Using Quantitative Sociological Methods for Functional Analysis of Academic Libraries

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Abstract: In this article the authors present the study of assessing the needs of academic libraries modernization was conducted within the framework of the project "Modernization of academic library services in Moldova" carried out during October 2016 - May 2017 with the financial support from the Norwegian Centre for International Cooperation in Education (SIU). In the course of the assessment study 25 managers of academic libraries from the Republic of Moldova formed a working team to train on strategic planning, to evaluate the activity of academic libraries, as well as to provide a methodological support for the formulation of their own Development Strategies.
In order to facilitate the development of strategies there was hired a specialized company which carried out a functional analysis, operational and institutional capacity assessment and guided the development of strategic plans for academic libraries by organizing focus groups and online or informal interviews.
With the help of the Institute of Legal and Political Research of the Academy of Sciences of Moldova there was carried out a quantitative sociological research that determined the development trends of academic libraries over the long run under the conditions of the competitive information environment. The assessment study results that reflected the views of both library managers and the users of their services served as an empirical basis for the development of strategic documents. The novelty of the study is a planning exercise done for the whole network of libraries, based on the study of the needs for modernization carried out by the experts outside the library domain.
The method used can be replicated for other libraries networks that develop strategic plans in the new technological and economic context.

Keywords: academic libraries, strategic planning, institutional capacity, quantitative sociological research.

1. Introduction

The study of assessing the needs of academic libraries modernization was conducted within the framework of the project "Modernization of academic library services in Moldova" carried out during October 2016 - May 2017 with the financial support from the Norwegian Program of Cooperation with Eurasia in the field of higher education and in partnership between 18 academic libraries from the Republic of Moldova, the University of Bergen, Norway and Transilvania University of Braşov, Romania. In the course of the assessment study 25 managers of academic libraries from the Republic of Moldova formed a working team to train on strategic planning, to evaluate the activity of academic libraries, as well as to provide a methodological support for the formulation of their own Development Strategies.

In order to facilitate the development of strategies there was hired the Pro Community Company as a non-commercial, independent, apolitical organization that has the mission to consolidate the civil society in the Republic of Moldova by encouraging and supporting the community development initiatives. Pro Community carried out a functional analysis, operational and institutional capacity assessment and guided the development of strategic plans for academic libraries by organizing focus groups and online or informal interviews. The facilitation methods were the following: overview; workshop activity; individual work; brainstorming; group discussions. There was established a single framework for the academic library development strategies: the Description of the current situation (library presentation, services rendered, SWOT analysis, Strategic content 2017-2020 (strategy goals and objectives, visions for the next years, obstacles in the library development, strategic directions); Implementation of the 2017-2020 strategy (action plan, the plan of monitoring and assessing the strategy implementation). The strategies developed within the project were approved at the university senate meetings.

With the help of the Institute of Legal and Political Research of the Academy of Sciences of Moldova there was carried out a quantitative sociological research that determined the development trends of academic libraries over the long run under the conditions of the competitive information environment. The assessment study results that reflected the views of both library managers and the users of their services served as an empirical basis for the development of strategic documents. *The novelty of the study* is a planning exercise done for the whole network of libraries, based on the study of the needs for modernization carried out by the experts outside the field.

2. Methodological aspects

The study of assessing the needs for the academic library modernization was carried out in several stages. *At the first stage*, there were organized meetings with librarians to define the goal and basic objectives of the study, because many domain-specific articles described the situation of academic libraries in the Republic of Moldova, the analysis of their activity, the scanning of the

library operational environment was carried out within many doctoral researches: Țurcan (2013), Ghinculov (2002), Cheradi, Harjevschi, and Railean (2014). For these reasons, there was required a particular vision, a sociological approach to identify the characteristics or the profile of the future library. Following the discussions, it was decided to develop two questionnaires to highlight the opinions of two categories of respondents: librarians and users (students and teachers).

