Electronic library services in Hungary and in the USA

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Research paper

Abstract

The primary purpose of the research was a comparative analysis of computerized integrated library systems (WebOPAC) based on and/or providing Web 2.0 services, by reviewing several important library systems of Hungary and the USA. The research was conducted in all of the 19 Hungarian county libraries and the libraries of 67 higher education institutions in Hungary. Besides, the integrated library systems of 39 university libraries in the USA were also analyzed. Both inductive and quantitative methods were applied.

In this study, the selected Hungarian and American university libraries were studied from the point of view of Web 2.0 services. The main features of Web 2.0 services provided by those libraries were compared. In addition, content elements and statistical data were analyzed, major differences were referred to, and additional effective internet services were suggested to be introduced in the future.

KEYWORDS: University, libraries, Web 2.0, statistics, Startup

Introduction and previous research

In the previous research of the author, the most commonly used integrated library systems in Hungary (Aleph, Corvina, HunTéka) were presented, examined and analyzed comparatively. Specifically, Hungarian county and higher education libraries with selected university libraries in the USA were examined, compared and analyzed.

Furthermore, we focused on integrated library systems and electronic services – online catalogues, databases, online services, e-books, e-journals, e-learning, e-administration, digital exhibitions, etc. Moreover, the possible role of mobile libraries and the Internet in the realization of equal opportunities were studied.

The characteristics of the Hungarian and some Western-European mobile library services were examined, too.

The facilities, infrastructure and services of an ideal e-mobile library that has electronic services were explored and defined. A special attention was drawn to equal opportunities in here, too. Based on national and international research results, the main goal was to enhance a model with optimal electronic library services and to define its characteristics. Literature review

The below literature was used at the beginning of the research, esepecially with the following: contents and types of Web 2.0, the conception of Library 2.0, library and educational aspects and applications of Web 2.0, university Startup courses.

The term Web 2.0 is attributed to Tim O'Reilly, founder of O'Reilly Media Company in 2004. The characteristics of Web 2.0 contents, applications and services were defined by him biggest industrial conference organised by them. Main features of Web 2.0: Google AdSense, Flickr, BitTorrent, Napster, Wikipedia, blogging, upcoming.org and EVDB, search engine optimization, cost per click, web services, participation, wikis, tagging ("folksonomy"), syndication. (O'Reilly 2005, 5). Several definitions were born about the notion, content elements, important characteristics of Web 2.0: the collective name of internet services, they are based on a community, users form the content together or they share the information with others, interaction and communication is specific (Eszes 2007, 1).

Typical Web 2.0 services are defined which cicle is expanding continuously: community pages, picture-, and video-sharing sites, blogs, microblogs, wikis, forums, auction sites, link-sharing services, RSS, podcasts, community music sites, online data storage sites, mashups, online map services, scientific programs, and meteorological communities (Infonia, 2009, p. 19).

The name Web 2.0 was outlined in 2006 as such smart and intelligent web services which main elements are: content, commerse, community, context, personalization, and deep search (Tamás 2008, 9). The expression Library 2.0 was introduced first in 2005 by Michael Casey when he used this term on his blog page, LibraryCrounch. The name is the fusion of Business 2.0 and Web 2.0. Casey thinks that Web 2.0 services contain a lot of elements that can be used effectively by libraries (Library 2016, Maness 2006).

The first professional introduction of Library 2.0 was presented at the Internet Librarian Conference, held in London, 2005 (Internet Librarian 2005). Basic functions were defined in 8 points: 1. user friendly, 2. the environment is properly designed in a technical sense, 3. reaching the user through long-tail, 4. the content is available from more than one tool, 5. content-focused softwares, 6. continuous change, 7. use of Web 2.0 applications and services, 8. opened standards (Library 2.0).

Web 2.0 service tools are used effectively in education, too: 1. media sharing, 2. creating and forming media, 3. possibilities of online chatting, 4. online games and virtual realities, 5. social networks, 6. blog writing, 7. community favourites, 8. public editing, 9. knowledge sharing. Mainly, the activity, and the creating, participating role of the students are emphasized (Infonia 2009, 23).

Based on the opinions and experiences of more authors, libraries should not ignore the challanges of Web 2.0 movement, they should develop their services accordingly (Joint 2010). Others report about success, and new library services (Racskó 2011), role of blogs (Hubay 2009), Library 2.0 (Paszternák et al. 2006), (Szűcs and Vida 2007, 1), lirbary use of Web 2.0 technology (Rashmi 2013), (Szűcs and Vida 2007, 11). Building a community database is essential. Besides, open-source OPACs and the connectedness of different contents are also important (Takács 2006).

