

Ewa OKOŃ-HORODYŃSKA¹

DOI: 10.15290/ose.2015.05.77.06

REGIONAL INNOVATION STRATEGY AS ONE OF THE FIELDS FOR RESEARCH IN INNOVATIVE GENDER (INNOGEND)²

Summary

The documents of the European Commission's European prospects for 2020 emphasise, in a special way, that the equal participation of men and women is essential for Europe to exploit the full potential of innovative strengths. Innovativeness is in fact vital for the development of a knowledge-based economy and society. Due to its importance, it is promoted by instruments such as an innovation strategy and policy. The proposed article titled "Regional Innovation Strategy (RIS) as one of the fields for research in Innovative Gender (InnoGend)" indicates how preparation and implementation of RISs may become a research field in assessing the role of women and men in the innovation processes resulting from these strategies. In the analysis regional innovation strategy in Malopolska is used as an example. Therefore, the article contains two threads. The first one focuses on the evaluation of women's and men's involvement in the creation of strategic documents constituting in what way is their potential used to boost innovation. The second thread is a pilot proposal of methodology for describing and assessing the role of women and men in the implemented innovation process.

Key words: innovation, innovation strategy and policy, smart specialization, gender, Integrated (Gender) Innovation Genom

1. Introduction

Almost every European document or programme these days deals with creativity and innovation or the challenges forcing the development of new ideas, products, or regulations. Despite the ever-increasing levels of globalisation, IT expansion changing the traditional manufacture processes and labour patterns, the rapid development of certain Asian countries, which should be a driving force for enhanced innovation activity in the EU member states to retain their leading position on the global markets, the European Union is still struggling with a three-fold crisis of substance, trust, and power [Kukliński, 2011]. This leads to the institutional weakening of the European Union

¹ Prof. Ewa Okoń-Horodyńska – Department of Economics and Innovation, Jagiellonian University, e-mail: ewa.okon-horodynska@uj.edu.pl.

² Acknowledgements: This project has been supported by Norway Grants in the Polish-Norwegian Programme operated by the National Centre for Research and Development.

on the global arena and to the expansion of procedure-driven thinking which, in turn, results in the enhancement of controls limiting the freedom of choice and hampering decision-making processes. Nonetheless, the general tendency to open the European Union to global challenges is preserved and subsequent programmes and strategies are being developed, postulating the intensification of research and innovation in all member states. Hence, innovation has been given a prominent role in the new Europe 2020 Strategy and in the Innovation Union one of its “flagship initiatives”. In the search for sources of new opportunities for creativity and innovation, attention is drawn to another phenomenon requiring support.

Recruiting and retaining women in scientific and technical fields is seen as a key to success for the 2020 Strategy. A number of studies and reports have stressed the acute problem of women’s under-representation in science in the business enterprise sector. Whilst women represent over 35% of all researchers in the higher education and government sectors of most European countries, this is not the case for the corporate sector. The percentage of female researchers in the business enterprise sector is less than 25% in most countries [EC, 2010]. Yet another flagship initiative under the 2020 Strategy, the New Skills and Jobs Agenda, focuses on the need to modernise labour markets, increase labour participation and match labour markets and skills. Studies show that the European labour shortage is likely to have a greater impact on female or male dominated occupations rather than on less divided sectors [EC, 2009]. Occupations in healthcare and ICT are already affected by the shortage of professionals in Europe. For example, the rapidly growing demand for ICT specialists was one of the motivators behind the European Code of Best Practices for Women and ICT launched by the European Commission [Vinnova, 2011].

“Equal participation of men and women is essential for Europe to exploit the full potential of innovative strengths – not only for demographic reasons, but also in case of innovation processes and results. There is a need to clarify what (new) cluster policy relate measures can support the process to get more women involved in the innovation process of business and research” [SIT, 2011].

The proposed paper entitled “Gender in Regional Innovation Strategy: the case of Malopolska” focuses on the indication of the role of women and men in the preparation of one of the most important strategic documents for the development of the regions which is the regional innovation strategy and their place in the process of its implementation.

2. Smart Specialisation Strategy (SSS) as the Foundation of a Regional Innovation Strategy (RIS): and what about Gender?

Although the smart specialisation concept is most commonly associated with the application process [Foray, David, Hall, 2009], it may be worthwhile to find a theoretical substantiation for it, combining the explanation of the emergence of national (and regional) innovation systems, foundation of the innovation policy, model of open innovation, and the strategic thinking ability stemming from foresight research. In fact, the concept of SSS does not cover the issue of Gender. It originates from the

