



GOVERNMENT INSTRUMENTS TO SUPPORT OPEN INNOVATION- EXPERIENCES FROM EU COUNTRIES

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Abstract: *Open innovation requires cooperation between countries and learning from experiences of others. In this paper closed innovation will be compared with open innovation concept to lay foundation to later discussion. Also organizational vs. government level in open innovation will be considered along with presentation of some existing experiences and government instruments for supporting open innovation in EU countries (Netherlands, Belgium and Estonia). Most suitable instruments of government policies will be discussed.*

Key Words: *Open Innovation, Closed Innovation, Government Instruments for Open Innovation*

1. INTRODUCTION

Open innovation, as the most important current trend, call for the transformation of innovation policies of firms and national institutions. It will significantly affect the transformation of many familiar drivers of innovation processes such as intellectual property rights and capital markets, cooperation between universities and companies etc. It will affect to the policy making instruments too. Open innovation requires cooperation between the countries. EU provides many instruments for this activity. After the introduction, the main conceptual issues about the closed vs. open innovation concept are mentioned. In the next part the organizational vs. government level in open innovation research is considered. Some existing experiences and the government instruments to support open innovation in EU countries are presented. How important Open Innovation should be to guide policymaking and which are the most suitable instruments used by the governments for this purpose are discussed in the conclusions.

2. CLOSED VS. OPEN INNOVATION CONCEPT

Traditional closed innovation model is based on an idea, where innovation takes place within a single company or research group, and protecting the

innovation is the key issue. It is based on the idea that research and development is the key to innovations. That concept evaluated to more recent approaches such as the systems, interactive, view of innovation that rests on interdependencies in the innovation process. [1] Today it is increasingly recognized that innovation extends beyond formal research and development activities. The ability of firms to innovate depends on their networks with other firms and actors.

For the most of the twentieth century enterprises [2] were closed enough to their own ideas, to their own manufacturing processes, to their own machines, to their own scientists and workers. They couldn't believe in a network of exchanging information and knowledge among the other companies.

Open innovation has emerged as a model where firms commercialize both external and internal ideas/technologies and use both external and internal resources. [3] The boundary between a firm and its surrounding environment is more porous, enabling innovation to move easily between the two. In an open innovation process, projects can be launched from internal or external sources and new technology can enter at various stages. Projects can also go to market in many ways, [4] such as out-licensing or a spin-off venture in addition to traditional sales channels.

Open innovation stands for opening up the innovation process to external parties. Firms aim to search for innovations and knowledge also from outside. In the closed innovation model firms suspend the ideas that do not fit their particular portfolio, whereas in the open innovation model they aim to sell or license them for others to capitalize while, at the same time, seeking seeds for innovation from the outside of the firm. The term open innovation was mentioned for the first time by Henry Chesbrough in 2003. He defines open innovation as [5] the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively.

Open innovation is described as [6] both a set of practices for profiting from innovation and also a cognitive model for creating, interpreting and researching those practices.

Open innovation are much widely used today then it was when the Chesbrough defined it for the first time. There is still limited number of empirical research about it and there is still lot of questions about open innovation that expect answers. That opens a lot of possibilities for further research and different levels of analyses.

3. ORGANIZATIONAL VS. GOVERNMENT LEVEL IN OPEN INNOVATION RESEARCH

Open Innovation so far has been mainly discussed at the enterprise level. First reason is that [7] innovation is traditionally conceived as the outcome of deliberate actions of a single firm, and thus research and development competition has also been stylized as an innovation race between two or more firms. Second reason is that [7] the value of a technical invention is realized only through a business model of a firm. However, neither the practice nor research on open innovation is limited to the level of the firm. Innovations are created by individuals or group of individuals, usually within organizations, so the sub firm level of analysis is particularly salient in understanding of sources of innovation. At the same time, firms are embedded in networks, industries and sectors, thus it is essential to consider these level of analyses. Finally, open innovation is practiced within the context of a given set of political and economic institutions, including regulation, intellectual property law, capital markets and industry structure.

Understanding innovation as an open process, in which enterprises seek purposively for inflows and outflows of knowledge, has implications for the design and implementation of any kind of policy to support innovation. In a world of open innovation, policies must be aligned with the behavior of innovating enterprises and the external conditions which motivate enterprises to practice open innovation.

