



Quantitative Scaling of Social Innovations¹

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ABSTRACT

Social innovation permeates the socio-economic dimension and it is the one of the effective instruments for improving the public welfare. Therefore, it has ignited growing academic and practical interest. However, despite of the increased interest in the designated research field, it has not yet formed a unified theoretical and methodological basis of social innovations. Besides, such an important aspect of social innovations as the evaluation of parameters, which can scale social innovations in the socio-economic dimension and expose lacks, is completely unexplored and unformed. Hence, the aim of this paper is to develop an original approach to quantitative scaling that allow analysing the allocation of social innovations in the socio-economic dimension. The concept of "social innovation" is interdisciplinary, so that the research included the integration of the modern economic theory, sociology, philosophy and political science for developing a common approach to the analysis of social innovations. We have used various methodologies as a groundwork such as: neo-institutional and neoclassical economic approaches, categorical and instrumental apparatus of the institutional-evolution economic theory, the theory of public sector economy, and the economics of knowledge. To achieve the objective of our research we developed a definition of social innovations. Besides four the most important measurable parameters, which allow us to classify social innovations according to their signs, were developed. These parameters were the basis for scaling of social innovations. Authors have analyzed thirty-two social in Ural region. It allows identifying spheres in public sector, which are less provided with social innovations.

INTRODUCTION

The contemporary socio-economic space exhibits a high degree of variability. A change is observed in the needs of society, both in terms of tangible and intangible benefits. In this regard, the set of goods consumed by different social groups varies significantly. As a consequence, the majority of economic models aimed at meeting the needs of the population have rapidly become outmoded and ineffective. In this context, particular importance is attached to social innovation that generates new and more effective ways of creating benefits at the lowest cost. Social innovations are starting to play an effective role as a tool for improving social wel-

fare (Moore, 1995; Battistella C., Nonino F., 2012). The growing interest in this issue, both from the scientific community and from practitioners, may be referred to in terms of a global trend. However, the research community has not yet coalesced around a unified concept in this area, despite some aspects being presented in the works of Mulgan et al. (2007), G. Phils(2009) and M. Moore (1995). An example of a large-scale research project encompassing the various aspects of innovation in the public sector is implemented in the European Union in the 2003-2006 research project entitled PUBLIN (Koch P., Cunningham P., Schwabsky N., 2005; Koch P., Hauknes J., 2005).

The above-mentioned fact shows that the indicated line of research is at the beginning of its development. An important question is: what position does this phenomenon occupy within the socio-economic system and what role is played here by civic initiatives (Dekker, 2009; Jäger, Schroer, 2014; Jäger, 2012)? The answers to these questions will not only reveal the basic features of social innovation, but also determine the characteristics of public management initiatives supporting the development of social innovation (Cooney, 2006). Hence, the aim of this paper is to develop an original approach to quantitative scaling that allow analysing the allocation of social innovations in the socio-economic dimension. To advance this aim, a review of approaches to the definition of “social innovation” is carried out, considering the theoretical and methodological principles of economic theory, enabling a determination of the main parameters of the systematisation of social innovation and presenting a quantitative scaling of social innovation that highlights the main features of its distribution in social space.

1. THE DEFINITION OF SOCIAL INNOVATION

One of the most generally accepted definitions of social innovation was provided by Mulgan et al. (2007). The authors define social innovation in terms of “new ideas working to achieve social objectives”. However, this definition does not reflect the essential characteristics of social innovation or show where it contrasts with innovation in general. Often, business innovation contributes to the obtaining of an economic benefit in the form of profit, as well as the attainment of social goals. (Mulgan G., Tuckers S., Ali R., Sanders B., 2007).

