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Participation of Key Stakeholders in Science Policy Making in Eu

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Participation of Key Stakeholders in Science Policy Making in EU

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Abstract

Nowadays the importance of involvement of citizens in decision-making processes is underlined in most recent research on effectiveness of public administration. Taking into consideration that development of science and research is fundamental for economic growth as well as sustainable development, the process of policy making in science should involve relevant stakeholders building effective relationships with key stakeholders. In case of EU, Ministries responsible for science have developed Smart Specialization Strategies for transformation of economies towards higher added value. For successful implementation of the strategies, Ministries have identified different initiatives towards involvement of key stakeholders in science policy making. In circumstances of low public and private funding to research and development in EU-13, the communication with science community has been challenging.

Taking into account all mentioned before, the purpose of the study is to analyse the approaches on involvement of stakeholders in science policy making, especially in EU countries with relatively low budget for research and development.

In order to achieve the purpose, the tasks are formulated as follows:

1. to review the theoretical background for involvement of stakeholders in science policy making in EU;
2. to analyse the best practice in ensuring the participation of key stakeholders in science policy making in EU, special focusing on case of Latvia;
3. to provide the recommendations for the ministries in EU responsible for science in ensuring the participation of key stakeholders in policy making.

Research methods used: scientific literature studies, statistical data analysis, expert survey.

The research showed that effective involvement of key stakeholders in science policy making process is topical challenge for policy makers in EU, especially in countries with low share of budget for research and development. Successful strategy of involvement of key stakeholders in science policy includes effective communication at different levels, development of high-quality services as well as development of participatory administrative culture for civil servants.

KEYWORDS: science policy, stakeholders, public administration, Latvia

Introduction

Policy-making is a complex interactive process, having many iterations, involving and impacting many stakeholders, and addressing intractable problems from a wide variety of topics (Birkland, 2011). The policy-making practice is affected by a number of relatively recent developments – the potential for ubiquitous civic engagement, more and more government data being released in open formats around the world, experiments involving citizens in solving government problems through advice and challenge platforms, and commercially-ready techniques for gaming and simulation that provide a virtual space to explore various social and policy dynamics (Jassen and Helbig, 2018).

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In brief, 'stakeholder participation' refers to the inclusion of various stakeholders that can affect, or are affected by, the results of policy-making and decision-making processes. In general, a number of institutions and actors are invited to participate in such processes, for instance, civil society organisations/ NGOs, business representatives, social partners (i.e. trade unions, chambers of commerce, etc.), sub-national authorities, academia and individual citizens (Pisano, et. al. 2015).

Academic studies and policy statements lauding the benefits of participatory policy processes have made participation one of the most widely used concepts in development politics (Reed, 2008, Henning et al., 2019). Beyond normative claims, pragmatic claims focus on higher quality and sustainability of political decisions arising from participatory policy processes (Brody, 2003, Blackstock et al., 2007).

One critique is that stakeholder participation has not been meaningfully implemented by governments (Siebold, 2007), with marginalized groups still being excluded from political decision-making or their involvement being limited to pure consultation (Burton, 2004). The failure of participatory policy processes is explained by the fact that participating stakeholders lack the capacity and technical knowledge to make good political decisions (Hage et al., 2010).

In addition, many policy-makers are struggling to understand participatory governance in the midst of technological changes. Advances in information and communication technologies (ICTs) continue to have an impact on the ways that policy-makers and citizens engage with each other throughout the policy-making process (Jassen and Helbig, 2018). It is widely recognized that advanced information and communication technologies (ICTs) have impacted the ways that policy-makers and citizens engage in the policy-making process (Chadwick, 2003).

In case of science policy-making, ministries responsible for science and research policy-making are facing challenges regarding involvement academia, industry and civil society in decision-making process in context of rather low investment in R&D, especially in EU-13. However, the focus on these matters in scientific research have not been made.

In case of Latvia (one of EU-13 Member States), where expenditure in R&D consist 0.51% of GDP in 2017 (expenditure in R&D in the EU increased to 2.07% of GDP in 2017, while EUROPE2020 objective is 3% (European Cpmmission, 2019)) public administrators are facing with difficulties to involve relevant actors and ensure transparency and openness of the participatory process.

Taking into account all mentioned before, the purpose of the study is to analyse the approaches on involvement of stakeholders in science policy making, especially in EU countries with relatively low budget for research and development.

