Digital services to patrons with disabilities offered at the National Library of Armenia: challenges and measures taken.

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Abstract:

The purpose of the present qualitative study is to create knowledge about library digital services and their marketing to patrons with disabilities in Armenia, on the example of the National Library of Armenia, as well as, to discover opinions of the NLA librarians and patrons with disabilities about the importance of library digital services to people with disabilities. Literature review and qualitative interviewing has been employed as methods to collect the empirical data. The results have been analyzed and discussed based on the library-marketing model of marketing research, marketing segmentation, marketing mix strategy and marketing evaluation suggested by Koontz & Gubbin (2010). It has been concluded, that 1) e-accessibility is something new at the NLA and the NLA does not provide equally available knowledge, resources, services, facilities to patrons with disabilities, because of the following main challenges: lack of continuous funding and support from the state, lack of appropriate facilities and technologies, lack of qualified staff, and historically inherited library infrastructure impediments; 2) no library service marketing is conducted to patrons with disabilities at the NLA; 3) the opinions are that provision with such services is very important to people with disabilities, since they allow those people to gain access and use information in formats adopted to their various needs, and, of course, they become integrated into the modern society. The important role of a library as a non-discriminator and copyright protector in a developing country when delivering digital library services to patrons with disabilities has also been discovered.

Key-words:
national bibliotek, Republiken Armenia, digital biblioteksservice, användare med nedsatt syn, användare med fysisk funktions nedsättning, användare med nedsatt hörsel, tillgång till internet, marknadsföring av digital biblioteksservice
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I. Introduction

In the 21st century, thanks to the technological advancements, any person, no matter of physical abilities or disabilities, can be given the comfort of access to information without the need to physically seek after it. It has become possible to access diverse types of information in various electronic formats from convenience of anywhere (Borgman, 2003, pp.1-31) with broadband Internet access by means of desktop, laptop, tablet, handheld computers or smart phones equipped with assistive technologies or applications. A number of social activities are transformed into the digital world, and people make use of many services provided by different institutions online. On the other hand, various conventions and policies address non-discrimination of people with disabilities with the assumption that all people, no matter of their physical abilities or disabilities, are challenged in some way. For example, according to the UN Convention on the Rights of Persons with Disabilities, persons with disabilities, including those who have long-term physical, mental, intellectual or sensory impairments (Article 1), have the inherent right to life on an equal basis as others (Article 10). To guarantee independent and full participation in all aspects of life, the state is to ensure persons with disabilities with access to information and communication technologies and systems, and to other facilities and services open or provided to the public, including the electronic ones (Article 9). Access to information is to be promoted by providing information in accessible formats and technologies, by facilitating the use of Braille, sign language and other forms of communication and by encouraging the media and the Internet providers to make online information available in accessible formats (Article 21) (UN, 2006).

Therefore, disability should not interfere with any person’s rights to access information. However, people with disabilities are accepted and integrated into the social life in different ways in a number of societies. For disadvantaged groups of people, particularly, for those with disabilities, living in a developing country, access to information by means of modern information and communication technologies (hereafter, referred to ICT) is not always equally accessible and usable. The opportunities to benefit of the ICT are limited. On the other hand, they are not included in certain spheres of life due to socio-economic situation of the country they live in.

Libraries are among those institutions that have the mandate to alleviate deprivation by ensuring unhindered access to learning resources and can empower people with disabilities by offering more accessible and usable services to them (Fagbola, Uzoigwe, & Ajegbomogun, 2011). For example, according to the American Library Association Policy on Library Services for People with Disabilities, libraries must act as non-discriminators by ensuring equal access to library resources, materials, facilities and assistive technologies for individuals with disabilities, as well as, by involving those persons in the planning, implementing, and evaluating of library services, programs and facilities (ALA Policy B.9.3.2, 2001).

However, nowadays, libraries of many developing countries prioritize digitization of cultural heritage materials and having them available on their web pages, instead of concentrating on the different needs of patrons to ensure online access to materials in formats that meet their needs. On the other hand, in many developing countries, physical library buildings, services and materials are not accessible to people with mobility, visual or hearing impairments. Legislations on protection of rights and social
inclusion of people with disabilities, as well as, on digitization are, yet, the draft ones. Library policies for visual, auditory and motor accessibility and usability of both physical and electronic services for patrons with disabilities are not fully addressed. There is no written communications and marketing plan, or strategies to reach and market the services to target groups and make them aware of the offered services. The state fundings for libraries are scarce, and libraries rely on overseas funding. Acquisition of foreign materials and materials in accessible format for people with disabilities is challenging. Librarians lack appropriate skills and training to use modern technologies.

After collapse of the Soviet Union in 1991, many libraries of post Soviet countries, included those of the Republic of Armenia (hereafter, referred to the RA), encountered serious challenges to acquire materials, to make them accessible and usable, as well as, to ensure provision of equal services to patrons with different needs. In the course of time, with the support of overseas funders, many libraries of the RA have overcome some of the mentioned challenges. However, most of the RA library buildings are yet not accessible to patrons with mobility impairments (Donabedian, Carey, & Balayan, 2012). Since 1991, the economic, education, healthcare and other systems of the RA are still in the process of development, due to which, the library system has not, yet, fully established itself as well.

Therefore, being a citizen of the Republic of Armenia, which is a developing country after it has gained independence in 1991, it is important for me, personally, and as a future librarian, to understand, to explore and to present within the framework of the present thesis the current situation with library disability digital services provision and practical integration in Armenia, on the example of the National Library of Armenia (hereafter, referred to NLA).

The present thesis will:

1. tell about the available knowledge in Armenian and English languages about library digital services to patrons with disabilities in Armenia;

2. discover the challenges, measures and marketing initiatives taken by the librarians to provide and practically integrate digital library services to patrons with disabilities on the example of the National Library of Armenia;

3. and, present the opinions of patrons with disabilities about the importance of library digital services.

This chapter discusses the problem formulation, presents incentives of the researcher and aim of the study, research questions, terms used in the study, limitation of the study, and thesis structure.

1.1 Problem formulation

In the present times of information society, with availability of sufficient financial means and skilled staff, a library has the potential to act as a non-discriminator in ensuring information accessibility to people with disabilities and working towards making positive difference in lives of people with disabilities. However, in a developing country, such as is the Republic of Armenia, libraries, often, do not have appropriate technologies, resources and appropriate staff skills to provide equal services, and make...
materials equally accessible and usable to patrons with disabilities. To adjust, renovate and accommodate physical and digital libraries to the needs of patrons with diverse disabilities any library of the RA needs to gain sufficient funding and have up-to-date professional staff skills. For a library, in a developing country, there also exist barriers to reach and inform people with disabilities about the available electronic services. The barriers can be the low percentage of library visits and use by people with disabilities, the socio-economic situation of the country, misconceptions of the society about disability, etc. Despite the mentioned problems, libraries in a developing country do provide a number of physical and electronic services to patrons with disabilities, and so do some libraries in the RA.

From a theoretical point of view, library services marketing to patrons with disabilities is a more general scientific problem for Library and Information Science, because the subject matter is still underdeveloped. The available theories studied during the present research (de Sa’ez, 2002; Calvert, 2002; McKinzie, 2003; Rowley 2006; Gupta 2006; Koontz & Gubbin, 2010) do emphasize the importance of marketing in the digital era for information managers, and introduce a number of concepts/model related to information marketing and marketing of services to library patrons. However, none of the marketing concepts/model are discussed regarded the patrons with disabilities. On the other hand, it is not discussed how to relate those marketing concepts or model in a developing country. The problem is that to provide service to patrons with disabilities, to meet their special needs and to ensure accessibility, the available services are to be made visible and are to be used by all patrons no matter of their physical abilities or disabilities. If a library needs to meet the needs of diverse users by providing services to them, how are the available digital services visible to them and where are the messages about those services? Particularly, how are those services marketed to patrons with disabilities in a developing country? What are the challenges and measures taken by the library?

Therefore, the problem the present study is looking into is availability of theory about and its application for library electronic services provision and practical integration to patrons with disabilities in a developing country, such as is the RA.

1.2 Incentives

Incentives of the present study are based on my personal experience and investigations. I am a citizen and a librarian of the RA, and whenever visiting or working at a library in Yerevan, Armenia, I have hardly noticed any patrons with disabilities in the reading rooms, using computer technologies, near the stacks or at circulation desks. Hence, I talked with several of my colleague librarians working at different libraries in Yerevan to understand whether they have such patrons and whether they offer electronic services to patrons with disabilities or not. During the conversations, I have discovered that the number of patrons visiting libraries in Yerevan is not many, because of the socio-economic status of the country that hinders participation of people with disabilities into certain spheres of social life. I have contacted several non-governmental organizations dealing with issues of people with disabilities, and they did confirm, that, because of the present socio-economic status of the country, people with disabilities cannot take full advantage of many aspects of the social life. Despite the limited number of patrons, some libraries do offer and are willing to offer services and learning resources that are accessible and usable to patrons
with disabilities. I have also searched for any literature in Armenian, English and/or Russian languages that touches upon electronic services offered by libraries in Armenia to patrons with disabilities, but, found only a few online articles and printed books discussing the problem. However, personal investigations and experiences cannot serve as ground basis and can be very objective to draw any conclusions. Therefore, the main incentive is to understand the situation by implementing the aim and answering the research questions of the present study. It is expected that the research findings can serve as an input not only into the LIS knowledge of Armenia, but, can also support in introduction of library digital services across the developing world.

1.3 Research aim and questions

The aim of the present research is to create knowledge about library digital services and their marketing to patrons with disabilities in Armenia, on the example of the National Library of Armenia, as well as, to discover opinions of patrons with disabilities about the importance of library digital services to them. The main focus of the study is to examine and analyse the challenges faced, measures and marketing initiatives taken by the librarians to provide and practically integrate such services to patrons with disabilities at the NLA.

The knowledge will be created by answering the following four research questions:

- What are the current challenges experienced by the NLA to provide and practically integrate digital services to patrons with disabilities?
- What are the measures taken by the librarians of NLA to offer digital services to patrons with disabilities?
- What marketing initiatives are taken at the NLA to inform patrons with disabilities about available services?
- Which are the opinions of patrons with disabilities and the NLA librarians about the importance of library digital services?

1.4 Limitation

The limitation of the present study is that only one Armenian library (the National Library of Armenia) is examined within the present research.

1.5 Terms used in the study

Assistive technology: services and devices provided to patrons with diverse disabilities by libraries to assist those patrons in the use of assistive technology device (with exception of those medical devices that are surgically implanted, or the replacement of such device) that increases, maintains or improves certain functional capabilities (Individuals with Disabilities Education Act, 2004).
**Developing country:** any country with low-income or lower-middle income economies. Economies are divided according to 2012 GNI per capita (low income= $1,035 and lower middle income= $1,036 - $4,085) (World Bank, 2014).

**Digital library:** the equivalent of a physical library that aims at ensuring access to information in various formats with availability of electronic library services on its web page 24/7.

**Digital library services:** services provided on digital library or at the physical library that can be used on desktop, laptop, tablet, handheld computers or smart phones equipped with assistive technologies or applications that have broadband Internet access.

**E-accessibility:** ease of use of information and communication technologies (ICTs) by people with disabilities (WHO, 2014).

**Patrons with disabilities:** patrons with visual, hearing or mobility impairments, who have participation restrictions in social life situations, particularly, making use of library services because of poverty and social exclusion (WHO, 2014).

**Web accessibility:** compliance of provided content with Web Content Accessibility Standards established by World Wide Web Consortium (W3C).

### 1.6 Thesis structure

The present study is organized into eight chapters.

The study starts with an introduction (the present chapter) followed by chapter two, which provides brief background information about the socio-economic situation in the Republic of Armenia, the present realities of libraries operating in the country and the National Library of Armenia. To implement the aim and answer the research questions, first of all, a literature review has been conducted to study the previous researches and investigate availability of the previous experience that touches upon the same problem in Armenian, Russian and/or English languages. Chapter three is about literature review that discusses points of view of both overseas and Armenian scholars on the problem. Based on the literature review a theoretical approach has been formulated and presented in chapter four. Chapter five is the description of methods supporting the research, data collection instruments and procedures used in the present research, as well as, methods of data analysis and the research ethics. Data collected with help of the research methods is summarized and analysed in chapter six. Chapter seven presents the researchers personal reflections on the collected empirical data in a form of discussion, answers to the four research questions, the main themes, and general conclusions drawn based on the overall implementation of the research.

Exective summary, which also includes recommendations for further research, is followed by references and appendices attached to the present research.

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1 See Section 2.5 of the present research: Web Content Accessibility Standards for people with disabilities developed by W3C.
II. **Background information about the RA, the present realities of libraries operating in the country and the National Library of Armenia**

Taking into account that audience of the present research is international, it has been decided to include in the research a brief background information about the Republic of Armenia and its current social and economic situation, information about disability situation in the country and the present realities of libraries in the RA.

The present chapter provides information about the National Library of Armenia (library under investigation). The chapter also discusses existing knowledge in Armenian, Russian and/or English languages about library digital services to people with disabilities in the RA, and known main challenges to provide those services by the time the present paper was written.

### 2.1.1. Brief presentation of current social and economic situation in the Republic of Armenia

The Republic of Armenia is a land-locked country with total population of 2.969 million people (World Bank, 2014). Yerevan is the capital of the RA with population of 1.060 million people (NSS of the RA, 2011). The country has closed borders to the West with Turkey and to the East with Azerbaijan with no energy resources at all. According to the World Bank data, as indicated in *Chart 1: Development indicators for 2012*, as of 2012, among Europe and Central Asia developing countries, Armenia is considered to be a lower middle-income country with GDP of $9,951 billion\(^2\), while Turkey is an upper middle-income country with GDP of $789.3 billion, and Azerbaijan is an upper middle-income country with GDP of $66.60 billion. Last measured GNI per capita based on purchasing power parity was $8,820 in 2012, while in Turkey it was $18,190 and $9,310 in Azerbaijan\(^3\) (World Bank, 2014).

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\(^2\)Data are in current U.S. dollars. Dollar figures for GDP are converted from domestic currencies using single year official exchange rates. Source: World Bank national accounts data, and OECD National Accounts data files.

\(^3\) Data are in current U.S. dollars. Source: World Bank, International Comparison Program database
Therefore, government of the RA seeks to improve relations with neighbours, to find a peaceful resolution to the conflict over Nagorno-Karabakh, as well as, to maintain sustainable political, economic and security situation in the country. The government is committed to guarantee democracy, ensure protection of human rights and fundamental freedoms, establish a better and more independent judiciary system, promote trade, fight against corruption, improve welfare, social, education and health protection, particularly, at rural level, reduce poverty, and decrease emigration (European Commission, 2007).

According to the RA Law on budget for 2014, the greater part of the money (47.1%) is allocated for social-cultural sphere. 21% is provided for national security and to ensure security of the country. Expenses for the economic branches form the 12.2%. The rest is allocated for state debt, support to local-governance bodies, etc. The funds provided for cultural services in 2014 will be allocated among libraries, museums, cultural centers and other cultural organizations, services of theatrical concert organizations and cinematography, as well as, to implement construction works at cultural institutions (RA National Assembly, 2013). It is worth mentioning, that economy of the country is also supported by significant remittances from the Armenian Diaspora invested in housing, land, education and small businesses. However, the social situation in Armenia is marked by sharp inequalities and strong social polarization (European Commission, 2007). The country still suffers from the consequences of devastating earthquake in 1988 and independence from Soviet regime in 1991. The world economic crisis in 2008 also had its effect on the economy of the RA, which lost its relatively stable improvement. Because of the civil war in Syria, at about 11000 (Nalbandyan, 2014) Armenians living in Syria immigrated to Armenia in the last year with the hopes for a stable future from the RA Government. Obviously, the challenges for the RA Government are many, but, in the present realities, it is important to remember that literacy and access to information can empower the citizens and be one of the most important weapons to overcome many of the challenges. The latest literacy

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**Chart 1: Development indicators for 2012**

*Note: Chart has been created by Anna Khachatryan*
rate available for Armenia is from 2011: total adult literacy rate was 99.6% and total youth literacy rate was 99.8% (UIS, 2011). According to the latest population census conducted by National Statistical Service of the Republic of Armenia, 35% of total population were males and females aged 16-34. Males and females enrolled in higher educational institutions were 3.32% of total population (NSS of the RA, 2011).