G. Phils understands social innovation to consist of any new and useful solution aimed at meeting social needs (Phils, 2009). The main weak point in this definition is that it is based around the utility requirement of social innovation. However, in practice, the effects of innovation can be unpredictable. R. Heiscala understands social innovation to refer to changes in the cultural, legal and regulatory structures of a society that increase its collective power resources, as well as improving social and economic performance. The main value of this definition is the reference to “increasing the collective power resources” (Heiscala, 2007). Furthermore, the author understands social innovation not as an idea, but as a transformation that creates an alternative approach to the determination of the essence of social innovations (Gonzalez-Padron, Tomas, Hult, Calantone, 2008).

The concept of “social innovation” closely resembles the concept of “innovation in the public sector” – “Innovations in the public sector are new ideas, the embodiment of which lead to an increase in social value”. However, these definitions can be deceptive, implying that social innovation is one of the types of innovation that is aimed primarily at social needs (Koch, Hauknes, 2005; Koch, Cunningham, Schwabsky, Hauknes, 2005). Summarising the results of researchers, as well as taking into account the original approach to the definition of the term, it may be disclosed that social innovation possesses the following main general features: a certain level of novelty; implementation in the social space; and a focus on improving the performance of contemporary activities aimed at solving social problems.

As such, we understand social innovation to refer to new ideas, opportunities and actions within the social space that increase the possibility of utilising resources to address economic, social, cultural and environmental issues. In this connection, we understand social space to

refer to the multidimensional space of interrelated social processes, relations, practices and positions. Despite the fact that there is no single approach to the study of social innovation, it may be observed that the views of the majority of researchers coincide; for example, as regards the connections between social innovation, social value, activation of human potential, provision of public goods and improved quality of life (McElroy, 2002; Fafchamps, 2006). In taking these aspects into account, the proposed definition of the term thus distinguishes social innovations from other types of innovation. We additionally observe that social innovation is an important instrument for territorial development in the knowledge-based economy.

2. METHODS

In developing the original approach to the distribution of social innovation in the social and economic space, analysis and synthesis, compilation and systematisation methods – as well as a four-dimensional graphical representation technique – were applied within the context of research. The study procedure consisted primarily in the development of a theoretical basis for the original approach to the further distribution of social innovations. The theoretical analysis of the sources allowed the most important parameters of the systematisation of social innovations to be identified as presented below. Firstly, it includes a *level of State participation*. This parameter is needed to track the effectiveness of social innovation, supported by public and private sources. It allows social innovation to be divided into the following groups:

- with full State participation;
- with partial State participation;
- without State participation (Golubeva, Sokolova, 2010)

Secondly, the most important parameter of the systematisation of social innovation is *initiation level* of the social innovation. This parameter characterises the source of the initiative to create a social innovation. In other words, it is necessary when analysing the effectiveness of social innovation to keep track of who is the initiating subject of this innovation: government, bureaucracy or ordinary citizens. Depending on their initiator, social innovations may be divided into:

- innovations by public authorities;
- innovations by citizens.

The next parameter is the *scope*, indicating the application level of social innovation. The significance of this parameter derives from the fact that it represents the degree of influence of social innovation. Depending on their extent, social innovations may be implemented at the following levels:

- the level of the enterprise;
- micro level (industry sector) (Popov, 2005);
- local level (urban, rural settlement, municipal);
- regional level (separately selected region);
- national level;
- international level (social innovations cover a certain number of countries).