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Participatory process in policy-making: theoretical framework

Researchers and practitioners have formulated several key principles that describe effective participatory process (e.g. Arbter *et. al.* 2007; Duraiappah et al., 2005; Hemmati, 2002):

- **Inclusion:** stakeholders (representatives of interest groups or society) are involved during the participatory process;
- **Equal partnership:** all stakeholders are participating on equal rights disregarding its' sex, age, religion or status;

- **Increasing knowledge:** each stakeholder has special "knowledge" that he or she can share in order to increase common knowledge and understanding;
- **Transparency:** the process of forming stakeholders group should be open and transparent, as well as all discussions;
- **Access to information:** all participants should have the same access to documents and information;
- **Ownership:** usually stakeholders has ownership of the results f they are actively involved in the process;
- **Sharing responsibility:** each participant has shared responsibility of decisions made during the process;
- **Empowerment:** process holder should inform all participants how much influence they have;
- **Process design:** before the participatory process, the organiser (process holder) should plan all resources needed (e.g. personnel, budget)
- **Integrating in existing decision procedures:** in the democracy there should be built a participatory framework with relevant procedures.

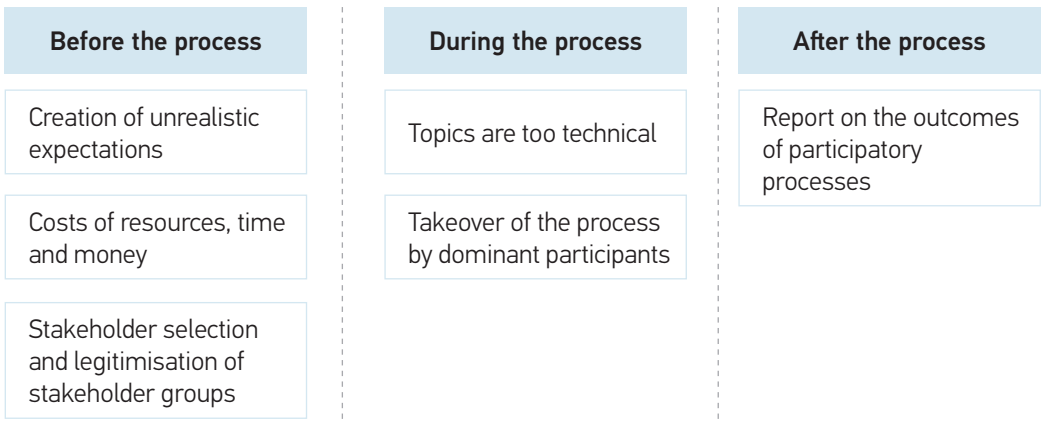
The process principles outlined above can have different application practices in the policy process, depending on:(i) participation applied in the different policy hierarchy levels, (ii) the different forms of participation, (iii) the degree of participation, (iv) participation at the different political levels (vertical participation),(v) the breadth of participation and, (vi) the participation at different stages of the policy cycle (Pisano, *et. al.* 2015).

There are clear benefits for all parties involved (Arbter *et. al.,* 2007):

- **Politicians** may get better understanding of that citizens want and what is their position regarding specific questions. In addition, these processes could also promote more democratic policy.
- **Public administrators** are benefited as they have possibility to discuss issues with stakeholders and it would help in further steps of harmonization of document. In addition, participatory process also correlates with citizens' trust in administration.
- **Business representatives** may benefit from the participatory process as they can lobby their own perspectives. Also, entrepreneurs can change their activities or strategy as they are informed about some processes before others.
- **Citizens or citizen representatives** can demonstrate their position, ideas, concerns and opinions. They can influence the process and decisions. In addition, the citizens are informed about different processes.

Figure 1

Challenges of participatory processes (author's illustration based on Arbter *et. al.,* 2007; Dalal-Clayton and Bass, 2002; UNEP, 2002; Waylen et al. 2015)



During the process of stakeholders' involvement there are many challenges to face with (see Fig.1.). For example, during the preparation process, persons involved sometimes build an unrealistic expectation, that's why it is important to communicate properly in advance all aspects of participatory process. Also, it is usual mistake to discuss with stakeholders topics that are too technical and requires specific knowledge, e.g. discussing some legislative aspects. In addition, it should be taken into account that there must be some budget in order to organize meetings with stakeholders, like catering, accommodation, stationery. There are some cases when process holder decides to go the easiest way and invite stakeholders that are positively disposed avoiding discussing issues with negatively tuned citizens. However, the selection process should be based on transparency and openness. Another challenge is misbalanced discussion process because of takeover by dominant participants. In these cases, process holder needs to ensure experienced moderator. At the end, it should be ensured that all outcomes of the discussions are reported. It is important that there is a feedback after discussions, so participants can follow the progress after participatory process.

