

LIBRARY ROLES IN CHANGING SOCIETY

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Abstract

Global economy, the development of information and communication technologies, new customer requirements for the quality of products and services encourages organizations to expand their practices, to make innovations, to use creative solutions and to perform new functions – to take on new roles. In this changing environment together with other organizations we have information institutions – libraries. They serve the society, therefore they have to correspond the society needs (Shera, 1976).

Purpose – the purpose of this report is to analyze how changing society can influence the change of libraries roles in it.

Design/methodology/approach — research methodology based on the system and sociocultural systems theories (based on Grenier, 2005) and system approach.

The chosen theory to validate the analysis is the generation changing theory. It says that society consists of groups of different age and different life experiences (history, technologies, political events, etc.) individuals (Levickaitė, 2010). Marc Prensky (2001) claims that our current society can be divided into two groups.

Chosen methods: analysis of scientific literature, synthesis, comparison and summarizing.

Findings – The roles of libraries depends upon occurring changes in society. According to Marc Prensky (2001), it is possible to divide society in two groups, which are: the digital world immigrants and the digital world natives. The first group are the people born before the digital world establishment and expansion, they learned to use it at older age, usually at work or during their studies, and often they do not understand the necessity of new technologies in their lives (meaning they would not experience big discomfort without it). The second group, the natives of digital world, are people born after the expansion of information and communication technologies; they are able to see and also enjoy the meaning of using these technologies. It leads to the library roles changing from library as the repository to the library as the place and information to the customer anywhere and anytime. Library itself can take and fulfill several roles simultaneously, while responding to various needs of society’s members.

Research limitations/implications – libraries are analyzed as a social institution in the dynamic environment.

Practical implications – it allows to analyze society influence on libraries activities and plan libraries roles changing.

Originality/Value – based on first try to research libraries roles in Lithuania systematically.

Keywords: library, libraries roles, digital native, digital immigrants.

Research type: literature review.

Introduction

Global economy and the development of information and communication technologies together with economic and technological factors which stimulated those changes allow discussing about the formation of a new society. The changing society is examined through Manuel Castells (2000, 2005, 2006, 2007) Network society theory and Frank Webster's (2006) explanations of modern attitudes to society, originating from generations theory in demographical sciences as well as Marc Prensky's (2001) concept of Digital Native and Digital Immigrants. The change of society is analyzed in several dimensions, according to environments (i.e. technological, economic, social, and cultural) and turns in information's infrastructure. Along with a changing society, social institutions face changing needs of their creators. Library is not an exception. Enhanced requirements indicate to reconsider present roles of library in social system as well as adoption of new functions.

Transformation of Society

The analysis of changes in society is supported with Manuel Castells (2000, 2005, 2006, 2007), a Spanish sociologist who has an exceptionally sharp eye for occurring changes in society, Networking theory¹, where the main difference from the other society explaining theories is not an increase in a quantity of information itself (which is, of course, not denied), but a social interactions (i.e. an appearance of a network and its intensification) mutation, initiated by technologies and technologies' expansion (Webster, 2006; Castells, 2000, 2005, 2006, 2007). In this concrete analysis, the *technological, economic, social and cultural, information* dimensions of environment are chosen in accordance with generation change theory, which assesses various generations by the main distinctive features, age of birth and period of juvenescence, historical events, together with experiences linked with them, and the distinction of events according to their importance (Lee, 2012; Rudzkienė and Černikováitė, 2012; Pilcher, 1994), and etc. The popular name attribution method for generations (e.g., „Boom“, X, Y, Z, etc.), established by the U.S. scientists and used nowadays, is not always applicable in Lithuania. For instance, Boom generation, was named after a demographic bulge which took place after the Second World War in U.S. when many babies were born. Meanwhile in Lithuania there was a demographical „pitfall“ (the number of inhabitants had decreased due to the war and other repressions). It is important to emphasize that, in

¹ Scientists of various fields in the beginning of 21 c. noticed, that new information and computer technologies have stimulated changes in society. To characterize the society they began to use various definitions for this society in scientific fields and everyday life, e.g., „*Society of information*“, „*Society of knowledge*“, „*Society of technology*“, „*Network society*“ and etc.

this paper different generations' actions in society are analyzed not through generational conflicts but through substantial differences among them.

