

CONCEPT FOR DEVELOPMENT AND ORGANIZATIONAL STRUCTURE OF CENTER OF EXCELLENCE

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Abstract: Based on research on the topic and the experience of teams from Burgas Free University from already realized projects and studies related to the establishment of technology transfer offices, the article offers a methodological concept for development and organizational structure of Center of Excellence (CoE) in different countries in Balkan-Mediterranean area. Being an intellectual and research center, it should be able to work with various organizations with different scenarios, requirements and needs. Since there are many different business or geographic locations, we often find that what works best is CoE's corporate core level, supporting several separate CoE specialist departments to provide leadership, recognition, best practices, research, support and / or training for entrepreneurs in one or more industries.

Keywords: SME, center of excellence

КОНЦЕПЦИЯ ЗА РАЗВИТИЕ И ОРГАНИЗАЦИОННАТА СТРУКТУРА НА ЦЕНТЪР ЗА ВИСОКИ ПОСТИЖЕНИЯ

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Резюме: На базата на направени проучвания по темата и опитът на екипи от Бургаски Свободен Университет от вече реализирани проекти и изследвания, свързани с изграждането на офиси за технологичен трансфер, в статията се предлага концепция за развитие и организационна структура на Center of Excellence (CoE), на базата на която се да се изградят няколко аналогични структури в Балканско-Средиземноморския регион. Тъй като CoE е изследователски и интелектуален център, той трябва да може да работи с различни организации с разнообразни сценарии, изисквания и нужди. Тъй като фирмите имат различни бизнеси или географски местоположения, оптималното решение е корпоративна структура на CoE, като се поддържат няколко отделни специализирани отдели, за да осигури лидерство, признание, най-добри практики, изследвания, подкрепа и/или обучение за предприемачите в една или повече индустрии.

Ключови думи: МСП, център за високи постижения, център за технологичен трансфер

Background

This publication some of the results of the implementation of the contract BMP1/1.2/2370/2017, of the project “Innovations Platform and Tools for increasing the innovation capacity of SMEs in the Balkan Mediterranean Area (Innoplatform)”, financed by the EU transnational cooperation programme “Balkan-Mediterranean 2014-2020”.

The importance of innovation for economic development and growth is explicitly stressed the European Union's economic policy and is confirmed in the assumptions of the most recent strategy for Europe. According to the Europe 2020 strategy the major driving forces, leveraging countries' development and competitiveness will be: research, innovations and education. “Innovation Union” flagship describes innovation in various aspects including new or upgraded products, processes, services, new business models, and new forms of organization and collaborations. Innovation is defined as an advantageous eco-system for new ideas generation and implementation. The focus is placed on innovation in SMEs, identified as the backbone of the EU economy. According to Eurostat data, the number of SMEs in all EU countries exceeds 99% of total companies' number. They employ an increasing number of people which makes SMEs the prevailing part of the economy and its driving force. Therefore, European Commission policy in relation to SMEs is mainly focused on the promotion of entrepreneurship and skills; fostering the innovation and growing potential; the improvement of their access to markets and strengthening dialogue and consultation with SME stakeholders. Most SMEs,

especially micro- and small ones, are independent and do not belong to any enterprise group, but medium-sized enterprises are often part of a group. This is most widely spread in manufacturing and to a lesser degree in innovative and knowledge-intensive business services, where SMEs traditionally play important role.

The growth and innovation generating potential of SMEs has been the subject of many studies during the last decades. SMEs are also important in terms of employment and gross value added, especially in smaller countries such as the Balkan-Mediterranean programme countries. In all countries SMEs are open to internal and international trade. According to SME's Performance Review (EC DG E&I), the Balkan MED region lags behind the EU average when it comes to innovations in SMEs. At the same time according to the Global Competitiveness Index, the region as a combination of efficiency driven (Macedonia, Albania, Bulgaria) and innovation led economies (Greece and Cyprus) lags behind the averages in both groups. Balkan MED is also regionally uneven and may benefit from a stronger transnational cooperation, especially in research and innovation.

There are a number of obstacles SMEs encounter when trying to apply innovations in their products, services and management:

- Deficiency of a strategic company plan, particularly in innovation planning and development;
- Inappropriate management, which does not tolerate risk taking, failure or anything "out of variance" [1];
- Lack of resources or time for innovation planning, management and execution
- No processes, models or approaches available for moving ideas into execution
- Deficiency of education/training on creative problem solving, idea management and innovation management concepts [2], [3], [4].

