivers of growth and job creation in developed economies. The economic importance of services means that the improvement of European living standards probably depend more and more on the productivity of services rather than manufacturing. It is important to notice that all these changes in the service sector have happened due to innovations, i.e. the biggest influence on growth of service economic importance and meeting customer requirements is made by service innovations.

Various definitions of service can be found in the literature. Some of them emphasize service as activities or actions to address specific user requirements, while others describe service as a set of skills that need to be provided in a manner to meet the user requirements. The most cited definition is the one given by Grönroos (1990):

*"...an activity or series of activities of more or less intangible nature that normally, but not necessarily, take place in interactions between the customer and service employees, and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problems".*

This definition includes some specific service features that differentiate them from traditional products. Services characteristics that are commonly quoted in the literature are: (1) *intangibility*, (2) *heterogeneity*, (3) *simultaneity*, (4) *perishability*, (5) *lack of tradition*, (6) *weak protection of intellectual property* (Stošić, 2013; Leich, Gökduman, & Baaken, 2010).

- Many scientists claim that services have *intangible* nature, which means that they consist of ideas and experiences, and do not represent a physical artifact. Therefore, the service innovations are more difficult to protect from competitors. In addition, users feel it much harder to assess innovation (Leich, Gökduman, & Baaken, 2010). The user takes the risk in buying a service because they very often cannot get a guarantee for the nature and quality of services. Studies have shown that the greater intangibility factor is, the higher expectations of customers are (Reinoso, Lersviriyajitt, Khan, Choonthian, & Laosiripornwattana, 2009).
- Products have to be produced before they are sold or consumed. As opposed to them, services are mainly produced and consumed at the same time. The user's involvement represents the basis in the process of service production (Leich, Gökduman, & Baaken, 2010). This feature assumes that companies must constantly develop their employees, especially the ones who interact with the customers, because the way they approach to them has a direct impact on the success of both the service and the company (Reinoso, Lersviriyajitt, Khan, Choonthian & Laosiripornwattana, 2009).
- Simultaneous production and consumption of services make the production cycle heterogeneous. Each service is to some extent unique and depends on the one who offers it and on the user. Given these features, an additional challenge for service innovation is to maintain a constant quality control services (Leich, Gökduman, & Baaken, 2010). Heterogeneity means that it is unlikely that the delivery of specific service can be repeated in the same way. This feature requires that service development must be framed in phases of growth so the company could plan and control the level of deviation of the service provided (Reinoso, Lersviriyajitt, Khan, Choonthian, & Laosiripornwattana, 2009).
- The integrated nature of production and consumption means that the services are perishable. This means that they cannot be produced and kept in the form of stocks in order to be subsequently sold (Leich, Gökduman, & Baaken, 2010). Therefore, an important role of the service provider is to coordinate supply and demand (Reinoso Lersviriyajitt, Khan, Choonthian & Laosiripornwattana, 2009).
- An important issue for service organizations is the lack of relevant experience in the field of innovation. For example, in the financial services sector, organizations are often bureaucratic. The banking sector traditionally has not been significantly innovative - key elements of the business are based on clearly defined procedures and processes. However, this situation has changed considerably with the advent of ICT and e-banking (Stošić, 2013).
- Intellectual property rights are not protected in the service area, and pose a problem of preserving the original concept and idea. Therefore, service innovation is frequently focused on back-office functions, which are more difficult to imitate (Stošić, 2013).

### 3.1. Service typology

Services can be classified in several ways and one of the most important classifications is into base and support services. Base services are the main business of suppliers. Support services represent actions that make base services possible and competitive - end users usually cannot see them (for example, the way of answering questions or receiving information, procedures for services reparation, instructions for using the base services). Support services have a huge impact on customer satisfaction and sales efficiency.

Services can also be classified according to the level of interaction and adjustment, for example, retail versus services provided by lawyers, doctors and architects services. Another difference can be made on the basis of the recipient, for example, health and entertainment services. Services may be continuous (e.g., electricity services) or discrete (e.g., mobile phone or season ticket). Some services require a subscription or membership (e.g., cable television, insurance), while others are more informal in nature (e.g., highways, halo-booth). Services may be available on one site (e.g., theatre, barber shop) or multiple sites (e.g., e-mail). Services can be classified according to the related areas, such as transportation, hospitality, financial services, entertainment, professional services, IT services, industrial services, etc. (Bouwman & Fielt, 2008).