2.1.2. People with disabilities in Armenia

As of January 2014, 6% (193836 people) of total population of the RA are people with disabilities. Young people (aged 18-40) with various disabilities form 14.1% of people with disabilities (Disability Armenia, 2014). According to the latest survey conducted by the NSS of the RA, SIDA, & SCB (2008), 2.6% of people with disabilities in Armenia were illiterate, while 0.5% had post-graduate education and 17.7% higher education.

In Armenia, people with disabilities have limited opportunities to benefit of social life and be integrated into the society, because they have limited opportunities to attend preschool, school and higher education establishments and work side-by-side with able-bodied people (Armenian news agency Noyan Tapan, 2001). This is because the Government of Armenia historically did not establish non-discriminating regulations for people with disabilities and rather considered disability to be a social constraint. On the other hand, the majority of the Armenian society neglected needs of the disabled people (“Georgia USAID-Tbilisi Issues Grants Notice on ‘USAID/Armenia Labor Market Integration of People with Disabilities,’” 2011). Vocational or higher educational institutions in Armenia do not provide with knowledge about disability. Regardless of education level, the public awareness about people with disabilities and disability typology is low. Therefore, only those persons with existing obvious visible health or physical problems are considered to be with disabilities (LIFE for People with Disabilities Program, 2012, pp.19-26).

It should be mentioned, that, after collapse of the Soviet Union, due to the increasing number of non-governmental organizations dealing with disability issues, as well as, changes in national legislation, the interest towards the problems of people with disabilities has relatively increased. Particularly, urban construction norms, inclusive education and other legal acts have been adopted (LIFE for People with Disabilities Program, 2012, p.15).

On the other hand, even though, it is regulated by the RA Law on Social Protection of People with Disabilities in the RA (in force since 1993) that all modes of transport, communications and information, as well as, other objects of social infrastructure must be accommodated to the needs of the people with disabilities (National Assembly of the RA, 1993), people with disabilities are excluded from the society, and have social integration, interaction and psychological depression problems. They still face the problem to access many of the social infrastructure buildings, to make use of transportation, roads, crossings, ramps, lifts, etc., since, those are yet not accessible to people with mobility, hearing or visual impairments (LIFE for People with Disabilities Program, 2012). As far as accessibility of library buildings in Armenia is concerned, most of them are not accessible to patrons with mobility impairments in wheelchairs. The needs of patrons with disabilities have not been addressed yet in many libraries of Armenia ever since the country became independent in 1991 (Donabedian et al., 2012).
2.2 The present realities of libraries operating in the RA

2.2.1 The inherited impediments and the situation in the RA library and information system at present:

After collapse of the Soviet Union and the transition to democracy, it was the education, healthcare and other systems of the RA, as well as, the system of library and information services that have been considerably affected. The economic crisis reduced public, school and children's library acquisitions due to inadequate state funding, and many libraries were not able to provide patrons with foreign and alternative literature. Therefore, photocopying of imported books became a method of stock acquisition for some time after 1992 (Johnson, 2013, p. 53). The challenge for libraries was and, to some extend, still, is to acquire new publications for their stock with the minimal state funding. Later, it was and is, thanks to the funding provided by the international foundations and private sponsors, that a number of libraries acquired and still acquire up-to-date literature and electronic resources (ELCA 2014). Many public libraries in rural areas of Armenia suffered the most because of the administrative and territorial reforms inside the country. Public libraries are, still, under the authority of the Ministry of Culture of RA. However, local authorities do not provide funds for books acquisitions, as well as, renovation and maintenance of the rural public library buildings. Book collections at rural public libraries are outdated, resources are scarce and most of the time inaccessible. On the other hand, literature check out is a rare occurrence (Armenian Reporter, 2010).

The working conditions in many of the regional libraries are still to be improved by providing electricity, heating and up-to-date book collections to the libraries. The librarians need to be introduced and trained about the new technological updates in the field. Additionally, many of the libraries do not have their own websites (The Civilitas Foundation, 2011). Thanks to collaboration between national and international institutions, in some regions of Armenia one can find some libraries that are open to the inhabitants of the regions free of charge and serve as information centers by providing print and electronic resources. American Corners in Armenia provide patrons with access to the Internet, audio and video materials about the United States, as well as, access to electronic encyclopedias, textbooks, reports, journals, videos, and photographs in English language (American Corners Armenia, 2013). In 2013, another regional library was opened that provides access to the Internet resources and a vast collection of eBooks in Armenian, Russian and English languages (AUA Newsroom, 2013). However, a number of public libraries in poverty have recently closed in Armenia, and only some of the public libraries outside the capital survived thanks to the financial support of overseas organizations (Johnson 2013).

The RA university library system is in a more privileged positions, because it is funded from the state budget and from the universities’ own budget, while other state libraries are under the subordination of the RA Ministry of Culture (Zargarayan, 2007, p.8). However, the situation with Yerevan state university libraries is more or less the same as in the above-mentioned libraries, despite the fact that a number of academic libraries in Armenia were awarded with international funding to improve access to information, as well as, with a selection of books and journals, and access to certain electronic databases (Johnson 2013).
Computerization transformations for the library community in Armenia date back to 1990's, when Armenia announced its independence in 1991. It was then, that, the Computerized Network of Armenian Libraries was established, thanks to which, later, the Armenian Library consortium was created, the Union Catalogue was developed, free and open source software was introduced to the libraries in Armenia, and it became possible to acquire electronic resources from international vendors.

For the Armenian librarians the biggest challenge was and still is to overcome the lack of appropriate skills and experience with different software and hardware, as well as, certain aspects of digitization (Zargarayan, 2007, pp.8-11). Despite the mentioned disadvantages, the collapse of the Soviet regime had an advantage for the Armenian library community, since they were then able to contact, exchange experiences, participate in conferences, study tours organized by overseas colleagues, and learn about new trends in library automation and digitization (Zargarayan, 2007). Since 2003, Electronic Library Consortium of Armenia was formed to ensure access to electronic scientific and scholarly publications for libraries, universities, research and other non-commercial organizations in Armenia (ELCA, 2014). However, as Johnson (2013b, pp.8-15) states, donation of books, information materials, computers, as well as, access to electronic resources that depend on short-term funding can not be permanent and as vital as the support of the authorities who control the state budget. In 2012, a great number of libraries have been provided with technical equipment and renovation of a number of library buildings was taken in the capital (Yerevan). Majority of the state libraries have undertaken digitization of book funds, regardless of the fact, that the RA Act on Digitization is still under discussion. In regions of Armenia a number of libraries have been closed recently, because of the inappropriate building conditions and non-renewable book funds (Baghdasaryan, 2013, p.4).

2.2.2. The known library digital services to people with disabilities in Armenia:

As far as library digital services to people with disabilities are concerned, the Armenian Reading Equipment with Voice (AREV) system was introduced during 2006 to a number of libraries in different regions of the republic to assist patrons with visual impairments only (Kuchukyan and Karapetyan in Hopkinson & Zargaryan, 2007, p.78). Since collapse of the Soviet regime, introduction of electronic services and provision of digital services has been gradually implemented at the RA libraries, as well as, due to the lack of financial investment and proper experience and skills of the librarians. The process started with introduction of electronic Catalogue of Armenian Libraries Union, which is being extensively used by most of the state libraries of the RA and is available at http://www.armunicat.am:8991/ALEPH. Since 1991, several automation library systems have been used in libraries of Armenia. However, starting from 2004, the Consortium of Armenian Academic Libraries developed Catalogue of Armenian Libraries Union, which is based on Ex Libris’ ALEPH 500 library management and information system (Johnson 2013, p.56). A number of public libraries in Yerevan have recently initiated implementation of “home librarian” service to provide reference assistance and literature loans via email or web chat. The materials are delivered to homes of patrons with disabilities free of charge (Disability Armenia, 2014). There is no record of any digital services offered to patrons with disabilities at Yerevan State University libraries. However, digital library webpages of state university websites are evidence for a limited number of digital services offered to patrons, particularly, those with disabilities. Only 12 out of existing 20 state university libraries
(RA Ministry of Education and Science, 2014) have websites with full content, where they offer services, such as “Ask a Librarian” (via chat or email), of which patrons with hearing impairments can benefit. There is availability of online literature request, however, no home librarian service. A few have "alt=" text alternative available for most images and buttons in the code, which can allow reading the webpage contents with screen readers. However, "html" format is not available for online books and online books are available in *pdf format, or a Flash Player is required to view online books. Transcripts and audio inputs are not available in most cases. In general, there is no mention about accessibility for patrons with disabilities neither in physical library nor on the web. For more details see Appendix 1: Services available on websites of Libraries of Yerevan State Higher Educational Institutions 4. Only one library allows off-campus access to e-Resources, while the others allow access to electronic resources only from the computer network of the University (Donabedian et al., 2012).

2.2.3. The main challenges to provide library digital services to patrons with disabilities in Armenia:

The last officially registered number of acting libraries in the RA as of 2012 is 907, of which 11 are regional, 732 are village, 134 are city and 30 are children libraries (Baghdasaryan, 2013). According to data of RA Ministry of Culture, there are 20 State university libraries in Yerevan (RA Ministry of Education and Science, 2014).

Based on social-economic situation of the Republic of Armenia, budget expenses of the RA for 2014 allocated to the libraries are 0.12%. The budget for 2014 is at about EUR2.233.759.0005 (RA National Assembly, 2013). Accordingly, it is of interest of the present research to investigate the present situation of the libraries operating in the RA.

According to Donabedian et. al (2012), despite the continuous economic difficulties in the country, a number of libraries have digitized library collections, created digital libraries, automated the catalogues, actively participated in the open access movement. However, the researched libraries still face challenges, among which Donabedian et. al (2012) primarily mention the following:

1) Overcoming budgetary deficits and decreased funding;
2) Open access development;
3) Establishing national standards and best practices;
4) Furthering instruction and information literacy (only a limited number of librarians are qualified to perform instructions on the use of offered electronic resources/services).

4 Each page content is checked by manual clicks to inspect "alt=" (text alternative) and "html" elements with the help of firebug 1.12.6 web development tool on Firefox 27.0 browser.
5 The calculation from Armenian Dram to Euro was done based on the current exchange rate of the Central Bank of Armenia.
2.3 The National Library of Armenia

The National Library of Armenia (NLA) (www.nla.am) is the main research centre on librarianship, bibliography and information science in Armenia (NLA, 2014). The library collects, processes, preserves and provides access to all material printed and published in the country, as well as, material published abroad about Armenia (IFLA World Report, 2010). It is the largest repository of printed Armenian material in the world. The NLA was formed on the basis of 18.000 volumes in 1832. As of January 2014, the library’s collection comprises more than 6.3 million items, and has at about 900 patron visitors on daily basis. Annually, 1.5 million items of literature is provided to patrons of the library (NLA, 2014).

Since 2008, the NLA opened a special reading room (See Picture 1: AREV Reading Room) to serve people with visual impairments, who have the possibility to take advantage of computers connected to the Internet and are equipped with Armenian Reading Equipment with Voice system (Panorama, Armenian news, 2010). The reading room is equipped with two computers for the patrons, and there is none for the librarian.

Picture 1: AREV Reading Room
National Library of Armenia, AREV Reading Room to serve patrons with visual impairments, Yerevan 2014
(Note: Photo and caption by Anna Khachatryan)
How does the information provided in this chapter support the present research?

The background information provided in this chapter helps to understand that improving and developing the library and information system in the RA, particularly, new trends in the sphere for disadvantaged communities, greatly depends on the present social and economic situation of the country, as well as, historically inherited library infrastructure and impediments. Even if some of the librarians are willing to provide electronic services adapted for the needs of the patrons with disabilities, and are willing to improve the quality of offered digital services with the purpose to make those more accessible and usable to patrons with disabilities in Armenia, they face the following impediments:

a) RA legislation on protection of the Rights of People with Disabilities and their Social Inclusion in the Republic of Armenia is still a draft one;

b) librarians have difficulties in requesting state funding for investment of more accessible and usable digital services;

c) the RA Act on Digitization is still under discussion;

d) library staff lacks proper qualification to make use of and train particularly patrons with disabilities of the use of digital services, and;

e) hardly any research has been conducted in Armenia on the subject, that can support in and serve as solid justification for solution of the mentioned impediments.
III. **Literature review**

To find literature about digital services offered to people with disabilities in the libraries of Armenia, I have searched:


- AUA Library Catalogue (available at [http://a10310uk.eos-intl.eu/A10310UK/OPAC/Index.aspx](http://a10310uk.eos-intl.eu/A10310UK/OPAC/Index.aspx)),

- and, physical library bookshelves of the mentioned libraries.

It has been discovered, that there is not much research already conducted on the subject of library digital services to people with disabilities in the RA. Only a few articles have been found, such as: Donabedian et al., 2012 and Kuchukyan and Karapetyan in Hopkinson & Zargaryan, 2007.

Therefore, I have searched e-books and articles in English language about the overseas experience on the topic. By searching Borås University Library Summon discovery tool (available at [http://www.hb.se/en/Library/Search-Information/](http://www.hb.se/en/Library/Search-Information/)), e-books, journal articles, newspaper articles related to library digital services to people with disabilities have been reviewed (such as: Bishop et al., 2003; Bukhtoyarova, 2013; Comeaux and Schmetzke, 2013; Davenport, 2007; Deines-Jones, 2007; Epp, 1999; Kizza, 2010; Mates and Reed IV, 2011; da Rosa and Lamas, 2012; Samson, 2011; Witten et al., 2009; and others).

As far as the similar research is concerned, it was discovered that there are not many overseas articles about digital services to people with disabilities at overseas National Libraries. Among the reviewed articles are: Conway et al., 2012; Milunovic, 2013; Sroka, 2002 and others. Thus, to find similar research or information about digital library services to people with disabilities at overseas National Libraries, I have also consulted some library web pages and contacted some of the overseas National Libraries to ask for information via email.

Below presented sections present overview of the available similar research in English, Russian and/or Armenian languages by the time of writing the present study; brief review of impact of digital era on libraries of both developed and developing countries; and the summary of traditional versus digital services to people with disabilities.

### 3.1 Overview of similar research

No researches conducted by Armenian or overseas scholars have been discovered about library digital services provision and their practical integration to people with disabilities at the National Library of Armenia and in other Armenian libraries in general. The reviewed articles speak about library service delivery to able-bodied patrons and not those with disabilities in Armenia and mention only the factors influencing implementation of such services, which are mainly financial, technological
and human. There is only some information on the webpage of the National Library of Armenia about availability of a special reading room to serve people with visual impairments, however, no details are provided (NLA, 2014). The latest IFLA World Report (2010) about Armenian libraries also informs, that there are special programs focusing on promoting access to information for people with disabilities, but, there is no legislation in the country aimed at improving access to information for people with disabilities (IFLA World Report, 2010).