These weaknesses could be reduced by innovation management support, whether done by independent expert or by special innovation centers. The major purpose of each company is to become a successful organization which achieves its goals efficiently. With purpose to do so, SMEs often establish a set of principles the management department follows. As it is known, the innovation development and management is not a single step, but continuous process, which requires dedicated efforts for innovation culture, mindset and discipline within and across the company[5], [6]. Based on this assumption, many organizations apply their own approach: traditional Research & Development departments, internal strategic focus and mindstorm teams, innovation-based project portfolio management approaches and executive-level leadership roles responsible for the growth-based initiatives of the organization.

Another organizational management approach that provides more structural and consistent approach to innovation development and may be applicable for providing structured leadership of innovation concepts is the "Center of Excellence" model. A Center of Excellence (CoE), also referred to as a competency center or a capability center) is typically defined as a place, where the highest standards of achievement are aimed for in a particular sphere of activity". According to a common concept, CoE includes infrastructure, centralized knowledge and dedicated resources to a narrow area of expertise or specialty. This concept assumes CoE provides also a team which aims at improving the expertise in broad range of domains or in a certain area and makes the most of its resources to help the business to improve their products, services and business models. [7], [8].

CoEs provide a central point for innovation and knowledge management, with the overall goal being the ability to identify and transfer new technologies and best practices from inside and outside of the organization. In large companies CoEs usually are single departments, while in SMEs or in organizations working in the field of science and academia CoEs are cross-organizational projects, providing research, support, guidance, training and oversight for companies and employees. A CoE may be a permanent or temporary unit and its team members may work in another capacity or be full-time in the CoE [9], [10].

The "Center of Excellence" Concept

Definition: The Center of Excellence is usually defined as "the place where the highest performance standards are targeted in a particular field of activity."

A common concept used in the information technology space characterized as "Center of Excellence" is that it provides structure, centralized knowledge and specialized resources in a narrow area of expertise or specialty.

- The Center of Excellence consists of a centralized expert team with expertise in the field of knowledge and problems in a specific area, function or technology that uses a structured set of processes, procedures and activities that maintain high levels of efficient and effective implementation. The center must ensure that experts are provided on topics in the chosen field that promote the co-operation and application of knowledge, techniques, tools and activities

- Centers of excellence usually work in cooperation with higher education institutions and businesses, and often with other groups (eg, regional organizations and non-profit organizations).

- Centers of excellence use unique assets located in a region to support advances in research or training within a particular industry or focus. They often serve as a magnet for industry expertise and are dedicated to the success of companies in the region. They also provide leadership, recognition, best practices, research, support and / or training for entrepreneurs, as well as current and future employees in one or more industries

To summarize: Managing innovation, managing ideas and managing the processes to solve creative tasks are at the heart of the concept of the Center of Excellence.

Applying Center of Excellence Concepts to Innovation Management

Applying innovation into business practice is not a trivial or straightforward task. Unfortunately, there is no common consistent framework, containing tutorial, describing how innovation management can be deployed and embedded into each particular organization. The term "innovation" comes from the Latin word "innovare" and means renewal. From a business point of view, innovation stands for some change in regular activities or implementing new product, service or business model that brings benefits for the organization.

Innovation management includes the process of managing an organization's innovation process, starting from an idea, until the final stage of successful implementation. It involves the processes of the decisions, activities and practices of creating and implementing an innovation strategy. It consists of the systematic promotion of innovations in companies and includes activities of planning, conducting, management and control. In addition, innovation implementation is not a single task, but a continuous process, performed in a cyclic manner and aims at driving a sustainable innovation process or culture within an organization.

In the contemporary highly technological world organizations need to implement innovations quickly in order to be one step ahead their competitors. Innovation management helps to create new business models, to develop new products, services and technologies. Proper innovation management also improves the relations with customers and employee engagement. This area could be successfully covered by CoE, working as a brain trust for innovations identification, selection and implementation into the target organization.

Innovation management works with various aspects to promote innovation in organizations and to generate profit, including:

- New products and services;
- Improved products and services to compete the concurrence;
- Improve internal processes to strengthen the company from the inside or to save costs.
- Development of new business models to use new sources of income.