At the second stage, various documents, studies, statistical data and other materials (reports, journals, bulletins, etc.) were collected and analyzed and they helped us a lot to better understand the organizational, functional, and operational context in which the today's academic libraries operate.

At the third stage, the actual research was carried out by applying the sociological questionnaire structured in several compartments and aimed at obtaining relevant information about the library spaces, the personnel, the information resources available, the services provided, the role of the library in the development of education and academic research, as well as other aspects of the academic library activity.

The sampling frame is the managers of academic libraries, students and teachers from the respective institutions. All together there were surveyed 18 librarians and 108 students and university lecturers or else 6 respondents from each institution. Because of the small sample size, the same number of respondents was selected from each university so that we could offer the surveyed the opportunity to equally express their views on various aspects related to the work of libraries and the facilities they provide to their users. Within the established contingents the sampling method was random.

For each category of respondents, a separate questionnaire was developed - one for the academic library managers and another one for the users of their services. The best part of the questions in the applied questionnaires was framed identically so that we could compare the opinions of the academic librarians, i.e. service providers and those of service consumers in order to see to what extent they coincide. At the same time, the questionnaire for managers included specific questions related to the professional activity of librarians.

The questionnaires were distributed in electronic format and the respondents' opinions and suggestions expressed in the study were processed in the *SPSS Program*. The data collection period was February-March 2017.

3. The main outcome of the study of assessing the needs for the academic library modernization

According to the survey data, the majority of the surveyed regularly visit the library of the university at which they work or study, which enables us to make

some pertinent findings about the work of libraries and their modernization needs. Only 14 percent of people surveyed mentioned that they visit the institution's library only occasionally.

The increased academic library visits are due to the fact that about 3/4 or 76% of the sources of information the students and teachers need can be found at the academic library. The most requested and available sources of information are books, specialist literature, scientific articles, scientific conference materials, and specialist journals to which users have access each and every time. Less or more often, the academic libraries fail to provide their users with the databases they require, as well as other sources of information such as manuscripts, video and audio materials, periodical press, etc.

It should be noted that the outcome of the study enabled us to come up with some contouring of the profile of those who work daily with total dedication, despite the fact that their work is not always duly appreciated, neither in higher education institutions where they work nor in the society. At least these are the perceptions of the surveyed librarians.

- Satisfied with the working climate/environment, with the colleague relations, their support, but not very satisfied or not at all satisfied with the working conditions (spaces, availability of the necessary technical equipment, etc.), as well as the recreational conditions.
- Although they work at the capacity of around 83% of their work potential, the efforts of librarians are estimated and remunerated only at the level of 52%.
- Being sometimes tired of the excessive number of plans and reports, of the rather complicated service process and feeling suffocated by the control indicators, as well as the inadequate remuneration of the work done do not motivate some librarians to perform a creative activity.
- In some cases the level of qualification and competence of the librarians, their ability to adapt to new requirements, information technologies are far from perfect. At the same time, the institutions in which they work do not provide enough opportunities for professional development, involvement of the library staff in the continuous training process.
- Neither the system for evaluating the librarians' performance is adequate, nor their work in the institutions in which they serve is duly appreciated, so in the event of an advantageous employment offer, most librarians who have already a professional experience of more than 20 years, would rather leave this field of activity for good.

It is also worthy of note that if the students or teachers made an imaginary tour of the academic library and related the most enjoyable aspects and the library's strengths to a guest, first of all they would communicate their opinions about the library staff, their professional competence, almost one in four students or teachers would refer to the library space, the ease of research, study, or

communication. Unfortunately, the users would have little to say about the library infrastructure and its level of digitization.

The same study shows that the users are happy with the library staff because they often become aware of the interests and requirements of the users through the direct dialogue with the latter, or from regular opinion polls or from the analysis of the users' requests based on registers and files. That is why most students and university professors, when having free access to the library resources through the Internet from any location, would still like to study both at the library and in any other place. Thus, 22% would prefer to study/research only at the library, about 7% would choose another location, and the majority - about 70% opt for both options. For these reasons, almost unanimously (99 percent) of respondents said that even in the context of existing information flows *(electronic resources and the Internet)* the classic, traditional library is still popular and necessary.