4. GOVERNMENT INSTRUMENTS TO SUPPORT OPEN INNOVATION IN EU COUNTRIES

The European Innovation Scoreboard shows that [8] Europe is already today the continent with some of the most innovative countries and regions of the world. It can be seen that these countries are usually spending above the average for education, training and lifelong learning, have the highest share of research and development (R&D) spending in GDP and have instruments to support the uptake of new technologies and products in the public and private sectors. [8] Experience also shows that these countries are better prepared to make use of the exchange of best practices and to learn from others. The challenge today is to replicate these success stories through the EU.

The role that public authorities play for innovation is very important. Member State's innovation policies show a tendency to a broadening of the scope of their innovation strategies and a trend towards measures with wider societal goals.

A number of initiatives have been undertaken at the EU Community level with the aim of synergies between policies and instruments at different levels. [8] The coordination of policies to support innovation at regional, national and EU level has to improve significantly and a better governance system is needed, based on the principles of subsidiarity, but better exploiting the added value of setting common objectives, agreeing on common actions and sharing best practices among Member States. Cooperation with third countries and in particular best practice exchange with the US should also be substantially enhanced.

According to the research on stimulation of open innovation in the Netherlands [9] it is identified that mostly used instruments for this purpose are: regulations, public ownership, taxation and subsidies. With these instruments the government tries to influence the needs for open innovation and to stimulate the necessary characteristic of open innovation collaboration.

The use of regulation allows politicians to act and receive credit for action while simultaneously avoiding most of the associated costs. [9] Regulatory instruments include three dimensions. First regulatory instruments exercise a symbolic function, as they are an attribute of legitimate power and draw their strength from their observance of the decision-making procedure that precedes them. Second regulatory instruments have an axiological function; they set out the values and interests protected by the state. Third regulatory instruments fulfill a pragmatic function in directing social behaviors and organizing supervisory systems. policy is aimed. Fourth, regulation has a reactive character.

Concerning the relation to government and public ownership as the other government instruments it might be said that [9] private ownership should generally be preferred to public ownership when the incentives to innovate and to contain costs must be strong. Many of the concerns that private firms fail to address to social goals can be addressed through government contracting and regulating, without resort to government ownership.

Taxation is the instrument used to raise the money that government spends. Taxes are generally unpopular, and the more visible they are, the less popular they appear to be. Examples for the innovation policy are investment allowances, research allowances and allowances for medical expenses.

There are many situations in which a subsidy and a regulatory tax can be considered as alternative instruments to attain the same policy objective. [9] In reality is observed that politicians often prefer subsidies to taxes, because of the attractiveness from an electoral point of view.

A group of researchers within the VISION Era-Net project [10] "Policies for Open Innovation: Theory, Framework and Cases" have identified a list of policy areas which are influential and need to be addressed related to open innovation. That framework was applied in three Era-Net countries The Netherlands, Flanders (Belgium) and Estonia. The aim of the study was to identify the best practices that could be used for the others from comparison between these countries. The study made inventory of policy measures which are the

most relevant for open innovation policy in these countries.

The case studies revealed strengths and weaknesses which were fairly unique for specific countries. [10] Dutch policies for example pay much attention to the migration of knowledge, while in Flanders this topic is only modestly covered. Likewise, the Estonian case shows that relatively many Open Innovation guidelines are not or slightly reflected in the current policy mix, but as a consequence of the still emerging status of its innovation system and specific features of local industries (i.e. many enterprises operating on low value-added basis), the priority of Open Innovation guidelines needs to be regarded as diverse.

Dutch policy measures [10] very well reflect some of the Open Innovation guidelines, e.g. stimulate private research and development, interaction between the actors in the innovation system, entrepreneurship, and higher education in science and technology disciplines.

In Belgium, due to the regional differences the current policies and governance structures are too distinct from one another to apply the Open Innovation policy assessment framework to the whole country. [10] As for the federal government, it has little experience with proactive innovation policies, but it did initiate changes in the fiscal system to stimulate innovation and research and development by means of a series of additional or revised reductions in tax and social security contributions for enterprises and their employees. Although the Belgian education system is performing well, there is evidence for an innovation skills mismatch. There is a challenge to preserve the country's good position to attract and retain innovative enterprises. There is also a need to boost entrepreneurship, especially the rate of creation and growth of high potential knowledge-intensive enterprises.