In order to be successful, CoE should follow some requirements:

- ✓ The CoE has to have at its disposal least one executive manager, who is engaged actively in all activities and initiatives;
- ✓ Innovation must be considered as a business discipline, with business plan and organizational structure;
- ✓ A necessary amount of resources (financial, human, technical, infrastructure) must be provided in order to the innovation implementation to be successful;
- ✓ The CoE innovation initiative also has to be supported by proper methodologies, tools, techniques and systems to ensure the effective and efficient innovations management

Considering one ordinary business management department, which is primarily focused on existing products and services, one could observe that it needs specific resources: finance, human, technology, operational resources, etc. The first two elements are usually part of typical business planning, while the technology, innovations and related necessary resources are fast evolving domain, whose forthcoming steps are not easy to forecast and plan. Most SMEs do not have an R&D center to foster innovation planning and implementation. That's why is such organizations the CoE concept can have the greatest positive impact.

CoE will draw attention providing innovation, organizational creativity and ideas for managing innovation development for the organization. It would also provide services for facilitating and overseeing development for new ideas, products, services and customers experience related to the long-run growth strategy of the company. In addition, CoE plays the role of a leader for innovation. It will survey a large variety of external sources of ideas, technologies and innovations, and permanently incorporate new concepts, practices, processes and opportunities in the company. While CoE's functions may not directly include activities like design, building or implementing innovative products or services themselves, it could promote, support and focus on innovative ideas, models and environment.

Following the above mentioned basic principles, innovation management CoE activities could comprise the following:

- ✓ Assume that every employee could be creative and stimulate them to generate and share ideas;
- ✓ A spirit of innovation, collaboration and cooperation, combined with risk assessment should be stimulated;
- ✓ The employees should be given the opportunities for career growth in the company based on innovation design and implementation;
- ✓ Participation in CoE should not be limited to any department, but open to all business units and stakeholders who are interested in developing and implement innovations;
- ✓ No specific department should take the leader role of CoE, but it should work as an intersection point with respect to all directions the company will be developed;
- ✓ Partners, branch organizations, innovation clusters and similar organizations outside of the company could work together with its employees to collaborate and improve its services and products.

Foundations of an Effective Innovation Center of Excellence

There are two basic different models of building the concept of defining the structure, objectives and tasks of CoE. In the first CoE model, it represents an independent unit in a working enterprise with the main task of serving the needs of the enterprise itself. In the second case, it is created as an independent unit, organization or association whose work is related to the servicing of a broader sphere of activities, usually regional or national.

Key tasks of the Center for Excellence:

Provides services to facilitate and supervise the development of new ideas, products, services, technology and customer experience.

The Center of Excellence should serve as a generator of innovation using a wide range of external and internal sources of ideas to continually incorporate new concepts, practices, processes and opportunities.

The Center for Excellence may not be directly responsible for the design, construction or application of innovative products and / or services [11], [12], but must be responsible for promoting, supporting, guiding and implementing an innovative culture and environment

In both cases, for CoE to work effectively:

1. For each innovation initiative, there must be at least one executive leader who is willing to sponsor, engage and actively participate in it;
2. Innovation should be treated as a true business venture with its own organizational structure, discipline, financial portfolio, responsibility.
3. A sufficient amount of resources must be allocated to the innovation initiative to ensure its success. These resources include financial resources, human resources, time resources, and spatial resources

4. The innovation initiative shall also have a set of appropriately adapted methodologies, processes, tools, techniques and systems to ensure the effective implementation of growth-oriented directives

For this purpose, the CoE must be able to perform the following key functions:

- ✓ Activate cooperation between business units and research organizations to ensure consistency and integration of the strategy into the activities of the relevant initiative (innovation);
- ✓ Provide an appropriate framework for managing each innovation initiative
- ✓ Try to set up a clearing house for processes, methodologies, models, tools and technologies;
- ✓ Ensure a clear distinction between business strategy and project-based initiatives;
- ✓ To serve as an organizational focus for a particular business strategy;
- ✓ Provision of training and counselling
- ✓ Success Development and Monitoring - Performance Measurement Criteria and Assessment Systems
- ✓ Central repository for research and research and realization materials

Innovation management is an area of specialized knowledge, using complex processes that are distributed among limited trained resources. Work with CoE is likely to be the only one initiative of an organization dedicated to strategic future growth.

Organizational structure of CoE

CoE does not work on a "one-size-fits-all" model. For each organization, a structure should be created to work for it. There are several scenarios in which a CoE will not meet all needs. When there are many different business or geographic locations, we often find that what works best is CoE's corporate core level, supporting several separate CoE specialist departments.