The divide between generations gives ability to draw clear criterion for identification of differences. Marc Prensky's (2001) suggested *Digital Immigrants* and *Digital Native* definitions, which describe the first ones as *the people, who were born before the digital world establishment and expansion, learned to use technologies at older age, and who often do not understand the possibilities of using digital technologies*, while the second ones *are/were born in digital era, thus knowledge and capable enough to use technologies* (Prensky, 2001).

Different generations of people existed all the times but a structure of contemporary society varies from prior ones. Environment changes extremely fast and dynamically, which uncloses big generation gaps; if in feudalistic and industrial societies there was a clear hierarchical structure, in networking society they tend to vanish; *actions become more „horizontal“ as hierarchical mindset is replaced by network mindset* (Laužikas, 2013). Therefore, it can be implied that a turn from agrarian to industrial society, are going further and from industrial to, so called, „information“, „knowledge“ or „networking“ society. An American scientist-futurologist Alvin Toffler claims it to be the third range, so called *wave* (Informacinių technologijų visuomenė, 2002, p. 36), where:

- *first wave* – agrarian revolution, which took place 10 thousand years ago (agrarian society), and draw out the fruit pickers and hunters society;
- *second wave* – industrial revolution, started with a steam engine appliance which anchored industrial society;
- *third wave* – revolution in production, which was started in XX century with a use of computers, electronics, information and biotechnologies and changed essentials of working nature, lifestyle, value system.

Toffler's division and essential moments of change coincide with Castells' marked milestones, which have influenced changes in society while technological revolution in information technologies accelerated them even more. According to Frank Webster (2006) and Manuel Castells (2000, 2005, 2006, 2007) different insights on changes in society along with determined quantitative and qualitative changes, joined with Marc Prensky's (2001) proposed different features of society's members and taking into account dimensions of environment, it can be stated that transformations of society exist in:

- *Technological environment*. The amount of technology and its users increase due to advancement in information and communication technologies. Castells (2000, 2005, 2006, 2007) claim it to be one of the most important encouraging factors for changing social structure (Castells, 2005, p. 28). Advancement of technologies has influenced not only transformations in economic environment but everyday life also, for example new technologies allowed to communicate within large distances. Researches of technological expansion may help to foresee the outlook of society in the near future. McKinsey Global Institute (2013) scientists committed a research, trying to evaluate which and how technologies are going to affect the living, business and global economy (research „*Disruptive Technologies: Advances that Will Transform Life, Business, and the Global Economy*“; 2013). In dispute of the research, there were indicated twelve possible

technologies which may potentially make an influence until 2050, such as *mobile, automation of knowledge work, the internet of things, cloud technology, advanced robotics, autonomous and near-autonomous vehicles, next-generation genomics, energy storage, 3D printing, advanced materials, advanced oil and gas exploration and recovery, renewable energy* (McKinsley Global Institute, 2013, p. 17).

Marc Prensky (2001) insights on various generations attitudes towards modern technologies are valid in Lithuania's case also; according to Lithuanian Statistics (Lietuvos statistikos departamentas, 2013), in 2010-2013 Lithuanian inhabitants up from the age of 16 m. there using computers more but there was a noticeable disparity in frequency of using the technologies between the youngest users (16-24 yrs.) and the older age people (65-74 yrs.). If during the same period of time the 65.5% of the first age group was using computers (2013 yr. – 97,6%), then the second group in 2010 was 9,9% (in 2013 the percentage of users increased to – 15,1%) (Lithuania's department of statistics' report „People that have used a computer and the internet in the last three months (2010-2013)”) (Lietuvos statistikos departamentas, 2013). Even though there is an increase in computer usage between older people, Prensky (2001) claims it does not necessarily mean they feel an urge for technologies and understand the benefits for their well-being.