Several Hungarian universities organize competitions of scientific ideas and Startup course to facilitate university innovation, but these cannot be connected to to university libraries directly (Startup Győr 2016), (Startup Debrecen 2016), (Startup Eger 2016), (Startup Kurzus, ELTE 2016), (Startup Kurzus, MKE 2016).

Research questions

In this study, we have searched answers for the following questions in connection with the Web 2.0 services of Hungarian and American universities:

How many percent of the studied university libraries use Web 2.0 services? What kind of Web 2.0 services do they use? Are there substantial differences between the number, types, and content elements of the Web 2.0 services of Hungarian and American university libraries? Are Web2.0 services beneficial in case of university libraries? How big is the change between the results of the research data in 2013 and the control study in 2016? Based on the research experiences, what kind of Web 2.0 services would be beneficial for university libraries?

Research methods

The research have been carried between 2011-2014 at the University of Debrecen, Hungary, at the PhD Training of the Information Sciences Graduate School. The research conducted between 2013-2014 at the University of Debrecen, Faculty of Information Technology, Information Library Department was done within the framework of the Hungarian National Excellence Program (TÁMOP 4.2.4.A / 1-11-1-2012-0001).

Before the research, Hungarian and American professional literature was studied and analyzed. The focus was on internet services, Web 2.0 and Library 2.0.

Inductive (exploring connections) research method[1] was used in Web 2.0 services, in case of control study results. Quantitative technique was applied by analyzing the data of Hungarian and American Web 2.0 services. Further, this method was used by the creation of questions related to student attitudes. Data collection was done by applying effective web information search strategies. The algorythm of PakeRang by Google was applied by searching Hungarian and American Web 2.0 services (Tóth and Szász 2010, 29). Multiple-choice test and 5 degree linear scale test were used in Online Google Feedback studies among university students. Data processing, analyzing the data, statistical calculations, and diagrams were prepared by Excel.

The research procedure and main results

Description of the essential services of Web 2.0

The concept:

The term Web 2.0 is the name of the second generation of internet services which are primarily community-based. The service provides the framework while the content is created or loaded up by the users. With types, examples (Web 2.0).

Main types of Web 2.0 services:

Social Networks - Social networking (Facebook, iWiW, myVIP, Hi5, Myspace, Twitter).

They function on the principle that the user knows additional friends through the network of his/her own friends on a particular webpage.

- Photo sharing sites (Flickr, Picasa).
- Video sharing portals (Videa, YouTube, Yahoo video).
- Blog (www.freeblog.hu, www.blog.com).
- Online office applications (Google Docs, Google Calendar, ThinkFree).
- Forums (www.fszek.hu, http://forum.hoxa.hu).
- Wikipedia - Open Internet encyclopedia (www.wikipedia.org).
- RSS (Really Simple Syndication).
- Podcasts (http://inforadio.hu/podcasting/, http://hetimeteor.hu/).

1 In the case of inductive research strategy starting from the educational reality of empiria analyzing the data collected there, we achieve the theory by generalising. At the correlation exploratory research strategy, the variables are collected in at least two groups of data, we test them for the differences (Falus 1966, 20)

Web 2.0 services in Hungarian higher education libraries

The first appendix shows the list, webpages and types of online catalogue of every Hungarian higher education – college, university – library that has been examined in our researches.

The following table (Table 1) summarizes the types of Web 2.0 library services that are used in the 67 inspected libraries:

Table 1. Web2.0 library services 2013

WEB2.0	*Web2.0 szolg.*	*FaceBook*	*RSS*	*Blog*	*Twitter*	*YouTube*	Σ
%	72%	62%	46%	22%	32%	6%	109

72% of the academic libraries have Web 2.0 services. FaceBook (62%) and RSS (46%) are the most common. Rarest is YouTube. The total number of Web 2.0 services is 109. Four academic libraries do not have Web 2.0 services. 15 academic libraries have four "maximum" Web 2.0 services.

The following (Figure 1) demonstrates the frequency of certain types of Web 2.0 services in case of academic libraries.