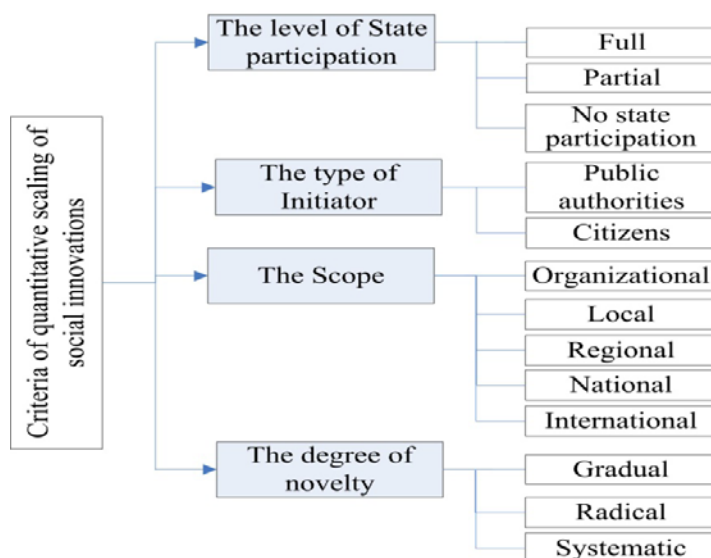
The fourth significant parameter is the *degree of novelty of the social innovation* (Tanimoto, 2012). Depending on the degree of novelty, social innovations are subdivided into:

- gradual social innovations (minor improvements to existing services, processes, institutions);
- radical social innovations (radical changes to existing services, processes, institutions);

- systemic social innovation, i.e the creation of a new system or a fundamental change to an existing system

The list of criteria constituting the basis for the formation of quantitative scalings for social innovation is presented in Figure 1.

Figure 1. Quantitative scaling of social innovation



The application of the proposed theoretical development to the distribution of social innovation allows the location of the considered innovations to be determined in the social space, thus forming the basis for a prediction of its effects on the development of public sector management at various levels (global, national, regional or municipal). As regards the collection of data by specific theme, an analysis of publicly available information about implementable social innovation was carried out. In order to analyze the most trending social innovations, authors have observed often mentioned and promoted social innovations by such organizations as Young Foundation, Social Innovation Center of Stanford University, Agency of Strategic Initiatives in Russia, Center for Health Market Innovations, Grameen Foundation, Center of Social Innovations (CSI), Europe Tomorrow, Public Space. Moreover, all mentioned social innovations from Elibrary, Google Scholar, SCOPUS and Web of Knowledge databases, where key words “social innovations” was used, have been added to our selection. We believe that this sample of social innovations is going to significant influence to the development of practical and theoretical aspects of social innovations. As a result, a list comprising 42 social innovations was formed; the list is presented in annex.