beginnings of the theory of economics (international trade and research on comparative advantages), [Ricardo, 1821] and it has evolved in various directions over time. The concept of the national innovation system (NIS), after it has been incorporated into the theory of economics [Freeman, 1987], is used to demonstrate that its efficiency ensuring a competitive advantage reflects the measurable level of innovation of a given economy. It specifies what technological, institutional, or systemic factors determine the ability to generate, absorb and spread innovation in individual countries, resulting from the feedback between the broadly understood research potential and the state policy facilitating the creation and dissemination of knowledge products. It is also the way to shape the framework of national innovative potential which reflects the abilities necessary to create innovation and build the culture of innovation in various areas of the economy, and which – in the global perspective – can be evaluated and measured. All NIS' definitions point to the importance of the multi-dimensional, internally interactive, and externally coherent structure of the NIS, which makes the allocation of existing potentials logical and channelled towards a combined or individual generation, and the selection and absorption of innovations, most importantly technological ones. Hence, the allocation of resources cannot be accidental and the structure of the NIS provides for a method of defining the object of allocation (area, specialisation) ensuring maximum economic and social benefits at a given moment combined with a vision of achieving competitive advantage in a longer perspective. The NIS is also a set of separate institutions, jointly or individually contributing towards the development and diffusion of new technologies, forming a framework for governments to define and implement the innovation policy (IP) aimed at influencing the technological choices and the operation of innovative processes. The IP has tools and instruments (mechanisms, programmes and measurements) to influence, either directly or indirectly, the choices of the type of innovation activity made by individual business entities, of research specialisations by individual research units and teams, or of transformation directions in selected industry branches, thus shaping the innovative structure of the economy. What is the basis for such choices? On the one hand, it is an economic calculation, and on the other – expectations as regards the state's support for selected forms of activity. Hence, it could be said that IP is a strategic and supra-sectoral part of the structural policy, with the key objective to support selected areas, ensuring economic benefits and a high position in the innovation ranking. It is therefore a process of never-ending rational, not random, selection. Although the basic structures of the NIS do not clearly indicate the issues of Gender, it is difficult not to notice that it may find its application in many of its aspects. In particular, the issue of gender in the NIS should be considered by the importance of intellectual potential (ability, creativity, competence men and women) and even more broadly – social capital (and here the specific behaviours of women and men for the development of innovation). This requires research on innovative gender that combines the roles of women and men with the process of innovativeness and creativity. If female innovativeness and creativity is manifested differently than male innovativeness, and if male innovativeness is taken as a gender-neutral model, then some dimensions of innovative and creative behaviour is overlooked in economic models and policy prescriptions. Insufficient use of gender innovativeness limits social

and economic progress and hampers gender equality. Therefore, learning about special aspects of female and male innovativeness could result in finding new sources of progress, also through the elimination of the existing barriers. It is possible that public policies supporting innovativeness are gender-biased. If such policies promote male-type innovative behaviour, treating innovativeness and creativity as gender-neutral, specific female innovativeness may be unnoticed and not supported, making innovativeness more difficult for women than men. The introduction of the innovative gender concept will indicate what incentives are needed in order to promote gender equality in the areas of innovativeness and creativity. In this aspect, the use of the potential of gender may be influenced by proper instruments of the innovation policy which have already been mentioned.

Unfortunately, it is difficult to discern Gender in the official studies of the NSI, as well as innovation policy instruments for such a specific use of the effects, although there is a substantive justification, as already mentioned. Gender issues are not included in the filaments as foresight studies, which are of great importance in building a long-term vision for the development of resource utilization. The underlying idea of foresight is to present thoroughly substantiated visions of the future, which should encourage social actors (men and women) to get involved in their development. It can be said that foresight is and on every research level has always been about identifying the areas of science, key technologies, and strong potentials for the economy and society, on which the most successful development strategies (in terms of the economics) can be built, and which provides answers to the questions: “What can happen in the future?” and “What can we do now to ensure a long-term competitive advantage and a better quality of life for the citizens?”. The adaptation of the foresight concept to regional research, consequent upon the shift in perception of the development potential of the regions in the context of globalisation, have produced new experiences that prove helpful in the EU strategic works and have introduced foresight research on the regional level, unfortunately again bypassing Gender.

The concept of smart specialisation, although it has its theoretical substantiation, is much more political in practice. To be able to face the global challenges and internal incohesion, the European Union needs an ambitious economic policy to mitigate the effects of its structural and institutional weaknesses. For the European Union, maximising the investments in innovation and entrepreneurship to address the economic crisis will be a political indicator of advancement in the 2014-2020 financial perspective. The vision of this initiative is presented in the latest European Union strategy [*Europe 2020 Strategy*, 2010]. By gathering experiences and perfecting its former strategic approach, the European Union suggests that the research and innovation development strategy should be created on the regional level where the existing potentials can be best identified and utilised. This should be done with the use of uniform methodology [*RIS3Guide*, 2012] to identify regional specialisations that will ensure a competitive advantage. The RIS3Guide is. Thus useful for decision-makers, actors implementing strategic tasks, and beneficiaries, because it shows how to design, prepare and implement the innovation strategies accounting for new aspects and possibilities to perfect the existing knowledge resources as well as for new ways to utilise the knowledge, making the strategy

and policy efficient. RIS3 is helpful both to countries/regions (politicians, scientists, entrepreneurs) already experienced in devising and implementing innovation strategies – showing the results achieved so far and opportunities for improvements – and to those for whom RIS3 is a new challenge – providing them with step-by-step instructions on how to do so. So, the concept of smart specialisation is 'smart' for two main reasons [RIS3Guide, 2012, p. 15].