The official statistics on services in Europe are based on the *NACE (French - Nomenclature Générale des Activités Économiques dans les Communautés Européennes)* classification. This approach covers service

companies for which services are their main activities but it does not include a large number of service activities produced within manufacturing or other industrial firms. Until recently, services did not have sufficient sectoral breakdown and were not singled out in many major international statistics. Gaps still exist today in the field of statistics, but the situation is improving gradually (Eurostat, 2008). According to *NACE* revision 2, all services are divided into 21 sections as this is presented in the Table 1.

Table 1:

<b>NACE Rev. 2</b>	
<b>Section</b>	<b>Description</b>
A	Agriculture, forestry and fishing
B	Mining and quarrying
C	Manufacturing
D	Electricity, gas, steam and air conditioning supply <b>Water supply, sewerage, waste management and remediation activities</b>
E	Water supply, sewerage, waste management and remediation activities
F	Construction
G	Wholesale and retail trade; repair of motor vehicles and motorcycles
I	Accommodation and food service activities
H	Transportation and storage
J	Information and communication
K	Financial and insurance activities
L	Real estate activities
M	Professional, scientific and technical activities
N	Administrative and support service activities
O	Public administration and defence; compulsory social security
P	Education
Q	Human health and social work activities
R	Arts, entertainment and recreation
S	Other service activities
T	Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use
U	Activities of extraterritorial organisations and bodies

Another interesting classification, introduced by Leich, Gökdoğan & Baaken (2010), considers two dimensions - contact intensity and variety. Contact intensity demonstrates the level of interaction between employees in the company and users. On the other hand, variety focuses on the level of heterogeneity of the offered services (level of standardization). Given these dimensions, the services can be classified as follows:

1. *Process-focused Services* (Service Factory) include services with comparatively low contact intensity and low variety. Industries that fall in this classification offer highly standardized services (e.g. car wash, online banking).
2. *Flexibility-focused Services* (Service Shop) have low customer interactions and provide services with a large variety (i.e. low degree of standardization). Industries such as insurances are typified as a service shop.
3. *Customer-focused services* (Mass Services) are characterized by a high contact intensity but low with a variety of services offered. Industries belonging to this type basically deliver standard services. Typical examples of these kinds of services are fast food restaurants or call center agencies.
4. *Knowledge-focused Services* (Professional Services), finally, are dominated by service providers who interact closely with their customers. These services display a high variety and can barely be standardized (e.g. consulting, market research).

#### 4. Key elements for successful service development projects

For the purpose of this paper, the key elements have been extracted from Chen (2011) and *Fraunhofer* institute research along with literature review, since it represents a complete approach to successful service innovation project development (Figure 1).

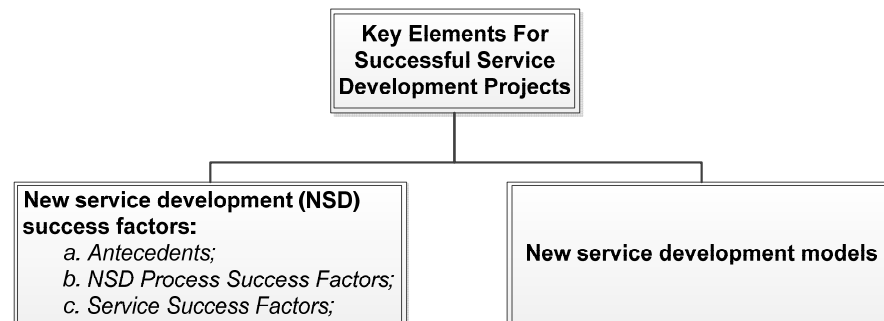


Figure 1: Key elements for successful service development projects

#### 4.1. New service development (NSD) success factors

Antecedent factors originate before the actual start of the NSD project and they are related to an organizational environment. The second group is related to the NSD process success, encompassing all factors which refer to the process itself, the actions taken and the resources used. The third group joins the factors important to determine which features differentiate a successful service from an unsuccessful, in order to guide actions during the NSD process (Posselt & Förstl).



Figure 2: NSD Success Factor Categories

*Antecedent factors* are related to organizational aspects such as organizational culture, structure, organizational capabilities. Based on research conducted by Posselt and Förstl the most important factors in this group were found to be: market orientation, technology, knowledge management, organizational culture, strategic HRM, cross-functional integration, customer involvement, employee autonomy, global capacities, management, NSD competence, NSD strategy, project based organization structure, service orientation. Some of them will be explained in the following text.

Market orientation is the most important factor in the success of NSD projects and it implies strong commitment to market research, the ability of service organization to evaluate the competitive environment, and also to anticipate and react to changes in customer expectations (Menor & Roth, 2008). Technology as a success factor indicates the organization's ability to use technology for service development and delivery (Neu & Brown, 2005). According to Liu (2009), organizational culture is a very important factor and it is defined as a structure consisting of innovation support culture, market orientation culture, learning culture, culture of communication with users. Strategic HRM is an important organizational capability, which can be accomplished aligning human resource management to strategic business planning (Ottenbacher & Gnoth, 2005).