In case of research policy and involvement of stakeholders in policy planning, usually Triple Helix model has been called (see Fig.2). The Triple Helix model offers a useful perspective to analyze the role of the collaboration between different social stakeholders in promoting local and regional conditions for the development of knowledge-based entrepreneurship (Etzkowitz and Leydesdorff, 2000). The main assumption of the Triple Helix model is that the interplay of relations among university, government and industry, which roles partially overlap, improves the conditions for innovation (Champenois and Etzkowitz, 2017). The Triple Helix and other derived models can be applied to different scales and types of innovation, ranging from incremental to more fundamental and social innovation, which makes them good analytical tools to understand the dynamics of knowledge-based development of regions (Kolehmainenet *et. al.*, 2016).

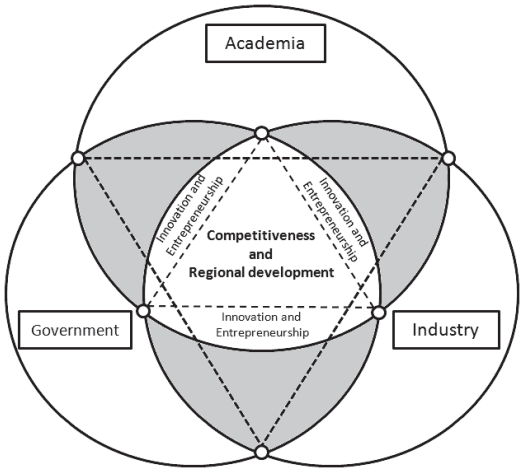


Figure 2
Triple Helix model: cooperation between academia, industry and government (Farinha et.al., 2016)

In order to deal with facing major economic challenges, EU has set out its vision for Europe's social market economy in the Europe 2020 strategy, which aims to smart, inclusive and sustainable growth (European Commission, 2010). In this policy context, EU has designed the framework for regions smart specialization supporting regional development. Regions or Member States has to develop regional/ national research and innovation strategies for smart specialisation (RIS3) that are integrated, place-based economic transformation agendas. These strategies focus policy support and investments on key national/regional priorities, challenges and needs for knowl-

edge-based development. In designing, implementing and monitoring of RIS3 stakeholders must be fully involved and encourage innovation and experimentation (European Commission, 2012). Taking into account, that RIS3 is based on a wide view of innovation, stakeholders of different types and levels should participate extensively in its design, implementation and monitoring. European Commission has defined recommendations for the Member States in order to ensure openness and transparency of participatory process. The analysts point that tripartite governance model based on the involvement of industry, education and research institutions, and government (the so-called Triple Helix model), is no longer enough in the context of smart specialisation Innovation users or groups representing demand-side perspectives and consumers, relevant non-profit organisations representing citizens and workers should all be taken on board of the participatory process of RIS3. In order to secure that all stakeholders own and share the strategy, governance schemes should allow for 'collaborative leadership', meaning that hierarchies in decision-making should be flexible enough in order to let each actor to have a role and eventually take the lead in specific phases of RIS3 design, according to actors' characteristics, background, and capacities (European Commission, 2012).

Involvement of stakeholders in science policy-making

In context of participatory process in science policy-making, there are many potential roles of scientists in a science advisory ecosystem, for example scientists can be knowledge generators, knowledge synthesizers or knowledge brokers and policy evaluation (see table 1). In addition, scientists could be perceived as individuals or institutions, the government advisory boards, etc.

Table 1
Different roles in a science advisory ecosystems

	Knowledge generators	Knowledge synthesizers	Knowledge brokers	Policy evaluation
Individual academics	+++	++		+
Academic societies/ professional bodies		+		
Government employed practicing scientists	+++	+		++
Scientists within policy agencies		++	++	++
Scientists within regulatory agency		++	++	
National academies		+++	+	++
Government advisory boards/ science councils		++	+	
Science advisors to the executive government		+	++++	
Science advice to legislators		+	++	

Source: Gluckman, 2018

According to Gluckman (2018), individual academics and government employed practicing scientists could be excellent knowledge generators, national academies are good in knowledge synthesis, while science advisors to the executive government (ministries) and scientists within agencies could do knowledge brokerage, namely communicate different issues related to science policy.

