

# Project and Innovation Activity of Libraries

Halyna Bilovus<sup>1</sup>[0000-0001-7527-5832], Valentina Mudrokh<sup>2</sup>[0000-0001-9508-227X],  
Kateryna Pavliuk<sup>3</sup>[0000-0001-8815-2647], Parviz Kazimi<sup>4</sup>[0000-0001-5577-4773]

<sup>1</sup> Ivan Franko National University of Lviv, Lviv, Ukraine  
bilovushalyna@gmail.com

<sup>2</sup> Vasyl Stefanyk National Scientific Library of Ukraine in Lviv  
mudrokhavalentyna@gmail.com

<sup>3</sup> Public Library for Children Radekhiv, Ukraine  
katerunka369@ukr.net

<sup>4</sup> Baku State University, Azerbaijan  
pkazimi@mail.ru

**Abstract.** The author highlights the main aspects of project activity of libraries, the introduction of innovative management technologies into their operation, interaction with state and civic institutions for the development of the social partnership and positioning of libraries in the information space of the region. Theoretical concepts of project and innovative activity of libraries, and the opportunities for the practical implementation of IT projects in the research by library scientists are considered. Main vectors of library IT projects, their division by certain characteristics, e.g. by status, scale, content, etc. are described. A special emphasis is made on specific features of IT project implementation in libraries depending on their type; the stakeholders of such projects are analyzed. Considering the fact that libraries are included in the social integration processes, the article provides a description of the technology of their preparation and management of IT projects implemented by them.

A case of the Public Library for Children in Radekhiv town, Lviv region, illustrates the project and innovation activity, particularly the development and management of the project “Jolly erudite: procurement of intellectual games and multimedia equipment for the Public Library for Children.” The project management procedure is described for this project in detail. The stress is laid on the necessity to shape new strategies of library activity and introduce IT projects to modernize library operations.

**Keywords:** Information and Library Sector, Innovation Activity, IT Project, IT Project Management, Public Library for Children in Radekhiv Town.

## 1 Problem statement

One of the important factors influencing the development of information and library sector is the project activity of libraries. Due to active use of information technologies that have significantly changed the traditional view of the development of the library services, contemporary libraries introduce into their operation new forms and methods

of work related to preparing projects, participating in grant programs and competitions; they also resort to attraction of additional funding, actively cooperate with cultural establishments and institutions, central and local bodies of power, civic organizations, private entrepreneurs, etc.

On the one hand, the problem of underfinancing faced by Ukrainian libraries has a negative impact on their operation; on the other hand, it urges them to make innovative changes in their long-established routine, namely: introduce new information technologies, actively use new library services, initiate new projects and search for sources of financing to implement them changing in the process the professional approach of the professional librarians to solving the burning problems, particularly by demonstrating the librarians' skillfulness, their ability to work on multifaceted library projects, especially IT projects.

## **2 Analysis of the Recent Research and Publications**

Thus, project activity of libraries "is becoming one of the most important areas of their innovation activities for it presupposes the processes of social partnership and attraction of funds (using the fundraising opportunities) to implement the ideas and solve the problems of the community. Grant projects allow for receiving additional resources both for the development of libraries and consequently their services to the users and improvement of the quality of life of the whole community by joining partner efforts with other agencies/organizations/establishments/institutions, central government bodies and local self-government bodies, and the public to solve socially important issues" [18].

Great attention is paid to the development of projects by Ukrainian libraries, which is confirmed by numerous academic papers by the information and library sector practitioners. Thus, the issue of project activity as one of the areas of innovative changes in libraries is dealt with in the papers by V. Bilous [1, 16], O. Velykoselska [11], H. Volkova [2], V. Sknar and I. Shevchenko [7], S.. Bushuev [8], Piterska, V. [18], Ya. Khimich [17], H. Shemayeva [9]. Separate aspects of social partnership in information and library sector are in the center of attention of O. Voskoboynikova-Huzieva [3], O. Harashchenko [4] and others. The development of corporate library projects in Ukraine, their role in the shaping of the information society have been researched by Ye. Kornilova [5], U. Krasnyk [12], O. Maryina [6], R. Shcherban [10], N. Kunanets [13-15, 20], N. Veretennikova [21-23].