However, although the model is variable, CoE's work can generally be formulated as:

- Define a common set of best practices and performance standards for each specific application area according to company needs;
- Evaluating (or helping others evaluate) the maturity profile of their own developments against these best practices and work standards;
- Providing guidance and direct and / or indirect support eg. learning materials, tools and templates, etc., to help companies implement these best practices.

At the beginning of the lifecycle, when maturity is lower, it is best for Innoplatform CoE to start with a centralized model and a cross-functional team that supports a number of business lines. With this CoE option:

- Has the minimum organizational structure capable of providing customers and delivering management objects;
- It has the necessary resources and tools to create the necessary relationships for the Center to work successfully;
- Creates and maintains policies and standards;
- Creates and maintains a globally shared asset repository;
- Provides expert services to certain clients for business decision-making and project management (BPM);
- Creates and maintains a primary prototyping laboratory.

At an advanced stage of development, CoE will need to work in a decentralized (advanced) model. Each business line has its own individual CoE branch, subordinate to the CoE Centralized Management.

• The individual CoEs maintain knowledge about the activities and processes characteristic of a particular direction

- Has a specific business process framework;
- Provides specific business knowledge;
- Manages program deployment;
- Coordinate the project teams;
- Provides criteria and standards for reporting on project outcomes and progress.

Introducing the Innovation Center of Excellence Model

A CoE is a unit, which reflects the whole company since it collaborates with all departments with purpose to foster a thinking of innovation and establishing business processes to be successful and sustainable. Innovation is a very common word nowadays, but many organizations may fail in implementing innovations, although they claim their commitment to be innovative.

The CoE creation should comprise some major steps.

The CoE managing board (MB or steering committee) creation. The MB will monitor and oversee the entire innovation implementation process. Its members should represent the organization's management body and all departments. The number of the team members will not be very big – up to 8-9 at maximum, otherwise it would be difficult to make decisions. The team members should be appointed and replaced, if needed, by the management.

The MB will be permanently working, with no limit in time, since the innovation is ongoing process during the whole services and products' lifecycle. All or part of the team members could also be changed on rotate principle or constant.

The CoE chairperson could be selected by the management or by MB. The Committee Chair is not a decision maker alone, but will be responsible for appointing regular or purposed meetings; to serve as a mediator or moderator during MB meetings; to monitor and review the innovation process; to ensure the regular reporting and communication with the experts. The roles and responsibilities of all MB members should be defined at its first meeting, as well as MB regulations; how its progress will be measured; what are their purposes, objectives and vision.

Defining the CoE mission and vision. Each organization has different needs of innovation and CoE has to define the specific measures in order to foster the innovation spirit. According to many successful innovators, innovation cannot be forced, but it can be developed. For this reason, CoE could improve the organization's capacity to generate ideas, design and implement innovations as usual business practice. The development of understanding and practicing these creative activities is the basis for a modern process that promotes innovation in the business practice.

One useful approach for MC could include brainstorming for vision creation with purpose to describe the ideas and guidelines the future organization will look like. This process could comprise creation of scenarios describing how MC members see the organization for the next 3 or 5 years and what they think has to be done to achieve this goal.

Develop Strategies for Innovation.

Strategy should describe how to turn the defined vision into reality. Therefore, its steps and principles should be described clearly in order to MB members and CoE as a whole to comprehend and apply them. Innovation strategy could include the following elements:

Creation of a framework which fosters and supports creativeness in all working activities with purpose to develop new products, services and technologies;

Enhancing the innovation spirit in the organization with purpose to engage employees to improve the innovation culture;

Evaluating, estimating and quantify all processes and activities to improve the innovation overall success

Creating an Innovation Culture.

Innovation culture creation and development is not a single step, but a long-term process, which requires special and focused efforts in order to be successful. In order to complete this task, the CoE has to be focused on SMEs needs, value-driven and has well-defined strategy. This makes sure that its strategy is developed by interacting with all relevant stakeholders, including market trends identifying and reviewing.

All employees should be aware of created innovation vision and objectives. This will help them in taking decisions during their ordinary activities and will identify the current innovation culture in the organization.

Develop the Innovation Process.

Innovation process, led by the CoE, could comprise the following steps:

- ✓ Stimulating employees to generate ideas by asking them questions, provoking with real-world or imaginary cases, challenges, issues, etc.
- ✓ Encouraging them to collect and organize their ideas and to send them to MB of CoE
- ✓ Grouping the ideas into clusters by similarity and checking their applicability

- ✓ Creating innovation working groups, focused on the created ideas and providing permanent training, tutoring and support to the innovation groups.