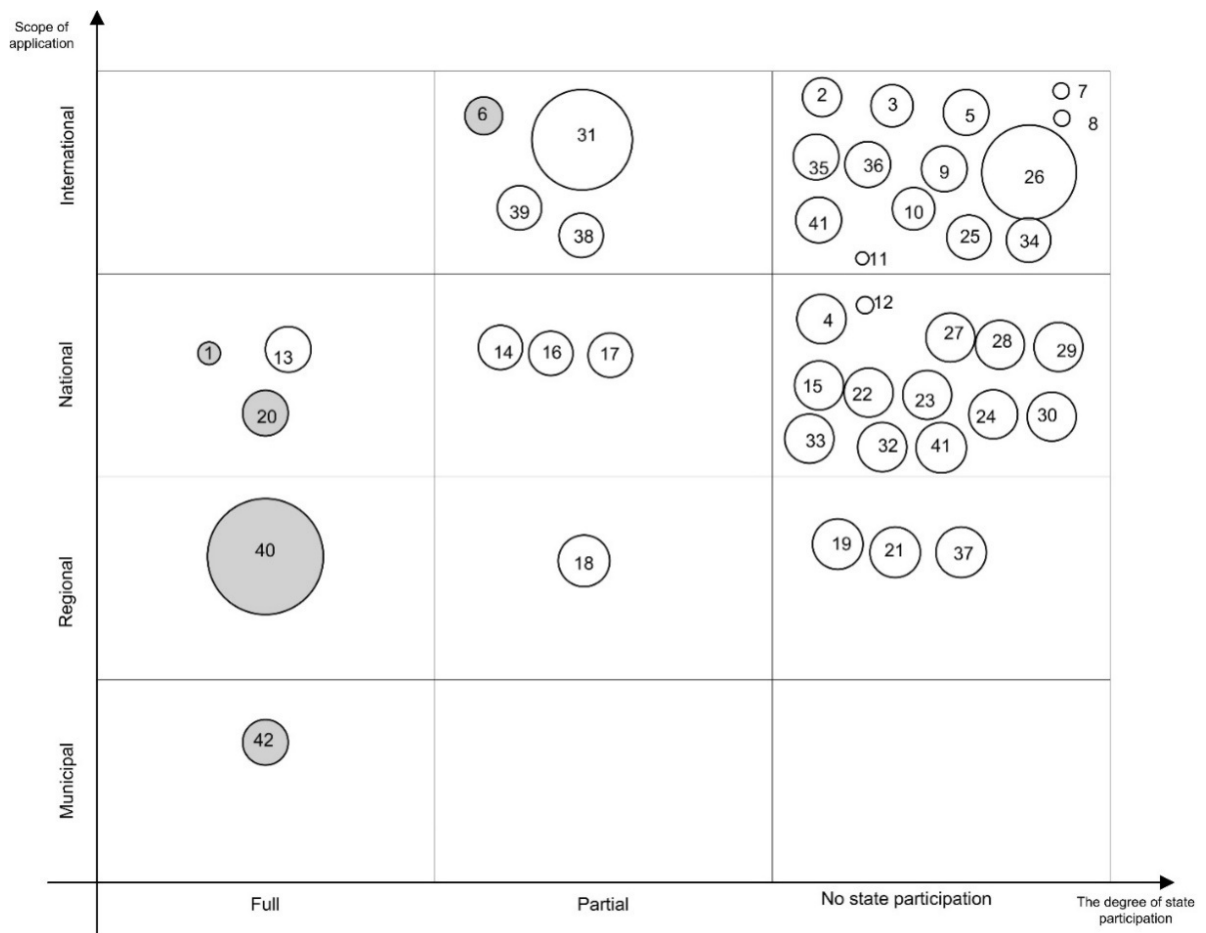
The last phase of the study consisted in the distribution of the 42 social innovations according to quantitative scaling criteria. The results of the distribution are graphically reflected in Figure 2. A separate schedule was constructed for each activity. The x-axis shows the degree of public participation. The y-axis represents the scope of social innovation. The size of the figures characterises the novelty of innovation, with a small circle representing incremental innovations, a medium-sized circle representing radical innovations and a large circle representing systemic innovations. The colour of the figure characterises the level of initiation of social innovation: coloured innovations are initiated from above and non-coloured innovations initiated from below.

Insufficiently protected social innovations, as well as a list of supposed causes of this phenomenon, are as formed on the basis of the results of the allocation of identified areas. The main difficulty faced by the authors in the course of this study has been the formation of a sample of social innovation that reflects the objective tendencies of socio-innovative development; this is also a consequence of the lack of a generally accepted interpretation of social innovation in the scientific community. In addition, a certain barrier exists in terms of information availability concerning the measured characteristics. However, this problem can be addressed through an analysis of the most significant socially innovative projects.

3. RESULTS

The allocation of social innovations, identified according to the authors' proposed quantitative scaling criteria, including type of activity, scope, degree of government involvement, level of innovation and type of initiation, allowed us to obtain the results presented below.

Figure 2: Dependency of the level of usage of social innovation on the proportion of State involvement.



Here, the size of the circle indicates the degree of novelty (small – process innovation; medium – radical innovation; large – system innovation); a dark colour indicates public authorities initi-

ation, while a light colour represents citizens initiation. The numbering social innovations are presented in an annex to this article

Summing up on the presented list of social innovations, it can be concluded that 71.5% of the projects have a private character; of these, 33.3% are presented at the international level, 28.6% – at the national, but only 4.8% – at the regional and municipal levels. Projects with partial State participation accounted for 14.2%, while the proportion of projects with full public participation did not exceed 11.9%. Here, social innovations at the municipal level are completely absent (Table 1).