So, the main aspects of the issue under consideration are quite extensively covered in papers containing practical and methodological principles of using project management technologies in libraries. These papers offer brief descriptions of the results of implementing various projects, show possibilities for cooperation between the library institutions and social partners, note further prospects of using project management strategies in libraries. Nevertheless, the project activity of libraries aimed at the implementation of IT projects has not been analyzed thoroughly.

### **3 Purpose Statement**

A comprehensive analysis of the project management processes in libraries and practical implementation of IT projects in libraries presupposes the application of the following algorithm: to shape a concept for implementation of IT projects in libraries; to find innovative project management strategies in libraries; to analyze the specific features of the IT project implemented by the Public Library for Children in Radekhiv town, Lviv region.

### **4 Presentation of Basic Material**

IT project management technologies have been gradually implemented in the library sector. Libraries are the social institutions where project management technologies acquire a new meaning playing an important role in the implementation of a number of measures, prompt decision making, introduction of new information technologies, and engagement of the public into the implementation of socially important ideas. Each project is run in a certain environment that is shaped around it. The stakeholders of each project have a certain influence on it. The strongest influence on the project is exerted by people or groups of people who are interested in the successful completion of this project. The stakeholders in the projects implemented by libraries include first and foremost the librarians themselves, as well as those who finance the project. As stakeholders, the librarians participate in project implementation directly or indirectly and become the members of the project team, they belong to the inner and outer environments of the project.

IT projects implemented in libraries are characterized by being aimed at reaching specific goals, obtaining specific results; by unusualness and uniqueness; by the use of optimum means and resources at different stages of the project; by coordination of a number of interconnected processes; by precise timespan; and by social importance. The following are important components of such projects: being aimed at achieving the planned innovative result by using the means envisaged by the project; implementation at a clearly defined time in conditions of limited resources.

The main role in effective library operation is played by strategic planning, which allows for taking the right decisions. Therefore, the lifespan of projects in libraries (management, planning, and implementation of projects) consists not only of classical stages of project shaping like planning, implementation, and completion but also of stages that envisage training the library staff to participate in project implementation, particularly ensuring their positive attitude to innovations and fostering creative atmosphere for successful completion of project tasks. The best means to introduce information technologies in libraries are IT projects (informatization projects), which are characterized by the non-linear development process, the existence of risks, etc.

According to Ya. O. Khimich, the following types of IT projects may be distinguished in the librarianship considering certain factors:

- according to the degree of importance and the status granted: governmental, presidential, regional, industry-specific target programs and projects;

- according to the scale: megaprojects, multi-projects, mono-projects, and small projects;
- according to the subject: investment, innovation, marketing, strategic, organizational, economic, informational, partnership (corporate), educational, social, culture and leisure, and professional development projects [17, p. 47–50].

An important place is also occupied by the so-called pilot projects “aimed at testing the feasibility of changes when the implementation of a project in a separate library (libraries of a region) serves as a benchmark for implementation (a refusal to implement) of changes” [17, p. 49].

Thus, the ways of implementation of a project and the achievement of the set goals are determined depending on the type of IT project.

According to Tryhuba A., Bashynsky, O., project management is an important area of library activity, which allows it to develop continually, implement innovations, attract new resources, and take management decisions [19].

V. Bilous notes that “project management is a complex of actions and measures to check the degree of implementation of certain project activity, i.e. evaluation of the project completion stage, detection of digressions, drawbacks and their causes in order to overcome complicated organizational problems” [16, p. 30]. The success of project implementation is conditioned by the management organization.

IT project management processes have the following components: shaping the idea of a project, its main goals, and tasks; development of a complex of measures to implement the project, its resource and financial support. These components are characteristic of library projects as well. Effective project management presupposes monitoring the implementation of all its stages, following the norms and standards, determining the place and role of the project in the system of project activity of libraries in the region.