Estonia, as a transition state, has gone through rapid development of its basic institutions and specific policies. [10] In addition to nation-state policies, the pivotal influence on Estonian policy-making has been the accession process to the EU. Financing possibilities and conditions provided by the EU and its financing schemes had to be considered. Concerning the open innovation policy instruments [10] there are only a few impact assessments and evaluations of the 2004-2006 policies while most 2007-2013 measures are still in their design phase.

The overview of the measures in three countries is presented in the following tables:

Table 1. *Inventory of Open innovation policies for Netherlands*

Policy areas/ guidelines		Policy areas/ guidelines	
1	WBSO R&D promotion act	19	Venture capital scheme
2	SBIR – Innovation procurement	20	New Entrepreneurship Action Plan
3	Innovation Performance Contracts	21	Lumpsum research funding
4	Innovation Programs	22	NWO funding
5	IOPLTI – Publicprivate partnering	23	Incidental research funding
6	OCNL Netherlands	24	Technological

	Patent Office		institutes
7	Patent information project	25	STW – Technology foundation
8	NEN Standard Setting Organization	26	Leading Social Institutes
9	Standards Awareness Project	27	Opportunity Zones
10	OASE – Open Source Software	28	Valorization grant
11	Syntens – Intermediaryorganization	29	Technological Sciences Platform
12	ROMs - Regionaldevelopment agencies	30	Lectureships
13	Innovation vouchers	31	Project Learning andWork
14	RAAK – Public privatepartnering	32	EntrepreneurshipEdu- cation ActionProgram
15	Peaks in the Delta	33	Casimir – Mobilityscheme
16	Innovation credit	34	Knowledge MigrationDesk
17	TechnoPartner	35	NMa Netherlands Competition Authority
18	BBMKB SMEs creditguarantee		

Source: De Jong, J.P.J., W. Vanhaverbeke, T. Kalvet & H. Chesbrough (2008), *Policies for Open Innovation: Theory, Framework and Cases*, Research project funded by VISION Era-Net, Helsinki: Finland.

Table 2. *Inventory of Open innovation policies for Belgium*

Policy areas/ guidelines		Policy areas/ guidelines	
1	Tax exemption forresearchers employed byenterprises	18	Oneoff InnovationPremium
2	SME Program	19	Applied Biomedica lResearch with a Primarily Societal Finality
3	Knowledge transfer instrategic areas	20	Flemish Cooperative Innovation Networks - VIS
4	Research mandates	21	University interfaceservices
5	Poles of Excellence/ Centersof Excellence	22	Tax deduction for R&D investments and patents acquisition
6	Strategic Basic Research SBO	23	OPRIDIE Office for Intellectual Property
7	Action Plan for Science Information & Innovation	24	R&D projects of companies
8	Growth subsidy	25	Tax deduction for increase in R&D personnel
9	TETRA Fund	26	Tax deduction for patent income
10	Financial support forindustrial estates andscience parcs	27	R&D Tax Credit
11	VINNOF	28	Mentorship Programs
12	Industrial Research FundIOF	29	Hercules Foundation
13	Entrepreneurship Action Plan	30	Special Research Funds

14	NRC Fund	31	Flemish Young Enterprises VLAJO
15	ARKimedes	32	Methusalem
16	Winwin loan	33	Odysseus
17	Young Innovative Companies	34	Economy Education Bridging Projects

Source: De Jong, J.P.J., W. Vanhaverbeke, T. Kalvet & H. Chesbrough (2008), Policies for Open Innovation: Theory, Framework and Cases, Research project funded by VISION Era-Net, Helsinki: Finland.

Table 3. Inventory of Open innovation policies for Estonia 2004-2006

Policy areas/ guidelines		Policy areas/ guidelines	
1	R&D Financing Program	12	KredEx credit and guarantee organization
2	Competence Centers Program	13	Export Plan Program
3	Estonian Patent Office	14	Startup Program for Enterprises
4	Enterprise Incubation Program	15	Centers of Excellence Development
5	Estonian Centre for Standardization	16	Research Funding Schemes
6	Spinno Program	17	Archimedes Foundation
7	Inno Awareness	18	Programs Vocational and higher education and R&D institutions
8	Innovation Audit Program	19	INNOVE Lifelong Learning
9	Enterprise Estonia – support organization for enterprises	20	Program for educational system providing labor market flexibility, lifelong learning, access
10	Training Scheme	21	Program for equal labor market opportunities
11	Mentoring/Counseling Program	22	Estonian Competition Authority

Source: De Jong, J.P.J., W. Vanhaverbeke, T. Kalvet & H. Chesbrough (2008), Policies for Open Innovation: Theory, Framework and Cases, Research project funded by VISION Era-Net, Helsinki: Finland.