- *Economic environment.* Changes also occur in economic environment while value is added with a help of information and knowledge. M. Castells (2000, 2005, 2006, 2007) believes, that after economies of the world have interlinked with each other economic, *country's and society's relationships* have harvested a new form, *composing various configurations system* (Castells, 2005, p. 17). Relevant is *advancement stable integration growths strategy*, which allow to create „growing“ society; the main regulations of it are stated in European Commission strategy „*Europe 2020*“ (2020 Europa, 2010), aiming the strategic goal to restore the growth until 2020, which would differ from pre-crisis period in a way of being stable and ensuring *people's occupation level, social and territorial cohesion* (2020 Europa, 2010). The strategy is directly linked to European Commission program „*Horizon 2020*“ that enables to encourage *economy and secure scientific and technological* base (Horizon 2020).

- *In social and cultural environment.* Steady changes in environment have a lot of influence on working age people, i.e. if before the acquired knowledge was useful during all the work-life, now constant requirements are being established for the workers; new skills and competences related with advancement of technologies are constantly in request (Laužikas, 2013). Especially great difficulties are experienced by those who create service or educate younger generations (Prensky, 2001). Jeanne C. Meister and Karie Willyerd in their book „*The 2020 Workplace*“ (2010) define three forces which form a future job, they are *globalization, demographics and social networks* (Meister and Willyerd, 2010). The paradox occurs when job places (also in management) are filled with older generation members, which are classified as digital world immigrants, meanwhile products and services are created by younger generations, digital world natives, therefore it may happen that message addressed for the users may be „encoded“ in a „language“

which is well understood by older generation but difficult to comprehend for younger ones (Prensky, 2001; Laužikas, 2013).

- *Infrastructure of information.* M. Castells (2000, 2005, 2006, 2007) does not deny the impact of the quantity to the being of society, but indicates that the society has been controlling information at all times (Webster, 2006), that is why the main difference is not the quantity of information, but its effectiveness in the network. The information that is in the network is global. In Christine L. Borgman’s (2003) opinion, it creates the infrastructure of information: *networks of computers and communication allows to integrate work and activities, related with the search of information, creation and usage, to improve interaction of these types of activities and to make them more dependent on each other* (Borgman, 2003, p. 36).

Christine L. Borgman’s (2003) insights complement M. Castells’ (2000, 2005, 2006, 2007) research and conclusions. In „*From Gutenberg To Global infrastructure Of Information*“ (Borgman, 2003) it is summarized, that infrastructure of information – *is not the substitution of the telephone, radio and cable networks, computer systems, libraries, archives and museums, schools and universities, banks and governments*, but a new derivative, which covers and complements all of these technologies and institutions, but is nor the cause for them to vanish (Borgman, 2003).

To summarize, we can state, that the changes in the society are being determined in technological, economic, social and cultural environments also in the infrastructure of information and the complexes of these environments.

Library Roles for the Changing Society

U.S. scientist Jesse H. Shera (1976) justifies the library as a wide part of a social system created by people, naming libraries as social institutions *for the needs of the society* (Shera, 1976). Because the library is a social infrastructure, changes in the environment make a huge impact on it. In this case – in the society, because the library is a conditioned and formed by social environment (Shera, 1976). So, the library is an inseparable part of the society, and the force that unites and supports the society – is culture, according to J. H. Shera (1976). Analyzing the system of the libraries as a part of social system - society, there is a vision given by the scientist, when culture is based on three components, connected to a triangle working as a whole (Shera, 1976):

- *Psychical Equipment.* Society uses it to fulfil and reach their goals.

The equipment (the first to contemporary devices) *reflects the variety of mankind’s experiance* (Shera, 1976).

- *Scholarship* that connects the sides as a factor that connects and stimulates the society to improve, *philosophical system or that, which connects a person with other people and environment* (Shera, 1976).

- *Social Organization* – the base of the triangle, to which is attributed the role of a cultural implementer through a certain system. Libraries also act as one of the parts of

the system in this part of the triangle, created and supported by the needs and expectations of the society, according to J. H. Shera (1976).

The three provided sides, according to the author of the theory, must work in harmony, but in the society little attention is given to knowledge, and all this does not reflect in organizations, it can “deform” the culture, that exists in the society.