The overseas literature tells us, that, thanks to the rapid technological advancements, the different needs of people with disabilities are becoming known to the technology world, and libraries, nowadays, have the potential to provide immediate and easy access to a variety of information and learning resources by integration of a number of electronic services to patrons with disabilities. The 21st century technological advancements support librarians to ensure universal access to information through universal design, as well as, to study and satisfy different needs of people with disabilities on digital library environment. Many libraries provide with assistive technologies, training/online guidance to patrons with disabilities (deaf, blind or visually impaired, or those having mobility impairments) on how to make use of the modern information technologies in libraries (Mates & Reed IV, 2011, pp.3-6). Of course, for this purpose, there is a need of availability of active support of national governments and amendments made in national legislations on disabilities (Mates & Reed IV, 2011; Koulikourdi, 2008; Joint, 2005; Johnson, 2013), and in case, there is no sufficient financial support, cooperation between libraries, and establishment of a cooperative library infrastructure is the way out in gaining funding from provincial and local authorities, as well as, international organizations to support and serve the needs of patrons with different needs (Tucker, 2007, pp. 853-855).

With transformation to a digital one, the libraries of both developed and developing countries first of all revise the standards and develop clear policies, communications, marketing and promotion plan that comply with universal design, address accessibility and meet ethical values to people with disabilities (Kavanagh & Christensen Sköl, 2005). In other words, libraries establish the digital mission that focuses on digital customers (De Sáez, 2002) to overcome the difficulty to inform about and to practically reach the patrons with disabilities with the available digital services. This means that being aware of current technological developments is not enough to ensure better services and higher patron satisfaction, and librarians continuously collaborate with patrons with disabilities (Carey in Deines-Jones 2007, pp.22-42) to involve them at early stage when developing the digital library website (WAI, 2012) with the main aim to better understand and meet their different needs.

As far as practical integration of the services is concerned, nowadays, many librarians use a number of modern marketing techniques to reach the patrons. To publicise the available service online within the target audience/special user groups, some librarians use such appropriate formats as braille electronic text, audio newsletters; market through other agencies and partners (Kavanagh & Christensen Sköld, 2005); deliver a number of multiple approach messages that focus on the convenience and ease of use on the library website, via targeted e-mails, RSS feed; etc. (Jotwani, 2014). To reach the patrons and enhance awareness, some librarians make use of such online marketing tools as blogs, wikis, Facebook, Twitter, etc. Therefore, by communicating their messages through those virtual channels and sending viral messages that the patrons or their acquaintances regularly use, the librarians get attention of and inform the target
audience about availability of the special digital services (Cole, Graves, & Cipkowski, 2010).

3.2 Impact of the digital era on libraries

At the present realities of continual and rapidly developing information and communication technologies, no matter of their age, gender, religion, race, ethnicity, backgrounds, skills, abilities or disabilities, spoken languages, people want to have quick access to information in diverse usable electronic formats on portable devices or with the help of assistive technologies. The tendency of use of electronic materials and the Internet is growing. Information behaviour of many users is changing. Users visit physical library less (Cole et al., 2010). The perceptions and expectations of user communities about modern library are changing (Chowdhury, G., Poulter, A., & McMenemy, D., 2006, p.455). Hence, many libraries transform into digital or become hybrid to give users the needed online tools to find and effectively use information in the digital world (Onatola & Oduwole, 2006, pp.67-69).

The digital era has been evolving in libraries over the last 20 years: card catalogues have been converted into searchable databases, automated systems and discovery tools have been introduced, electronic subscriptions are replacing the paper ones, bibliographic instruction has been replaced with information literacy training, production of information resources in electronic format is increasing and more and more holdings are being converted to digital formats. Therefore, the modern librarian has also acquired new role/competencies, such as fluency in technology and its applications to the world of teaching and learning, skills to create and deliver guidance/tutorials to the end-user in a form of a special course, research skills to work with and support any end-user in research and teaching initiatives (Davenport, 2007, pp.91-97) by being able to have all that presented and understandable in an accessible and usable electronic form on the webpage of a digital library.

Nowadays, many digital libraries across the world ensure access to information resources and provide services on their websites, as well as, serve users with a wide range of characteristics and needs by providing multiple, flexible and alternative systems and tools to meet the needs and experiences of diverse users (Bishop, House, & Buttenfield, 2003). Depending on the demand, libraries also offer classes on e-borrowing or use of handheld devices, online “Ask a Librarian” research services (Purcell, Zickuhr, & Rainie, 2013, p.59), personalized electronic services to match the specific needs of a user (Smeaton & Callan, 2005), as well as, discovery tools (e.g. Serial Solution’s Summon) that make large amount of information searchable from one search box (Shapiro, 2013, pp.7-9).

However, even if the present time technologies allow for the physical library to transform into a digital one, and developing of a digital library seems to be quite feasible, the transformation is not that simple. Building a digital library is not only digitizing materials or accumulating those born digital on a server. It is continuous interdisciplinary and challenging process to implement. There is a need to take into account technological, legal, human, marketing aspects, to solve copyright, privacy, access issues, etc. Not speaking of the most important aim to identify the user and his/her needs/interests/expectations, and to evaluate the needs, so that the built digital library would continuously satisfy needs of all users, and would always be open to
change after and during the digital library project is launched. And finally, marketing the available services to the users, so that they become aware of the available services.

The biggest challenge is to create an ideal digital library that is the equivalent of a physical library and provides access to information in various formats with availability of digital services on its website 24/7 to users with diverse needs. That is to say, to provide library services not only in the physical library, but to re-evaluate different needs of users and the opportunities provided by the new technologies, and to create such a digital library, that can disseminate stored knowledge and information within global context created by twenty-first century digital technologies (Chowdhury, G., Poulter, A., & McMenemy, D, 2006, p.454).

The contemporary librarianship is to put emphasis on people in contrast to medieval one, whose job was to protect, reserve, and even chain up the books (Witten, Bainbridge, & Nichols, 2009, p.47). Due to the digital revolution, the librarians no longer play the role of a mediator between the user and the system, but rather research, structure and process the digital data to support in user-friendly access to information on the digital libraries (Lupovici, 2010, pp.3-11). The librarians also have a vital role to support the users in developing proper skills to orientate themselves in a digital library (Fressard, 2010, p.65).

Libraries traditionally supported patrons with disabilities, however, with emergency of assistive health technologies, the number of patrons with print-related disabilities, visual, hearing or mobility impairments is increasing. The contemporary librarians have to understand the needs and problems encountered by users with disabilities (Koulikouri, 2008, pp.138-146), to be aware of new adaptive technologies aiming at ensuring those users with responsive services and diverse alternative formats of information, as well as, training and assisting patrons with disabilities to gain proper skills to use the accessible formats of information on the digital library (Epp, 1999, pp.190-195). Librarians are to be aware of the use of content management systems, cascading style sheets for web page layout and web accessibility standards to contribute to the decrease in accessibility barriers (Comeaux & Schmetzke, 2013). However, the transformation into digital libraries is not a rapidly growing tendency all over the world as it is in some of the developed countries.

What is the situation with digital libraries in developing countries?

Building a digital library in a developing country is even more challenging, not only because of the economic restrictions, but also due to lack of skilled professionals in the sphere (Bukhtoyarova, 2013; Charlton, 2013), low information literacy, Internet penetration rates, poor ITC infrastructure, and lack of funding (da Rosa & Lamas, 2012; Kizza, 2010). On the other hand, according to the Witten, Loots, Trujillo, & Bainbridge (2002, p.7), modern information technologies create an information gap between the “knows” and “knows-not”. Many libraries of developing countries are still operating in traditional ways: card catalogues are still in use; CD-ROMs are used to provide access to bibliographic databases, electronic catalogues and full text journals. Information materials are mostly in printed format (Kizza, 2010, pp.25-28), while access to printed publications is limited and, due to high costs, subscriptions to international journals are rarely possible (da Rosa & Lamas, 2012; Kizza, 2010).
Therefore, with availability of minimum ITC communications many libraries take advantage of open access libraries and free electronic journals, as well as prioritize digitizing and providing open access to local sources (da Rosa & Lamas, 2012; Bukhtoyarova, 2013). National libraries of some developing countries digitize unique and rare cultural heritage materials with the aim to make them available on national portals (Zargaryan, 2012). Some others look for funding to train and encourage education of library professionals working in developing countries (Bukhtoyarova, 2013; Charlton, 2013), who face the common problems, such as lack of adequate technical skills, advance searching skills, use of digital sources of information, different library software, low rate of information literacy and professional status (Khan & Bhatti, 2012).

However, digital libraries can become a key technology to support the development of those countries, which will have the possibility to enter the global market, create and distribute local information, preserve and propagate cultural heritage of indigenous people in digital format, as well as, benefit of humanitarian information distributed by a number of international organization free of charge (Witten et al., 2002). Despite the continuous economic difficulties, for example, in Armenia, a number of library collections have been digitized, digital libraries have been created, catalogues have been automated, and research libraries participated in the open access movement. However, ensuring accessible information and services to patrons with disabilities has not been yet prioritized by many libraries (Donabedian et al., 2012).

### 3.3 Traditional versus digital library services to patrons with disabilities

Traditionally, to ensure equal physical access to the services library buildings, stairs, elevators, doors, study tables, circulation desks, photocopy machines, etc., parking areas (book drops located in the parking lot or a drive-through window to drop off or pick up materials without leaving the cars) are made accessible for patrons with disabilities (Guder, 2010, p.316; Cassner, Maxey-Harris, & Anaya, 2011, p.43). As far as the format of provided materials is concerned, there are mainly Braille format or large print books, as well as audio recordings available at libraries for patrons with visual impairments. At some physical libraries, with advent of technologies, it became possible to provide text to speech materials by means of synthesised speech (Atkinson and Dhiensa in Deines-Jones, 2007, p.6).

Nowadays, by visiting library reading rooms, patrons with disabilities can take advantage of or lend electronic assistive technologies, such as, screen readers (with software installed on specific computers) and headphones, screen magnifiers, alternative keyboards and input devices to facilitate complete functionality of the computer (Schlitter & Ehrnschwender, 2002, pp.7-10). They can receive guidance and reference assistance online or via phone from librarians who have the appropriate skills and experience to deal with patrons with disabilities.

Libraries offer special services to patrons with disabilities, such as, exceptions to normal circulation policies, that allow extended loan periods, as well as, checking out materials that are to be accessed only in the reading room; or lending books, audio books and other reading materials in formats appropriated for their needs, home
librarian service, etc. (Cassner et al. (2011, pp.38-46) and Onatola (in Deines-Jones, 2007, pp.100-101).

The present realities of technological advancement allow the patrons to access library digital collections, as well as, local, regional and worldwide library hosted authored or licensed electronic information resources (McClure & Shim, 2002, p.217) and take advantage of electronic services online by simply visiting the library webpage. For example, for patrons with hearing impairments, there are certain online video materials with sign language interpretation and subtitles (Library Services for Deaf and Hard of Hearing, 2013).

A number of overseas libraries provide accessible digital services, among which are: Ask A Librarian (Instant Messaging), email or texting for people with hearing impairments (ASCLA, 2010), online reference services through chat and email, electronic document delivery of articles owned by the library, online forms for literature loan (Samson, 2011, p.272). Accessibility of library webpages to patrons with disabilities (particularly, those with visual or hearing impairments, those having dexterity or mobility impairments) is ensured by providing library guides and tutorials in HTML (unformatted text format), instead of *pdf, *word, *power point or any other formats, as well as, ensuring availability of "alt=" element proper descriptions and captions for multimedia (Willis, 2012, pp.95-97). The librarians cooperate with the vendors to make sure that contents not created by the library where patrons are sent to through links on library webpages are also accessible for patrons with disabilities, i.e. contents are possible to be accessed with screen readers (Guder, 2010, pp.317-318).

However, because of the socio-economic differences in various countries, not all of the libraries around the world can provide most of the mentioned library services and assistance to the patrons with disabilities. First of all, there is a problem of getting sufficient funding, since the systems existing in the world market are not available in native languages, and there is a high cost for purchasing and training (Kuchukyan and Khachatryan in Hopkinson & Zargaryan, 2007, p.72). Secondly, there is the copyright issue for digitizing materials for people with disabilities. Thirdly, there is the risk that continuous technological advancements might result in the information gap between those patrons who have the skills and opportunities and those patrons with disabilities who need sufficient guidance and training or are deprived of the opportunities to access information by means of the new assistive technologies. And finally, librarians are there to support the patrons with disabilities to develop or increase skills to access information. However, often, many librarians lack appropriate skills to train and to provide resources suitable for the needs of patrons with disabilities, as well as, they are not aware of the use of assistive technologies to overcome the communication barrier between library staff and patrons with disabilities (Allen in Deines-Jones 2007, pp.48-59).

How does the literature review support the research?

The studied literature and provided information is evidence, that, due to 21st century technological advancements, many libraries transformed a number of traditional services to digital ones with the aim to serve users with different needs. However, both in developed and developing countries, librarians face the common problem of lack of sufficient funding, proper legislative framework, technological literacy and service marketing skills to remove accessibility barriers in the digital world to people with disabilities. The reviewed literature supports in formulating and briefly presenting the
impact of digital era on the libraries of developed and developing countries; understanding that the most significant challenges impeding the development of library disability services; as well as, comparing physical versus digital library services to patrons with disabilities. The literature review also provides information on what is known about how services are reached to patrons with disabilities, particularly, what marketing techniques or tools are applied to practically integrate library services. The reviewed literature has also been applied to formulate the theoretical statement presented below, as well as, to compare the knowledge gained through the literature review with the findings and to make conclusions.

IV. Theoretical statement and concepts

4.1 Theoretical statement:

In the present realities the changes brought by the new technologies, online publication, distribution and access to a vast number of information resources never possible before, result in transformation into an information society. The physical location of resources and those aiming to access those is not necessarily to be the same for many social activities, since information technology, nowadays, makes it possible to do many of the old activities online by using new technologies. People choose and utilize the available new technologies to suit their needs (Borgman, 2003). However, the transformation into an information society is not smooth in all societies. Due to historical events, such as, war, and inherent economic and social imbalances the societies of many developing countries with low economies do not benefit of and cannot have equal access to modern Information Communication Technology (ICT) (Anandakrishnan, 2010, p.3). Particularly, population from rural areas and people with disabilities of developing countries with low economies are not provided with equal access to many of social services and information, and suffer from low level of technological familiarity. Whereas, transformation into an information society aims at empowering education, reducing poverty and ensuring sustainable equality for all of its members, no matter, with or without disabilities, that is, having a society that accommodates diversity in all of its forms (International Labour Office, 2011).

On the other hand, integration of people with disabilities into the information society is a challenge for any civilized society (Kuchukyan and Karapetyan in Hopkinson & Zargaryan, 2007, p.72). However, ICTs can significantly enhance integration of people with disabilities by enlarging the scope of activities available to them (UNESCO, 2014). The World Health Organization (WHO) states, that, 15 percent of the world population are with disabilities (UNESCO, 2014), and the growing tendency in many societies to understand the needs of people with disabilities has fostered an increasing recognition of the rights of people with disabilities and disability inclusion for sustainable development of societies (International Labour Office, 2011).

Limited access to information is a major restriction for development and professional promotion, and possibilities afforded by systems specially developed for people with disabilities greatly alleviate their problems (Kuchukyan and Karapetyan in Hopkinson & Zargaryan, 2007, p.72). Libraries are essential components of any strategy aimed at improving information access, both for the public at large and for specialised groups (UNESCO, 2014). Lankes (n.d.) is convinced that the library has a role and the mission
to improve society, and librarians can do this through serving the communities, by constantly striving to make things better.

Education and literacy enable people with disabilities to compete with physically able ones and have their contribution to society rather than being forced to rely on charity support. However, in many developing countries because of state economic constraints, national mentality, or infrastructure destroyed due to historical reasons, people with disabilities are more or less excluded from education. Information resources and assistance is given first to the physically able. State governments do not support people with disabilities, and majority of projects for them are funded by charities from developed countries or local organizations dealing with problems of people with disabilities. Hence, because of the low literacy level, demand for specialized libraries is low (Tucker, 2007, pp.847-850). Consequently, in developing countries with low economies, it is quite challenging for libraries to provide equal access and usability to patrons with disabilities.