Table 4. Inventory of Open innovation policies for Estonia 2007-2013

Policy areas/ guidelines		Policy areas/ guidelines	
1	National Technology Programs	18	Estonian Development Fund
2	Cluster Program	19	KredEx credit and guarantee organization
3	R&D Financing Program	20	Export Support Schemes
4	Investments in New Technology	21	Services for Foreign Investors
5	Competence Centers Program	22	Foreign Representative Offices
6	Estonian Patent Office	23	Mobility Program
7	Enterprise Incubation Program	24	International Cooperation Networks

8	Estonian Centre for Standardization	25	Startup Programs and Loan guarantees
9	Spinno+ Program	26	Centers of Excellence Development
10	Science and Technology Parks	27	Research Funding Scheme
11	Cooperation with Universities	28	Archimedes Foundation
12	Innovation and Entrepreneurship Awareness Program	29	Infrastructure development program for R&D and higher education institutes
13	Enterprise Estonia - support organization for enterprises	30	INNOVE –Lifelong Learning
14	Innovation Vouchers	31	Programs to develop R&D human resources
15	Training Program (incl. training services)	32	Lifelong Learning Programs
16	Information Gateway for Entrepreneurs	33	Estonian Competition Authority
17	Mentoring/Counseling Program		

Source: De Jong, J.P.J., W. Vanhaverbeke, T. Kalvet & H. Chesbrough (2008), Policies for Open Innovation: Theory, Framework and Cases, Research project funded by VISION Era-Net, Helsinki: Finland.

5. CONCLUSION

From the very limited research on open innovation at the state level, it could be seen that current government policies in many EU countries already contain many elements to support it. The Open Innovation model inevitably influences to traditional policy making, but does not completely upset it. Current policies already reflect many aspects of Open Innovation. These are [10] policies to offer financial research and development incentives, to stimulate interaction between actors in the innovation system, to better secure innovating enterprises' access to finance, and to generally stimulate competition. Other guidelines which are frequently found are support for regional clusters and to organize the diffusion of scientific knowledge.

Open Innovation, from the other side, broadens the scope of policymaking. It is influenced by a rather broad set of policy areas outside the traditional domains such as labor markets and education. [10] It will be a challenge for policy makers to develop truly lateral policies and to find out how to effectively influence all policy areas.

Beside the traditional financial instruments to support innovation in general, open innovation ask for the other instruments such as subsidies, grants and guarantee schemes. In open innovation model it would be also necessary to develop alternative policies such as information services and legislation issues that are relatively scarce in current innovation policy. Opportunities for new policies are also present in the areas of [10] user innovation, technology markets, corporate entrepreneurship in incumbent enterprises, balanced (career and work) incentives for scientific researchers, and standard setting processes.

General question is how important Open Innovation should be to guide policymaking. The experiences of EU

countries show tendency to a broadening of the scope of their policies towards support the open innovation model. These countries are usually spending above the average for education, training and lifelong learning, have the highest share of research and development spending in GDP and have instruments to support the uptake of new technologies and products in the public and private sectors. At the Community level it is also mentioned the importance of open innovation through many documents. The Business Panel on future EU innovation policy calls [11] to open up innovation to the creativity of broad range of people and ideas and to make a shift from closed processes to power of networks. It is noticed that [11] closed innovation system of laboratories, universities, research institutes, art schools, corporations, public administration, professionals are no longer a viable approach for future innovation. Openness call for collaboration that [11] requires a platform, often including government actors, to specify the rules of engagement to help incentivize an open exchange. To accelerate this process it is proposed to [11] create, fund and network innovation labs, with localities creating spaces to enable interaction between large and small, low tech and high tech, arts and technology, public and private and not-for profit, supported by recognition and networking at European level. Innovation labs should help to develop, test and scale up solutions to implement the new orientations of EU innovation policy.

Developing countries, from the other side, have other priorities for policymaking due to the relatively under-developed innovation institutions. In such countries have to developed basic innovation and interaction instruments in the first phase. The next step should be more sophisticated instruments such as development of technology markets, stimulation of corporate entrepreneurship, etc.