Referring to the European Commission's recommendations, the participatory process should be ensured at all stages of RIS3 – design, implementation and monitoring (see Fig.3). Different actors representing civic society and market should be involved in different management bodies of RIS3. Also they must participate in development of policy instruments within policy mix and

planning documents (action plans, roadmaps, etc.). In addition, stakeholders present at monitoring and evaluation process as well.

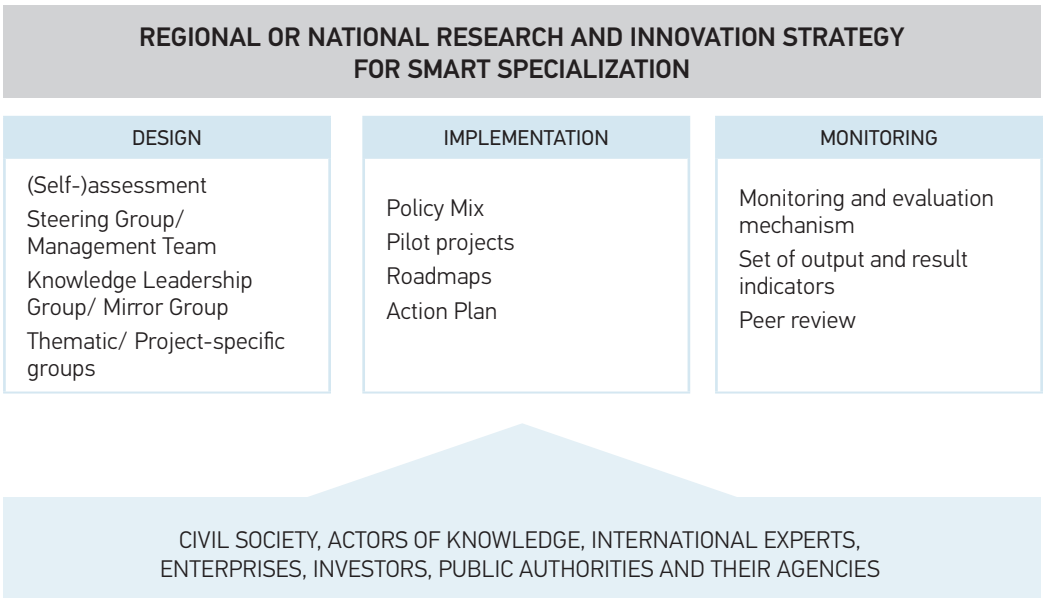


Figure 3
Participation and ownership model for RIS3 (author's illustration based on European Commission, 2012)

During the implementation of INTERREG Baltic Sea Programme project "Baltic Science Network" (2016-2019), which aims to providing science and research ministries of the Baltic Sea region states with an overall coordination framework to develop and implement science, the research on so called widening countries (EU-13) was conducted. During the research, the aspect of participatory process at the ministries responsible for research policy was covered in context of ensuring effective communication channels with stakeholders. It was concluded that multi-stakeholder partnership is very important in order to effectively communicate with actors. In this case, development of participatory culture in administrative mechanisms should be ensured. Project partners admitted that internationalization and good practice sharing on participatory instruments encourage development of participatory culture in public sector. Ministries needs to develop communication strategy implementing multi-stakeholder approach in order to involve actors in policy-planning processes (Lindroos and Suomalainen, 2019).

Participatory process in RIS3: Case of Latvia

In case of Latvia, the development of RIS3 started at the end of 2014 involving wide range of stakeholders from academia, industry and civil society. Ministry of Education and Science of Latvia was a partner in before mention project "Baltic Science network" where through good practice sharing improved participatory processes. In depth analysis of case of Latvia would be developed in next section.

In case of Latvia, the analytical unit of RIS3 experts within the Ministry of Education and Science has been established since 2018. Based on semi-structural interviews with these experts as well as analysis of publicly available and experts' provided data further would be analysed the participatory process of RIS3 in Latvia.

In line with the Guidelines on Research, Technology Development, and Innovation for 2014–2020 (Ministry of Education and Science of Republic of Latvia, 2013b). RIS3 aids in the discovery of competitive advantages, choice of strategic priorities and the selection of such policy instruments that unlock the highest potential for a knowledge-based state, thus ensuring the growth

of the national economy. Pursuant to RIS3 objectives, RIS3 public investments programmes focus on strengthening innovation capacity of Latvian national economy and reducing innovation obstacles (Ministry of Education and Science of Republic of Latvia, 2013a).