My understanding is, that, people are different and any person has different types of needs and skills. Anyone, around the world, faces challenges in some ways, and disability should not interfere with any person's rights. People with disabilities have the right to receive information in a way accessible to them. However, on one hand, depending on societies and cultures people with disabilities are treated differently, and attitudes towards or of people with disabilities also differ. On the other hand, such factors as the socio-economic situation of a particular country, availability of modern technologies and level of education influence the social inclusion of people with disabilities, as well as how, when and to what extend, the information is accessibile to them.

Therefore, it is important, that, the librarians act as non-discriminators by respecting the rights of patrons with disabilities and make this value the cornerstone of their daily activities. On the other hand, it is equally important not only to have the service available, but also to treat the target patron as a potential customer and inform about the availability of service. Thus, continuous application of a marketing model at library disability service provision activities will support in discovering those patrons both among the library visitors and outside the library, undestanding and responsing to their needs and demands, and of course reaching them with the services.

The author Eileen Eliott de Sa’ez, in her book "Marketing Concepts for Libraries and Information Science", presents the importance of marketing in the digital age for information managers to attract patrons to the electronic library. De Sa’ez insists that by taking marketing seriously and by implementing such marketing concepts as the digital mission, digital customer, digital marketing mix, customer relationship management, marketing segmentation, corporate identity, etc., librarians can improve effectiveness of service delivery on the library website, which is the product, place and promotion (Calvert, 2002; J. Rowley, 2002; McKinzie, 2003).

The author Jenny Rowley, in her book "Information Marketing", introduces a number of information marketing concepts, as well as, concepts associated with customers, explains why marketing is important, and promotes marketing thinking among those who provide information-based services (J. E. Rowley, 2006).

According to Gupta (2006, p.15-18), a library staff working in the library are the greatest marketing forces. By recognizing marketing concepts and having orientation in
the services the library staff will be closest to its users, as marketing starts with identifying customers and their needs and continues till such needs are met exceedingly with customer focus in all operations. Therefore, when delivering digital service to people with disabilities, it is important, that, disability service providers carefully consider their values, behaviour, language of service presentation and delivery and always keep focus on the needs of the patron (Gupta 2006, p.12).

However, the authors suggest concepts and not a marketing model. It is Koontz & Gubbin (2010), who argue, that, by employing the marketing model of marketing research, segmentation, marketing mix strategy and marketing evaluation the library staff can understand the needs of patrons with disabilities and can deliver effective service. Therefore, the main concepts applied in the present study and on which the analysis of the present study is based are taken from the library marketing model suggested by Koontz & Gubbin (2010).

To my opinion, this model can support in analysis and discussion of the present study, because libraries in Armenia do not treat the patron as a customer and lack previous experience in marketing. The model will serve as basis to understand what marketing initiatives are taken by the librarians to examine and analyse the challenges faced and measures taken.

4.2 Research concepts:

1. Marketing research- to research and understand by means of internal records (circulation data, number and type of FAQ, special requests) the ideal market, i.e. all people, who have or might have interest in a particular service;
2. *Marketing segmentation*—because markets are heterogeneous library managers must segment potential customers with disabilities by understanding who share similar needs. For example, patrons with visual impairments, patrons with hearing impairments, patrons with mobility impairments or by age groups, such as young adults, juveniles, adults, the elderly with visual impairments, etc.;

3. *Marketing mix strategy*—develop product, price, place and promotion of services and programmes based upon market research to various market segments;

4. *Marketing evaluation*—assessing patron behaviour (how, when and which segment of the service exactly the patron uses?), measuring customer satisfaction (personal interview, survey, focus groups, etc. to understand how well the service meets patron needs, etc.) (Koontz & Gubbin, 2010)

The library marketing model suggested by Koontz & Gubbin (2010) is the most relevant to be used, because the other author's suggest only concepts and not a marketing model. While, this model includes the most important concepts to be applied in library services marketing. The concepts included in the model are useful in exploring step by step implementation of library services marketing. The model supports in the analysis of the present research, when comparing findings and literature review to explore the challenges faced and measures taken by the librarians to provide and practically integrate such services in the RA.

Below is presented the methodology that supports in discovering the situation on the example of the National Library of Armenia.
V. Methodology

5.1 Selection of methods

The present study is an exploratory one with the aim to create knowledge about library digital services and their marketing to patrons with disabilities in Armenia, to examine and analyse the challenges faced, measures and marketing initiatives taken by the librarians to provide and practically integrate those services to patrons with disabilities in Armenia, as well as, to discover opinions of patrons with disabilities about library digital services. Therefore, literature review and qualitative interviewing has been selected as methods to employ in the present study.

Literature review is applied to summarize what has been written on the topic in Armenian, Russian and/or English languages, as well as, to discover latest related writings on the topic by overseas researchers. Literature review also supports in comparing and contrasting the theoretical background with the findings of the present research (Creswell, 2008, pp.26-27). On the other hand, the reviewed materials make it possible to present background information and awareness about the main issues and advancements on disability services at libraries. And, finally, it serves as justification of the timeliness and value of the present research in terms of contribution to the existing library and information science material in Armenia (Denscombe, 2010, p.30).

Qualitative interviewing (semi-standardized interviews) is applied to have face to face and telephone interactions with those librarians providing the disability services and with patrons with disabilities (to the extend possible) who make use of those services (Bryman, 2012). According to Berg (2009, pp.107-109), the semi-standardized interview allows to gather much more information from the participants, since it does not only involve a number of predetermined questions that are asked in a systematic and consistent order, but the interviewer is also permitted to make comparisions across interviews and to probe by asking the interviewee to elaborate on their given answer.

The interviews supported in receiving information from patrons with disabilities and librarians directly and to discuss not only their opinions on the subject under matter, but also the issues that have been revealed during the interviews. On the other hand, the interviews support in understanding the general situation with library electronic services provision and their practical integration, as well as to determine what kind of marketing model or concepts are used, what challenges are experienced , measures and initiatives taken by the librarians.

The interviews have been conducted in a natural setting, at a special reading room for people with visual disabilities of the National Library of Armenia, and via telephone calls or Google talk to collect information by directly talking to people with disabilities. However, the limitation to conduct one-on-one interviews is that the provided information is indirect and expresses view of the interviewees, as well as, the researcher's presence may bias responses (Creswell, 2008, pp.175-179).

The research material gathered by application of the mentioned methods can serve as strong evidence available, which will help information professionals in Armenia to base their decision when integrating or improving digital library services at libraries (Wildemuth, 2009, p.21).
5.2 Selection of participants

The participants to be interviewed for the present study have been selected by purposeful sampling method (Creswell, 2008, p.178). Overall number of respondents is ten (10) (See Table 1: Respondent codes).

Table 1: Respondent codes

<table>
<thead>
<tr>
<th>Institution</th>
<th>Respondents</th>
<th>Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>NLA</td>
<td>Senior librarians</td>
<td>A1, A2</td>
</tr>
<tr>
<td>NLA</td>
<td>Librarian</td>
<td>B1</td>
</tr>
<tr>
<td>NLA/&quot;Bridge of Hope&quot; NGO</td>
<td>Patrons with disabilities</td>
<td>C1-C7</td>
</tr>
</tbody>
</table>

The librarian delivering disability services, as well as, senior librarians from NLA have been selected purposefully, since they have the experience of more than 15 years at the NLA, and their answers can provide thorough information in support of the questions of the present research. The senior librarians are interviewed to understand what are the challenges faced, measures and marketing initiatives taken by the librarians to provide and practically integrate services to patrons with disabilities at the NLA from the management point of view as well.

The patrons with visual or hearing impairments, mobility disabilities have also been selected purposefully, since, the researcher can discover their opinions only by asking about it. The patrons are those who regularly visit or used to visit the NLA to make use of library services, and based on that can express their opinions and thoughts.

5.3 Design of data collection instruments

Two interview guides have been designed. One, to interview the library staff and the second, to interview patrons with disabilities. (see Appendix 2: Interview Guide for Library Staff and Appendix 3: Interview Guide for the Patrons with Disabilities). The researcher used an interview guide for collecting interview data and analyzing it later. Therefore, the researcher served as the key instrument to examine previous experience and interview the participants of the present study (Creswell, 2008, p.175). The interview guides have been pretested with pilot interviews: one, with a librarian and second, with a patron with visual impairments. The questions included in the interview guides are predetermined based on the readings conducted on the same topic, such as, by: Joint (2006), Guder (2010), Welch (1991) and Willis (2012).

According to Gorard (2003), the advantage of using questions based on previous research is that they have been used before, probably on a larger scale, are mature and ready for the use. The interview guides consist of closed and open-ended questions.
Closed questions provide basic data about the respondent (position and service delivery experience for the library staff, and use of library disability service for the patrons with disabilities). Open-ended questions have made it possible to discover the interviewees' experiences, opinions and knowledge, as well as, unexpected information relevant to the present study.

Pilot studies have been conducted with a senior librarian and a patron with visual impairments to test the interview guides and clarify questions that can be misunderstood by the respondents. The pilot study with the senior librarian has been carried out at the NLA. Since the patron with visual impairments has accessibility problems in Yerevan city, the interview was carried out via telephone call.

The pilot study with the librarian was conducted on 22nd of April and with a patron with visual impairments on 25th of April, 2014. The main study with the librarian and patrons with disabilities was conducted from 25th of April to 11th of June 2014. The timeframe was the following:

1. Pilot study: on 22nd of April with the librarian, and on 25th of April, 2014 with a patron with visual impairments at the National Library of Armenia

2. Main study: on 25th of April to 11th of June, 2014. The institutions where interviews were conducted are the National Library of Armenia and "Bridge of Hope" NGO. However, most of the interviews with patrons with visual or hearing impairments were conducted via phone or Google Talk.

Ten (10) respondents, pilot interviews included, were interviewed from 22nd of April to 11th of June, 2014. For respondent codes and lengths of the interviews see Appendix 4: Face to face, telephone and Google Talk interviews (sound recording and chat) conducted from April to June 2014.

After the pilot studies had been conducted, corresponding corrections were made to improve reliability of the interview guides. It was discovered during the pilot interview with a senior librarian that some of the closed questions intended to be asked to the senior librarian were not relevant and were to be asked to the librarian dealing directly with patrons with disabilities. During the pilot interview with the senior librarian it was also discovered that the number of librarians dealing with patrons with disabilities is limited to one only at the National Library of Armenia. It was discovered that the number of visiting patrons with disabilities is monthly 5 or 6 people, and librarians refused to provide contact information of patrons with disabilities out of ethical concerns. Therefore, it was decided to contact one of the local NGOs dealing with disability issues to get contact information of people with disabilities. There are a number of NGOs dealing with disability issues, however, "Bridge of Hope" was contacted, because they have people with disabilities as employees and it was possible to visit the NGO, to introduce the purpose of the study, and to interview those people, as well as, to ask for more contacts of people with disabilities to interview.

During the pilot interview and interviews with patrons with disabilities, it was discovered that a patron with disabilities might not be aware of possibilities information technologies can offer, and digital library services available worldwide and in Armenia. Therefore, a brief introduction/explanation was included to some interview questions to be asked to patrons with disabilities. Also, it was discovered, that, since, Yerevan city is not accessible to most of the people with disabilities, they might prefer telephone or
Google Talk interviews. Therefore, for most of the patrons with disabilities telephone interview or Google Talk for those with hearing impairments was applied.

### 5.4 Data collection procedures

The data for literature review has been collected by searching the Armenian Libraries Union Catalogue, AUA Library Catalogue, as well as physical library bookshelves of the mentioned libraries. Literature review on overseas experience has been conducted by searching for E-books, journal and newspaper articles on the topic by means of Borås University Library Summon discovery tool. In addition web pages of overseas National Libraries have been consulted.

Empirical data has been collected by means of semi-standardized face to face, telephone and Google Talk interviews. One on one (face to face, telephone and google Talk) interviews have been conducted by applying a number of predetermined questions, however the interviewer had the freedom to reorder the questions during the interview, change the wording, adjust level of language, as well as, add or delete probes to the interview (Berg, 2009). The data has been collected in a form of audiotaped materials, written notes and notes from online chat. The interviews were audiotaped, as well as hand-written notes were taken and later transcribed. The audiotapes are not accessible publicly or privately (Creswell, 2008, pp.180-183). Interview transcripts have been translated from Armenian into English language.

The interview guides (see Appendix 2: Interview Guide for Library Staff and Appendix 3: Interview Guide for the Patrons with Disabilities) include:

a) introductory information: date, place, interviewer, interviewee;

b) instructions for the researcher to follow the standard procedures from one interview to another;

c) closed and open-ended questions;

d) follow up questions, to ask the interviewee to explain or elaborate on what they have said;

e) thank you statement (Creswell, 2008, p.183).

### 5.5 Methods of data analysis

Qualitative content analysis has been selected as the method of data analysis for the present study, since it makes it possible for the researcher to explore and form an understanding of the meanings hidden in the responses of the participants. Therefore, generalizations have been made and descriptions are provided on the topic of interest based on the responses (Wildemuth, 2009, pp.308-309). The interpretative approach has been applied to analyse the interviews by transcribing them into written text and to uncover the meanings (Berg, 2009, p.339). The transcripts serve as the primary sources of data for content analysis (Wildemuth, 2009, p.314). The main themes have been
emerged from the transcripts as well. According to Berg (2009, pp.364-365), content analysis is helpful for an exploratory study and one person can undertake it without involving a lot of number of people, time and expense.

The process of data analysis of the present study involves the following steps:

a) collection of text by means of asking questions during interviews (audiorecording, taking notes and online chat)

b) preparing the collected text for analysis (careful reading of the transcripts of the interview and summarizing it)

c) translating the collected data from Armenian into English, since the interviews were conducted in Armenian language

d) writing up summary reports for findings by accompanying them with quotations annotated from interview transcripts (developing analysis from the responses provided by the participants) (Creswell, 2008, pp.184-185). (Note: quotations have been used from interview transcripts)

e) writing detailed description of the identified main themes

f) preparing conclusions/discussion based on the theoretical framework of the present study.

5.6 Research ethics

The participants have been informed that the interview responses given to the researcher are treated as confidential both in case of librarians and patrons with disabilities. The names are replaced with codes such as A1, B1, C1, etc. (See Appendix 4: Face to face, telephone and Google Talk interviews (sound recording and chat) conducted from April to June 2014), so that the individuals are not identified by name or role (Denscombe, 2010, pp.64-65). The codes are also used to present direct quotes from interview results in the findings section. The librarians were informed that permission was gained from the upper management to conduct the interviews. The time of interview was agreed upon based on the availability of both librarians and patrons. As far as the patrons with disabilities are concerned, it is possible that they have never been focus of or participated in such kind of a study. Therefore, the researcher made sure the interview procedures were well understood and explained to the participants beforehand. On the other hand, the patrons with disabilities might have psychological issues, because of their physical disabilities, and might be unwilling to answer certain questions. Therefore, the researcher made sure to be very delicate when interviewing them, so that the interviewees are not humiliated, and explained the research aims by being careful with the language use (Denscombe, 2010). Additionally, because Yerevan city is not accessible to people with disabilities, the researcher confronted with the wish of the patrons not to meet personally and to conduct telephone or Google Talk interviews, unless they were to visit the library or agreed to give interview at their own workplace.
VI. Analysis of the empirical data collected

In the present chapter empirical data collected during the timeframe of the present study are summarized. As has been already mentioned, the research instruments were face to face, telephone or Google Talk semi-structured interviews with the NLA librarians and patrons with mobility disabilities, and hearing or visual impairments. The NLA librarians and patrons with disabilities have been interviewed during the study.