Although the finance is one of the greatest obstacles by both enterprises and innovation support organizations to innovation in developing countries there are other instruments that government could use, even in the phase of the establishment of innovation system. In addition to measures that require financial resources, reforms in education and training, life long learning, as well as the promotion of entrepreneurial culture and better match between skills and labor market should be the measures that enable a good open innovation environment. Government instruments that facilitate the dissemination of good practice via networks and support to cluster development may also contribute to the process of open innovation without major investment.

Even from the very limited research of experiences in some EU countries could be concluded that open innovation trend will undoubtedly influence the policy making in future. Government instruments to support open innovation vary depending of the level of development of innovation system of the country, but exchange of good practice and experiences is the instrument that should be practiced at any stage and without major financial investment in every country.

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REFLEXIVE MODERNIZATION, INDIVIDUALIZATION AND MASS CUSTOMIZATION

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Abstract: *In this paper we argue, that individualization in mass customization business model should be seen as part of the reflexive modernization theory, which takes into account uncertainty in solving customer problems. This article is structured in the following way. The first part describes the idea of reflexive modernization and suggests some broad areas where the theory may illuminate activities in the economy. The second part describes individualization in mass customization business models. The third section offers some thoughts, how individualization from the reflexive modernization point of view and from the intercultural point of view can help to improve mass customization business model.*

Key Words: *Reflexive Modernization, Individualization, Mass Customization*

1. INTRODUCTION

At the present time, the amount of sociological time analysis is growing increasingly. Present civilization is undergoing fast, basic and international social changes. These fundamental evolutions are explained in more than a few methods. Using extremely diverse terms, sociologists try to recognize the dissimilarity between history and present time trying to grasp in a methodical mode the huge number of social transformations by recognizing fundamental systems.

2. IDEA OF REFLEXIVE MODERNIZATION

German sociologist Ulrich Beck (1986) has defined time diagnosis in terms of so called reflexive modernization. German sociologist indicates a thoughtful transformation in the character of the modernization process itself. This transformation is typified as a changeover from uncomplicated/simple/first modernity to reflexive/automatic/late modernity. First modernity represents the progress from a conventional, undeveloped social order to a modern, developed social

order. In this period of transformation, reasonableness stays over convention and false notion. Methodical reasonableness functions as a perfect source of authentic and purposeful awareness. The societal group dissimilarity has replaced the previous dissimilarity between the 3 feudal domains. According to Beck, however, this 'classical' modernity is a 'semi-modern condition'. The manufacturing, developed background intrinsically encloses more than a few anti-modern essentials which stay resistant to additional modernization. It means that the contemporary institutional prototypes of social group and sexual category are reasoning novel social disparities. These contemporary disparities actually substitute the conventional hierarchy. The methodical fascination with development produces significant hazards that are no more controllable. However, these unmanageable risks stay unseen behind a contemporary frontage of lucid dominance and ideal managing systems. Knowledge and expertise reach therefore a self-disagreement with the as yet uncontrolled increase of dangerous side-effects of their success. Beck argues that industrial civilization threatens itself throughout its imperfect structural design. Through the disagreement with its partially contemporary restrictions, developed civilization becomes the energetic power of its own alteration progression. Reflexive modernization thus represents a transformation of the developed civilization itself. From the wrecks of developed civilization, first-order modernity occurs. This essential transformation breaks through the semi-modern nature of the ordinary contemporary developed period. Away from the charts of developed civilization, it produces a dissimilar and not unavoidably better, institutional form, so called hazard social order full of risks. This novel institutional circumstance is typified by a basic insight into the critical and repeatedly increasing consequences that are methodically shaped together with the rising accessibility of well-being. The hazard social order refers to the mixture of stability and instability. While in traditional

developed civilization the sense of prosperity creation prevails, transformation does not just mean prosperity increase, but also the methodical creation of increasing and universal hazards like nuclear risks, which can't be understood as simply handy consequences of a smooth transformation progression. On the opposite, they more and more come into view as intrinsic products of additional transformation. Furthermore hazard social order refers to the far-reaching societal transformations that are reasoned by the transformation progression. These split as ordinary characteristic the immanent disagreements flanked by modernity and anti-modernity within developed civilization and indicates the progressions of globalization and individualization, to altering relations among men and women, within the family etc. to progresses in the area of employment, economical development and political affairs. Consequently, the development of automatic, reflexive transformation and modernization deeply manipulates the social surroundings of persons. The developed dynamism of improvement also challenges the philosophy of social groups and categories, qualified employment, family, sexual category roles, church, manufacturing, political affairs etc. which are extremely entrenched in individual life. Novel, radicalized structures are taking forms alongside the environment of the outstanding but collapsing mature ways of life. In these unfinished and opposing circumstances among history and prospect, person's life obtains some novel attribute appearances as uncertainty, randomness, temporality and doubt linked with the loss of identity. This uncertain based individualism has impacts on the tailored mass customization, which will be explained in the following.