In the center of the triangle J. H. Shera specifies „*communication*“– *the mediator of culture, that passes on ideas* (Shera, 1976), traditions, customs, and other components of culture. All this is happening regardless of time and space.

So in the social system the library works as an integrated cultural factor (in a wider sense), which according to David Reith (1984) distinguishes the roles, that have to fulfil social needs. According to the scientist, roles of the libraries consist of their performed functions (Reith, 1984):

1. **Repository role.** Storage and management of society’s documents by acquirement (collecting), preserving (conserving), describing the document created by humanity;

2. **Information role.** Dispersion of the collected data (information).

3. **Education role** connects the functions of the promoter of formal and informal learning, function of organizing teaching, also the educator’s of civil consciousness functions, etc.

4. **Social advocacy** covers functions such as dispersion of library’s resources in the society. This role relates to the document task of the library, effective services, inclusion of socially sensitive groups to social and cultural activities and other functions.

Similar roles are distinguished by Thorhauge, Larsen, Thun, Albrechtsen (1997). According to the scientists, libraries can fulfil several roles at the same time or one of them (Thorhauge et al, 1997):

- **The cultural center.** Libraries that fulfill this role, have to carry out the functions of: support and dispersion of cultural identity, versatile cultural understanding, support of the culture of local community, inhabitants’ inspiration to participate in the local society.

- **Education and the local learning center.** Libraries that fulfill this role support formal and informal education by supplying useful and the newest information, by supporting and stimulating grownups to learn for their whole lives, by providing opportunities to study, by organizing gatherings and by providing an environment suitable for learning;

- **General and special information service.** In this role, libraries fulfil these functions: they support and stimulate activities of local business, supports the local government and authorities, carry out the activities of research and education;

- **A shelter.** Libraries take the function of public space, in which socially vulnerable groups like children from problematic families and homeless people, etc., can find a place to be in.

The library fulfils its roles through a network of libraries. A network of libraries in the dictionary “Knygotyra” (1997) is defined as an entirety of libraries associated with certain attributes (a theory, a type, an area of science) (Knygotyra, 1997, p. 65). So, assessing the territorial arrangement of all working Lithuanian libraries, we can assign them all to the Lithuanian network of libraries. According to the statistics of Lithuanian

libraries (Lietuvos bibliotekų statistika 2013 m., 2014), in 2013 there were 2980 all kinds of libraries (including the main ones, branches, service points and mobile libraries). The network in Lithuania in the year 2013 has reached and had (Table 1. Lithuanian Libraries’ network in 2013 (Lietuvos bibliotekų statistika 2013 m., 2014)):

Table 1. Lithuanian Libraries’ network in 2013

| Size of the fund (dec. 31) | Number of registered users | Visits (Number of users) | Number of professional librarians |
|-------------------------------|-------------------------------|-----------------------------|--------------------------------------|
| 107 198 647 phys. units. | 1 311 558 | 24 555 634 | 6004 |

Source: Lietuvos bibliotekų statistika 2013 m., 2014

According to the law of Lithuanian Libraries’ network (Lietuvos Respublikos bibliotekų įstatymas, 1995), Lithuanian libraries’ network consists of: Lithuania’s national library, county public libraries, public libraries, libraries of education institutions, school libraries, special libraries and others (Lietuvos Respublikos bibliotekų įstatymas, 1995). Also, there are five libraries that have a *national importance status* for their fulfilled functions and their accumulative funds’ exclusivity (Lietuvos Respublikos bibliotekų įstatymas, 1995): *Lithuania’s library for the blind, Lithuania’s library of Vrublevskiu science academy, Lithuania’s library of technology, the library of Vilnius University.*