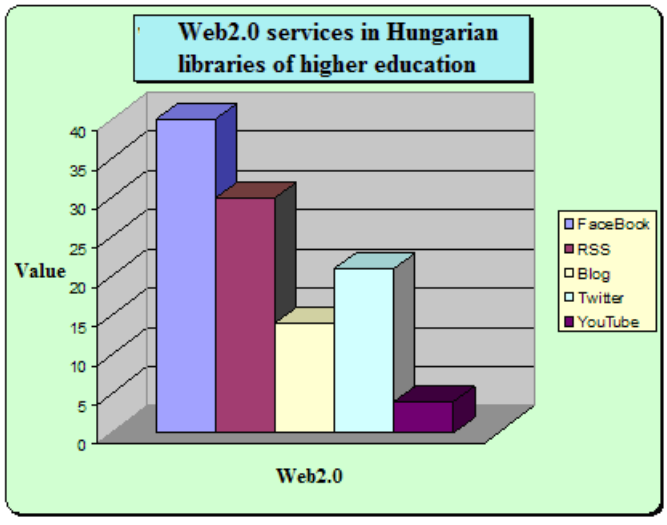


Figure 1. Web 2.0 services in Hungarian higher education libraries 2013

The main content elements and forms of presentation used in academic libraries in case of FaceBook and RSS are:

FaceBook (content elements, forms of appearance)

• Interesting technical information, major world events

- New books, book reviews, raising awareness of the typical old libraries
- Articles on libraries with a lot of information
- Up to date, relevant information, advertising and the institution on message board
- Continuously up-to-date world- and university news
- Multiple events, summer camp on message boards, videos and the latest news
- Event Calendar

RSS (content elements, forms of appearance)

- Information about the library novelties, trainings, literature recommendation
- Electronic archive
- Assist researchers with information, e.g. Index Chemicus
- Photos, important information
- Study competition, assistance

Web 2.0 services of US academic libraries

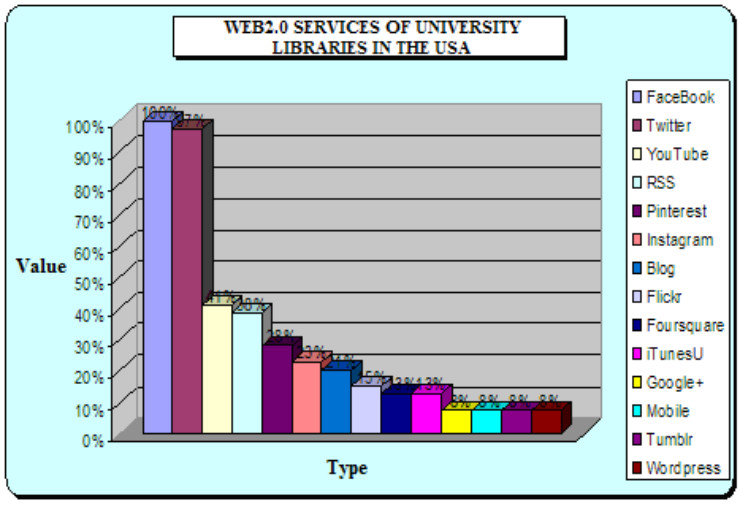
Among the more significant, crucial US Academic University Libraries we studied 39 university libraries in the Annex 2. We reviewed them in terms of science (Academic type), size (Volumes) geographical location (State), and electronic services, a "representative sampling". The studied 39 university libraries are located in 24 states of the USA. (Appendix 2).

Below, we represent what types of Web 2.0 services are provided by the individual libraries for students, readers, and users on their webpage (Table 2). The rows mean the university libraries numbered, columns are the types of Web 2.0 servises.

Table 2. Web 2.0 services in USA university libraries 2013

SN/Web	FaceBook	RSS	Blog	Twitter	YouTub	Linked	Flickr	Google	Pinteres	iTunes	Foursqua	Other	Σ
1.	X			X								1	3
2.	X	X		X	X								4
3.	X			X	X	X	X	X	X	X		1	9
4.	X	X		X	X							2	6
5.	X	X	X	X									4
6.	X	X	X	X							X		5
7.	X			X	X								3
8.	X			X	X							1	4
9.	X			X	X			X	X		X		6
10.	X			X								1	3
11.	X	X	X	X									4
12.	X			X									2
13.	X	X	X									1	4
14.	X			X								2	4
15.	X			X								2	4
16.	X			X	X					X		2	6
17.	X			X					X			1	4
18.	X	X		X	X							4	8
19.	X			X								1	3
20.	X		X	X				X	X				5
21.	X			X	X		X						4
22.	X			X								1	3
23.	X	X	X	X	X	X				X			7
24.	X			X	X		X		X				5
25.	X	X		X	X							1	5
26.	X	X		X								1	4
27.	X		X	X	X		X		X	X		1	8
28.	X	X		X								2	5
29.	X			X	X				X		X	4	9
30.	X			X	X				X		X	2	7
31.	X	X		X			X		X	X		1	7
32.	X			X					X				3
33.	X	X		X					X			2	6
34.	X	X		X			X				X	1	6
35.	X	X		X								1	4
36.	X			X									2
37.	X		X	X	X								4
38.	X			X									2
39.	X			X									2
Σ	39	15	8	38	16	2	6	3	11	5	5	36	184

The following (Figure 2) diagram illustrates the frequency of certain types of Web 2.0 services in USA university libraries.