3. INDIVIDUALIZATION IN MASS CUSTOMIZATION BUSINESS MODELS

The idea of mass customization is based on the observation that there is a customer interest in products that are adapted to his/her individual needs and preferences, since the adaptation will increase perceived performance. As the standard of living has increased in the last 50 years, individualization has received increased focus, since customization has come within reach of the average consumer. At the same time there has been a massive development of technologies (Svenson and Jensen 2001, p. 1). In this environment customers have the power to demand individually tailored products that are specifically designed and manufactured to suit their needs. The required shift in thinking is so great – and the danger of not making the transition is so serious – that the National Research Council commissioned a study to articulate the problem and help prepare american manufacturers to meet the challenge. Their conclusion was that we are in the midst of a fundamental revolution in the nature of business, one that, in their words, “has the potential to alter the manufacturing landscape as dramatically as the industrial revolution” (Taylor 2004, p. 18). The companies that respond properly to these changes are now exploring and beginning to master yet another frontier in business competition, one whose terrain is decidedly different from that of Mass

Production. They have found, that customers can no longer lumped together in a huge homogeneous market, but individuals whose individual wants and needs can be ascertained and fulfilled. Leading companies have created process for low-cost, volume production of great variety, and even for individually customized goods or services. They have discovered the new frontier in business competition: Mass Customization (Pine 1993, pp. 6-7). The concept of mass customization was first identified in “Future shock” by Toffler (1971) and was later described in “Future perfect” by Davis (1987). Stan Davis, who coined the phrase in 1987, refers to mass customization when “the same large number of customers can be reached as in mass markets of the industrial economy, and simultaneously they can be treated individually as in the customized markets of pre-industrial economies“ (Davis 1987, p. 169). In order to address the implementation issues of mass customization, Tseng and Jiao (2001) provide a working definition of mass customization that is very useful. The objective of mass customization is “to deliver goods and services that meet individual customers' needs with near mass production efficiency” (Piller, 2003). Doing so, mass customization is performed on four levels. While the differentiation level of mass customization is based on the additional utility (value) customers gain from a product or service that corresponds better to their needs, the cost level demands that this can be done at total costs that will not lead to such a price increase that the customization process implies a switch of market segments. The information collected in the course of individualization serves to build up a lasting individual relationship with each customer and, thus, to increase customer loyalty (relationship level). While the first three levels have a customer centric perspective, a fourth level takes an internal view and relates to the fulfillment system of a mass customizing firm: Mass customization operations are performed in a fixed solution space that represents (Piller, 2003) “the pre-existing capability and degrees of freedom built into a given manufacturer's production system” (von Hippel, 2001). Customized products might be a differentiator now, but what happens when every company can make customized clothing, customized bags, etc.? What happens when customized products become a commodity? How will you differentiate? Mass customizers need to be at once product-centric and user-focused (Aaronson, 2003). Personalization should therefore be clearly distinguished from customization. Both customization and personalization are based on the assumption that a homogeneous offering is not sufficient in meeting the customer's needs (...). As defined by the Webster dictionary (2003), personalize means “to make something personal or individual; specifically: to mark as the property of a particular person” (Fung et. al. 2001, p. 2). The definitions of mass customization and of personalization implies that the goal is to detect customers needs and then to fulfill these needs with an efficiency that almost equals that of mass production. A precondition of the business model Mass Customization is the trend to individualization based on classical modernization theories. Beck et al. (2003) argue, that these theories (first modernity) are interested in

deconstruction without reconstruction, second modernity (reflexive modernization) is about deconstruction and reconstruction. Second modernity is therefore different to modernization and postmodernism. Reflexive modernization (Böhle and Wehrich 2009, p.10; Bonß 2009) is based on the idea of a risk society, forced individualization and multidimensional globalization (Beck and Grande 2004, p. 50).