Firstly, it links research and innovation with economic development in novel ways such as the entrepreneurial process of discovery and the setting of priorities by policy makers in close cooperation with local actors.

Secondly, this process is carried out with an eye on the outside world, forcing regions to be ambitious but realistic about what can be achieved while linking local assets and capabilities to external sources of knowledge and value chains.

Identification of smart specialisations is closely connected with science, particularly in the Polish context. Why? Firstly, because the focus is currently on the ability to obtain European Union funds from the new 2014-2020 perspective, with the smart specialisation being a prerequisite. The key European Union programme for the years 2014-20 [HORIZON 2020] introduces an explicit criterion for financing research projects: Innovation vs. transformation of knowledge into money (focus on results). Whereas, e.g. in Polish science, the promoted projects are those that transform money into knowledge. The results are usually defined through the scale of expenditures, which is absurd. This results in repetitiveness and decreasing originality of the projects, in the dispersion of potential instead of its concentration, often in the ineffective allocation of funds. Therefore, the substantive aspect of smart specialisation seems to be much more important, although hard to accept in full. The concept formulated in 2008 by D. Forey in DG Research has been instantly introduced in the European Union's political strategic documents (e.g. Europe 2020 Strategy, Innovation Union flagship initiative, Digital Agenda for Europe) and developed in the area of cohesion policy (DG Regio, e.g. Regional Policy contributing to smart growth in Europe 2020), which resulted in the preparation of a special publication – Guide to Research and Innovation Strategies for Smart Specialisation [RIS3Guide, 2012]. The following quotations from the European Union strategic documents illustrate the smart specialisation concept in various configurations:

- „regions need to redirect funding based on a smart specialisation approach and focus on relative strengths where they can become excellent” [Innovation Union, p. 23];
- „Starting in 2010: Member States should considerably improve their use of existing Structural Funds for research & innovation projects (...) implementing smart specialisation strategies” [Innovation Union, p. 23];

As we can see, the Gender approach is also not used in implementing documents for the preparation and implementation of RIS based on the SSS.

Based on the above centrally formulated assumptions, it is worth determining: what smart specialisation is and what it is not, and how the smart specialisation identification process should look. Obviously, it is not about preparing a list of research projects, technologies, or sectors selected “from behind a desk”. It is an economic transformation

PROCESS effected through the entrepreneurial discovery of all actors (men and women), where **science is the key and the outcomes are structural changes** in the economy, leading to a sudden increase in efficiency and competitiveness in the global market. The entrepreneurial discovery process is not expected to bring about new research projects, but to trigger off structural changes in the economy. Since science is the key to smart specialisation, such structural changes must first take place in science, particularly in the area of applied research. There are regions in Poland that are quite successful in this respect, such as Malopolska, which not only developed its own methodology (compliant with RIS3 guidelines), but also attempts to apply the concept of equality InnoGend to records in the RIS.

3. References to equality in RISs: lessons from selected regions in Poland

Activation opportunities to use women's creativity in the formation and implementation of strategic programmes are mostly determined by institutional conditions in a given country or region. The system transformation that took place in Poland 25 years ago unfortunately did not include the popularization of the equality approach, but it rather meant de-emancipation [Środa, 2014]. The system transformation in the case of women's rights and opportunities to release their creativity is in fact moving in an opposite direction – backwards. Poland has regained its freedom, women have lost it – systematically and consistently. Their presence in the public, opinion-forming sphere is rather weak. Women play a minor, decorative, service role in the media (in political commentary programmes 75% of invited guests are men). Women's issues, such as inequality, care, violence, welfare, education appear quite rarely in the news, especially in comparison to important men's issues such as sport, politics, military, corruption, power. Even though transition has allowed entrepreneurship to develop, only 30% of women are entrepreneurs, most of them are self-employed, and provide services: trade, run B&Bs, cooking, cleaning. Putting forward the thesis that the underutilization of women's creativity causes loss is rather risky in such a climate. It is nevertheless worth closer examination. What does a strategic approach to the participation of women in innovation processes look like in the context of equity regulations, support instruments and women's participation in the preparation and implementation of RIS on a regional level? In this particular case, the available answers are limited to several provinces only, the ones that have recently undertaken such an analysis. They are not exhaustive, but they allow opinions on this topic to be formulated. A number of provinces believe that there is no need to include equity (anti-discrimination) regulations in strategies, since they are already included in the EU regulations, and each application is to be verified according to those rules at the competition level. It does not seem legitimate since many projects are of a so-called key project type, and such projects are carried out outside of competitions, so competition rules do not apply to them.

Six provinces were selected for the analysis of equity regulations: Kujawsko-Pomorskie, Łódzkie, Mazowieckie, Podlaskie, Malopolskie, Pomorskie, Lubuskie. Results of the analysis are presented in Table 1.