So the Lithuanian libraries’ network consists of libraries of different types, dependency, etc., in example servicing different societies in accordance with their needs, and organizing different funds, that in a whole form Lithuania’s libraries’ serviced society and funds. Every library in the network fulfils certain social roles, that match the needs of the society, in this way forming an entirety of roles and by reaching members of the changing society. Theoretical assumptions, that different roles of libraries are relevant to different members of the society, are being made. According to M. Prensky (2001), by evaluating the change of the environment and the roles of the libraries, we might assume, that immigrants of the digital world, that are affected by changes in their environment such as entrenchment of information and communication technologies in all areas of their lives, disappearing professions, social – demographical society’s change, and abundance of information, stimulates libraries to take on and fulfil the roles that are important for this part of the society, such as the role of a mediator of information and knowledge, stimulator of education and life-time learning, supplier of common and special information (especially important to people that are creating a business), educator of digital literacy, etc. (Figure 1. Immigrants of the digital world and libraries (based on Pilcher, 1994; Meister and Willyerd, 2010; Levickaitė, 2010; Prensky, 2001; Selwyn, 2009; Lee, 2012; Rudzkiene and Černikovaitė, 2012; Laužikas, 2013)).

The situation of the natives of the digital world is different (information and communication technologies are being used intensely, innovations are accepted and absorbed quickly; selection of profession is difficult, because there is no guarantee, that after finishing your studies, the received education will be needed in the labor market;

intense usage of electronical social networks that change their view to communication, interaction, etc.; the quantity of information is not a disturbance to use it, but frequently information that is unreliable and “created by everyone” is used) that is why rising requirements for the libraries differs, which determines other assumed roles, such as inclusion to social and cultural activities, a place to be in, communicate, “third place”, shelter, stimulator of life-time learning, a helper in education and etc. (Figure 2. Natives of the digital world and libraries (based on Pilcher, 1994; Meister and Willyerd, 2010; Levickaitė, 2010; Prensky, 2001; Selwyn, 2009; Lee, 2012; Rudzkienė and Černikovaitė, 2012; Laužikas, 2013)).

Table 1. Immigrants of the digital world and libraries

| | Environment | | | |
|--|--|--|--|---|
| | Technological | Economical | Social | Infrastructure of information |
| Immigrants of the digital world | Usage of contemporary technologies at work, receiving services, goods, coming of alternative leisure | Changes in the labor market: disappearing professions, work at home, changes of salary payment, etc. | Low birth rate, high number of divorcements, emigration, etc. Disappearing hierarchy in social structures. | Increase of information, the need of digital literacy, the need of knowledge of how to choose accurate and quality information. |
| Roles of the libraries | Mediator of information and knowledge, stimulator of education and life-time learning, supplier of common and special information, digital literacy educator, etc. | | | |

Source: based on Pilcher, 1994; Meister and Willyerd, 2010; Levickaitė, 2010; Prensky, 2001; Selwyn, 2009; Lee, 2012; Rudzkienė and Černikovaitė, 2012; Laužikas, 2013

Table 2. Natives of the digital world and libraries

| | Environment | | | |
|-------------------------------------|--|---|--|---|
| | Technological | Economical | Social | Infrastructure of information |
| Natives of the digital world | Intense usage of contemporary technologies, alternative leisure, the need of new technologies and their entrenchment | Choice of profession (popular professions), the need of higher education, vision and planning of the future | Changes in family structure, integration to the society, changes of attitude towards education. Reticulate perception of the world, usage of el. social networks | Ability to process, analyze and use huge quantities of information, trust in common sources of information that are created by the society. |
| Roles of the libraries | Inclusion to social and cultural activities, a social space, “third place”, shelter for socially sensitive groups (also children); a part of the education system, stimulator of life-time learning and etc. | | | |

Source: based on Pilcher, 1994; Meister and Willyerd, 2010; Levickaitė, 2010; Prensky, 2001; Selwyn, 2009; Lee, 2012; Rudzkienė and Černikovaitė, 2012; Laužikas, 2013

Conclusions

Analysis of scientific publications revealed the relationship between the changing society and roles of the library. The change of society is related with its changing environment. While analyzing society's technological, economic, social and cultural environments, also the infrastructure of information, it is notable, that not only quantitative changes (like abundance of information) are happening, but also qualitative changes: labor market's requirements, coming of new professions, changes of the attitudes towards family and social relationships. Changes of the environment differently affects different members of the society. Based on natives and immigrants of the digital world concept, it becomes clear, that changing society has a different impact on them, in example contemporary technologies of information and communication are a necessity for the digital natives, but for the digital immigrant it is just another means, a tool, to carry out their work.