So, IT project management in libraries envisages the development of clear plans, a real system of accountability, the interaction between the members of the project team, an effective system to respond to challenges of the external library environment, etc.

## **5 IT Project of the Public Library for Children in Radekhiv Town, Lviv Region**

The libraries mostly favor IT projects that presuppose informatization of libraries, i.e. the implementation and a complex of interconnected measures – usually of investment nature – that are characterized by drawing material and technical, information, human, financial and other resources and are aimed at creating predetermined information systems, and procurement of informatization means and information resources. Cooperation of a library with other cultural establishments and institutions, local government, civic organizations, etc. is considered to be one of the conditions of the successful implementation of IT projects. In this context, the Public Library for Children in Radekhiv town, Lviv region, has certain experience in project implemen-

tation. The list of the most successful projects of this library includes a number of initiatives, namely the projects “Children’s space. Leisure and relaxation”, “Culture and art camping for the rural population”, “Fun-filled holidays”, as well as “Jolly erudite: procurement of intellectual games and multimedia equipment for the Public Library for Children”, which is presented in this article.

To procure computer equipment for improvement of the material and technical resources of the Public Library for Children in Radekhiv town and support the image of the institution, the librarians responded to the competition of local development project 2020 announced by the Lviv Regional Council and submitted an application “Jolly erudite: procurement of intellectual games and multimedia equipment for the Public Library for Children.”

The topicality of this project lies in the necessity to extend the range of games, which are the main activity of human beings during their childhood. With the help of games, children discover the world; games cause positive emotions and satisfy immediate needs. By playing brain games, children acquire skills and abilities they need for their future social, professional and creative ideas. In the process of playing, children develop the habit to concentrate, think independently; games facilitate the development of attention, logic, imagination, and memory. Engaged in a game, its participants do not notice the learning component and even the most passive schoolkids get involved. However, the engagement of users to various intellectual games requires the use of multimedia equipment. The development of the IT project pursued the goal of creating an interesting, developing environment at the library, where the main components include intellectual games and multimedia equipment. Potential stakeholders of such projects are usually determined by subjective and organizational criteria. The former determines the status of the stakeholders and allow for distinguishing persons, organizational subdivisions, and social institutions. The latter group of criteria is used to appoint project managers, determine the financing party, a partner.

While developing the project on the basis of these criteria, a team of librarians was shaped, and potential stakeholders that would interact with the team during various stages of project implementation were pointed out. Therefore, detailed information about each stakeholder was gathered. The stakeholders were evaluated according to various criteria, the most complicated two being the influence and financial capacity. The main group actively participating in project implementation consists of stakeholders with great influence, mainly economic agents that could potentially finance the project. The second important group of stakeholders consists of persons who do not participate actively in the project implementation itself but have a great influence on it as controllers.

The stakeholders of the “Jolly erudite: procurement of intellectual games and multimedia equipment for the Public Library for Children” project included the public interest group CO “We are in action” and volunteer A. V. Kostyk. Radekhiv Town Council and Lviv Regional Council are the stakeholders with great influence. Thus, the public interest group and members of the community, Radekhiv Town Council and Lviv Regional Council will participate in the implementation of the measures planned within the project. Hence, local bodies of power play a significant role as stakeholders of the project.

The project “Jolly erudite: procurement of intellectual games and multimedia equipment for the Public Library for Children” is aimed at solving the following problems:

1. the necessity to upgrade the material and technical resources of structural subdivisions
2. improvement of a constructive dialogue between the library and local authorities;
3. establishment of effective communication with library users.