In the US all the 39 inspected university libraries have Web 2.0 services. The most common are FaceBook (100%) and Twitter (97%). The minimum number of Web 2.0 services of university libraries is 2, maximum: 9. The different types of Web 2.0 services are 36. The total number of Web 2.0 services is 184.

Web2.0 Services of the USA - Hungarian academic libraries

Below (Table 3) we compare the Web 2.0 services of the USA and Hungarian university libraries.

Table 3. Web2.0 Services of the USA - Hungarian academic libraries 2013

Libraries	*Web2.0*	*FaceBook*	*RSS*	*Blog*	*Twitter*	*YouTube*	*Average*
Hungarian	72%	62%	46%	22%	32%	6%	34%
USA	100%	100%	38%	21%	97%	41%	59%

The above data (Table 3) and the diagram (Figure 3) below also suggest that university libraries in the USA use the advantages and prospects of Web 2.0 services. This can be seen from that the 39 university libraries in the USA use 36 different Web 2.0, community services, while the 67 Hungarian higher education library offer five different Web 2.0 services for students, or for those who are interested

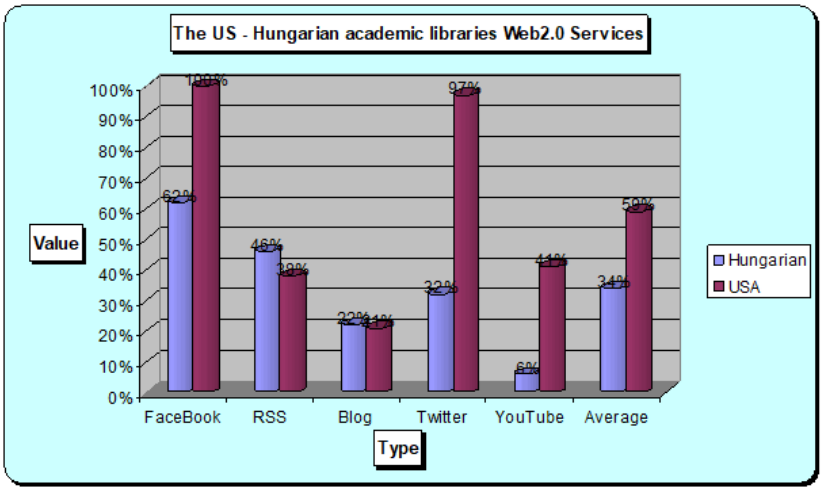


Figure 3. The USA - Hungarian academic libraries Web 2.0 Services 2013

All of the inspected university libraries in the USA has Web 2.0 services, while in Hungary just 72% of university libraries. The average of the Web 2.0 services in USA academic libraries - projected to one university - is 4.74, in Hungary 1.58 (Three times). Multiple difference in case of Twitter and YouTube. Nearly identical values in the Blog, and RSS. Only 8-10% of library internet services is able to access such opportunities, like Android, iPhone, BlackBerry on mobile devices. The above data, particularly the differences are attributed to the "choices" and different content elements of the Web 2.0 services.

Web 2.0 services of American and Hungarian university libraries in 2013 and 2016

The studies related to our 'electronic library services in the 21th century' research area have been conducted in 2013. At the beginning of this year, a control study was conducted. Below, the results of these studies are shown (Iszály, 2014).

The following (Table 4 and Figure 4) summarizes the Hungarian and American data of both 2013 and 2016 and shows the changes. (Bigger changes are marked by red. Table 4.)

Table 4. Web 2.0 services of Hungarian and American university libraries in 2013 and 2016

Libraries	*Web 2.0*	*FaceBook*	*RSS*	*Blog*	*Twitter*	*YouTube*
Hungarian 2013	**72%**	**62%**	**46%**	**22%**	**32%**	**6%**
Hungarian 2016	**63%**	**34%**	**42%**	**39%**	**9%**	**13%**
USA 2013	**100%**	**100%**	**38%**	**21%**	**97%**	**41%**
USA 2016	**95%**	**90%**	**51%**	**26%**	**64%**	**26%**