TABLE 1.
Diagnosis of the state of equity regulations in RIS in chosen provinces in 2013

Province	Equity regulations: yes/no	Description of equity regulations
Kujawsko-Pomorskie	Yes	An increase in welfare expenses: (53.5% unemployed young women, growth of poverty, lower level of education); elimination of social exclusion of women and men
Łódzkie	No	No regulations
Mazowieckie	Yes	An increase in birth rate, control of job opportunities
Podlaskie	No	No regulations
Małopolskie	New methodology	Scientific research used for the diagnosis of IGIG
Pomorskie	No	No regulations
Lubuskie	Yes	Intervention concerning the problem of depopulation and the outflow of women in productive age from rural areas

Source: Own research based on results of the workshop conducted during the Congress of Women: working group on regional strategies 2014-20.

Only 4 out of 16 provinces (25%) include equity regulations in strategic documents, such as RIS. The diagnosis of the state of equity regulations shows that paragraphs concerning women, their economic position or activities either do not exist or are enigmatically phrased. The intervention applies only to welfare issues. Despite clear EU indications concerning the significance and obligation to use women's specific competences, regional strategic documents do not relate to them either in the general part or in SS.

TABLE 2.
Equity problems in SWOT comparative analysis

Province	Weaknesses / strengths	Opportunities / threats
Kujawsko-Pomorskie	Unemployment, low level of social capital / no	No/No
Łódzkie	No	No/No
Mazowieckie	Low level of women's activity/no	No/No
Podlaskie	No/No	No/No
Małopolskie	Unemployment/education	No/Migration
Pomorskie	No/No	No/No
Lubuskie	Lack of pre-school care institutions/ no	No/No

Source: Own research based on results of the workshop conducted during the Congress of Women: working group on regional strategies 2014-20.

In the SWOT analysis, both strengths and opportunities caused by women's creativity in intellectual and economic sphere are not defined due to the lack of data in available databases. The problem is usually summed up in a general statement about the difficult situations women face.

Undoubtedly, the greatest expectations concerning equity regulations should be addressed to strategic, operational objectives and to activities that constitute the key parts of strategic documents, including the RIS. Based on the objectives and activities presented in the strategies, it could be stated that there are no unambiguously distinct objectives concerning the situation of women, assigned roles that women play in the society and economy, or possibilities to use their potential. This could be explained by a high level of generality present in these strategies that may cause certain difficulties in emphasising women's aspects. Nevertheless, there are distinct paragraphs concerning the elderly and the disabled in almost every strategy, and this solution seems to make sense. Such an approach to different social groups shows the selective treatment of the society. The postulated inclusion of paragraphs concerning gender should not cause any difficulties in the operational part of the strategy.

An active approach to indicator analysis seems to be interesting in the context of ignoring gender aspects in strategic documents (table 3).

TABLE 3.**Indicators for monitoring equity regulations**

Province	Equity regulations	Indicators
Kujawsko-Pomorskie	Yes	Unemployment disaggregated by gender Economic inactivity after having a child Life expectancy Sport teams according to disciplines disaggregated by gender
Łódzkie	No	Owners of SMEs Participation in local government Unemployment disaggregated by gender Women and men as decision makers
Mazowieckie	Yes	Employment Entrepreneurship Demands: participation in decision making bodies, in social organisations, organisations with power, intellectual potential
Podlaskie	No	No
Małopolskie	No	Owners of SMEs Participation in local government Unemployment disaggregated by gender Women and men in decision making bodies Women in science
Pomorskie	No	No
Lubuskie	Yes	Indirect

Source: Own research based on results of the workshop conducted during the Congress of Women: working group on regional strategies 2014-20.

In the strategic documents, such as RIS, there is a certain inconsistency in pointing at gender aspects in objectives, priorities and activities, and in indicators for monitoring the implementation of strategies. The indicators are collected from existing databases, not created especially for the implementation of objectives, or activities expressed in strategies. It is therefore necessary to undertake efforts to prepare a regional strategies' implementation monitoring system from the perspective of gender equity regulations and regulations influencing women's issues. This will enable the constant and long-term observation of the process of changes (improvement) concerning the use of women's creativity in regions and on the national level. During the 7th Congress of Women (2014), the first list of necessary amendments to equity regulations in strategic regional documents was put into words (Table 4).

TABLE 4.**Proposals for including equity regulations in regional strategic documents**

Province	Proposed equity regulations
Kujawsko-Pomorskie	Adjustment of the public transportation system to women's and men's needs; civic education concerning equal opportunities; small grants for women's NGOs; counteracting discrimination in the workplace; flexible work time (specific) for women and men; quotas for women in science; stipends for women, university care centres for pre-school children; promotion of women's entrepreneurship in rural areas; using women's potential in agriculture and processing industries; e-commerce for women; improvement of women's safety; diversity management and gender policy; promotion of outstanding women; tourist route "Tracing Women in Kujawsko-Pomorskie province;"
Łódzkie	Record in SWOT/appeal for non-discrimination and equality between men and women; in strategic objectives: tax allowances and rent incentives for women's start-ups; search for unique professionals – women and men – to support the revitalisation of Łódź; creation of conditions for increasing women's participation in the labour market; fighting the gender wage gap; social activation of women and men; creation of job positions for women and men; educational policy that meets women's and men's needs; policy for the social inclusion of women and men;
Mazowieckie	Instruments for dissemination of knowledge concerning women's and men's intellectual and economic potential;
Podlaskie	Description and dissemination of knowledge concerning the situation of women in the region; tools and infrastructure for women returning to work after maternity leave; special services for aging women and men; indicators monitoring the situation of single parents;
Pomorskie	Monitoring 50+ women in the labour market, support for the growth of participation of 50+ women in the labour market; assessment of women's social and economic participation and instruments supporting such participation; assessment of women's underutilized potential; gender education; monitoring of cancer incidents among women, introduction of counteracting factors;
Lubuskie	Sectoral analysis of women's participation in economic activity; development of gender-sensitive databases; analysis of the structure of education on each level and specialisation by gender; preparation and implementation of indicators assessing the implementation of the strategy taking gender into consideration.