6.1. Summary of interview results with the NLA librarians:

During the interviews, the NLA librarians were asked about challenges experienced, measures and marketing initiatives taken to deliver digital library services to patrons with disabilities. The NLA librarians were also asked about their opinions on the importance of library digital services to patrons with disabilities in Armenia. Below generalized and presented are the collected data from the interview answers of the NLA librarians.

6.1.1. Challenges experienced by the NLA librarians to deliver library digital services to patrons with disabilities

When the NLA librarians were asked to describe the challenges they have faced/or face in introducing library digital services to patrons with disabilities at the NLA and what are those challenges related to, they mentioned a number of challenges. However, the challenges described by the NLA librarians are generalized and presented in Figure 2 based on the interviews conducted with the librarians within the present study (for interview timeframe see Section 5.3).

![Figure 2: Challenges experienced by the NLA librarians to deliver library digital services to patrons with disabilities](image)

Financial/budget constraints
Skills
Lack of support from the RA Government
Low demand from the patrons with disabilities
Technological
Library digital services at the NLA to patrons with disabilities
Therefore, the main challenges are financial constraints, lack of technology, skills, support from the RA Government and low demand from the patrons with disabilities. The description of the challenges one by one is presented and analysed below.

**Financial/budgetary challenges:**

The interviewed librarians are convinced, that, the main challenge to offer digital services to patrons with disabilities in Armenia is lack of financial means. For example, as mentioned by A2: "Lack of financial means is the primary challenge nowadays." The librarians tell, that, the NLA mostly relies on grants or external funding, and, as soon as, there is available funding, they can renew book collections, purchase modern technologies, be trained how to use the hardware and software and start delivering digital services. The librarians explain, that, on the other hand, because of the financial constraints, the libraries in Armenia have problems to acquire literature, invest or initiate projects to make available literature accessible in electronic format. For example, as mentioned by A1: "Lack of financial means does not allow to act/to invest in delivery of services to patrons with disabilities." The librarians did mention, that, the money is also needed to purchase literature allocated in different local organizations dealing with people with disabilities. For example, during Soviet times, literature for people with disabilities, particularly, for those with hearing or visual impairments was centralized in the buildings of unions dealing with problems of those people. After collapse of the Soviet regime, those unions do not have proper funding and do not serve the information needs of people with disabilities. But, as the librarians explained, they still hold the literature available in formats for the needs of people with visual or hearing impairments, which the NLA can purchase or relocate into the NLA building in case of available funding.

**Technological challenges:**

The NLA librarians stated that, in general, there is no sufficient technology available at the NLA. The desktop computers available in the specialized reading room are outdated. There are no electronic assistive technologies available that the patrons can take advantage of or lend. For example, as mentioned by B1: "The desktop computers at AREV Reading Room were purchased in 2007, and have not been updated since then. We do not have special keyboards, mouses, headphones, etc." On the other hand, most of the NLA librarians complain that they do not still have desktop computers in their offices. Therefore, they work in traditional ways using paper/telephone for internal communication, which is slowing down the process of library service delivery. As far as, regular communication with patrons with visual impairments is concerned, the only available tool the librarian uses is a mobile phone (provided by one of the Armenia’s mobile operators, who is the funder of the reading room for the blind and visually impaired at the NLA). Therefore, the interviewed NLA librarians hardly imagine providing electronic services to patrons with disabilities at the moment in Armenia. They think it can be possible in case of external funding only, acquiring of relevant technology, skills and implementation of such projects.

The librarians realize, that in the present realities of the National Library of Armenia, which does not ensure equal physical access to its several buildings to the patrons with
disabilities, they cannot demand or ask from the upper-management to purchase modern technologies. The reality is, that, none of the NLA buildings are yet made accessible to the needs of patrons with disabilities. There are no ramps, no wheelchair accessible circulation desks, bookshelves, study tables or photocopy machines available. The elevator in the main building has been renovated only in 2008, so that patrons with visual impairments can access the special AREV reading room located on the 4th floor. Therefore, there is a big technological gap at the NLA with the innovations in the sphere.

On the other hand, the librarians mentioned, that library e-accessibility is something new for any patron, no matter of their physical abilities or disabilities, and many of the NLA librarians. This is because, the NLA reading rooms have been equipped with desktop computers since 2013 only, with the exception of a small reading room for patrons with visual impairments (see Picture 1: AREV Reading Room) at the NLA. The latter, thanks to the financial support of an international organization, for already 7 years is equipped with two desktop computers. The computers have the Armenian Reading Equipment with Voice (AREV) system installed on them, and the librarian trains patrons with visual impairments on how to use the system.

**Skills:**

The interviewed senior librarians, did confirm that many of the librarians working at patron service or circulation department are not aware of know-hows in the LIS field, do not have proper skills to work with patrons with disabilities, because there are no trainings or workshops organized and conducted at the NLA to increase general awareness on diverse needs of patrons with disabilities and to provide training on the available overseas online resources and systems. On the other hand, most of the librarians work for already 30 years, and are trained with Soviet times service delivery standards. Therefore, the senior librarians are convinced, that, it is more urgent for the NLA librarians to increase their behavioral culture, which is low because of the inherited Soviet time mentality. For example, as mentioned by A1: "There is a general problem to increase behavioral culture among the NLA librarians." Hence, the senior librarians plan to conduct such trainings and find it more relevant to include simple guidance for the NLA librarians on how to behave and work with patrons with disabilities, and only after that to train the librarians on technological know-hows in the sphere.

**Lack of support from the RA Government:**

The interviewed librarians strongly believe, that the library has the role to act as a non-discriminator and educator for any community, and the book is one of the main ground stones in formulation of a civilized society. However, it is not always that this mission is realized in certain countries. The interviewed NLA librarians are convinced, that the role of a library has decreased in Armenia because the society and the government have become ignorant towards the library. Additionally, there is ignorance towards people with disabilities, which is the result of influence of the Soviet times mentality.
All of the interviewed NLA librarians state, that, there is lack of support from the RA Government. They complained of low salaries, poor library building conditions, low percentage of budget allocations for the library sphere, and availability of qualification training for selected number of librarians only.

**Demand from the patrons with disabilities:**

The interviewed NLA librarians are convinced, because Armenia is a small country the number of people with disabilities is not that many. Additionally, due to the social economic situation and accessibility problems in the country, the number of library patrons with disabilities is limited. The librarians explain, that historically, from Soviet times, people with disabilities have not been treated properly and became homebound. The buildings built in Soviet times were not intended for the needs of people with disabilities, as if those people did not exist. Usually, family members or friends supported and, up to nowadays, support them to access library buildings or act as human readers. The librarians stated, that, the needs of people with disabilities since the Soviet times have been ignored by the Armenian society, and those people take personal measures to overcome their problems to access information and knowledge. Therefore, for the NLA librarians, the challenge is to act without the demand for services from the patrons with disabilities. For the librarians it is hard to ask for or strive for funding to implement projects or invest in service delivery for patrons with disabilities with availability of limited number of patrons.

On the other hand, based on their internal records the librarians also confirm, that it is only patrons with visual impairments who sometimes visit AREV reading room at the NLA to read Braille format books, or regular reading rooms to read books with the help of a human reader. Those with other disabilities have not been recorded as a visitor for a long time. This is because the situation of library disability services at the NLA is rather poor. The library buildings need to be renovated and are not accustomed to the needs of patrons with any disabilities. The main reading rooms at the NLA have been equipped with computers only recently, since 2013.

**6.1.2. Measures taken by the NLA librarians to deliver library digital services to patrons with disabilities:**

When the NLA librarians were asked to describe what have been the measures taken to offer digital library services to patrons with disabilities at the NLA, or to tell about the recent success stories, they said that not many measures have been or are taken by the NLA librarians to deliver disability services.

The measures taken by the NLA librarians are generalized and presented in Figure 3 based on the interviews conducted with the librarians within the present study (for interview timeframe see Section 5.3).
Figure 3: Measures taken by the NLA librarians to deliver library digital services to patrons with disabilities

The librarians said, that, the measures that are being continually taken, are: allowing exceptions to regular library rules, and delivery of a series of seminars on the existing AREV system to the NLA patrons with disabilities.

The NLA librarians mentioned, that, besides the exceptions to normal circulation policies for patrons with disabilities, which allow checking out materials that a regular patron can access only in the reading room, or lending books for extended periods, there had also been compromise situations between the library patrons. For example, a book used by a regular patron was given to the one with disabilities. As, one of the librarians mentioned (A2), for example: “A book was in use by a patron without disabilities, and a blind patron visited the library with a human reader and requested to lend the same book. The librarian explained the situation and asked the one reading the book to compromise and give it to the blind patron’s use. The later agreed.”

The librarians explained, that, because the NLA is a scientific, national library and also public library, and aims at preserving and purchasing national cultural heritage literature in electronic format, it is possible to take measures and allocate some financial means to prepare or purchase audio books for the patrons with visual impairments. The senior librarians said, that, they took the measure to prepare audio books of national heritage materials, which both able bodied and disabled patrons can benefit of. However, after investigating the market, it had been revealed, that, there are certain organizations in Armenia, which already produce audio books with the same content of the national heritage materials. Therefore, not to duplicate the work, it was decided to cooperate with one of the organizations to purchase those audiobooks for the patrons with disabilities. Therefore, as the librarians explained, negotiations with an Audio Book Production project was a measure taken fully.
However, the librarians did mention, that, some of the measures taken recently have not been fully implemented yet. The senior librarians said, that studying of overseas library experience on service delivery to patrons with disabilities is possible whenever selected senior librarians are on study tours. For example, as mentioned by A1: "The library management or senior librarians collect knowledge and study overseas experience on physical and electronic services to patrons with disabilities whenever they go on study tours." However, the interviewed senior librarians did confirm, that, the knowledge gained during the study tour remains only as knowledge for themselves, in their minds, until there is funding to implement and apply the gained knowledge in projects aimed at service delivery to people with disabilities.

Cooperation with the Union of People with Visual Impairments was not fully implemented, because, as the librarians explain, it is hard to cooperate with the Unions and to persuade them to organize joint events with the library to explain to the people with disabilities of available resources and services. The Union management refuses those educational seminars, explaining, that, in Armenia people with disabilities are home bound, and it is useless to organize such seminars. The management of the Union is convinced that, first of all, the government should ensure accessibility for those people to all spheres of social life, and later they are to be integrated into library activities. For example, as mentioned by B1: "The NLA initiated a project to provide a series of seminars presenting the AREV system to the members of the Union of Blind and Visual Impaired of Armenia. However, after the initial agreement, the Union refused to take advantage of the seminar, explaining, that, there is no need to conduct it, because people with disabilities are home bound and not integrated into the social life in Armenia."

6.1.3. Marketing initiatives taken by the NLA librarians to deliver library digital services to patrons with disabilities:

When the senior librarians were asked to present the marketing initiatives taken to deliver library digital services to patrons with disabilities, they confirmed that marketing initiatives taken are limited to partially conducted market research and cooperation with mass media, or contacting the patrons with visual impairments in person to spread information about available news or events at the NLA. For example, as said by A1: "We do not conduct library services marketing. The only thing we do, is spreading the news via mass media channels or contacting the targeted audience via telephone in person to inform about any organized event."

Therefore, the interview results revealed that there had been only two marketing initiatives taken by the NLA librarians, see Figure 4:
The librarian working at the Reading Room for patrons with visual impairments said, that she keeps internal records on the number of visits by people with visual impairments, type of FAQ. But all the data is just kept for records and in the mind of the librarian. The librarian said she does not do knowledge management or follow up on the special requests or interests in a particular service, explaining that there is lack of finance and the social economic situation in the country does not give importance to serving people with disabilities. The librarian explained, that because she has been working with patrons with visual impairments since 2007 and knows what their special needs are, there is no need to conduct research to understand whether the patrons with visual impairments share similar needs or not depending on their age groups. On the other hand, the number of visiting patrons with disabilities is so limited, that the librarian states she is well aware of all the needs of each patron. As the librarian (B1) says: "I do not conduct research, assess patron behavior by means of personal interviews or surveys to understand what are or can be their needs, I just witness that in my every day work."

The senior librarians explained, that there are no restrictions to conducting user surveys with the aim to discover what the needs of patrons with disabilities are or can be. However, whenever such surveys are conducted patrons with disabilities are not targeted. For example, as said by A1: “There has been a user survey conducted, but patrons with disabilities and their needs have not been included in the survey so far”. On the other hand, the senior librarians are convinced, that it is vital to conduct user surveys and initiate more marketing measures to provide better services. But, they explained, that the librarians in Armenia are not paid well, and marketing is not part of the workload for a librarian. Therefore, the librarians consider marketing of services to be an extra job, and there is a need to have a specialist or at least have series of trainings of library service marketing for librarians in Armenia. For example, as said by A1: “The salaries are low, and it is in exceptional cases that a librarian will be motivated to do self-study and initiate any marketing measures."
6.1.4. Opinions of the NLA librarians on the importance of library digital services to patrons with disabilities in Armenia:

The librarians are convinced, that the primary aim of any library is to meet the needs of patrons no matter of their abilities or disabilities. Any patron makes use of the library services to satisfy his/her information and education needs. Therefore, the library, ideally, must offer knowledge and information in any format (traditional and modern) to any patron no matter of their physical abilities or disabilities. This will support people with disabilities not only to satisfy their information needs, but also to be integrated into the society and feel themselves equal part of it. The librarians stated, that those patrons are extremely sensitive and extra attention and equal service provided to them at the library will increase their self-confidence. The library must follow ethical norms when dealing with those people, which will influence their psychological state as well. As said by A2, for example: “Patrons with disabilities will feel non-discriminated and treated as equal members of the society if library provides services to them.”

As far as the opinions of the interviewed librarians on library digital services to patrons with disabilities are concerned, their answers point toward the general opinion that library digital services can make it possible for patrons with disabilities:

1. To have equal access to information;
2. To gain new skills;
3. Be integrated into the modern society;
4. Feel they are the equal part of the society (since their self-estimation will rise).

6.2. Summary of interview results with the patrons with mobility disabilities, visual or hearing impairments:

The patrons with disabilities were asked about their opinions on the importance of library digital services to patrons with disabilities in Armenia, about advantages and disadvantages of such services; and alternative ways to access information besides via the library.

The patrons with mobility disabilities, hearing or visual impairments, in general, shared the same opinions concerning the importance of availability of library digital services. They said, they do not go to the physical library anymore, because on the one hand, the available literature at Armenian libraries is insufficient and not accessible in formats needed for them. Usually, the required professional literature is outdated (that of Soviet times) and scarce. While, as students or professionals, they need modern professional literature as well. Therefore, they are convinced that availability of library digital services will allow people with disabilities to:

- Save time and have fast and easy access to modern information and professional literature;
- Access library electronic resources from the convenience of home;
- Listen to high quality audio books recorded by a human reader;
- View online video materials with sign language interpretation and subtitles;
- Gain new skills;
- Be in the same shoes with time and integrated to the modern society

The patrons considered all the mentioned to be advantages, however, they also mentioned the following disadvantages:

- Isolation from human communication;
- Digital divide, since not all people with disabilities have proper skills to use modern technologies;
- Credibility and validity of information;

On the other hand, patrons with disabilities think, that, taking into account the present social-economic situation in Armenia, introduction of library digital services at any library in Armenia is not possible at the moment. As said by C6, for example: “I do understand that the resources of the NLA are so many and diverse, that it is impossible to have them all available in electronic format.”