This model could be summarized with the following analytical framework, representing the above relationships (Figure 1). The leftmost rectangle contains the strategic orientation (purposes) of a CoE. The previously defined goals are achieved by a number of SME's operational activities like tools and techniques; knowledge management and performance assessment. These combined activities are expected to generate certain impacts and capacities such as research capacity and training. CoE aims to fill this model with empirical content to assess the effectiveness of an applied CoE scheme at transforming its strategic aims into corresponding outputs. The arrows suggest the information and managerial flows of these components, as well as the impacts and capacity building.

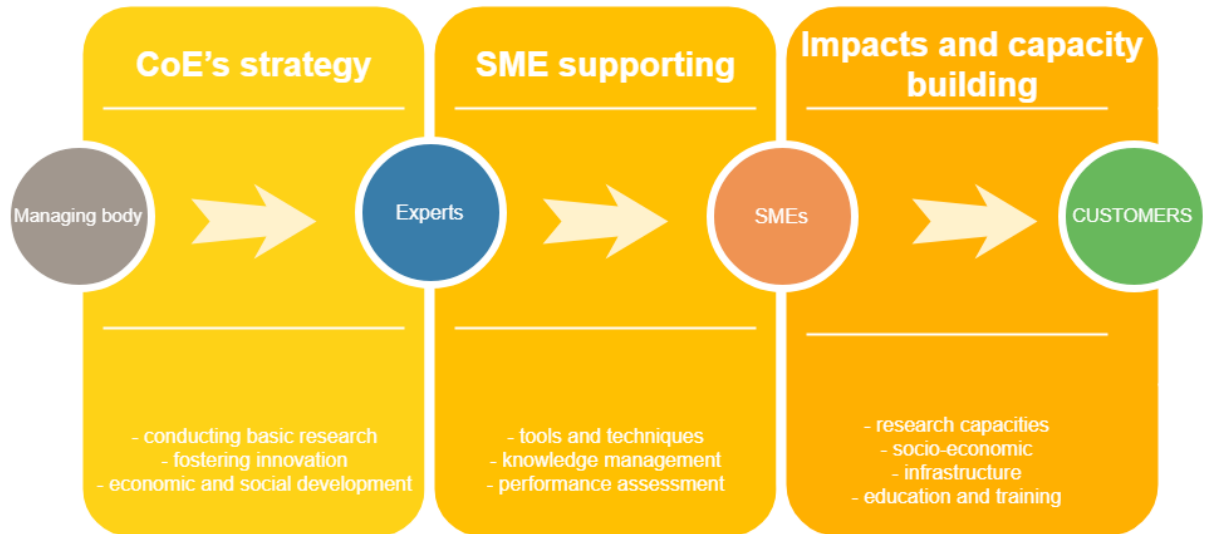


Figure 1. The Centre of Excellence Operational Framework

In order to function properly CoEs need the following important roles to deal with its activities:

- *Domain Experts.* Depending on whether the range of domains CoE is focused on, subject matter experts in each topic are needed: manufacturing, IT, design, engineering, operations, business analysis, supply chain, etc.
- *Process Experts.* This group consists of experts in methodology, process improvement, business processes, etc.
- *Internal Consultants.* These experts work on areas like innovation and idea management, ideas creators, creative Problem Solving, organizational creativity, etc.
- *Infrastructure and Facilitation Experts.* This group consists of experts in IT / engineering, training, etc.
- *Other Experts.* These experts work in other functional areas like finance, human resources, marketing and sales, etc.

Conclusion

The aim of the article is to provide a concept of the organizational structure of the CE, on the basis of which to build several such structure structures in the Balkan Mediterranean region. There are significant differences depending on different types of business, geographic locations, different countries, social, demographic, political and other peculiarities. The organizational structure of the CE must be such as to ensure effective work in different conditions. When there are many different business or geographic locations, what works best is the corporate structure of the CE by maintaining several separate specialized departments to provide leadership, recognition, best practices, research, support and / or training for entrepreneurs in one or more industries.

The choices made for choice of concept and organizational structure are a prerequisite for the subsequent development of the idea and definition of the functions and the backs of the individual units in the CoE in order to build real effective structural units in the region of the Balkan Mediterranean

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