During the development phase of RIS3, Ministry of Education and Science initiated 8 discussions with stakeholders with the aim to assess the current situation, to identify the problems and challenges, to find the relevant sectorial specialization and to plan the necessary support instruments for the next programming period and RIS3:

1. Biomedicine, medical technology, biotechnology and bio-pharmacy;
2. Smart materials, technology and engineering;
3. Knowledge-intensive bio-economy;
4. Smart energy;
5. Information and communication Technologies;
6. Professional education;
7. Higher education;
8. R&D&I system development.

In 2014, 14 public discussions were organised attended by more than 500 representatives from scientific institutions, education institutions and industry associations. In these discussions it was concluded that the sectors of the national economy in Latvia are characterized by a relatively high level of specialisation, therefore, specialisation as a whole is not a challenge for the national economy of Latvia. Latvian export-oriented enterprises are highly specialized and are constantly looking for specialization opportunities in niches and specific product sectors. One of the most important core principles for the implementation of the Smart Specialization Strategy does not choose "winning sectors" or avoid selectivity. Instead, the primary focus is on the creating a business environment that facilitates innovative activities and the development of human capital. One of the issues in these discussions was to identify the possible niches of the competitiveness within the framework of each specialization area (Ministry of Education and Science of Republic of Latvia, 2018). At the end five smart specialization areas were defined:

1. Knowledge-based bio-economics;
2. Bio-medicine, medical technologies, bio-pharmacy and biotechnologies;
3. Advanced materials, technologies, engineering systems;
4. Smart energy;
5. Smart energy (Ministry of Education and Science of Republic of Latvia, 2013a).

During the implementation stage of RIS3, the discussions with stakeholders within each specialization area continued, for example during the development of policy-mix instruments. During the interviews, experts from analytical unit of RIS3 admitted that they use different formal and informal instruments in order to ensure effective participatory process (see Fig.4):

- Formal instruments – formal harmonization of planning documents, participation as partners in join projects, organizing conferences, seminars, trainings for stakeholders, participation in working groups for development of policy planning documents and funding programmes, collecting data;
- Informal instruments – regular meetings, calls and emails, participation in joint business trips, organizing joint communication events, etc.

In addition, Department for Higher Education, Science and Innovation focus on communication

Figure 4

Approaches of the Ministry of Education and Science of Latvia in ensuring the participation process in policy-making (author's illustration based on semi-structured interviews with experts)

activities with stakeholders by implementing a communication strategy (within European Structural Fund project "Integrated national level measures to strengthen the representation of Latvia's research and development interests in the European Research Area"). Special attention is paid also to Latvian researchers living and working abroad – for example, in 2018 IV World Congress of Latvian Scientists gathering more than 750 participants form 24 countries was organized (Ministry of Education and Science of Latvia, 2018). In development and implementation of communication strategy stakeholders from academia, industry and civil society are participating. Especially active is Association of Young Scientists and Association of Latvian Universities.

Conclusions

- Stakeholder participation refers to the inclusion of various stakeholders that can affect, or are affected by, the results of policy-making and decision-making processes. Research show that effective realization of stakeholder participation ensures society trust in policy-making, reduce the possibility of conflicts and improves the quality of planning documents.
- In case of science (or research) policy making, traditionally in theoretic framework researchers and administrators use modification of triple helix model, where interactions among academia, industry and government are illustrated. However, in order to deal with current mayor challenges new approaches needs to be developed.
- Within EU, framework for Smart Specialization Strategy has been developed in order to boost research and innovation in regions. The framework promotes the participatory process in all stages of development of strategies.
- In case of Latvia, Ministry of Education and Science ensured involvement of stakeholders in design, implementation and monitoring of Smart Specialization Strategy. Ministry has formed RIS3 analytical unit that on daily basis develops ecosystems of specialization areas in close cooperation with relevant stakeholders.
- Research in Latvia showed that in order to implement effective participatory process, different range of formal and informal instruments needs to be used. Very important is to communicate with stakeholders in daily basis, thereby developing participatory culture for civil servants. In addition, communication strategy including stakeholders in development and implementation of different evets is crucial par effective dialogue with society.

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