4. **Informational resources**
According to the investigation data, the academic library offers its users various opportunities to obtain the information, the documents necessary for their work as researchers/students, the opportunity to get acquainted with new scientific results in different fields of activity, to participate and organize different cultural activities: meetings with artistic personalities, theme parties, exhibitions, book launches, etc.

At the same time, the study highlights the fact that the academic libraries, because of insufficient space, have fewer capacities/possibilites to offer their users the opportunity to communicate, to provide the students and teachers with the appropriate conditions for rest and recreation. It is also necessary to improve the quality and, at other times, the diversity of the library's informational resources. There is a need to update the collection of scientific journals to which the libraries are subscribed, as well as their book collection. Comparing the users' and the library managers' views on the quality of the library's informational resources, we find that 15 out of 18 surveyed managers consider the quality and diversity of the documents collection in their libraries to be satisfactory, as well as the importance, timeliness of scientific journals to which the academic library is subscribed. The managers agree more with the users about the unsatisfactory quality of the digital library and the book collection.

Of course, these drawbacks affect to some extent the quality of the services offered to the users by the academic libraries, however, the users have quite good opinions (good - 51% and very good - 43%) about the library of the university they work in or study at because these institutions provide them with the necessary comfort to do research/to study and for many students and teachers the academic libraries are the most important and main sources of information and scientific documentation. That is why many of the surveyed

users disagree with the fact that computers and the Internet make the library services and book borrowing useless, or that visiting the academic library is no longer a necessity for many students, or that the academic libraries are only necessary for scientific researchers and moreover that they should be a place only for recreation, rest, communication.

5. Library spaces

It should be noted that the study data analysis reveals that the users are largely satisfied with the conditions and opportunities offered by the academic libraries regarding the quietness and the working climate, the location and the interior design of the library (the color of the walls, ceiling, furniture, etc.). These advantages were mentioned in the study by 73-90% of users. At the same time, not quite satisfied or not at all satisfied are about 1/3 of teachers and students who mention the impossibility of choosing illumination: the table lamp or the common room lighting, the lack of the possibility to choose a room to communicate or to work in group with colleagues or with the teacher, to choose an individual space where one feels comfortable or to read outside the library (e.g. on campus bench). In some institutions such opportunities do not even exist. The comfort and convenience of furniture is far from perfect. Also, the students and teachers point out the fact that in some academic libraries the movement of people with special needs is problematic.

6. Services provided

According to the study, most users express their gratitude for the provision of documentation services (consultancy and documents borrowing from the library collection, etc.), information and reference services (catalog consultancy, information search, filling out the thematic bibliographic lists, etc.), as well as for the convenience of the library's working hours - over 80 percent of the surveyed. The users are less satisfied or not at all satisfied with the provided services of copying, printing, scanning (56%) and electronic services: The Internet access, including WI-FI, online catalog OPAC, the library website, databases, digital library, etc. (44%). The users are also dissatisfied with the lack of the possibility to request/order a book not only at the library but also remotely, for example by phone, SMS, etc. (36%).

As the study data show, the greatest difficulties in using the library services are related to the poor technical support of the institution, in particular, the lack of computers, informational resources (38%), and the underdeveloped book collection (22%). The users rarely face insufficient promotion of the library's information offer - 11.1%, inappropriate placement of the library compartments - 7.4% or difficulties in the information identification system - 5.6%. At the same time, more than 1/3 or 37% of respondents mentioned that they do not face any difficulties in accessing and using the library services.