Source: Own research based on results of the workshop conducted during the Congress of Women: working group on regional strategies 2014-20.

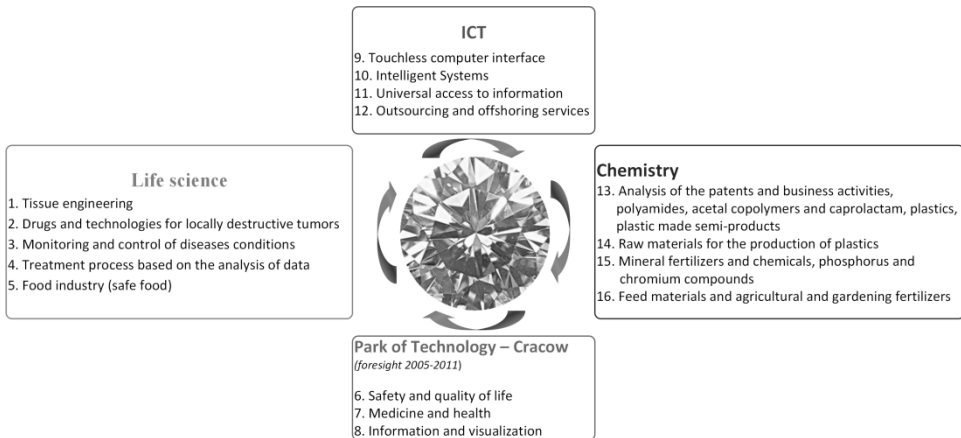
Studies of proposals for the inclusion of equity regulations in regional strategic documents show that such proposals are selective, random, not systemic, and touch social everyday problems, economic issues concerning entrepreneurship, and finally political problems to a different degree. Such regulations are far from thematic and directly present the need to use women's and men's creative potential in innovative activity, however this is mentioned in an indirect way. It is therefore necessary to undertake steps to prepare and implement standardised general rules (methods) allowing the significance of the specificity arising from gender in creative activities leading to the development of innovations in regions or on the national level to be captured. And this should be included in the strategic documents, in RIS in particular.

4. The use of the “InnoGend” concept to modify records in the RIS Malopolska

Although the Malopolska province is fully prepared to implement the RIS according to the so-called SSS diamond (Chart 1), equity regulations are of a similar fragmentary nature as in other provinces. Nevertheless, efforts to improve it have found content grounds.

CHART 1.

Malopolska SSS Diamond



Source: Own analysis.

Using opportunities provided by the EU programmes promoting an increase in women's engagement in the process of innovation, the InnoGend³ concept is put forward. In this concept, the significant role of women's and men's specific features

³ Developed in the framework of the Norwegian Research Grant entitled: Innovation Gender as a New Source of Progress, Jagiellonian University 2013-2016.

in innovative activities in shown in the Integrated Gender Innovation Genome. By using relations written in this genome, it will be possible to measure the roles that women and men play in particular processes of innovation, and the equity regulations included in the RIS should be adjusted to the information provided by the genome. Meanwhile, in the strategic documents preparation process, the gender structure has been as follows:

1. Strategic expert: 100%W
2. Expert team: 25% W; 75%M
3. Operational team: 25%W; 75%M
4. Consultative team:
 - 4.1. Malopolska Council for Innovation 14%W;86%M
 - 4.2. Economic Council 100%M
 - 4.3. Council for Information Society: 0.07%W; 99.03%M
 - 4.4. Common Council of Local and Economic Authorities in Malopolska: 0.06%W; 99.04%M

The role of women in the preparation and the RIS and other strategic documents for Malopolska has been rather executive, and in a minimal degree consultative, expert or managing.