In this changing society (social system) there are social institutions, and the library is one of them. Being directly coherent with the social system, libraries create roles that match the needs of the society. The library, as a social institution, can fulfil one or more roles at a time (it depends on the needs of the serviced society). While analyzing the influence of the environmental changes, we can make a conclusion, that different roles of the libraries can be important for different members of society, in example, while the quantity of information is increasing, libraries as mediators of information becomes very important for the immigrants of the digital world, because it allows them to freely access and use quality information. On the other side, the natives of the digital world, that are constantly being surrounded by technologies and a huge amount of information, might need the library as a space to communicate, to be in, share their experiences etc. with their contemporaries, friends, and people with common interests.

The accomplished analysis has allowed to theoretically evaluate the influence to the roles of the libraries by the changing society. It is considered, that further empirical analysis is needed, to purify the roles of the libraries that match the needs and expectations of the changing society.

References

- 2020 Europe : strategy of stable and integrational growth : commission's communique [interactive]. 2010. European commission. Brussels, 3.3.2010, [accessed 2014-03-24] <<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:2020:FIN:LT:PDF>>
- Borgman, L. Ch. 2003. *Nuo Gutenbergo iki globalios informacijos infrastruktūros* : informacijos prieiga tinklų apraizgytame pasaulyje. Kaunas : Poligrafija ir informatika. 328 p. ISSN 1392-1673.
- Castells, M. 2000. Toward a Sociology of the Network Society [interactive]. *Contemporary Sociology*. Vol. 29, No. 5 (Sep., 2000) (pp. 693-699), [accessed 2014-03-24] <<http://www.jstor.org/stable/2655234>>
- Castells, M. 2005, 2006, 2007. Informacijos amžius. *Ekonomika, visuomenė ir kultūra*. ISSN 1392-1673.

I tomas. *Tinklaveikos visuomenės raida*. Kaunas : Poligrafija ir informatika, 2005. 536 p. ISBN 9986-850-52-5.

II tomas. *Tapatumo galia*. Kaunas : Poligrafija ir informatika, 2006. 480 p. ISBN 9986-850-57-6.

III tomas. *Tūkstanmečio pabaiga*. Kaunas : Poligrafija ir informatika, 2007. 416 p. ISBN 978-9986-58-8.

Grenier, G. J. 2005. *Human Societies as Sociocultural Systems* [interactive]. [accessed 2014-03-24] <<http://www2.fiu.edu/~grenierg/chapter2.htm>>

Horizon 2020 : the EU Framework Programme for Research and Innovation [interactive]. [accessed 2014-03-24] <<http://ec.europa.eu/programmes/horizon2020/en/official-documents>>

Informacinių technologijų visuomenė: humanitarinės interpretacijos : monografija. 2002. Lietuvos teisės universitetas. Vilnius. 184 p. ISBN 9955-442-87-5.

Knygotyra : enciklopedinis žodynas. 1997. Vilniaus universiteto Knygotyros katedra. Leidykla „Alma littera“, Vilnius. ISBN 9986-02-352-1

Laužikas, R. 2013. IKT ir dabarties humanitarinių ir socialinių mokslų kaita [pranešimas konferencijos metu]. *IV Komunikacijos ir informacijos tarptautinė mokslinė konferencija*. 2013 m. balandžio 23-25 d., Vilnius. Vilniaus universiteto Komunikacijos fakulteto Studentų mokslinė draugija.

Lee, L. F. 2012. Generational Differences in the Impact of Historical Events: The Tiananmen Square Incident in Contemporary Hong Kong Public Opinion [interactive]. *International Journal of Public Opinion Research*. Vol. 24 No. 2. First published online: December 13, 2011. Published by Oxford University Press on behalf of The World Association, [accessed 2014-03-24]. DOI: 10.1093/ijpor/edr042.