4. CULTURAL DIMENSIONS, SOCIETAL CHANGES AND THEIR INFLUENCE ON THE INDIVIDUALIZATION

The patters of thinking and acting are dominated by the specific environment the individuals and groups living in. Inter cultural analysis supports to find the causes of specific behaviour, based on empirically cultural differentiation and analysis of the national cultural environments. Culture has an understanding role for the affiliates of a group, which share that special culture. Even though all affiliates of a group or the nation might share their specific culture, appearances of consequential, cultural behavior are personalized by the person's character, childhood, educational background and experience to a substantial level. As the jointly arranged outlines of beliefs and the way of acting, individuals and groups have nowadays in the modern world increasingly more liberty to define their way of life as well as their individual decision-making processes autonomously. As argued by Beck and Beck-Gernsheim (1996), the conventionally homogeneous life route has been replaced by so called 'do-it-yourself biography' which persons have to create themselves. Furthermore authors state that the individualization's concept articulates this procedure of biographic freedom. At an especially basic plane, in addition it creates area for independent structures of individuality creation. The choices individuals and groups have to take in daily life unavoidably have extensive existential effects. In the dialogue about individualization there is often claimed that there are no obvious or correct responds to essential questions in life. As a result, the lately achieved autonomy in life is of a doubtful character. Liberated options are inescapably hazardous and random choices, whereby individuals and groups are completely liable for incorrect options chosen. Based on these thoughts Fitoussi and Rosanvallon (1996) argue that the individualism can be positive and negative. Some researchers of the modernization processes claim that, individualized society does not exist (cf. Laermans 1991, p. 215) because the conditions for the creation of the personal course of life are different. Even more the individual levels of the welfare are according to author, precondition for the creation of the specific way of individualism. Therefore those who do not have these social and intellectual abilities and real financial potentials experience considerable obstructions to an individualized utilization of own autonomy. This view is very personalized, and do not include the impact of the society on the individuals and groups. It is known from our own experiences that there is society existing which are traditionally more or less individualized or rather collectivistic. Even political systems have an great

impact on the degree of the individualization and therefore on the mass customization. This observation doesn't claim the existence of the personalized individualization, but it indicates the existence of the individualized society. Taking into consideration the work of social psychologists as e.g. Hofstede or Schwartz the existence of the individualized society can be specified. As stated by Jewell and Abate (2001, p. 865) individualism has conventionally been recognized as "the habit or principle of being independent and self-reliant...". Hofstede (1980,1983) among others describes cultural dimensions of individualism compared to collectivism. So called Individualism vs. Collectivism index (IDV) is the level to which persons are included and incorporated into social group. In cultures where come across many nonconformists and individualistic people and where emotional and social links between individuals are informal and limp is expected, that persons in this society look after themselves and their firsthand families. On the other side, in cultures where come across many conformists and collectivistic people and where emotional and social links between individuals are strong and expected, because people in these societies are from birth beyond integrated into well-built, consistent groups and frequently comprehensive families including relatives like cousins, aunts, grandparents and uncles which keep on look after them in substitute for automatic faithfulness and familiar honesty. Hofstede emphasizes that the terms individualism or collectivism have no biased meaning and have no reference to the matters referring the national-state but only to the social groups. Also this dimension is enormously basic one, and concerns all civilizations worldwide. There are several empirical studies which have been carried out to identify the levels societies individualism and respectively collectivism. The levels of individualization of some national states are presented in the table below.

Country	IDV
Germany	67
USA	91
Russia	39

Table 1: Hofstede's cultural dimenisons

The graduation of the scores is based on the reference, highest score of 100. The more the score of the cultural dimension for the individualism compared to collectivism dimension, the society seems to be more individualistic. Similar consideration has been made by Schwartz (1990,1994) whereby 10 different motivation goals defining 7 polar cultural dimensions. The motivation goals which can be taken in consideration to define the level of the autonomy of the society and the individuals and groups living in, which are open to take the risks for own short- or long-tem goals, and reproducing these decisions on their behavior as consumers, are so called "self-direction", "hedonism" and "stimulation". Self-Direction as an individual value has an motivational goal of the achievement of self-governing act as for instance, selecting, constructing, discovering. Stimulation as an individual value has an motivational goal of the achievement of enthusiasm,