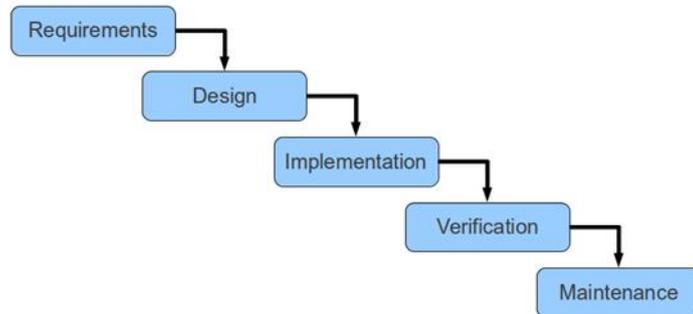
In regard to the first problem, the Public Library for Children in Radekhiv town generated the need to restock the computers to improve the services provided to the users from the amalgamated territorial community, villages, townships, town and the district who, among others, include also tech-savvy young users that get most of the information from the internet, communicate on social networks, and use distance learning opportunities. This category of users requires means and free internet access. However, the library only has two laptops that do not meet the users’ needs. Therefore, such a situation fails to facilitate the introduction of the new forms of library work and holding social, cultural and artistic, and regional natural history events for the Public Library for Children in Radekhiv town services 1,212 users from the town aged 3 to 15. Library staff holds regular mass educational events intended to teach and educate children.

In regard to the second problem, librarians are in close contact with prominent public figures, writers, historians, local history experts, and teachers of local schools and organize events that supplement the educational process, target better acquisition of the new material and all-round development of children.

The organization of library users’ leisure consisting of interesting and intellectual games is no less important for establishing effective communication with library users. The library hosts a “Library-studio” where the members of the circle meet to craft various items using improvised materials. There is an art therapy club for the youngest users where they use kinetic sand.

The development of the project is aimed at creating proper conditions for library users to learn and relax. This project presupposes the organization of an intellectual environment of the information and leisure center “Jolly Erudite” based on the use of innovative technologies, and multimedia equipment (laptop, projector, screen and flipchart). It will ensure that interactive educational events are held effectively and provide for the all-round development of children. The events held in the course of the project should become a powerful learning tool, play the role of an unfailing assistant in the upbringing and education of children; in addition, organization of games for the brain helps develop logic, imagination, and memory.

The waterfall model is used in the course of project development for it takes into consideration the need to record the transitions from one stage of the project to the other thus simplifying the distribution of responsibility, accountability, and adherence by the project schedule (Fig.1).



**Fig.1.** Project implementation scheme based on the waterfall model

The project presupposes the need to purchase board games that unite and develop children’s abilities, as well as computer equipment (Table 1).

**Table 1.** List of computer equipment required for purchase.

Ord. No.	Goods	Units of measurement	№	Price	Sum UAH
1	Lenovo idea Pad – 330 – 15 IKBR laptop	pcs	1	14,600.00	14,600.00
2	EpsonEB – X41 (V11H843040) projector	pcs	1	11,875.00	11,875.00
3	AvtekTripodStandard 200 mobile floor-standing screen (1:1) 200x200 (1EVTO4)	pcs	1	1,700.00	1,700.00
4	Operational system MS Windows 10 Home 64Bit Ukrainian 1 pk DSP OEI DVD	pcs	1	3,750.00	3,750.00
5	Axent 70x100 cm (9707 – A) mobile magnet and marker flip-chart	pcs	1	1,870.00	1,870.00
6	Laptop cable	pcs	1	200.00	200.00
7	Mouse	pcs	1	215.00	215.00
<b>Total:</b>					34,210.00

Thus, the implementation of the project facilitates the increase in the number of interactive events at the Public Library for Children in Radekhiv town (Table 1, 2), the frequency of library visits by its users, and the use of new forms of interaction between the users and librarians.

The project “Jolly erudite: procurement of intellectual games and multimedia equipment for the Public Library for Children” is a part of the community development plan, another (bigger) project prepared with support of the international technical assistance programs, the State Regional Development Fund, namely a part of the program of social and economic, and cultural development of the Radekhiv amalgamated territorial community for 2019-2020, which stipulates the following:

- ensuring full-scale operation of the network of cultural establishments;
- restoration of spirituality and culture, preservation of the national cultural heritage, Ukrainian rites and traditions, development of amateur creativity;
- holding events on the organization of social work with families, children, and youngsters;
- procurement of special equipment for community centers and libraries;
- further extension of the network of cultural establishments on the territory of the Radekhiv community and development of its creative potential.