Table 1. Distribution of social innovation as a percentage according to the degree of government involvement and scope of the project

<i>State participation</i> / <i>Scope</i>	<i>Full</i>	<i>Partial</i>	<i>No State participation</i>	<i>TOTAL</i>
<i>International</i>	2.4%	7.1%	34.3%	43.8%
<i>National</i>	7.1%	7.1%	29.6%	43.8%
<i>Regional</i>	2.4%	0.0%	4.8%	7.2%
<i>Municipal</i>	0.0%	0.0%	4.8%	4.8%
<i>TOTAL</i>	11.9%	14.2%	73.5%	100%

Analysis of the distribution of social innovation by the level of initiation and degree of novelty is presented in Table 2. The largest share of innovation – 81% – was initiated by citizens. Of these, 67% are radical, 12% – improving and 2% – systemic. Innovations initiated by public authorities account for only 19%. Of these, 12% are radical, 5% – improving and 2% – systemic.

Table 2. Distribution of social innovation as a percentage according to the level of initiation and degree of novelty

<i>Novelty</i> / <i>Initiations</i>	<i>Gradual innovations</i>	<i>Radical innovations</i>	<i>Systemic innovations</i>	<i>TOTAL</i>
<i>Initiations by public authorities</i>	12%	67%	2%	81%
<i>Initiations by citizens</i>	5%	12%	2%	19%
<i>TOTAL</i>	17%	79%	4%	100%

Thus, the majority of innovations are radical at the national level and are mostly of a private nature (71.5% of social innovations).

The analysis relationship between parameters of the scaling shows that parameters such as the state participation and the type of initiator is correlated. In other words, civic initiatives use only private finding while public authorities use state funding.

Table 3. Correlation of parameters of the social innovations

	<i>The Scope</i>	<i>State participation</i>	<i>Degree of novelty</i>	<i>The type of initiator</i>
<i>The Scope</i>	1			
<i>State participation</i>	-0,19	1		
<i>Degree of novelty</i>	0,05	0,13	1	
<i>The type of initiator</i>	-0,17	0,86	-0,03	1

4. DISCUSSION

The results obtained in the previous section results of the study allow the following distribution patterns for the considered social innovations to be formulated.

- In economic terms, the most common social innovation is initiated by citizens. As noted above, 81% of social innovations are initiated, not by public bodies or government agencies, but by ordinary citizens.
- Most social innovations are carried out without State support; 71.5% are implemented without any government involvement at all.
- The most popular innovations are of an international (42%) and national (42.8%) character. The share of regional innovation is only 7.2%, while the municipal level accounts for a mere 4.8% of social innovations.
- The majority of social innovation is of a private character. Only 14.2% of social innovations are implemented with partial State support, while 11.9% of social innovations are implemented with full State support.
- Only public authorities are supported by state funding

All of the above make it possible to rethink the role of this phenomenon in terms of the socio-economic development. The distribution characteristics of social innovations are defined in terms of the specifics of institutional development of the territory (North, 1989). Consequently, it is necessary to analyze the institutional basis of social innovations.

The presented scaling of institutions of social innovations can be applied in the construction of an institutional atlas of social innovation, as well as to identify areas in the institutional social innovation basis for which current provision does not exist.

The most important aspects of the process of developing of social innovations may be presented according to the following propositions. The main purpose of social innovation is to address public sector failures. In the case of a lack of public sector institutions, their weaknesses or inefficiencies, the function of creating the necessary public goods takes on the character of social innovation. Since a large number of innovations are initiated by citizens, it is possible to conclude that it is precisely the citizens' initiatives that develop new forms of relationships for the solution of socially important problems (Chaudhry, 1993; Fafchamps, 2006). However, this trend applies mostly to developing countries with a weak public sector of the economy. For example, the abovementioned project Mothers2Mothers actually performs the function of a health institution.