innovation, modernism and comfort in life. Hedonism as an individual value has an motivational goal of the achievement of enjoyment or luxurious satisfaction for oneself. Cultural bipolar dimensions reflecting these motivation goals have a high scores of so called “mastery”, “intellectual autonomy” and “ affective autonomy”. Mastery as a polar cultural dimension describes a person and groups as human beings which prefer to manage, master, direct and modify the collective and natural surroundings through self-confident act with the intention of creation of the further individual or group goals. Intellectual Autonomy has a intellectual stress on the interest of persons autonomously following their own thoughts and rational guidelines as for example inquisitiveness, liberalism or originality. Affective Autonomy as a polar cultural dimension describes a person as an autonomous human being which has an intellectual stress to encourage and defend the person’s autonomous aspiration of individual affectively optimistic experience as for example like happiness, thrilling and diverse life and so on. Societies with the high scores of these cultural dimensions reflecting the tendency of the person living in this society, to be inclined to consume mass produced goods or services, especially categorized in the scope of the soft customized consume, as for instance service individualization like for instance music programs for passengers with divers airlines; delivery with the catering; telephone disturbance hotline etc. or implicit personalization services, as so called “my-services” like -my ebay, -my yahoo- etc. Within the scope of the hard customization, people from these societies tend to find the satisfaction in the unique products, like personalized products of different kind.

Country	Intellectual Autonomy	Affective Autonomy	Mastery
Germany	5,26	4,57	4,17
USA	3,95	3,67	3,83
Russia	4,01	3,61	3,88

Table 2: Schwartz’s cultural values

Looking on the Hofstede’s data, it is to be expected that in USA people tend to have very variable and specific taste in order to be satisfy the individualistic personality, which derives from the lesser emotional and social links between individuals in society and the tendency to the informality. Therefore, in average, we argue that mass customization in the American society is strongly linked with the personalization of the services and the higher flexibility of the individualization within the mass customization. This tendency is gradually falling toward Russian society, followed by Polish and German consumers. Analysis the Schwartz’s data indicate that Germans are very profound with the choice of the product, expecting the uniqueness of the goods and services. They express the high curiosity to explore the service or products expecting the repeat of the positive experience in the case of the previous positive experience or creation of the initial emotionally positive experience. Also, high degree of the influence on the customization in Germany is to be expected, as well as

the importance for the values such as ambition, success and independence, which means that this cultural area is indeed very products sensitive but compared with the American society not as open to the mass customization, because of the higher expectation to the awesomeness and the enjoyment the product or service have to bring with to the person itself and the society. Germans, compared with Americas more prefer to modify social and personal environment, encouraging more reflexion and creating the increased doubt of the satisfaction with the service or product, questioning it adequacy. Tendency to challenge uniqueness of the product or service is increasingly declining toward Russian society, which correlates with the Hofstede’s data. Anyway, the looking deeper on examination of the nature of the scores derived from cross-cultural analyses may indicate some limitation of the statements. Societal dynamism through the global movement of the individuals and information make at some level unable to transcend the inclination to make equal culture with the idea of the nation state. Furthermore, some cultural data to the national states may be too old to be of any contemporary value, mainly with today’s fast changing worldwide environments and societal convergence. On the other side, cross cultural psychologists argue that empirically results of the cross-cultural investigation are founded on century of indoctrination, current reproduction of the data indicating the national values and behavior have supported the reality that culture will not revolutionize overnight (cf. Hofstede 1998). Taking into consideration criticism and praise of cross-cultural analysis we argue that, cultural explanation of the phenomenon the individualism and its connection with the mass customization, can be used as an indicator. Many factors as for example individualistic data to the experience regarding the products and services already used, personal disposition to the decision-making process etc. but have to be included into analysis to explain exactly the mass customization behavior.

5. CONCLUSION

Social changes are on the one hand reasoned by the occurrence and progression of modernization, which is on the other hand linked with the process of globalization. Modernization process breeds intrinsic disagreements stuck between modernity and anti-modernity within developed society and refer to the progressions of individualization. Individualization is uncertain process, which can have positive and negative consequences on the individual’s choices in life. Against the claims of some researches we argue that, level of the societal individualization is ascertainable by using of cross-cultural analysis models, allowing the tendential predictions about the consumer behavior and therefore the openness to the societal mass customization. It is useful for the clarification of the economic activities and the improvement of mass customization business models, allowing more tailored business solutions.

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