Meanwhile, the observation of many innovation exercises shows that optimal innovation occurs when there is an equal mix of men and women using a systemic process [SIT, 2011]. When a predominately male group tries to innovate, the results are less impressive, and when a predominately female group tries to innovate, the results are less impressive. Put them together, however, and the results are amazing. Research in this area may have some suggestions why [Millward, Freeman, 2002]. The essence of the research is that, while men and women are equally innovative, their gender role within the context of an organisation can affect how they are perceived and how they behave when innovating and sharing ideas. Men are perceived as more innovative and risk-taking, and women are perceived as more adaptive and risk-averse. Thus, gender roles may interact with the role of the manager to inhibit (in the case of women) or facilitate (in the case of men) the likelihood of innovative behaviour. The results of the research suggest that innovative solutions were attributed more often to a male than a female manager, whereas adaptive solutions were attributed more often to a female than a male manager. Men are expected to take more risks when innovating and sharing ideas. Failure is less damaging to men because that's what's expected of them. Women are expected to be less risky, and this appears to limit or constrain both their degree of innovation and their willingness to share it. Failure is more damaging for women so they behave more adaptively in innovation exercises. There is both a negative and a positive side to this. On the one hand, innovation workshops need a process to assure that women feel they can innovate "more" and share those ideas with the group. If, as the research suggests, women are more likely to hold back, then the facilitation approach has to break through it. Otherwise, one can lose the inherent value of the (equal) innovation talent they bring to the table. On the positive side, these differences can be beneficial. This more adaptive behaviour in women and more risk-taking behaviour in men provides a certain balance or harmony during innovation, is a complementary effect that seems to yield better results. This means that each partner holds the other accountable for ideas that are, at the same

time, novel but adoptable. Working in pairs, men and women also do a better job of expressing jointly-developed new ideas that may help overcome risks that women may be feeling. Workshop processes that pair men and women up to take advantage of this are going to be more fruitful and differential role expectations do not have an impact on the production of actual solutions. The findings are discussed for their potential to complement existing research on role expectations and innovation as well as their implications for the development of a new research agenda. In this project the equal role of gender in the innovation process is called Innovative Gender. In simplest terms gender is a concept that refers to the social differences between women and men that have been learned, are changeable over time and have wide variations both within and between cultures [EC, 1998]. Based on the innovation genome model [Degraff, Quin, 2007], the Integrated Genome of Innovative Gender (IGIG) has been built and it takes into account the importance of all members of the innovative activity of women and men, so the issue of gender is accounted for (Table 5, Chart 2). A starting point for the InnoGend concept and research may be the construction of four or five (or more) dedicated matrixes, (Gender patterns) containing information (variables) describing a given area, taking gender issue into account (Table 5) The matrix contains the stages of the innovation process and characteristics of Gender in the various stages of the process. Pilot research is being conducted at the moment and empty places in the matrix are to be filled in. The data necessary to complete Table 5 are defined in Chart 2. They are currently being collected and selected.

TABLE 5.

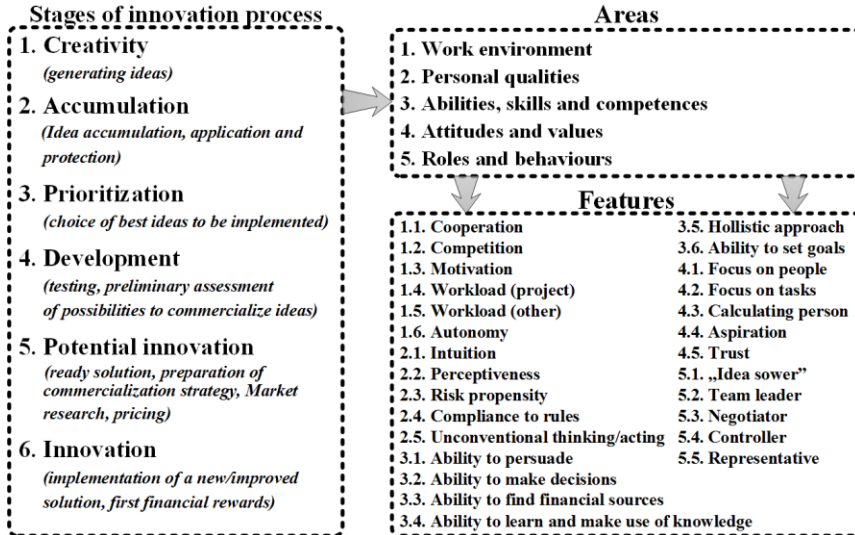
Integrated (Gender) Innovation Matrix

Innovation process stages/gender description	Idea generation/creativity	Idea management/accumulation	Selection prioritisation	Idea development	Project management/potential innovation	Implementation and diffusion/innovation
Work environment						
Personal qualities						
Abilities, skills and competence						
Attitudes and values						
Roles and behaviours						

Source: Own research.

CHART 2.