Levickaitė, R. 2010. Generations X, Y, Z: How Social Networks Form the Concept of The World Without Borders (The Case of Lithuania) [interactive]. *Limes*. Cultural Regionalistics. Vol. 3, No. 2. ISSN 2029-0187 print / ISSN 2029-0209 online, [accessed 2014-03-24]. <http://versita.metapress.com/content/qt5n541r624138m5/fulltext.pdf>

Lietuvos bibliotekų statistika 2013 m. [interactive]. 2014. Lietuvos nacionalinė Martyno Mažvydo biblioteka. LIBIS bibliotekų statistikos modulis. [accessed 2014-03-24] <<http://statistika.libis.lt:7878/pls/apex/f?p=106>>

Lietuvos Respublikos bibliotekų įstatymas [interactive]. 1995. June 6th. Nr. I-920. Lietuvos Respublikos Seimas. Žin., 1995, Nr. 51-1245; 2004, Nr. 120-4431; 2010 Nr. 53-2597, [accessed 2014-03-24]. <<http://www3.lrs.lt/pls/inter3/oldsearch.preps2?Condition1=238641&Condition2=>>

Lietuvos statistikos departamentas. 2013. Ataskaita „Asmenys, kurie naudojami kompiuteriu, internetu per paskutinius tris mėn. Lietuvoje (2010-2013 m.)“ [interactive]. *Oficialios statistikos portalas*, 2013. [accessed 2014-03-24] <<http://osp.stat.gov.lt/>>

Meister, J. C.; Willyerd, K. 2010. *The 2020 Workplace*: How Innovative Companies Attract, Develop, and Keep Tomorrow's Employees Today.

McKinsey Global Institute 2013. *Disruptive Technologies*: Advances that Will Transform Life, Business, and the Global Economy [interactive] / Manyike, James; Chui, Michael; Bughin, Jacques; Dobbs, Richard; Bisson, Peter; Marks, Alex. [accessed 2014-03-24]. <MGI_Disruptive_technologies_Full_report_May2013>

Pilcher, J. 1994. Mannheim's Sociology of Generations: An Undervalued Legacy [interactive]. *The British Journal of Sociology*. Vol. 45, No. 3 (Sep.). P 481-495 [accessed 2014-03-24]. <<http://www.jstor.org/stable/591659>>

Prensky, M. 2001. Digital Natives, Digital Immigrants Part 1. [interactive] *On the Horizon*, Vol. 9 Iss: 5, pp. 1 – 6. MCB UP Ltd. [accessed 2014-03-24]. DOI: 10.1108/10748120110424816

Reith, D. 1984. The Library as Social Agency. *The Library in Society*. Littleton. Libraries Limited Inc, p. 5-17.

Rudzkiene, V.; Černikovaitė, M. E. 2012. Socialinis teisingumas vertybinių požiūrių [interactive]. *Societal Innovations for Global Growth* : Stream E Continuation and Change of Values in Global Society = Socialinės inovacijos globaliai plėtrai : E skyrius „Vertybių tęstinumas ir kaita globalioje visuomenėje“. 1(1). ISSN 2335-2450 (online) [accessed 2014-03-24]. http://socin.mruni.eu/wp-content/uploads/2012/12/E_2012-12-26.pdf#page=57

Selwyn, N. 2009. The Digital Native – Myth and Reality [interactive]. *Aslib Proceedings*, Vol. 61 Iss: 4, pp. 364 – 379. Emerald Group Publishing Limited, [accessed 2014-03-24]. DOI: 10.1108/00012530910973776

Shera, J. H. 1976. The Library and Society. *Introduction to Library Science: Basic Elements of Library Service*. Libraries Unlimited. ISBN 0872871738

Thorhauge, J.; Larsen, G.; Thun, H.-P.; Albrechtsen, H. 1997. *Public libraries and the information society*. European Commission, DG XIII/E.4. Libraries in the information society series. Luxemburg : Office for Publications of the European Communities. ISBN 92-828-0505-0

Webster, F. 2006. *Informacinės visuomenės teorijos*. Kaunas : UAB „Poligrafija ir informatika“.