However, the patrons state, that, the librarians who have proper skills, can prepare audio recordings, or scan and OCR some sections from the books on demand. As said by C6: “Screen reader systems do not recognize most of the Western Armenian letters, if the file is scanned in *pdf format. While the librarian can OCR them, and send it to the patron.” The interviewed patrons are convinced, that, first of all, to satisfy needs of patrons with disabilities, it would be reasonable to have the following key services on the website of the NLA:

- Possibility to download or read in high quality audio format professional literature and NLA digitized collections for those with visual impairments;
- Ask a Librarian service, of which those with mobility disabilities and hearing impairments can benefit;
- In case of demand from patrons to scan or read (human reader) sections from books;
- Video materials and guidelines that have subtitles and sign language interpretation;
- Presence in social media, to communicate library messages through those channels;
- ID login system on the library website, which will allow the patrons with disabilities to have free of charge access to overseas information databases (For example, it is possible to listen to audio versions of the articles on EBSCO);
- Free of charge access to overseas information databases;
- Continuous digitization of available literature
Interestingly enough, the interviewed patrons with disabilities do realize, that, because of lack of financial means, decrease of interest in the libraries, and accessibility issues for people with disabilities in Armenia, they cannot demand from libraries to implement library digital services. They are convinced that in Armenia the situation with libraries, library culture is in need of serious development both professionally, technically and in terms of architecture accessibility.

On the other hand, they complain of no knowledge management process at the libraries, which can make it possible to share the available knowledge and resources among the patrons with disabilities. They stated, it is up to the patron to strive for knowledge and information. For example, as said by C2: "For a student with visual impairments time is really limited to access the needed professional literature. The student should find the book, and later find someone to read it." However, they think, that, the librarians can take small steps or marketing measures at least to inform about what is available at the library, or initiate key services within their competences. The patrons with visual impairments are convinced, that by cooperating with universities or NGOs, the librarians can understand the demand of needed literature and transfer them into a format that is accessible to people with visual impairments. As said by C2: "I create electronic books myself via the special system, where a robot reads books and transforms them into MP3 format files. But it is not the same as listening to the human voice. Therefore, I would suggest creating a library online portal, where human read books are available on request."

The interviewed patrons are convinced, that, the librarians, nowadays, must be in the same shoes with the young generation and stay tuned and spread information via different modern communication channels, such as, for example, Facebook. They should understand the modern needs of people with disabilities and by investigating the European and Russian experience invest, at least, some of the basic services to patrons with disabilities.

And finally, they realize and suggest the librarians can take simple marketing initiatives to increase reading interests among young generation by organizing events, why not virtual events. For example, the librarians can have online broadcast of a celebrity reading a books for a group of blind patrons and have online discussions. The patrons with visual impairments are absolutely sure, there will be patrons without disabilities, who would love to listen to this online broadcast as well. Therefore, those with and without disabilities will also have a chance to communicate with each other and be integrated into social life.

Interestingly enough, all the interviewed patrons with disabilities shared the same opinion, that, it never occurred to them to ask for a NLA librarian’s assistance to find required literature in electronic format, because, they are convinced, that the librarians in Armenia do not have proper skills to find online resources in the formats that will satisfy the needs of patrons with disabilities. As said by C2, for example: "Sometimes, librarians in Armenia are not even aware what is a Braille format book. It is good that at the NLA the librarians know about the format and are more or less aware of audiobooks and AREV system, but, still they do not have skills to assist with finding electronic resources or system for our needs.” Therefore, the patrons use alternative ways to access information. The interviewed patrons with visual impairments confirmed, that, they used to go to the library, lend the book and find someone to read it for them. However, nowadays, they say, they have the possibility to find audio books online by asking friends, who have the same needs and experience or searching the
Internet. As said C6, for example: “Unfortunately, in Armenia, librarians do not have proper skills. Of course, I will ask for a librarian’s assistance if I were sure their skills are sufficient. But, they work with outdated systems and I strongly doubt that the librarians can help.”

Therefore, the patrons stated, that they prefer using overseas digital libraries, open source screen reader systems or download literature via illegal channels. For example, as said by C2: "I know many other visually impaired people in Armenia, who use NVDA open source screen reader (http://www.nvaccess.org/), which can read Armenian alphabet as well and has more features."

During the interviews, the patrons with disabilities expressed their dissatisfaction with AREV system, and mentioned the following alternative ways which assist them to read books:

1. human reader (a friend or a family member)
2. open source overseas screenreader systems (such as NVDA, TextAloud, etc.)
3. overseas digital libraries
4. downloading audio books with illegal ways
5. exchanging personal recordings of audio books among the visually impaired
6. personal contacts (asking for assistance from those who share the same needs and have better skills)
7. exchange of experience and knowledge among those sharing the same needs
8. trainings on information use, organized by International Organizations in Armenia

As said one of the blind patrons (C5), for example: "I have a friend, who reads physical books to me. We go to the library together, however, the resources are limited. Therefore, I use overseas online libraries..."
VII. Conclusions and discussion

The present chapter consists of two sections. Section 7.1. Conclusions, which describes the answers to the research question, main themes discovered, general conclusions drawn from the conducted study and recommendations for further research, and Section 7.2. Discussion, that presents the personal reflections of the researcher on the collected empirical data.

7.1. Conclusions

7.1.1. Answers to the research questions

Research question #1: *What are the current challenges experienced by the NLA to provide and practically integrate digital services to patrons with disabilities?*

The study results revealed that to provide and practically integrate digital services to patrons with disabilities in Armenia, the NLA librarians are to overcome the following challenges:

a) financial constraints;

b) lack of technology;

c) lack of professional skills and knowledge (to digitize, describe the digital resources in formats accessible to patrons with disabilities, to market the services, to cooperate with IT staff, etc.);

d) lack of support from the RA Government;

e) low demand from the patrons with disabilities;

f) enabling universal access on the website of the library (by creating and providing key online services)

Research question #2: *What are the measures taken by the librarians of NLA to offer digital services to patrons with disabilities?*

The study revealed the following measures that have or have not been fully implemented by the NLA librarians:

a) allowing exceptions to library regular rules (being implemented continually);

b) delivery of a series of seminars on the existing AREV system to the NLA patrons with disabilities (being implemented continually);

c) negotiations with an Audio Book Production Project (implemented fully);

d) Cooperation with the Union of Blind and Visually Impaired of the RA (not fully implemented);

e) Studying of the overseas library experience on service delivery to patrons with disabilities (not fully implemented)
Research question #3: What marketing initiatives are taken at the NLA to inform patrons with disabilities about available services?

The study revealed that no marketing segmentation, marketing mix strategy or marketing evaluation has been or is conducted at the NLA. The only marketing initiatives taken to inform patrons with disabilities about available services, news or events are:

a) Partially conducted market research, and

b) Cooperation with mass media to spread information about the available services, news or events

Research question #4: Which are the opinions of patrons with disabilities and the NLA librarians about the importance of the library digital services?

The interview results indicate, that the interviewed patrons with mobility disabilities, hearing or visual impairments, as well as, the NLA librarians consider offering library digital services suitable to the needs of patrons with mobility disabilities, and visual or hearing impairments as highly important in the 21st century.

In general, many of the opinions of librarians and the patrons with disabilities on the theme of library digital services do not vary. The differences and similarities in the opinions are generalized and presented in Figure 5:

![Figure 5: Opinions of the NLA librarians and patrons with disabilities on the importance of library digital services to patrons with disabilities](image-url)
**Similarities:** Both the librarians and the patrons are convinced that availability of library digital services can ensure equal and fast access to information in formats more convenient for the use to people with disabilities, who, at the same time, develop skills and are integrated into the modern society.

Both the librarians and the patrons with disabilities understand that a digital library is ideally an equivalent of a physical library that ensures 24/7 access to information in formats that meet needs of diverse end-users, as well as, provides a number of digital services on its web page.

**Differences:** Patrons with disabilities think, that, library digital services can bring up certain restrictions for them. Mainly, result in inequality in their knowledge and use of modern information resources and technologies, as well as, they might become more isolated from many aspects of the social life and human face to face communication.

Neither the librarians nor the patrons can imagine introduction of library digital services at the moment in Armenian libraries because of the present social-economic realities of Armenia, decrease of interest in the libraries, and the fact that the society still neglects and the government does not give importance to meet the needs of people with disabilities in Armenia.

The main difference in the opinions is that the NLA librarians are convinced introduction of services, particularly digital ones, to the patrons with disabilities is a budget issue, while the patrons do state, that, librarians don't always know about the most up-to-date open access trends, which make the information more accessible to people with disabilities, and do not have proper marketing skills to inform and offer services that do not require financial investment.

The interviewed patrons are convinced, that, the modern librarian must not only be aware of open access resources, specialized software, but also be aware of a number of web content accessibility standards for people with diverse disabilities, so that, in cooperation with relevant IT staff members, they can meet web content presentation requirements and adapt the content on the library website to the needs of patrons with disabilities.

### 7.1.2. Main themes

The main themes, which have been identified and classified based on the collected data from the interview results are presented in **Figure 6:**
The main idea conveyed through the identified themes is, that, introduction of library digital services in a developing country cannot be implemented without solving the financial, technological and human resource issues. However, if a digital service or services are available on a library webpage, that does not mean the patrons know and use those services. The patrons are to be informed about those services via the channels that they use.

Therefore, library policies addressing diverse needs of patrons with disabilities, and a proper marketing strategy or written communications and marketing plan for a library is needed. This will allow to research the market with the main aim to understand and reveal the needs of the patrons with disabilities, and, only based on that, provide, reach and market a service or services to the target patrons. Hence, better services to patrons with disabilities can be ensured only by conducting continual market research and evaluation to get information from the patrons on their needs, and to provide/improve services to them.

Provision with such services is very important to people with disabilities, since they allow those people to gain access and use information in formats adopted to their various needs, and, of course, they become integrated into the modern society. On the other hand, there is the role of the library to act as a non-discriminator by making the information accessible to the patrons with disabilities. There is also reputation of the library that is increased, since, it can protect copyright of the audio book producers by making, for example, the audio books legally available for use on the library website. Hence, people with disabilities will stop using Torrent to download audiobooks, and will be sure they are using credible and legal information.

Finally, all the mentioned can serve as good argument for the librarians to request funding from the state to introduce and implement library digital services, as well as digitize cultural heritage materials and acquire foreign materials in formats accessible to the various needs of people with disabilities.
7.1.3. General conclusions

The literature review conducted in my study revealed that there are almost no available studies in English, Russian and/or Armenian languages that touch upon challenges faced, measures and marketing initiatives taken by librarians to provide and practically integrate digital or physical services in Armenian libraries to patrons with disabilities. Most of the studied literature about services to patrons with disabilities is available through journal or newspaper articles. Therefore, it was discovered that the present study is a pioneer in the field.

The problem the present study was trying to solve is to create knowledge about provision and practical integration of library digital services to patrons with disabilities in Armenia, on the example of the National Library of Armenia, as well as, to discover opinions of the NLA librarians and the patrons with disabilities about the importance of library digital services to them. Since, there is scarce literature in English, Russian and/or Armenian languages touching upon challenges faced, measures and marketing initiatives taken by librarians to provide and practically integrate digital or physical services in Armenian libraries to patrons with disabilities, the knowledge has been collected by conducting personal interviews with the NLA librarians and patrons with disabilities. What has been discovered that is missing in the available literature, is, that in a developing country, such as Armenia, the challenges are mainly lack of financial means, technology and professional skills; the measures taken are not based on market research or evaluation, and no appropriate marketing of library services is conducted, no matter physical or digital. The available literature does not also touch upon the important role of a library as a non-discriminator and copyright protector in a developing country such as Armenia when delivering digital library services to patrons with disabilities.

What we learn from the results of the study is, that regardless of the fact that the National Library of Armenia is the main research centre on librarianship, bibliography and information science in Armenia, it does not conduct research or surveys to learn about current information needs of patrons with disabilities. The number one aim of the NLA is to acquire and preserve publications of any format in national Armenian language. However, the NLA does not have a policy describing services to patrons with disabilities, and investment into disability services at the library is only done in case there is external funding. The number of librarians to work with and deliver service to the patrons with disabilities is limited to one only at the NLA, which is due to the limited number of visits by patrons with disabilities, and because the librarians do not have the appropriate skills. As the interviewed patrons stated, they do not ask for a librarians assistance or visit the NLA, because, they are convinced the librarians do not have proper skills to help them with electronic resources.

Therefore, the NLA does not provide equally available knowledge, resources, services, facilities, as well as, does not continually perform instructions on the use of offered resources/services to patrons with disabilities. The e-accessibility at the NLA is new to all patrons and the librarians, because the NLA reading rooms have been equipped with computers in 2013 only. While, many librarians still do not have computers at their offices.
We learn from the interview results that e-accessibility is a problem at the NLA due to three key challenges experienced by the NLA librarians:

1. low percentage of state budget allocations for the libraries in Armenia;
2. lack of appropriate facilities and technologies;
3. low qualification of modern professional skills and experience (e.g. librarians are not qualified to use, work with different software/hardware intended for the needs of patrons with disabilities, as well as be involved in the digitization in special formats for patrons with disabilities. Additionally, many librarians lack behavioural culture on how to treat patrons with disabilities).

On the other hand, the NLA, as any other library in Armenia has historically inherited impediments, such as:

a) the destroyed library infrastructure;

b) inappropriate building and poor working conditions, due to socio-economic situation in the country;

c) non-renewable and outdated book collections;

d) scarce and inaccessible online resources;

e) low percentage of library visits and use by people with disabilities;

f) long-term staff, who lack knowledge on the technological know-hows in the field;

g) lack of policies on service to patrons with disabilities (because the needs of patrons with disabilities have not been addressed since 1991).

Even if the NLA does collect, process, preserve and provide access to the historical and cultural heritage materials of Armenia, they are not made available and accessible electronically on the library webpage in the formats appropriate to the needs of patrons with disabilities. The NLA has only one small reading room to serve patrons with visual impairments with only one librarian working in the reading room, who does not have proper skills to train and support patrons in use and discovery of online information and tools they need. There are only two desktop computers connected to the Internet and equipped with Armenian Reading Equipment with Voice System in the reading room. However, during the interviews with the patrons it has been discovered, that, they do not use AREV system, because the features of the system are not advanced and do not satisfy their current needs, as well as resources available in the system do not include professional literature they need. In general, the reputation and role of the NLA as an information provider among patrons with disabilities has greatly decreased.

The conducted interviews testify, that, in general, there is no e-accessibility to patrons with hearing or visual impairments provided at the NLA. On the other hand, I have also looked through the pages of the NLA website (www.nla.am) and discovered, that, the available content on the website is not accessible to patrons with hearing or visual impairments as well. The library website and catalogue are not fully accessible to
patrons with visual and hearing impairments. There are no guides and tutorials on the library web pages available in HTML format. There are no captions for images, buttons, and checkboxes. There are no embedded or streaming audio or video materials with sign language interpretation and subtitles. There is no online librarian or reference librarian service to support those with hearing problems by means of online chat, or those with visual problems by means of voice chat. In general, there are no key services available on the website. And, the librarians did not mention that there is also the challenge for them to know and gain skills on how to make the library web pages universally accessible, how to provide the key services to meet needs of the patrons on the website, how to communicate messages, etc., which, to my opinion is also challenging. That is to say, the librarians also face the challenge to overcome the technological gap in the sphere by gaining new skills and knowledge.

On the other hand, looking through the pages of the NLA website, it has been discovered that there are no online marketing initiatives taken to communicate messages about any service to patrons with disabilities on the NLA website or any social media channels such as, for example: blogs, wikis, Facebook, Twitter, etc. There is only information on the website about AREV Reading Room for people with visual impairments, but there is no description what services are offered in the reading room. Interestingly enough, during the interviews, the patrons with disabilities expressed their expectation that the library reaches them via online channels. They confirmed, that they are not fully integrated into many aspects of the social life in Armenia, and consider the Internet and library webpage to be the most powerful tool at the present realities to communicate messages and reach patrons with disabilities.