Detailed description of the content of the Integrated (Gender) Innovation Matrix

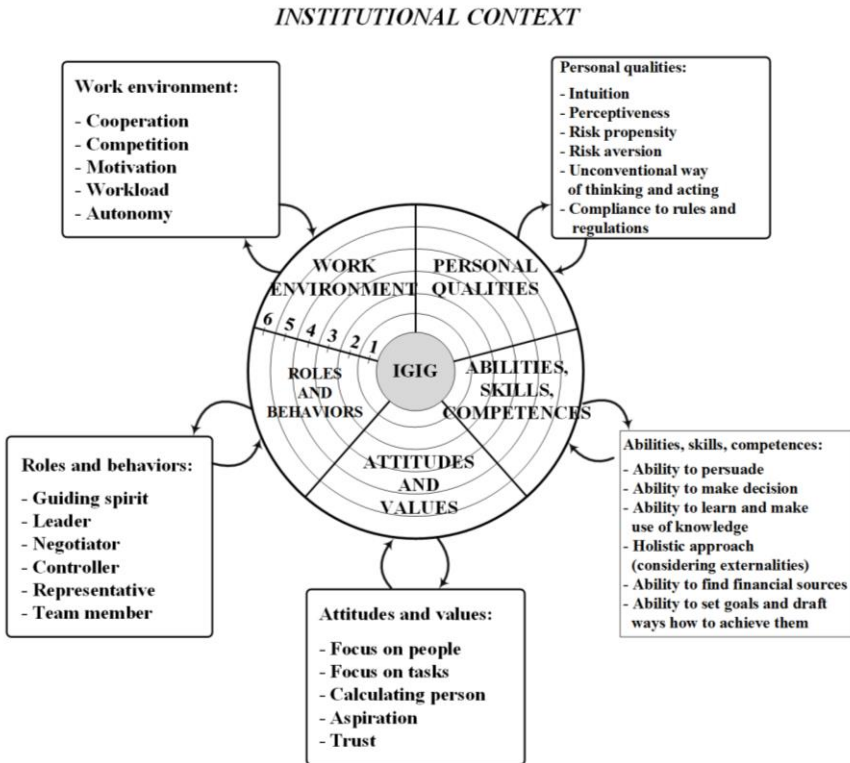


Source: Own work.

Experience has proven that the key to creating value in the innovation genome model is one of its elements, namely collaboration. The essence of collaboration between men and women as a team has been lost in economic, political, and social life and replaced with subordination based on submission. Feminists calling for parity will not change this. This can only affect the structure of work or of political or social groups; but a group is not equivalent to a team. A group, even with equal representation of men and women, is still based on functional subordination, while a heterogeneous team accumulates optimum potential ensuring the simultaneous effect of scale and synergy. Innovative Gender grants equality of measures, opportunities, and situations, falling within the scope of the innovation genom model to men and women. It is assumed, that the issue of equality of gender in general, manifested as equal accessibility of education, equal rights, equal pay, equal access to the labour market, equal access to vocational training, equal promotion opportunities in employment, equal social benefits and rights, equality in the performance of social and political roles, equality as regards employment security, equal right to maternity leave and unpaid extended post-maternity leave in a given social and economic system is already maintained; any gaps in this respect may only be institutionally neutralised There is one more issue to discuss – evaluation of the deployment of “gender resources” in the process of innovation, and its impact on the outcomes (This is due to the political-legal context – see Chart 3).

CHART 3.

Integrated (Gender) Innovation Genom (IGIG)



Source: Own analysis.

Attention should be paid to the multi-dimensional differences stemming from gender, which should be perceived as a totally positive element, because they are the source of synergy resulting from the collaboration of research or business teams in the process of innovation. Usually, research focusing on differences is used to point to various forms of gender discrimination; therefore, there is no place for it in this approach. The InnGenD concept is more about process changes which are created, implemented, and disseminated by various teams made up of collaborating men and women from various social groups, engaged in a team as professionals (scientists, researchers, engineers, etc.) or quasi-professionals – process participants who are community workers creating changes and disseminating their outcomes, or politicians providing institutional support for such processes. On the basis of the IGIG results (gaps) one will be able to determine the type and location of records equality in strategic documents, whereas the central point of InnoGenD is creating value through people (men and women) in all possible areas simultaneously, based on the following formula [Degraff, Quin 2007, pp. 10-11]:

PEOPLE + PRACTICE = PURPOSE

Where:

- purpose – outcomes people (men and women) want to achieve,
- practice – any activity and value perceived as important by people (men and women) involved in pursuing the purpose
- people – all people (men and women) involved in activities aimed at achieving the purpose

5. Conclusions

Based on the study it may be pointed out that women are still poorly represented in the preparation of strategic documents in the field of innovation. The more detailed research, analysis of decision-making powers and undertaken activities are needed in order to solve the puzzle why so few women are involved in such work. Uneven representation of women occurs regularly both in the preparation of strategic documents relating innovativeness, and the innovation process, in each of its phases.

Work on RIS was an inspiration for the preparation of a new methodology⁴ for evaluating the role of women and men in the innovation process (InnoGend). Research shows that these roles are determined by many factors, external (institutional) and internal, which can be classified by creating a model referred to as Integrated Genome of Innovative Gender.

The conducted pilot studies show (Chart 4), however, that women prefer their participation in the implementation of organizational innovations (so called soft), while men prefer to invest their potential in product innovations (so called hard).