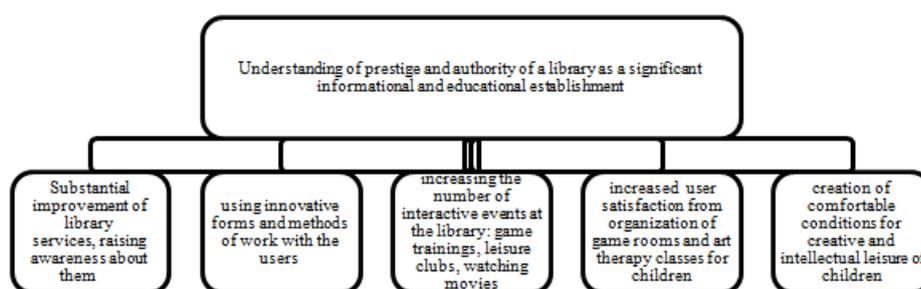
The abovementioned project is connected with the previous one by the experience of implementation of innovative projects and other initiatives of the community, namely the implementation of the project “Children’s space for leisure and relaxation” to modernize the Radekhiv District Library for Children – creation of an interactive library, which was implemented in 2017 due to facilitation of the MP of Ukraine Mykhailo Bondar and subvention from the state budget to local budgets for the purposes of social and economic development (UAH 170,000). In particular, repair works were done, new furniture and technical means (laptop, printer, TV) were purchased.

The results of the project are aimed at engaging pre-schoolers and children under 15, and mentoring children’s reading. The implementation of the project presupposes the attraction of teachers, kindergartners, students, young parents, and low-income families to the library.

The project “Jolly erudite: procurement of intellectual games and multimedia equipment for the Public Library for Children” is aimed at the improvement of innovative forms of library operation, its positive image, extension of the circle of users and introduction of a range of multimedia services by creating the “Jolly Erudite” information and leisure center, whose effective work is impossible without multimedia equipment and brain games, which will prompt children to engage in creativity and foster their spiritual development through reading books on electronic data carriers and intellectual games.

To implement the goal of the project, its main objective has been identified. It lies in shaping the prestige and authority of the library as a significant informational and educational institution for the organization of children’s leisure and includes a number of sub-objectives:

- significant increase in the level of library services, dissemination of information about them;
- innovative forms and methods of work with users;
- increased number of interactive events at the library: game training, leisure clubs, movie watching;
- increased satisfaction of users from the organization of game rooms and children's art therapy classes;
- creation of comfortable conditions to provide for the creative and intellectual leisure of children.



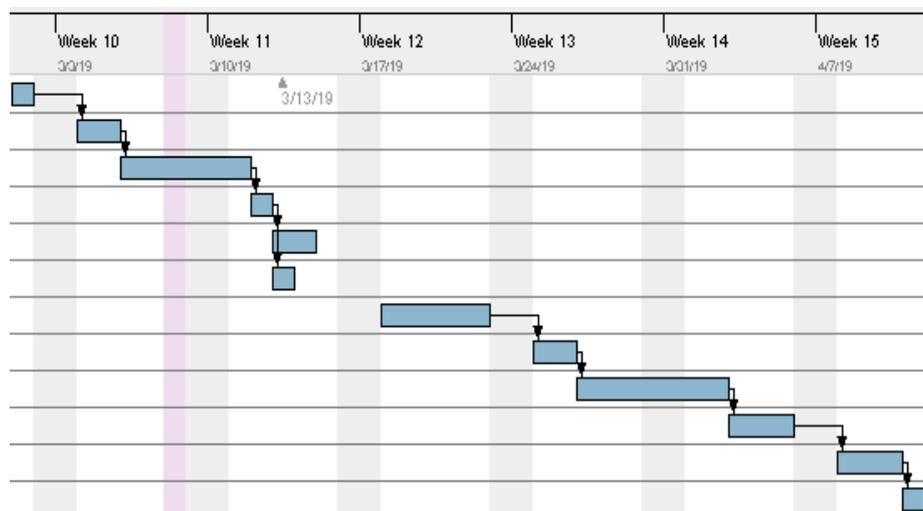
**Fig. 2** Project objective tree

The complex of the objectives presupposes the accomplishment of the following tasks:

- modernization of the library's facilities and resources, improvement of operation technology;
- organization and holding active games among preschoolers and schoolchildren under 15;
- holding business games that let children try out the role of an organizer, learn the rules and conditions that have to be followed, explain them to other participants, and control their adherence;
- streamlining the ability to manage one's emotions;
- solving the issue of library premise design.