However, during the interviews with both the librarians and the patrons, it was revealed, that, there is information to be communicated to let the patrons know about availability of support or any service at the NLA. However, as patrons with disabilities mentioned during the interviews, the information about availability of any disability service at the NLA (if available) are spread in the country by means of mass media or from person to person via word of mouth.

We also learn from the results, that, the patrons with disabilities hardly ever attend the NLA or visit its website. Instead, they use overseas resources and systems. It has been revealed during my study, that, most of the interviewed patrons with disabilities used to come to the NLA when they were students to read books with the help of a friend or a family member, because most of the professional literature they needed was in regular format. Therefore, because the NLA library buildings are not accessible and there are no online resources, books for their needs available on the NLA website, those patrons prefer reading books via overseas digital libraries.

Additionally, the patrons are convinced, that, the vast majority of the librarians in Armenia do not have appropriate knowledge and skills on use of the modern online tools and resources intended for people with disabilities. Therefore, the patrons do not ask for a librarian's assistance. They exchange knowledge and experience among their acquaintances, friends and those sharing the same needs. However, what we learn from the opinions of the patrons is that regardless of their attitude towards the professional skills and qualification of the librarians, young people with disabilities are ready to cooperate and share their knowledge with the librarians. They want the librarians to take first steps by talking with them and discovering their current needs. They want the librarians to do market research and inform about the available services, events, information and knowledge via modern channels of communication. The patrons are
convinced, that, if the librarians are motivated enough, they do not need financial support to provide and practically integrate the available services and resources of the NLA. They can start with a key "Ask A Librarian" service on the webpage, which will allow scanning and sending on demand the requested literature in high quality electronic formats. To my opinion, this can also serve as an argument to request further funding and act as a copyright protector. Since, the library cannot ask for money without justification that there have been steps taken and there is need to have funding to do more and in better quality.

The reality is, that, the NLA librarians do not take measures to their own self training and professional development. It has been discovered during the interviews, that, the NLA librarians rely on tasks from upper management or senior librarians to initiate or take any measures in service delivery to patrons with disabilities. On the other hand, they are convinced the library should train them about modern technologies. They complain of low salaries, and are convinced, that, service delivery to patrons with disabilities is an additional task. As far as digital library services are concerned, they think it is out of their competence to update or work on introduction of new services on the library website. They are convinced it is the head of the library who is to decide on the introduction of new components and features on the NLA website, while the IT staff is the implementer.

However, in carrying out the role of a non-discriminator by ensuring equal information accessibility and providing a wide range of resources to patrons with disabilities, the NLA can empower development of lives and support integration of people with disabilities into the society. The NLA can also support development of up-to-date skills of such patrons, thank to which, people with disabilities can also have their contribution to society, and promote development of the country they live in. Not speaking of the fact, that, many services offered to those with disabilities can also be used by abled ones. What we learn from the results is, that, the NLA does not take continuous measures or implement marketing initiatives to deliver library digital services to patrons with disabilities. The librarians are being non-initiative, complain about lack of funding from the state and rely on short-term international funding to provide service to patrons with disabilities, which results in deeper divide from the modern technological advancement in the library field, and isolation of patrons with disabilities from the library.

Therefore, it can be concluded, that, to provide and practically integrate library digital services to patrons with disabilities in a national library of a developing country such as Armenia, there is the need to gain continuous funding and support of the state to purchase appropriate technologies, hardware, software, and to train the librarians on the use and application of them. Funding is also needed to acquire electronic resources in formats appropriate for patrons with disabilities. However, if there is lack of funding, the librarians can still provide some of the key services on the library webpage by investing their professional knowledge and skills to ensure equal access to information to all patrons. It is impossible to rely on funding only. To deliver effective service, it is important, to put emphasis on the user, to do market research and evaluation with the main aim to identify the user, and his/her needs and expectations. And after analysing the discovered current needs of the patrons to plan further steps in providing and practically integrating services, having in mind that user-friendly service must also be marketed, made visible to the patrons by sending messages to the target audience. Of course, it highly depends on the technological advancement of the country on how the available services are marketed to the patrons. The librarians need to research and
discover those communication channels where the patrons use most, and send messages through them. And cooperation with organizations dealing with issues of people with disabilities is highly important, since contacts of people with disabilities can be provided for surveys, or maybe there already exist conducted surveys or knowledge on the issue.

On the other hand, it can be concluded, that, the library has the important role of acting as a non-discriminator in a developing country. In the modern world where people engage in a number of activities and gain information they need online, the role of a library is decreasing. However, if it concentrates on the different needs of patrons and promotes access to information by making online information available in accessible formats for disadvantaged groups of people, in this particular case, those with disabilities, the library acts as a non-discriminator. Additionally, by introduction and implementation of the library digital services to people with disabilities, the library of a developing country gains the role of a copyright protector, promoter of literate and legal use of materials in formats appropriate for people with visual and hearing impairments, as well as, rises its reputation by means of marketing its services via modern channels of communication and informing the general society that thanks to those services all people are treated equally and universal access to information is ensured via the library. And, finally, by providing guidance and training to those who are deprived of the opportunities to develop skills to access information via the 21st century ICT, the library gains the role of alleviator of the information gap and low familiarity with technological know-hows.

The knowledge gained during the research can be used to understand what is the situation in library digital service delivery in a developing country of a post-Soviet times, and to plan the service delivery accordingly. The knowledge can also be used by Armenian scholars in LIS sphere to introduce new topics for discussion during the local seminars and trainings, for example, the topic that the library can enhance integration of people with disabilities into the society and empower them by introducing the key library digital services. At international level, the knowledge gained can be used to understand that the developments in the sphere are subjective, and do not necessarily reflect the reality worldwide.

7.2. Discussion

The interview results revealed that the main challenges the NLA librarians experience to deliver library digital services are financial constraints, lack of technology, skills, support from the RA Government, and low demand from the patrons with disabilities. Bukhtoyarova, 2013; da Rosa & Lamas, 2012; Kizza, 2010 mention similar challenges that are experienced regarded the building of a digital library. On the other hand, Mates & Reed IV, 2011; Koulikouri, 2008; Joint, 2005; Johnson, 2013 express the opinion that there is a need of availability of active support of national governments and amendments made in national legislations on disabilities.

The respondent librarians never mention the high cost of enabling access to patrons with disabilities, as well as, the time needed to acquire, digitize, describe the digital resources in formats accessible to patrons with disabilities, and to create the key services, such as, an online reference desk (or Ask A Librarian service) especially for the needs of patrons with disabilities. On the other hand, the NLA librarians did not
even mention the high cost and challenges to produce academic and professional literature in alternative formats, mainly, to protect the copyright, while making the resources accessible in electronic format. da Rosa & Lamas, 2012; Kizza, 2010 do point out that due to high costs, subscriptions to international journals are rarely possible.

It has also been revealed during the interviews, that librarians do not realize, that, if they do not have the proper skills, there is a challenge to mutual cooperation with the IT staff. To my opinion, this is another important challenge, since IT staff do not know the library sphere and, on the other hand, many librarians are not aware of the code the webpages are written in. In addition, the librarians are very informative, while the IT people like simple, short and clear messages to their tasks, etc. Interestingly enough, it was the patrons with visual disabilities, who during the interviews highlighted this challenge, and put emphasize on cooperation between the librarians and the IT staff. However, the interviewed librarians do realize that there is lack of continious development of features on the available local products, for example, to have more features developed for the AREV system. But, that is out of the scope of the NLA IT staff, since they are not the product owners. It is Witten et al. (2002, p.7) who state that modern information technologies create an information gap between the “knows” and “knows-not”.

During the interviews, it was revealed, that, the librarian working directly with the patrons with visual impairments does not have appropriate skills and knowledge about modern know-how in the LIS sphere, as well as, her understanding of library services marketing is vague. To my opinion, the only knowledge the librarian has about AREV system is not enough. There exist other systems and open source software, trends or resources available worldwide to people with visual impairments, which can be downloaded from the web, etc. The librarian relies only on the limited knowledge gained during the training organized by AREV system providers and complains of lack of funding. Additionally, the librarian is not working towards self-training to acquire more knowledge and skills. While, if the librarians takes measures towards self-training at least one hour a day, surf the Internet, talk with the patrons to know what are the new trends, she can gain knowledge and share it during the organized seminars for the patrons with disabilities. Thus, attract more patrons and gain their trust that the librarians in Armenia are not just checking out books. The similar opinions on the importance of having and developing appropriate skills, being aware of new adaptive technologies for the modern librarians to ensure the users with responsive services and diverse alternative formats of information, as well as providing training and assistance to patrons with disabilities have been expressed by Davenport, 2007; Chowdhury et al., 2006; Witten et al., 2009; Lupovici, 2010; Fressard, 2010; Epp, 1999.

The librarians never speak about measures taken to study the current needs of patrons with disabilities, to talk with them and to understand what is it that those patrons expect from the library nowadays. On the other hand, there exist certain modern marketing techniques to communicate and inform about availability of library digital services, which can support the librarians to communicate with the target library audience, communicate messages to them and attract more patrons, etc. Kavanagh & Christensen Sköld, 2005; Jotwani, 2014; Cole, et al., 2010 do state that modern librarians nowadays use a number of marketing techniques to reach patrons and to publicise the available services online.

It should be mentioned that no marketing segmentation, marketing mix strategy or marketing evaluation has been or is conducted at the NLA. However, Koontz & Gubbin
(2010) argue, that, by employing the marketing model of marketing research, segmentation, marketing mix strategy and marketing evaluation the library staff can research and understand by means of internal records the ideal market, based on that segment the potential patrons, develop product, price, place and promotion of services and programmes based upon market research to various market segments, assess patron behaviour and measure their satisfaction to develop and deliver effective service. At present, the NLA does not cooperate with NGOs dealing with problems of people with disabilities, or any other local and international libraries to invest in library disability services. The only experience some of the senior librarians have, is the knowledge gained during the study tours about library disability services provided at overseas libraries. However, as stated by Kavanagh & Christensen Sköld (2005), marketing initiatives must also engage other organizations, associations, agencies, educators, publishers, decision-makers and why not the society to support the library to deliver and inform existing and potential patrons with disabilities about the possibility of using accessible-format materials through libraries. When promoting the available services librarians should not only look inward, but rather look outside the library, be responsive to the needs of constituencies, stakeholders and the general public not only to attract funds (Gupta, 2006, pp.15-18), but also to have the library services promoted within the community. By establishing and maintaining realtionships with other organizations, institutions and communities at national or international level, the services will be enhanced and reputation of the library will strengthen itself. Therefore, the library and its services will be talked about, which is one of the most effective ways to reach people (Koontz & Gubbin, 2010; Kavanagh & Christensen Sköld, 2005).

Because, people with disabilities are isolated from many spheres of social life in Armenia, it does not mean they cannot be reached and do not have needs for library services. The librarians did not speak about the challenge to reach those patrons with disabilities, to communicate messages and inform what is there available at the NLA library to meet their needs. Of course, it is challenging for a librarian who has been trained with Soviet time ways of service delivery and worked in the library for more than 20 years to gain the skills required for the modern librarianship. But, I would also criticize and state, that, taking no measures and only complaining of the lack of financial means, technology, and support from the government is not a way out. To my opinion, the librarians can overcome the challenge of gaining the new skills by personal training and self-development, of which, none of the interviewed NLA librarians mentioned. The librarians can cooperate with organizations dealing with people with disabilities, to inform about library services and attract patrons, etc.
SUMMARY

This study was conducted with the purpose to create knowledge about provision and practical integration of library digital services to patrons with disabilities in Armenia, on the example of the National Library of Armenia, as well as, to discover opinions of the NLA librarians and the patrons with disabilities about the importance of library digital services for them. The methods utilized to gather data were literature review and qualitative interviewing. The researcher served as the instrument of the research to do the literature review and to interview the 10 participants. The participants have been the NLA librarians and patrons with mobility disabilities, visual or hearing impairments. The face-to-face, telephone, Google Talk semi-structured interviews have been conducted in Armenia, from April to June, 2014. The overall timeframe to complete the study was from January to August 2014.

The objectives of the study have been fully achieved, because the challenges experienced, measures, marketing initiatives taken by the NLA librarians to deliver library digital services to patrons with disabilities have been discovered, as well as, opinions of the patrons about importance of the library digital services to them has been explored. It should be taken into account, that, the results of the study, except the opinions of the patrons with disabilities, cannot be generalized to all libraries of a developing country, considering the difference in socio-economic situation of a country and that the research results are based on the example of only one Armenian library. Of course, this is a serious limitation, that only one Armenian library has been studied during the research, but it is not possible to study all the Armenian libraries in such short period of time. Therefore, if the recommendations for further research are implemented it will be possible to collect knowledge about other libraries as well.

On the other hand, the shortcomings of the research methodology used are that only opinions of librarians and patrons have been gathered. The interviews did not allow to practically seeing how the digital services are provided and used. Therefore, it is suggested that a further study is conducted, which can explore the immediate use of digital services, and the benefits and challenges of those services from the technological point of view.

As the researcher of the present study, I cannot state that the study can be generalized to all libraries of all developing countries and covers all related to library digital service provision and practical integration in a developing country.

Suggestions for Further Research

The purpose of the study was to examine and analyse the challenges faced, measures and marketing initiatives taken by the librarians to provide and practically integrate services to patrons with disabilities at a national library of a developing country, such is Armenia. Therefore, I would recommend that a further study or studies on the same topic are conducted to research and investigate the problem in all Armenian librarian, as well as a number of libraries of other post-Soviet countries. It will assist in exploring and comparing experience of other post-Soviet countries, which can support the librarians to share the knowledge, to cooperate and learn from each other.
The suggested topics for future research can be:

1. "Digital library services provision and marketing to patrons with visual and hearing impairments in Armenian libraries: challenges experienced and measures taken"

2. "Digital library services provision and marketing to patrons with visual and hearing impairments in post-Soviet countries (for example: Georgia or Azerbaijan): challenges experienced and measures taken".
References:


presented at the International Conference of Armenian Libraries, Armenia.