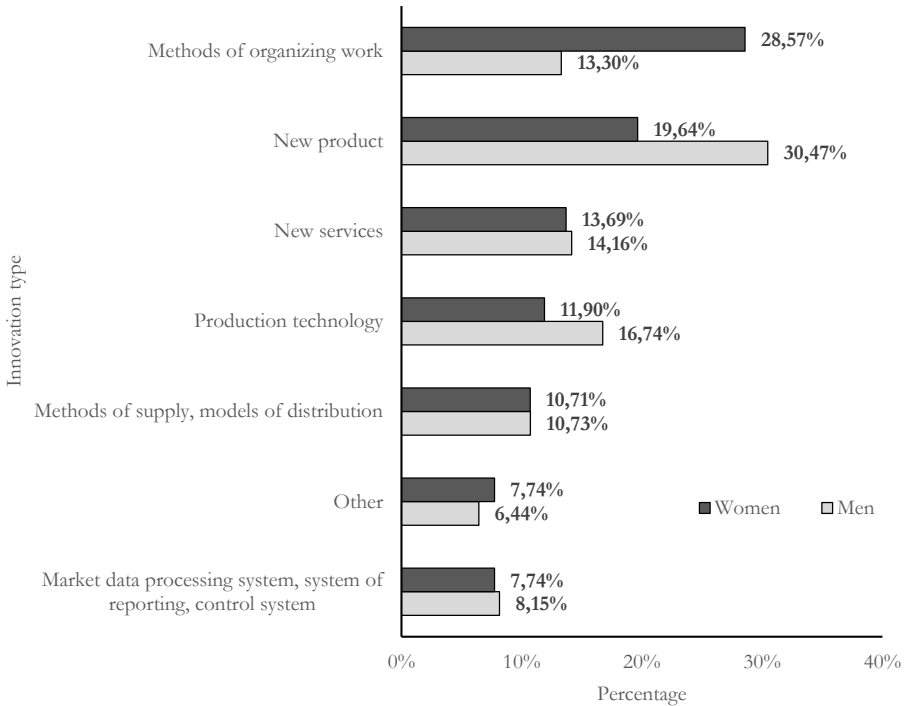
The InnoGend concept in searching for specific roles and actions by women and men in innovative activities may bring some new research and practical effects, such as:

- new approach to the identification of commonalities and differences of gender related innovation activities, (barriers, gaps, opportunities, effects),
- new methodology in research on gender related activities,
- deeper interpretation of the political, macroeconomic and institutional conditions for triggering innovation activity dependent on gender,
- construction of an innovative gender index.

⁴ This methodology has been developed in a research project titled: Innovative Gender as a New Source of Progress conducted by the Department of Economics and Innovation Jagiellonian University in Krakow.

CHART 4.

Women and men as managers of the sections or teams involved in development of specific type of innovations in the investigated units



Source: Own work.

References

- Degraff J., Quinn E. 2007 *Leading Innovation*, McGraw–Hill, New York.
- EC 2010 *Europe 2020. A Strategy for Smart, Sustainable and Inclusive Growth*, COM (2010) 2020 final.
- EC 2009 *Gender Segregation in the Labour Market. Root Causes, Implications and Policy Responses in the EU*, Directorate-General for Employment, Social Affairs and Equal Opportunities, Publications Office of the European Union, Luxembourg.
- EC 1998 *100 Words for Equality. A Glossary of Terms on Equality between Women and Men*, electronic document, access mode: [http://www.generourban.org/documentos/glossary_gender_equality/glossary_en.pdf, retrieved: 15.07.2015].
- Europe 2020 Strategy*, 2010, electronic document, access mode: [http://ec.europa.eu/europe2020/index_en.htm, retrieved: 15.07.2015].

- Forey D., David P. A., Hall B. 2009 *Smart Specialization – the Concept*, “Knowledge Economists Policy Brief”, No. 9, June.
- Freeman Ch. 1987 *Technology Policy and Economic Performance: Lessons from Japan*, Pinter, London.
- Kongres Kobiet 2014 *Propozycje włączenia do Strategii zapisów równościowych*, Grupa d/s Strategii regionalnych 2014-2020, Warszawa 9-10 maj.
- Kukliński A. 2011 *Europa Quo Vadis. Memorandum? Reconsidered* [in:] *Europa Quo Vadis?*, Lower Silesia, Wrocław.
- Millward L., Freeman H. 2002 *Role Expectations as Constraints to Innovation: The Case of Female Managers*, “Creativity Research Journal”, Vo.14, Issue 1.
- Ricardo D. 1821 *On the Principles of Political Economy and Taxation*, John Murray Publisher, London, electronic document, access mode: [<http://www.econlib.org/library/Ricardo/ricP.html>], retrieved: 15.07.2015].
- RIS3Guide. *Guide to Research and Innovation Strategies for Smart Specializations*, 2012, electronic document, access mode: [http://s3platform.jrc.ec.europa.eu/en/c/document_library/get_le?uuid=e5037e3-f2b1-4086-8608-7b86e69e8553], retrieved: 15.07.2015].
- SIT 2011 *Systematic Inventive Thinking*, electronic document, access mode: [<http://www.sitsite.com/>], retrieved: 15.07.2015].
- Środa M. 2014 *Kobiety i Bariery, czyli demokracja po polsku*, “Wprost”, nr 22.
- Vinnova 2011 *Innovation&Gender*, eds. Danila I., Grant J., Edita Vastara Aros AB, Vasteras, Sweden.