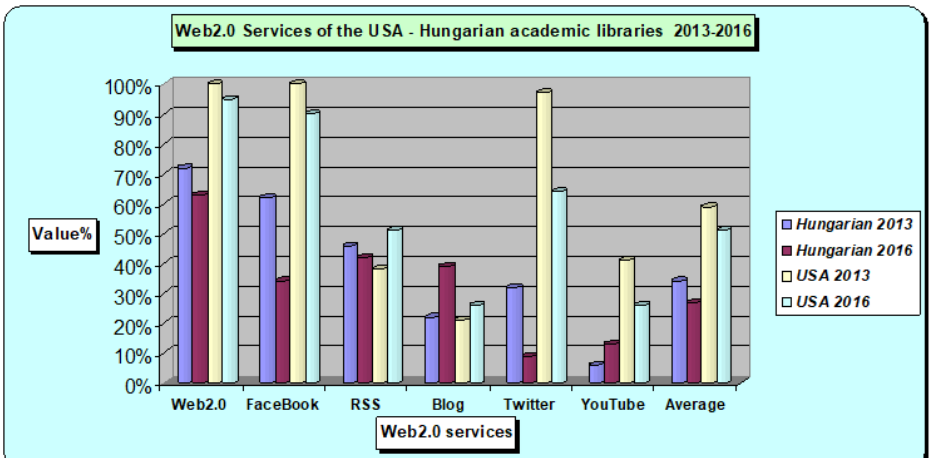


Figure 4. Web 2.0 services of American and Hungarian university libraries in 2013 and 2016

Notes on the research data of 2016

95% of the American universities have Web 2.0 services, while just the 63% of the Hungarian universities. Multiple differences are found in cases of Twitter and Youtube, to the benefit of the USA. In case of RSS, nearly the same results can be seen. There are only a few options to reach the library internet services with a mobile device - Android, iPhone, BlackBerry. The above data can be attributed mainly to the aims, and functions of the

Web 2.0 library portal, i.e. the given library. Besides, the variety of Web 2.0 services, diffreent content elements, and IT tool services are also responsible for the results.

The following (Table 5) and (Figure 5) show the changes and differences between the 2013 and 2016 data.

Table 5. Changes and differences among the data of 2013 and 2016

Changes	*Web 2.0*	*FaceBook*	*RSS*	*Blog*	*Twitter*	*YouTube*	*Average*
Hungarian	**-9%**	**-28%**	**-4%**	**17%**	**-23%**	**7%**	**-7%**
USA	**-5%**	**-10%**	**13%**	**5%**	**-33%**	**-15%**	**-8%**

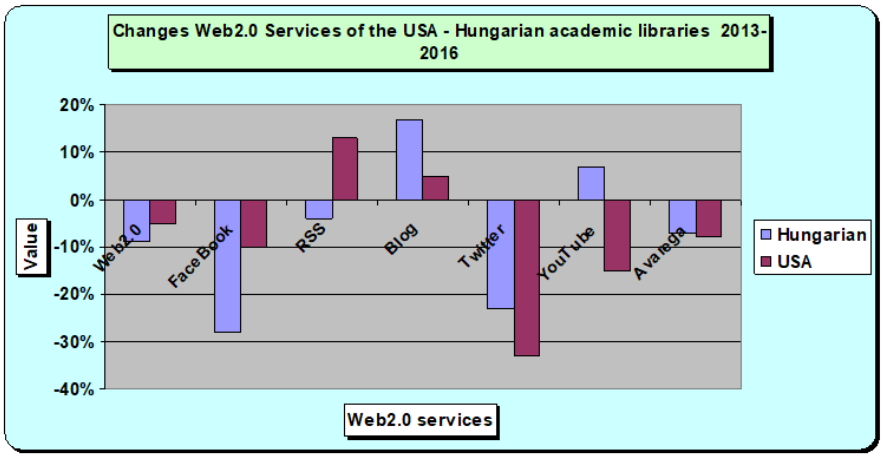


Figure 5. Changes in Web 2.0 services in Hungary and America from 2013 to 2016

Overall, a slight decrease occurred in regards to the Hungarian and the US university libraries Web 2.0 services. The maximum decrease in US academic libraries of Web 2.0 services was on FaceBook, and maximum growth was observed in the Blog. The maximum decrease in US university libraries of Web 2.0 services was on Twitter, and the maximum increase was observed in the case of RSS. In the case of Hungarian and US university libraries the absolute average change between 2013-2016 was: 7% decline.

Surveys and attitude tests

Students' opinions and comments are very important in our research. A survey was carried out with students (N=134) at University of Nyíregyháza in connection with electronic services in the university library. Students were from 14 majors between year first and fourth. An online survey was conducted in forms of Google questionnaires in May 2016. Multiple choice, linear scales (5 degree Feedback) were applied. On Google questionnaire, besides personal data – age, sex, major, year -, 14 more questions were asked about library attendance, Web 2.0 services and Startup.

In the followings, main questions, survey data and remarks will be presented.