Social innovation in developed countries has a slightly different function. These are focused on increasing the legitimacy of the people and new social requirements, which the public sector does not have time to respond to. For example, more than 80% of the adult population of the United Kingdom have taken part in a voluntary community police support programme at least

once in their lives. This social innovation is focused primarily on increasing the legitimacy of the functioning of the rule of law system and the decisions of the authorities in this area (Dorword, Kydd, Morrison, Poulton, 2005; Fafchamps, 2006; Knowles, Owen, 2010; LU, 2013; Martinus, 2014).

Analysis has shown that, of the considered list of social institutions, developed countries account for only 12 innovations (Figure 2), while developing countries comprise 30 innovations. All the foregoing reaffirms the role of social innovations as an alternative to the production of public goods by the State.

Of special note is the role of social innovation in the elimination of State failures. Social innovation can reduce the level of the state bureaucracy and the accompanying transaction costs when dealing with socially and economically significant problems (Tirole, 2015).

All of the above provides confirmation that, despite the fact that the production of public goods and the resolution of socially significant problems, the government is often unable to fulfil the main task of the public sector – i.e. provide the desired standard of living – due to inefficient institutional structures, high information asymmetry, weak institutional management and coercion. In such circumstances, citizens' initiatives contribute to the creation of the necessary institutions, which represent the socially innovative solution for ensuring the delivery of vital public goods.

CONCLUSION

This study, which was conducted to develop an original approach to quantitative scaling, and it yielded the following results.

Firstly, it introduces a new, original concept of social innovation on the basis of the analysis of approaches to the consideration of social innovation.

Secondly, the four most important criteria for social innovation were identified, supporting the effective organisation of social innovation. The presented criteria formed the basis for the original approach to the allocation of social innovation. As part of this study, a quantitative scaling of social innovation was developed, serving as the foundation of the original approach.

Thirdly, the systematisation of 42 social innovations identified according to the proposed scaling criteria worldwide. The above analysis allowed us to determine the practical features of the distribution of social innovation. The study confirmed the specific role of civil initiatives for the development of the public sector.

Lastly, the key role of the level of institutional development, determining the features of the distribution of social innovation, is outlined. In addition, the role of social innovation in both developed and developing countries is revealed.

The theoretical significance of this study is in an extension of the theory of innovation in relation to the public sector, as well as in the formation of a platform for further analysis of social innovation.

The practical significance of the results consists in the ability of government to use the original approach to carry out an effective policy in the sphere of socially innovative development. In addition, the results of this study can be used to improve the effectiveness of innovators' activities.

APPENDIX

1-Open University, 2 - Cousera, 3 - Khan Academy, 4 - Zillion, 5 - italki, 6 - the flipped classroom, 7 -Médecins sans frontières, 8 - Riders for health, 9 - Mother2Mothers, 10 -SaudeCrance, 11 -

Grameen-Cure2Children, 12 – Graameen Healthcare Trust, 13 – Boligsocialnet, 14 - HabitalSenour Service, 15 -Seniour Forum: a whole concept, 16 -Rehabitat, 17 - Batigere, 18 - Microspaces of Solidarity and Youth Residential Inclusion in degraded Neighbourhoods, 19 - Grordbeznarkotikov, 20 - Voluntary and Community Sector Involvement in UK, 21 - YekîneyênParastina Gel, 22 - Neighborhood Watching, 23 - Voluntary police in Sought Africa, 24 - Voluntary police in Israel, 25 - International Alert, 26 -Green Peace, 27 - Podorozhnik, 28 - Russian Network of River, 29 - Nature of Sought Siberia and it's defenders, 30 - Ecoline, 31 - WWF, 32 - The Big Issue, 33 - The ASA Project, 34 -Amnesty International, 35 - Oxfam, 36 - The Woman Institute, 37 - I Paid Bribe, 38 -Grameen Bank, 39 - Fairtrade, 40 -Participatory Budget, 41 - Linux, 42 – Zeleniy Koridor.

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