Thus, the project is developmental and creative for it facilitates the provision of comfortable conditions for creative and intellectual pastimes of children, an increased number of interactive events at the Public Library for Children in Radekhiv town based on the use of non-standard innovative approaches to library service.

The project "Jolly erudite: procurement of intellectual games and multimedia equipment for the Public Library for Children" will run for three months, its methods and implementation stages are presented in Fig. 3:



**Fig.3.** Task timeframe.

Various resources and methods of innovative development of children will be used to ensure the successful implementation of the project. In particular, UAH 50,000.000 are needed to implement the project “Jolly erudite: procurement of intellectual games and multimedia equipment for the Public Library for Children,” they include UAH 25,000.00 – regional budget funds, UAH 16,450.00 – funds of the amalgamated territorial community, UAH 8,550.00 – non-budgetary contribution, UAH 4,300.00 – sponsor funds, and UAH 4,250.00 – nonfinancial contribution.

A detailed description of financing sources and the amounts of funds for the implementation of the project is given in the common Table. 2:

**Table. 2.** Detailed description of financing sources and the amounts of funds for the implementation of the project

Sources of financing	Amount	%
Non-budgetary contribution of the Contestant, including:	8.550	17.1
Funds of individuals	0	
Sponsor, donor funds	4.300	8.6
Work, materials (according to the non-financial contribution act)	4.250	8.5
Village/township/town council contribution	0	
Contribution of the amalgamated territorial community	16.450	32.9
District council contribution	0	
Regional budget funds	25.000	50

Total	50.000	100
-------	--------	-----

Implementation of the project envisages the achievement of the following results:

- filling the library with modern information resources for children’s development;
- provision of the users with qualitatively new possibilities for work with information resources of the Public Library for Children in Radekhiv town, Lviv region, by creating a free information and leisure center “Jolly Erudite”;
- improvement of library service quality by using multimedia equipment and intellectual games for children;
- introduction of new library services to meet the needs of library users;
- increased number of library visitors;
- improvement of the image of the library that can influence the development of a community;
- improvement of library facilities.

## 6 Conclusions

Summing up, it is worth stressing that the implementation of IT projects is a definitive factor for effective information and library work of the Public Library for Children in Radekhiv town, Lviv region, for it lies in real understanding of the new goals and prospects for further development of the library and establishment of interaction between the local intellectuals, representatives of the bodies of power, local self-government bodies, and community members. Public Library for Children in Radekhiv town actively implements the IT project for the improvement of the informational services for library users and the improvement of its facilities and resources.

Thus, the result of implementation of the project “Jolly erudite: procurement of intellectual games and multimedia equipment for the Public Library for Children” will be the procurement of a set of computer and other equipment necessary to automate the main processes of user servicing and, correspondingly, an increased number of interactive events at the Public Library for Children in Radekhiv town, more frequent visits by users, use of new forms and methods of interaction between the users and library staff. As a culture and leisure center, the library offers conditions for holding meetings, public and amateur clubs, organization of exhibitions and excursions for preschoolers and primary schoolers, art-therapy classes, etc. We believe that this project will facilitate further partnership, constructive social dialogue, and promotion of democratic values through culture.

## References

1. Bilous, V. S.: Project activity as a tool for modernizing the library of a higher education institution. *Bulletin of the Book Chamber* 4, 17–19 (2014), [http://nbuv.gov.ua/UJRN/vkp\\_2014\\_4\\_7](http://nbuv.gov.ua/UJRN/vkp_2014_4_7), last accessed 2019/12/10.
2. Volkova, H.: Project activity as a prerequisite for innovative development of the library of Poltava University of Economics and Trade. *Library Forum of Ukraine* 1, 19–22 (2015).