• Most of the students visit the library webpage and use the central catalogue (Figure 6).

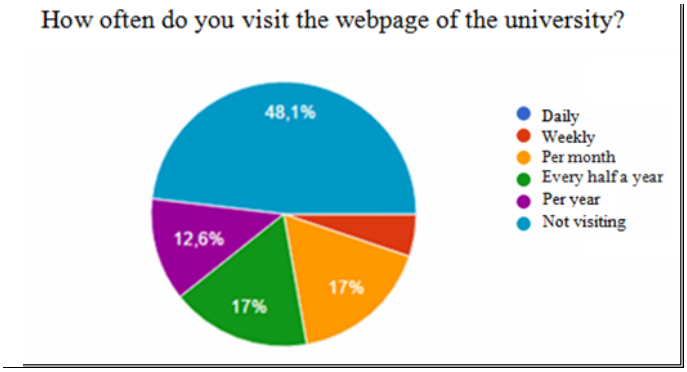


Figure 6. Visitors on the university homepage

• They find Web 2.0 services useful in the operation/ function of the library (Figure 7).

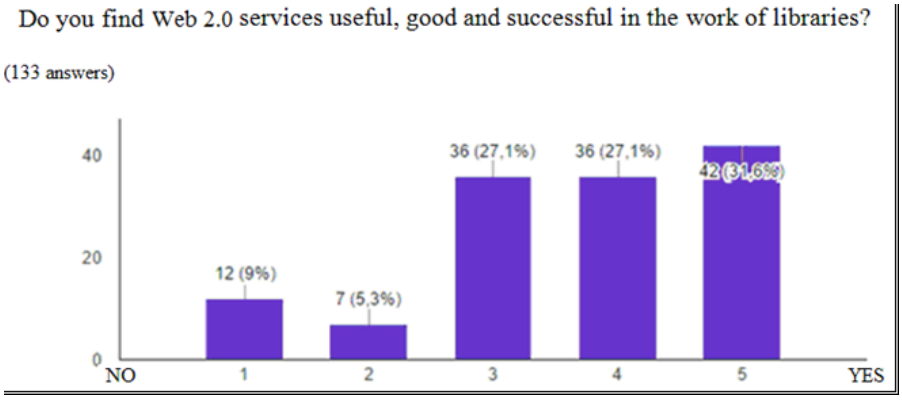
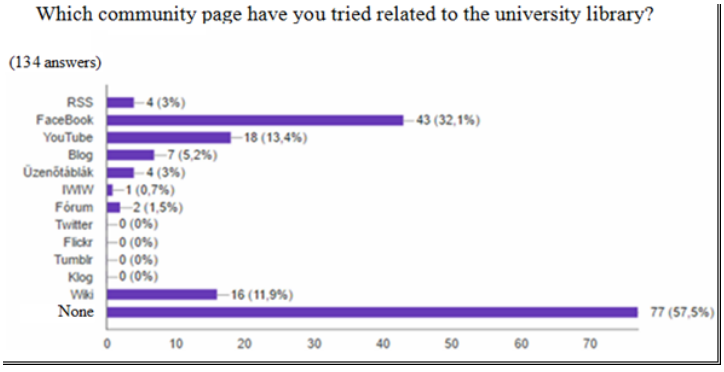


Figure 7. Reviews on the Web 2.0 services of the libraries

.• They use mainly FaceBook in respect of the university library (Figure 8).



• Do you find the Internet Web 2.0 services that your library offers to readers satisfying? Most of the 130 university students, who answered the above question, find the Web 2.0 services offered by the library satisfying (Figure 9).

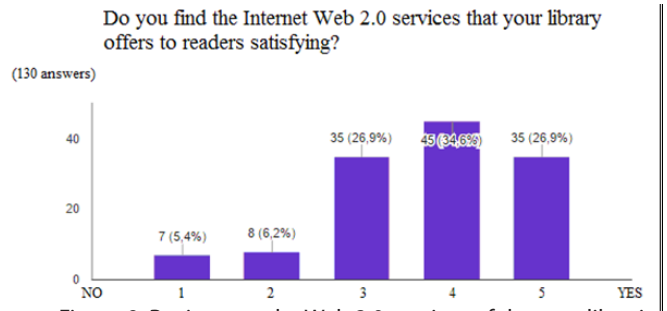
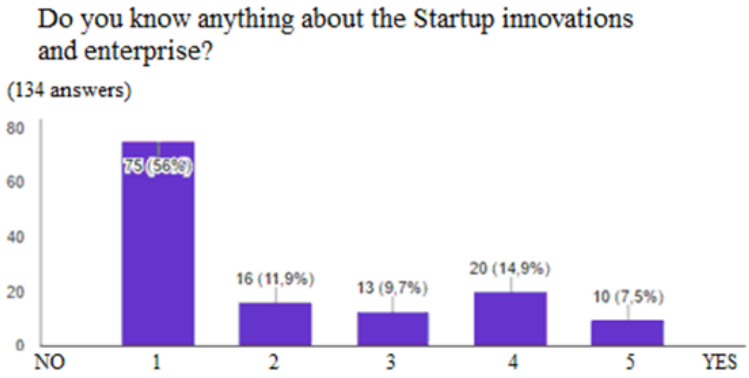