Although the users generally admit to be satisfied with the best part of the services offered by the academic libraries, however, a large number of teachers

and students consider it appropriate to create or develop within the academic libraries some other new services/facilities such as the possibility to consult the electronic documents - 46.3%, the development of the digital library of publications - 45.4%, the creation and development of the electronic document delivery service - 35.2%, the information on the documents existing in other systems through INTERNET access to databases of those systems - 30.6%, etc.
As regards the delivery of the library services against payment, the users' opinions were divided as follows: providing the library services such as borrowing the frequently solicited documents, drawing up the bibliographic lists, searching for information, etc. – 42% of users partially agree to it, one in three users does not agree at all to it and only about 18 percent of users would welcome this suggestion. Most of the users (53%) are more likely to agree to pay for the auxiliary services such as copying, scanning, printing, multiplication, covering, one in three respondents or 34% partially agree and 11% totally disagree with this proposal.

According to the study the most pressing THREE problems faced today by the academic libraries are insufficient electronic resources - 57%; outdated technical and material facilities (computers, used-up furniture) - 46%; old book collection, outdated information, collections, and consequently limited opportunities to access new informational sources - 25%. In order to solve the existing problems and increase the efficiency of academic libraries, the users suggest primarily to innovate services, to provide modern technologies of the library service, including online services, so that the user can obtain a document inside the libraries as well as remotely - at work, at home or by way of mobile telephones - 63.0%; to create digital libraries and open electronic archives - 56.5%. Other effective measures that would help to solve the existing problems in the users' opinion would be the library space and furniture modernization - 44.4%, as well as the librarians' professional development: organizing for the librarians the information and documentation visits to libraries in the country and to those from abroad - 29.6%, inviting specialists from abroad and adopting efficient management - 17.6%, the continuous professional training and motivation of the library staff for the innovation activity - 16.7%, quality improvement and service diversification, Quality Management System implementation - 9.3%.

It is worthy of note that the librarians expressed opinions similar to those of the users about both the existing problems and the priority measures that would help to solve the pressing problems, while also revealing the necessity to modernize the library spaces and furniture so that they meet new requirements/standards.

In this respect, the librarians are unanimous in the need to develop and implement a new concept of the academic library modernization, which in the opinion of most librarians and users should nevertheless remain the traditional, classical library that has resources on paper and electronic resources, there is a need for an

electronic, virtual library to provide users with the remote access to electronic resources. According to more than 3/4 or about 77% of the users surveyed the today's mission of the academic library is to be first of all one of the main sources of information and scientific documentation of teachers and students - 76.9%, to provide support in information search and to deliver information services - 53.7%. And as the study results show, to a greater extent the today's academic library meets these requirements and challenges.

At the same time, the analysis of the data in the table highlights the fact that the today's academic libraries have not yet become real incubators/workshops for drawing up and launching projects, developing the users' digital skills, places of recreation, rest and communication. We believe that the most likely explanation for this would be the inadequate infrastructure of libraries, the inappropriate spaces for such activities, but perhaps to some extent the lack of effort or sometimes the lack of information about the users' needs and requirements.

The library managers also point out the fact that the today's academic libraries do not fully meet the users' requirements regarding the need for the library to become an incubator/workshop for drawing up and launching projects as well as a place for recreation, rest and communication for students and teachers, the fact mentioned by 15 out of 18 managers.

7. The image of the modern library. The library of the future

In the vision of both managers and users, the library of the future should be a library with modern infrastructure: flexible spaces suitable for group and individual work, special reading rooms, conference rooms, bookstore, a special room for mothers with small children, etc., a library with a number of comfortable spaces for reading, communication and relaxation, a library equipped with modern digital technology, highly qualified specialists receptive to modern technologies and changes in the field.

In the opinion of managers and users, so and in no other way the academic libraries will become really multifunctional centers. It is worthy of note that these basic components of a modern library have been pinpointed both by those who manage libraries and those who use their services.

8. Conclusions

The study results enabled us to make some findings regarding the profile of the librarians in higher education institutions, which would be:

- Satisfied with the working climate/environment, with the colleague relations, their support, but not very satisfied or not at all satisfied with the working conditions as well as the recreational conditions.
- Although they work at the capacity of around 83% of their work potential, the efforts of librarians are estimated and remunerated only at the level of 52%.