*NSD process success factors* influence the effectiveness and efficiency with which service success factors are implemented. Some of them are: involvement of employees, appropriate formalization, management measures, customer involvement, synergy, cross-functional involvement, employee expertise, processes quality, IT use, etc. (Posselt & Förstl).

Employee involvement refers to the participation of employees who are directly connected (front line) to customers in the development process (Blindenbach-Driessen & Van Den Ende, 2006). It is very important for the front-line employees to foster their expertise by continuous training and improvement. The process of developing new services should be formalized to a certain level. Although there is evidence that highly formalized processes of development make a positive contribution to the speed of new services development, they are not suitable to all development projects, especially for projects carried out in a volatile environment (Buganza & Verganti, 2006). Many scholars emphasize the positive impact of customer involvement in different stages of development, especially when it comes to stages such as generating and screening ideas (Melton & Hartline, 2010). The synergy between development projects and the environment is important to ensure the compliance of internal (organizational) as well as external (market) dimensions (Ottenbacher & Gnoth, 2005). Cross-functional involvement is a factor that has an impact on all stages of the development process: from idea generation to the service launching. Having that in mind, development teams should consist of members that come from different functional units, in order to rapidly identify opportunities and problems (Storey and Hull, 2010).

A service embraces a unique experience between service providers and service customers. Based on that, it is important to be aware of some elements that contribute to the success of services during the design process. The most frequently mentioned *service success factors* are: unique or superior service, product synergy, employee expertise, tangible evidence.

Providing a better or a recognizable product (unique or superior service) can be accomplished in many different ways, for example, making the service adaptable to specific customer requirements by using innovative technology, providing a highest quality and offering excellent additional services (Melton & Hartline, 2010). In addition to the project synergy, providing product synergy is one of the crucial factors. Successful services fit their selected markets and customers and are compatible with other organization's products, marketing strategy, resources and capabilities (Ottenbacher & Harrington, 2010). The employee expertise factor affects the performance of the NSD. The employee must demonstrate strong behavioral competencies in order to gain customers' trust (Neu & Brown, 2005).

Service success factors can be seen as characteristic of a successful service. The basis of these features is established during the NSD process, where the service system is designed, target markets are determined and employees are trained.

#### 4.2. New service development (NSD) models

The literature on the new service development (NSD) projects covers several development models. The previous NSD models were based on NPD models that were used in the manufacturing industry, and this is the fact that can be seen in some of today's NSD models. However, as noted above, services have certain features that significantly separate them from the products, and therefore demand the optimal development model.

Scholars in the field of services have dealt with these differences introducing various research and so far there have been a number of models of new service development. The Donnelly, Berry and Thompson model starts with two initial rounds of new service definition, where the service concept is defined, and a business analysis is conducted for several new service possibilities. In the screening stage the service concept is selected that has the most promising business forecast. At the comprehensive, development and testing stages, prototypes of the service as well as necessary infrastructure are developed and tested. And finally, the introduction phase is related to the service commercialization. The Johnson, Scheuing and Gaida model follows the same progression, with the difference that the service process development takes place in a different stage from that of testing. The Bowers model has a similar progression as well. One thing that all three models lack is an emphasis on resources, and how these resources should be used at each stage of a new service development. Scheuing and Johnson initially presented the idea of combining resources and processes to develop new services, explaining how internal and external company human resources should be utilized. Front-line employees were involved right when the service concept was initially developed. Potential customers were used to design and test services, and marketing programs (Reinoso, Lersviriyajitt, Khan, Choonthian & Laosiripornwattana, 2009).



As opposite to product innovation, service innovation requires a different organization and principles because it is directly linked to the business model that supports this service, i.e. service can be successful in the long run if there is a sustainable business model that creates value for both consumers and service providers.

One of the most comprehensive models which provides a holistic approach to business models is an integrated model consisting of five interdependent stages: a new service concept, design, analysis, development and launching, and three support dimensions: factors that enable the process, new user interface and new service system. This model is actually a compound of several models that have been developed in the past.