Figure 9. Reviews on the Web 2.0 services of the own libraries

• Do you know anything about the Startup[2] innovations and enterprise? Most of the 134 university students, who answered the above question, do not know about the Startup innovations (Figure 10).



• They would support the idea of having a 'University Startup' service at the university library (Figure 11).

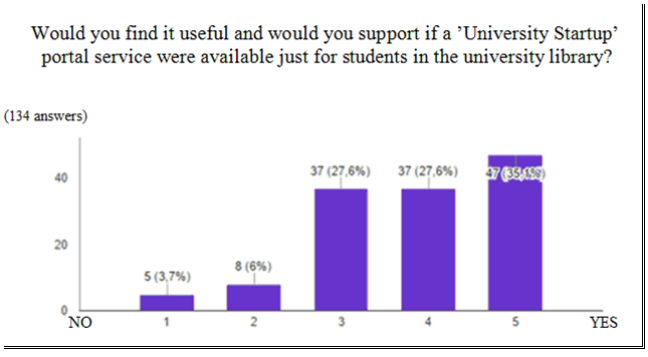


Figure 11. Reviews on the university homepage Startup services

2 Startups are such enterprises that usually start with a huge increase potential not only on the national, but also on the international market. In most cases, startup businesses search for investors before the product would be introduced to the market, i.e. before the production begins. Following this, because of the effect of the fast growth, these businesses show fast increase. (Startup)

We find it important to mention that most of the students think that the university library should have a University Startup service.

Conclusion

The Hungarian and American university libraries successfully apply the advantages of Web 2.0 services. Most of the students visit the library webpage, they find Web 2.0 services useful in the operation of the library. It would be necessary to move forward in the field of Internet communication, as well as video conference services.

We believe it is important to expand the range of Internet, Web 2.0 (Library 2.0) services in both national and American higher education libraries. Besides, the development of the already existing content elements, intensity, and efficiency would also be important. Based on the research results, and experiences so far, the improvements could be achieved mainly in the following areas:

Ensuring Online connection possibilities: Skype, Remote Assistance, shared workspace, working together online. Video Conference service: in developmens, joint research projects, surveys, application of online surveys, etc. Separate research portal for students with the aim of promote the lecturers' research. Developing the library services available for mobile applications (iPhone, Android, BlackBerry, Windows Phone). Enhance library services to entrepreneurs. Own university Website mobile application. Operating own Community Dashboard. Accessing online resources on the website of the library. Using social networks focused on various topics, units. Operating an online shop based on the profiles. Sharings between different websites. Ensuring the availability of more social networks. Enhancing the efficient operation of library blogs. The exploitation of funding opportunities. Increased use of the benefits of RSS.

University library innovation, Startup project

Based on past researches, and experiences of both national and international libraries we think that university libabaires could play a very significant role in the field of "University Innovations, Startup". This might highlight the students' attention to opportunities, inspiring them for using their creativity in this direction, helping them in management, perhaps in realization, too.

As the first step, the research, and development would be worked out within the framework of the Nyíregyháza University Library, so the students of NYE would be "tested". This could be followed by national and international applications. A big advantage is that university libraries are in active connection both with the students and lecturers of different faculties.

Content development projects, fields

Startup University Web Portal (also available with mobile applications.) Startup News, current news, information. Startup database idea. Online startup student database. Startup scholarships for students. Startup professional "dating" website, database, facilitating the creation of communities of creative students. (Hungarian - International). Professionals Portal database. Database of startup problems to be solved: startup demands of companies, and investment groups and the startup idea of students could be synchronized. Startup research "orders"! funding support by companies! Presentating and "advertising" Startup - Inventions on the library's Website. Facilitating students' creativity as a catalyst of students' innovation, Startup ideas. Finding supporters, groups of investors (banks - multinational companies) for the realization of successful - "working prototype" - Startup Ideas. Startup - students' 'professional' manpower mediation. Startup PhD. – database of Postdoctoral topics, opportunities (supply - demand, national - international). We are working on the University Startup Website, and the databases connected to it. Further research goal could be in the future, how the net of Web3.0 data can effectively be applied in libraries.