- In some cases the level of qualification and competence of the librarians, their ability to adapt to new requirements, information technologies are far from perfect. At the same time, the institutions in which they work do not provide enough opportunities for professional development, involvement of the library staff in the continuous training process.
- Neither the system for evaluating the librarians' performance is adequate, nor their work in the institutions in which they serve is duly appreciated, so in the event of an advantageous employment offer, most librarians who have already a professional experience of more than 20 years, would rather leave this field of activity for good.

According to the study, the academic libraries have a bigger part of the information resources required by the students and teachers. The libraries are best equipped with specialist literature and scientific journals, scientific articles, and materials of organized conferences. Averagely, about 75% of the information needed by the students and teachers can be accessed each and every time at the libraries of the institutions they work in or study at. Therefore, almost unanimously the respondents said that even in the context of existing information flows *(electronic resources and the Internet)* the classic, traditional library is still popular and necessary. At the same time, the study reveals that academic libraries are poorly provided with documents, including electronic ones and databases, and in some libraries there is a lack of specialist literature from abroad, music scores, especially of contemporary universal composers, periodicals, video and audio materials, works of foreign researchers in the original, manuscripts, etc.

The study highlights the fact that the today's academic libraries have not yet become real incubators/workshops for drawing up and launching projects, developing the users' digital skills, places of recreation, rest and communication. This opinion is shared both by most library managers and the users of the university library services. In most higher education institutions the trend of library users is positive. At the same time, over the past 2-3 years, in one of three institutions the number of Ph.D. students visiting the academic library is decreasing and in 5 out of 18 universities the number of master students and teachers who visit the institution's library is diminishing, although, as the study data show, 75 percent of the information required by the students and teachers is found in academic libraries, that is, in the libraries of the institutions they work in or study at. Perhaps the most likely explanation for this would be that many of them find the best part of the information requested on the Internet or they often access the services of public or specialized libraries. We believe the least that in today's academic institutions people read more and more seldom.

According to the survey data, the share of users who are satisfied with the services provided by the academic libraries is quite sizeable and does not exceed

82% of the number of people surveyed. Most of the students and teachers are pleased with the libraries' operational schedule, documentation services, as well as with information and reference services. At the same time, the percentage of those who are not quite satisfied or not at all satisfied with electronic services is about 45%, those who would like to order a book not only at the library but also remotely (by phone, SMS etc.).) but do not have this possibility are 36%. And even more dissatisfied are those who would like the academic libraries to provide services of copying, printing or scanning of different scientific publications. According to the study, the best part of academic libraries are poorly technically equipped, they do not have enough computers, these being the major difficulties/obstacles that are typically faced by the students and teachers in the use of library services. It is worthy of note that according to the survey data the outdated technical and material facilities (computers, used-up furniture), insufficient electronic resources and old book collection, outdated information and collections are **the three most pressing problems** faced today by academic libraries.

With reference to the library spaces, the conditions and opportunities they provide to the users, the study shows that the teachers and students are more satisfied with the quietness and cleanliness of library rooms, rather than with the comfort and convenience of furniture, access to bookshelves. The users do not always have the opportunity to choose an individual space where they can feel comfortable, choose the right lighting, or choose a room or a place to communicate with colleagues or teachers.

Taking into account the real state of affairs, the problems faced today by the academic libraries in Moldova, both managers and users of library services consider that scientific libraries in higher education institutions in the country need a new modernization concept that would enable the library institutions to provide higher quality services, better comfort for students, researchers, and in such a way the academic libraries will become even more efficient and more attractive.

In the view of both categories of respondents, the modern library or the library of the future should have first of all an adequate infrastructure: flexible spaces suitable for reading, communication, relaxation, for group and individual work, special reading rooms, conference rooms, bookstore, a special room for mothers with small children, etc., a library with a number of comfortable spaces for reading, a library equipped with modern digital technology, highly qualified specialists receptive to modern technologies and changes in the field. A library that will be a really cultural, scientific, and multifunctional center.

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