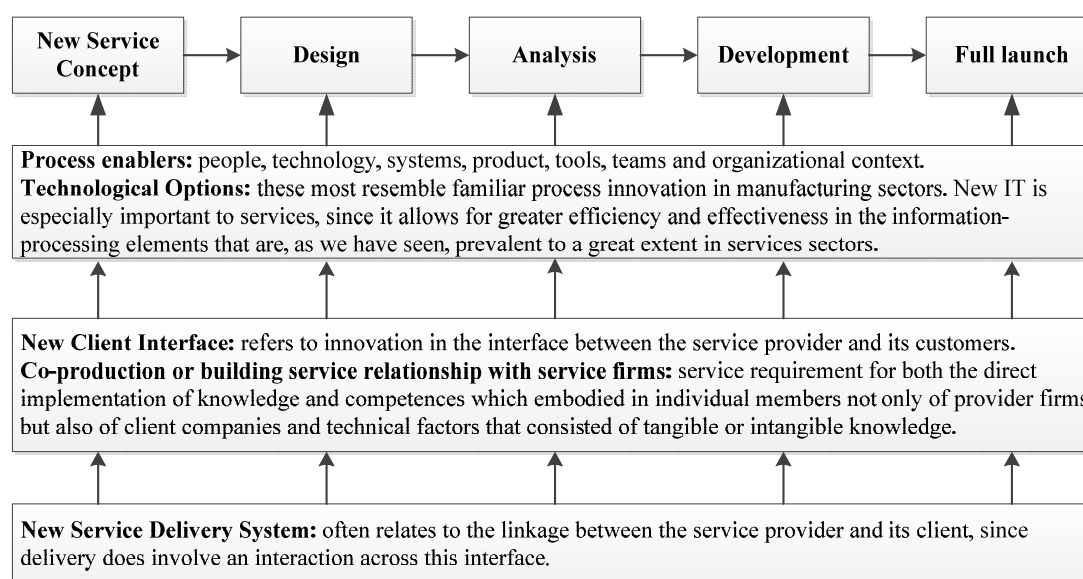


Figure 3: An integrated service innovation model (Chen, 2011)

Bearing in mind service characteristics, a lot of new service development models have been proposed lately and they significantly differ from new product development models. An integrated service innovation model is interesting since it provides a holistic view on business models with five interrelated perspectives. The thing that makes it comprehensive and useful is that it brings together the best practices from a lot of different models.

## Conclusion

This paper presents some of the key elements which are necessary for successful new service development projects - namely new service development success factors and new service development models. Considering research that is done so far, this approach is used because it means one complete framework and concept, having in mind that most of NSD models are based on NPD models. A comprehensive overview and structure of NSD factors is very important for achieving high performance of new service development projects. The identified factors were classified into three categories according to their emergence in the development process. However, in different development projects, these factors can vary in relevance, depending on various influential context factors.

When it comes to NSD models, literature proposes a lot of different models and frameworks for new service development projects. The service industry has grown rapidly in the past few years, which consequently make well-structured NSD models necessary for service-oriented companies. These companies must analyze the traits of a successful NSD model and then make efforts in laying a strong foundation to build one. Established processes allow company control during the development process, and more importantly, provide a framework which a company can continually use to create a new service. Many of the proposed models have some limitations which can be overcome by further research and testing. Furthermore, future research can be directed to understanding challenges and opportunities specific to services (characteristics that distinguish them from physical products) and to the development of NSD models.