3. Voskoboynikova-Huzieva, O.: Social partnership as a driver of the development of the library and information field in Ukraine. *Library Bulletin* 4, 3–7 (2014).
4. Harashchenko, O.: Partnerships between libraries and civic organizations for the benefit of the local community. *Library Forum of Ukraine* 4, 36–39 (2007).
5. Kornilova, Ye.: Corporate technologies in scientific libraries. *Library Bulletin* 4, 7–12 (2007).
6. Maryina, O.: Development of corporate library projects in Ukraine. *Bulletin of the Book Chamber* 1, 22–25 (2010).
7. Sknar, V., Shevchenko, I.: Project activity as a prerequisite for innovative development. *Bulletin of the Book Chamber* 4, 24–26 (2003).
8. Organizational maturity and project: Program and portfolio success (Book Chapter) Bushuyev, S., Verenych, O., *Developing Organizational Maturity for Effective Project Management* (2018).
9. Shemayeva, H.: Project management in the field of information and library activity. *Library Bulletin* 1, 15–18 (2006).
10. Shcherban, R.: Regional Corporate Library Information System. *Library Forum of Ukraine* 2, 2–4 (2007).
11. Velykoselska, O.: Project activity is an important component of the development of the Khmelnytski National University Scientific Library. *University Library: Origins and the present*, Khmelnytskyi, 139–156 (2012), [http://lib.khnu.km.ua/about\\_library/naukova\\_robota/2010/vel\\_pro.htm](http://lib.khnu.km.ua/about_library/naukova_robota/2010/vel_pro.htm), last accessed 2019/12/10.
12. Krasnyk, U.: Corporate activities of libraries as a component of information society formation. In: *Modern problems of library activity in the conditions of information society: proceedings of the 4th International conference, October 25, 2012*. Lviv (2012), <http://ena.lp.edu.ua:8080/bitstream/ntb/16593/1/52-506-512.pdf>, last accessed 2019/12/10.
13. Lypak, H., Kunanets, N., Pasichnyk, V., Veretennikova, N.: Modern Information Technologies for Preservation and Presentation of Historical and Cultural Heritage at Small Museums. In: *9th International Conference on Advanced Computer Information Technologies (ACIT)*, Ceske Budejovice, Czech Republic, June 5–7, 2019, pp. 483–486 (2019).
14. Rzheuskyi, A., Veretennikova, N., Kunanets, N., Kut, V.: The information support of virtual research teams by means of cloud managers. *International Journal of Intelligent Systems and Applications (IJISA)* 10(2), 37–46 (2018).
15. Rzheuskyi, A., Kunanets, N., Kut, V. Methodology of research the library information services: the case of USA university libraries. *Advances in Intelligent Systems and Computing II* 689, 450–460 (2018).
16. Bilous, V. S.: Project activity as an important component of library development and the professional growth of librarians: guidelines. Vynnytsia (2014).
17. Khimich, Ya. O.: Innovative changes in the library on the basis of project, based on the project and personnel management and initiative activity proactivity of libraries: a guide for librarians. Summit Book, Kiev (2012).
18. Piterska, V., Lohinov, O., Lohinova, L.: Mechanism for forming an effective portfolio of research projects of institution of higher education, Innovative technologies and scientific solutions for industries, 3 (9), pp. 99–108 (2019). DOI: 10.30837/2522-9818.2019.9.099.
19. Tryhuba A., Bashynsky, O.: Coordination of dairy workshops projects on the community territory and their project environment. In: *14th International Scientific and Technical Conference on Computer Sciences and Information Technologies (CSIT)*, vol. 3, 51–54, (2019).

20. Artem, K., Holoshchuk, R., Kunanets, N., Shestakevych, T., Rzhеuskyi, A.: Information Support of Scientific Researches of Virtual Communities on the Platform of Cloud Services. *Advances in Intelligent Systems and Computing II*, 871, 301–311 (2019).