Retrieved from http://ical.asj-oa.am/2/
## APPENDIX 1: Services available on websites of Libraries of Yerevan State Higher Educational Institutions

### Services available on the Websites of Libraries of Yerevan State Higher Educational Institutions

<table>
<thead>
<tr>
<th>N</th>
<th>Name of Institution</th>
<th>Website availability</th>
<th>Notes</th>
</tr>
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</table>
| 1. | Sarkis and Marie Izmirlian Library of Yerevan State University                      | http://lib.ysu.am/index.htm?lg=1                                                      | • Available in Armenian and English  
• Possibility to search Armenian Union Library Catalogue from the library webpage itself  
• "alt=" text alternative available for most images and buttons  
• "html" format not available for online books  
• Online literature is available in *pdf format or a Flash Player is required to view online books  
• No transcript is available for Adobe Flash format books  
• No audio output available for online books and articles  
• Possibility to zoom online books  
• Links to vendor databases and Open Access resources  
• No mention about library accessibility (neither in physical library nor web)  
• No Ask A Librarian service  
• No online reference service  
• No library guides or tutorials  
• Possibility to request literature online |
| 2. | Library of State Engineering University of Armenia                                 | http://www.seua.am/?module=info_page&utility=view_page&page=14&lang=am                | • Available in Armenian only  
• Descriptive information, no multimedia  
• Links to vendor databases  
• No links to Open Access |

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6 List of Libraries of Yerevan State Higher Educational Institutions was retrieved from [www.edu.am](http://www.edu.am) (website accessed February 8, 2013)
<table>
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<th>3. Library of Yerevan State University of Architecture and Construction</th>
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<th>The content of the page is incomplete. There is an alphabetical list according to which it should be possible to search for literature by author or title. However, when clicking on any letter the same content is retrieved.</th>
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• online books and articles do not have audio outputs  
• Images do not have text alternative  
• Searchable online catalogue  
• Online literature is available in *pdf format  
• No mention about library accessibility (neither in physical library nor web)  
• No Ask A Librarian service  
• No online reference service  
• No possibility to request literature online |
| 5. Library of Armenian State Pedagogical University after Kh. Abovyan | **http://mankavarzh.do.am/** | • Available in Armenian, partially in Russian  
• No online books  
• Some rare books scanned in a form of images  
• Images do not have text alternative  
• Link to Armenian Union Library Catalogue  
• Links to vendor databases and Open Access resources  
• No mention about library accessibility (neither in physical library nor web)  
• No Ask A Librarian service  
• No online reference service  
• No possibility to request literature online |
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<tr>
<th>No.</th>
<th>Library Name</th>
<th>Website</th>
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- Link to the Armenian Union Library Catalogue  
- "alt=" text alternative available for most images and buttons (however the text input is sometimes not understandable)  
- "html" format not available for online books  
- Online literature is available in *pdf format  
- Links to vendor databases and Open Access resources  
- No mention about library accessibility (neither in physical library nor web)  
- Ask A Librarian service  
- No online reference service  
- No library guides or tutorials  
- Possibility to request literature online |
| 8.  | Library of Yerevan State Academy of Fine Arts | No website | N/A |
| 9.  | Library of Yerevan State Institute of Theater and Cinema | No website | N/A |
- Images do not have text alternative  
- Link to the Armenian Union Library Catalogue  
- No Ask A Librarian service  
- No online reference service  
- No library guides or tutorials  
- No Possibility to request literature online |
<p>| 11. | Library of Armenian State Institute | Under construction | N/A |</p>
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- Link to Armenian Union Library Catalogue  
- Online catalogue (Koha)  
- "alt=" text alternative available for most images, however the text is not understandable  
- "html" format not available for online books  
- Online literature is available in *pdf format  
- Links to vendor databases and Open Access resources  
- No mention about library accessibility (neither in physical library nor web)  
- Ask A Librarian service  
- No online reference service  
- No possibility to request literature online |
| 13. | Library of Russian-Armenian Slavonic University | [http://library.rau.am/?t=1392113775](http://library.rau.am/?t=1392113775) | - Available in Russian  
- Link to Armenian Union Library Catalogue  
- List of available literature (possibility to search)  
- No library guides or tutorials  
- No Ask A Librarian service  
- No online reference service  
- No possibility to request literature online  
- No mention about library accessibility (neither in physical library nor web) |
- "alt=" text alternative available for most images and buttons  
- no subtitle for videos  
- Links to vendor databases and Open Access resources  
- No mention about library accessibility (neither in physical library nor web)  
- Ask A Librarian service  
- Online Chat service  
- Library guides and tutorials (*pdf and html) |
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<th>No.</th>
<th>Library Name</th>
<th>URL</th>
<th>Features</th>
</tr>
</thead>
</table>
| 15. | Library of French University in Armenia                                      | [http://81.89.218.52//pmb/opac_css/](http://81.89.218.52//pmb/opac_css/) | • Available in French  
• Possibility to search the catalogue online  
• No library guides or tutorials  
• No Ask A Librarian service  
• No online reference service  
• No possibility to request literature online  
• No mention about library accessibility (neither in physical library nor web) |
| 16. | Library of European Regional Academy                                         | No website                                                           | N/A                                                                     |
| 17. | Library of RA National Academy of Science International Scientific - Educational Center | [http://www.flib.sci.am/eng/node/1](http://www.flib.sci.am/eng/node/1) | • Available in Armenian and English  
• Link to Armenian Union Library Catalogue  
• "alt=" text alternative available for most images and buttons  
• "html" format not available for online books  
• Online literature is available in *pdf format or a Flash Player is required to view online books  
• No transcript is available for Adobe Flash format books  
• No audio output available for online books and articles  
• Possibility to zoom online books  
• Links to vendor databases and Open Access resources  
• No mention about library accessibility (neither in physical library nor web)  
• No Ask A Librarian service  
• No online reference service |
• No online books  
• List of books available in the library  
• No mention about library |


accessibility (neither in physical library nor web)
• No Ask A Librarian service
• No online reference service
• No possibility to request literature online
• No library guides or tutorials

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**Chart 1: Availability of Yerevan State University library websites as of February 2014**

**Availability of university library websites**

- **Yes**: 60%
- **No**: 15%
- **Incomplete content**: 15%
- **Under Construction**: 10%

**Total number of libraries**: 20

**Libraries that have webpages**: 12 = (60%) of total

**Libraries that do not have web pages**: 3 (15%)

**Library webpages with incomplete content**: 3 (15%)

**Under construction**: 2 (10%)
Appendix 2: Interview Guide for Library Staff

National Library of Armenia
Yerevan, Armenia
Interviewer: Anna Khachatryan
Interviewee:  

Date of interview: ___ ___ 2014

Introductory information

Dear Sir/Madam,

I, Anna Khachatryan, citizen of the Republic of Armenia, study Digital Library Management at University of Boras, Sweden. I am currently working on my Master Thesis on the topic of library digital services at the National Library of Armenia (NLA) to patrons with disabilities. The aim of the thesis is to investigate what are the digital services provided to patrons with disabilities at the NLA, to understand the challenges faced by the library staff to provide digital service to patrons with disabilities, and to discover measures taken in providing those services. For this purpose, I intend to conduct interviews with some of the NLA librarians and patrons with disabilities. Your feedback, as a librarian, is of a great importance and highly appreciated, since it will make it possible to understand the situation with disability service in Armenia. It is expected that the research findings can serve as an input into the LIS knowledge of Armenia, as well as can support in introduction of library digital services in the future.

It is assumed that the interview will take not more than an hour. Please be informed that permission has been gained from your upper management to conduct the interviews. The interview responses will be treated as confidential and names will be replaced with codes.

Thanks a lot in advance.

Instructions to follow the standard procedures from one interview to another

- Greet the interviewee and introduce yourself;
- Present the introductory information;
- Inform that the interview is being audio recorded (if objected, do not disagree, inform that you will take notes and ask the interviewee to speak slowly, so that you can take minutes);
- Give the interviewee one or two minutes before starting the interview;
- Before starting to ask the questions, let the interviewee know you are starting;
- Ask closed questions first (closed questions differ depending whether senior management or librarian)
- Ask questions one by one;
- If there is a need to ask the follow-up question, ask it immediately and take notes;
- When finished with closed questions, let the interviewee rest for a minute and say you are starting to ask the open-ended questions;
- Ask open-ended questions one by one and let the interviewee think before answering;
- Explain or reformulate the question if the interviewee is having difficulties to answer the given question;
• Ask for clarifications and examples (probe questions to elaborate on the answer: Could you tell me more about that? How come?);
• Keep the track of the theme, try to stay focused on the topic not to have too much out of the context information;
• Take notes and make sure the audio recording is working;
• Thank you the interviewee at the end of the interview and assure confidentiality

Interview questions (closed and open-ended)

A) Closed questions to Senior Librarian:

Background questions:
1. Position: ____________________________
2. Experience in library: __________________

Disability service related questions:
3. Are the services provided to patrons with disabilities physical or digital?
   - Physical ☐
   - Digital ☐
   - Both ☐

   **FOLLOW UP QUESTION:**
   What are the current physical or digital services provided to patrons with disabilities at the NLA? Can you mention some (e.g: library buildings and reading rooms are made accessible for patrons with disabilities, wheelchair-accessible circulation desk, photocopy machines, video materials with sign language interpretation and subtitles, lending books, audio books and reading materials in formats appropriate for the needs of people with disabilities, exceptions to normal circulation policies, home librarian service, web content accessibility, and etc.)

4. Do you have a librarian(s) trained to work with patrons with disabilities?
   - Yes ☐ (please indicate the number of librarians)
   - No ☐

   **FOLLOW UP QUESTION:**
   What are the restrictions to conduct trainings?

5. Do you conduct any trainings or workshops for library staff to increase general awareness on diverse needs of patrons with disabilities?
   - Yes ☐
   - No ☐

6. Does the NLA cooperate with other libraries (or NGOs) to plan and implement special services to patrons with disabilities?
   - Yes ☐
No □

If Yes, can you bring some examples?

If No, any plans for the future? What exactly?

7. Do you have a delivery service for patrons with mobility impairments?
   Yes □
   No □

8. Is the library conducting user surveys to discover what the needs of patrons with disabilities may be?
   Yes □
   No □
   FOLLOW UP QUESTION: If Yes, how often?
   ____________________________________________

   If NO- what are the restrictions?
   ____________________________________________

9. Does the library have a policy that describes services to patrons with disabilities?
   Yes □
   No □

   FOLLOW UP QUESTION:
   If Yes: Can you indicate the main policies?

   If NO: What is being done to introduce such policies in the future?

Closed questions to Librarian:

1. Have you been trained to deliver service to patrons with disabilities?
   Yes □ (particularly with patrons with visual impairments)
   No □

2. Do you inform patrons with disabilities about offered library services?
   Yes □
   No □

   FOLLOW UP QUESTION:
   If Yes, how often and in what ways are they informed?

3. Are there patrons with disabilities who bring their own supportive equipment?
4. Does the library provide patrons with disabilities with any supportive technology or equipment?
   Yes☐ (Please mention what kind of technology or equipment. And also, whether it is
   library use only?)

5. Do you conduct trainings on the use of available assistive technologies?
   Yes ☐
   If Yes, how often?

6. Do you cooperate with NGOs or international organizations dealing with disability
   issues to spread the information about the available service through them?
   Yes☐
   No☐
   If, no how do you spread the news about the service?

7. Do you conduct research to understand by means of internal records (circulation data,
   number and type of FAQ, special requests) how many people with disabilities have or
   might have interest in a particular service you offer for them?
   Yes☐
   No☐

8. Do you research to understand whether the patrons with visual disabilities share
   similar needs or not depending on their age groups?
   Yes☐
   No☐

9. Do you assess patron behaviour (how, when and which segment of the service
   exactly the patron uses?) to understand how well the service meets patron needs?
   If yes- by means of? (personal interview, survey, focus groups, etc.)
   No☐

B) Open-ended questions to Senior Librarian:

1. Can you please describe the challenges you have faced/or face as a Senior
   librarian in introducing library digital services to patrons with disabilities at the
   NLA? What are those challenges related to?

2. What is needed in an Armenian library to introducing and developing library
   digital services to patrons with disabilities? What is your opinion as a senior
   librarian?
3. What things should be changed to provide equal accessible digital services to patrons with disabilities?

4. What have been the measures taken to offer digital library services to patrons with disabilities at the NLA? Can you tell me the recent success stories? Or anything you plan to implement in the nearest future?

   Follow up question: What are the marketing initiatives taken to inform patrons with disabilities about available services?

5. What is your opinion...what can library offer to patrons with disabilities by introducing digital library services?

6. Anything else you would like to add on the subject?

7. Can you please provide contacts of librarians with whom I can conduct interviews at the NLA?

Open-ended questions to Librarians:

1. What kind of services do you implement to patrons with disabilities? Can you describe some situations?

2. Can you please describe the challenges you experience as a librarian in delivering library services to patrons with disabilities at the NLA? What are those challenges related to?

3. What have been the measures taken to offer digital library services to patrons with disabilities at the NLA? Can you tell me the recent success stories?

4. What is your opinion...what can library offer to patrons with disabilities by introducing digital library services?

Thank you statement

Thank you for your time to participate in the interview. Your opinion and feedback on the problem is really appreciated. Please be assured that your responses of the present interview will be kept confidential and your name is replaced with a code. I wish you good luck and patience with the future project and current work. Thank you!

Please feel free to contact me in case you have any questions in the future
Email: annavkhachatryan@gmail.com
Tel: +37493301307
Appendix 3: Interview Guide for Patrons with Disabilities

National Library of Armenia
Yerevan, Armenia
Interviewer: Anna Khachatryan
Interviewee: __

Date of interview: __ __ 2014

Introductory information

I, Anna Khachatryan, citizen of the Republic of Armenia, study Digital Library Management at University of Boras, Sweden. I am currently working on my Master Thesis on the topic of library digital services at the National Library of Armenia (NLA) to patrons with disabilities. The aim of the thesis is to investigate what are the digital services provided to patrons with disabilities at the NLA, to understand the challenges faced by the library staff to provide digital service to patrons with disabilities, and to discover measures taken in providing those services. For this purpose, I intend to conduct interviews with some of the NLA librarians and patrons with disabilities. Your feedback, as a patron, is of a great importance and highly appreciated, since it will make it possible to understand the situation with disability service in Armenia.

It is assumed that the interview will take not more than an hour. Please be informed that the interview responses will be treated as confidential and names will be replaced with codes.

Thanks a lot in advance.

Instructions to follow the standard procedures from one interview to another

- Greet the interviewee and introduce yourself;
- Present the introductory information;
- Inform that the interview is being audio recorded (if objected, do not disagree, inform that you will take notes and ask the interviewee to speak slowly, so that you can take minutes);
- Give the interviewee one or two minutes before starting the interview;
- Before starting to ask the questions, let the interviewee know you are starting;
- Ask closed questions first (closed questions differ depending on the disability the patron has)
- Ask questions one by one;
- If there is a need to ask the follow-up question, ask it immediately and take notes;
- When finished with closed questions, let the interviewee rest for a minute and say you are starting to ask the open-ended questions;
- Ask open-ended questions one by one and let the interviewee think before answering;
- Explain or reformulate the question if the interviewee is having difficulties to answer the given question;
- Ask for clarifications and examples;
- Keep the track of the theme, try to stay focused on the topic not to have too much out of the context information;
- Take notes and make sure the audio recording is working;
- Thank you the interviewee at the end of the interview and assure confidentiality.
Interview questions (closed and open-ended)

A) Closed questions to Patrons:

Background questions:
10. Disability type: __________________________

Disability service related questions:

1. How long have you been using the offered library services? (if not NLA patron: Do you attend library? And Do you know about special reading room available to people with visual, hearing or mobility impairments at the National Library of Armenia?)

Follow up question: Has it ever occured to you to apply for a librarian's assistance in NLA/or any other to find online resource or to ask for guidance how to find the professional literature you need?

B) Open-ended questions to Patrons:

1. Traditionally, patrons visited library to make use of its physical services. With the advancement of modern information technologies many of the services have transformed and are transforming into the electronic world. If you were the library manager and taking into account the present social-economic situation of Armenia what kind of services do you think you will offer to make access to information electronically easier for patrons with special needs? For example in overseas libraries, they have Braille and Audio Reading Download possibility, and recorded materials are available for people visual impairments, etc.

2. In your opinion, what are the advantages that you can benefit from library electronic services? Can you describe some situations?

3. Are there any disadvantages with accessing information electronically? What exactly are they? Do you have any stories to tell?

4. What was the most important experience you personally had with services provided at the National Library of Armenia?

5. What opportunities do the offered digital services bring to you as a library patron?

6. Are there any alternative ways from where you get knowledge?

   If yes, which are those ways? How do you learn about those ways?

7. What is your opinion on the topic? Is there anything else you would like to add?

Thank you statement
Thank you for your time to participate in the interview. Your opinion and feedback on the problem is really appreciated. Please be assured that your responses of the present interview will be kept confidential and your name is replaced with a code. I wish you good luck and patience. Thank you!

Please feel free to contact me in case you have any questions in the future
Email: annavkhachatryan@gmail.com
Tel: +37493301307
Appendix 4: Face to face, telephone and Google Talk interviews (sound recording and chat) conducted from April to June 2014

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