## REFERENCES

- [1] Blindenbach-Driessen, F. & Van Den Ende, J. 2006. Innovation in project-based firms: The context dependency of success factors. *Research Policy*, 35, 545-561, DOI: <http://dx.doi.org/10.1016/j.bbr.2011.03.031>
- [2] Bouwman, H., & Fielt, E. (2008). *Service Innovation and Business*. In H. Bouwman, H. De Vos, & T. Haaker, *Mobile Service Innovation and Business Models* (pp. 19-40). Springer-Verlag Berlin Heidelberg, ISBN 978-3-540-79238-3
- [3] Buganza, T. & Verganti, R. 2006. Life-cycle flexibility: How to measure and improve the innovative capability in turbulent environments. *Journal of Product Innovation Management*, 23, 393-407, DOI: 10.1111/j.1540-5885.2006.00212.x
- [4] Chen, T. (2011). Building an integrated service innovation Model: A case study of Investment Banking. International Conference on Economics. Singapore: IACSIT Press.
- [5] Eurostat. (2008). NACE Rev. 2 - Statistical classification of economic activities in the European Community, European Commission.
- [6] Filippov, S., & Mooi, H. (2010). Innovation Project Management: A Research Agenda. *Journal on Innovation and Sustainability*.
- [7] Grönroos, C. 1990. *Service management and marketing: managing the moments of truth in service competition*. Lenxington: Lexington Books.
- [8] Jovanović, P., Čolić, V., Đorđević, V., & Mitić, A. (2012). Implementation of project management in managing organizational projects. *Management-časopis za teoriju i praksu menadžmenta*, 17(64), 69-76, DOI: 10.7595/management.fon.2012.0017
- [9] Leich, D., Gökduman, S., & Baaken, T. (2010). Project Report - Service Innovation - An Evaluation of NSD Practice.
- [10] Leiponen, A. (2006). Managing knowledge for innovation: The case of business-to-business services. *Journal of Product Innovation Management*, DOI: 10.1111/j.1540-5885.2006.00196.x
- [11] Limpibuntern, T., & Johri, L. (2009). Complementary role of organizational learning capability in new service development (NSD) process. *Learning Organization*, DOI: 10.1108/09696470910960419
- [12] Lin, R., Chen, R., & Chiu, K. (2010). Customer relationship management and innovation capability: An empirical study. *Industrial Management and Data Systems*.
- [13] Melton, H., & Hartline, M. (2010). Customer and frontline employee influence on new service development performance. *Journal of Service Research*, DOI: 10.1108/02635571011008434
- [14] Menor, L. J. & Roth, A. V. 2008. New service development competence and performance: An empirical investigation in retail banking. *Production and Operations Management*, 17, 267-284, DOI: 10.3401/poms.1080.0034
- [15] Neu, W., & Brown, S. (2005). Forming successful business-to-business services in goods-dominant firms. *Journal of Service Research*, DOI: 10.1177/1094670510369378
- [16] Oslo Manual - Guidelines for collecting and interpreting innovation data. (2005). OECD and Eurostat.
- [17] Ottenbacher, M. & Gnoth, J. 2005. How to develop successful hospitality innovation. *Cornell Hotel and Restaurant Administration Quarterly*, 46, 205-222, DOI: 10.1177/0010880404271097
- [18] Ottenbacher, M., & Harrington, R. (2010). Strategies for achieving success for innovative versus incremental new services. *Journal of Services Marketing*, DOI: 10.1108/08876041011017853
- [19] Posselt, T., & Förstl, K. Success Factors in New Service Development: a Literature Review.
- [20] PROINNOEurope. (2009). Challenges for EU support to innovation in services – Fostering new markets and jobs through innovation. European Commission.
- [21] Reinoso, M., Lersviriyajitt, S., Khan, N., Choonthian, W., & Laosiripornwattana, P. (2009). New Service Development: Linking Resources, Processes, and the Customer. PICMET 2009 Proceedings. Portland, Oregon USA, DOI: 10.1109/PICMET.2009.5261784
- [22] Storey, C., & Hull, F. (2010). Service development success: A contingent approach by knowledge strategy. *Journal of Service Management*, DOI: 10.1108/09564231011039268
- [23] Stošić, B. (2013). Menadžment inovacija: Inovacioni projekti, modeli i metodii. Beograd: Fakultet organizacionih nauka.
- [24] Stošić, B., Vasiljević, D., & Milutinović, R. (2012). The role of patent indicators in innovative performance. SYMORG 2012, "Innovative management & business performance" (pp. 80-87). Zlatibor: Faculty of organizational sciences.
- [25] Tidd, J., & Bessant, J. (2009). *Managing Innovation: Integrating Technological, Market and Organizational Change*. West Sussex: John Wiley & Sons Ltd.

Received: September 2013.

Accepted: November 2013.



## About the Author

**Radul Milutinović**

University of Belgrade, Faculty of Organizational Sciences  
radul.milutinovic@fon.bg.ac.rs



Radul Milutinović is Teaching Associate at the Innovation Management academic course at the Faculty of Organizational Sciences, University of Belgrade, Serbia. He holds a BSc degree in field of Management and a MSc degree in areas of Project and Investment Management. His primary research field is oriented towards Innovation Management, Innovation Project Management and Intellectual Property.

**Biljana Stosic**

University of Belgrade, Faculty of Organizational Sciences  
stosic.biljana@fon.bg.ac.rs



Dr Biljana Stosic is Professor of Innovation Management at the Faculty of Organizational Sciences, University of Belgrade, Serbia. She holds a B.Sc. degree in the field of Information Systems and M.Sc. and Ph.D. degrees in the area of Innovation and Technology Management. Presently, she is engaged in researching innovation indicators and performances, as well as ICT application in specific innovation domains.

Her research interest is oriented towards Innovation Management, Project Management and Intellectual Property. She has authored and coauthored numerous publications at national and international conferences and journals.

She is the author of *Innovations in Technology: Theoretical Basis and Methods of Support, Innovation Management - Expert Systems, Models and Methods* and *Innovation Management: Innovation Projects, Models and Methods*.