The reason for using the Startup project in libraries

Libraries should not only function as tools in preserving culture, and science, it would be fortunate if they were participating actively in activities connected to research, innovation, and in patronizing, implementation of the Startup Ideas at the university. Libraries might have a disadvantage - because of the widespread use of smartphones, e-book readers, Google books, e-libraries. The services of the Startup webportal of the University Library could effectively contribute to the achievement of the goals of libraries.

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Sažetak

Elektroničke knjižnične usluge u Mađarskoj i SAD-u

Svrha istraživanja bila je komparativna analiza računalnih integriranih knjižničnih sustava (WebOPAC), koji se temelje na i/ili pružaju Web 2.0 usluge, kroz pregled nekoliko važnijih knjižničnih sustava u Mađarskoj i SAD-u. Istraživanje je provedeno na 19 mjesnih knjižnica i 67 knjižnica viokoobrazovnih ustanova u Mađarskoj. Osim toga, analiziran je i integrirani knjižnični sustav od 39 sveučilišnih knjižnica u SAD-u. Primjenjene su induktivne i kvantitativne metode. U ovom istraživanju odabrane mađarske i američke sveučilišne knjižnice proučene su iz perspektive Web 2.0 usluga te su uspoređene glavne karakteristike Web 2.0 usluga koje navedene knjižnice nude. Analizirani su sadržajni elementi, statistički podatci te uspoređene glavne razlike. Predložene su dodatne učinkovite online usluge.

Ključne riječi: sveučilište, knjižnica, Web 2.0, statistika, Startup

Appendix 1. The studied Hungarian libraries

Number	Hungarian higher education libraries	Online catalog
1.	Savaria Egyetemi Központ Könyvtára (Nyugat - magyarországi Egyetem: http://www.bdtf.hu/konyvtar/	ALEPH
2.	Budapesti Gazd. Főisk. Keresk., Vendéglátóip. és Idegenforg. Főisk. Kar Könyvtára (http://web.kvif.bgf.hu/main.php?temp=training.pge&lang=HUN&type=l)	ALEPH
3.	Budapesti Gazd. Főisk. Külkereskedelmi Főiskolai Kar Könyvtára (http://tlwww.kkf.hu/ktweb/index.html)	TextLib
4.	Budapesti Gazd. Főisk. Pénzügyi és Számviteli Főiskolai Kar Könyvtára (http://www.lib.pszfb.hu/)	OLIB
5.	Budapesti Corvinus Egyetem Központi Könyvtár (http://www.lib.uni-corvinus.hu/)	OLIB
6.	Budapesti Corvinus Egyetem Entz Ferenc Könyvtár és Levéltár (http://efkl.uni-corvinus.hu/)	HUNTÉKA
7.	Budapesti Közgazdaságtud. és Államigazg. Egy. Vezetőképző Intézet Könyvtára (http://www.bke.hu/subpage_choice_control.php?org=4&id=11&UC=&LNG=hun)	TINLib
8.	Budapesti Műszaki és Gazdaságtudományi Egyetem Országos Műszaki Információs Központ és Könyvtár (http://www.omikk.bme.hu/)	ALEPH
9.	Óbudai Egyetem – Egyetemi Könyvtár (http://lib.uni-obuda.hu/)	ALEPH
10.	Central European University (http://www.library.ceu.hu/cat/#&panel1-1)	Millennium
11.	Debreceni Egyetem Agrártudományi Kar Könyvtára (http://agr.lib.unideb.hu/)	S-LIB
12.	Debreceni Egyetem Egyetemi és Nemzeti Könyvtár (http://www.lib.unideb.hu/)	Corvina
13.	Debreceni Egyetem Orvos- és Egészségtudományi Centrum Kenézy Könyvtára (http://kenezy.lib.unideb.hu/)	Corvina
14.	Debreceni Református Hittudományi Egyetem Szakkönyvtára (http://silver.drk.hu/hu/konyvtar)	Corvina
15.	Dunaújvárosi Főiskola könyvtára (http://konyvtar.duf.hu/)	Corvina
16.	ELTE Egyetemi Könyvtári Szolgálat (http://konyvtar.elte.hu/web/hu/)	ALEPH
17.	Eötvös József Főiskola Műszaki Fakultás, Könyv- és médiatár (http://konyvtar.ejf.hu/)	ALEPH
18.	Eszterházy Károly Főiskola (http://eklektika.ektf.hu/)	E-Corvina
19.	Evangélikus Hittudományi Egyetem Könyvtára (http://lutheran.hu/)	
20.	Kaposvári Egyetem Egyetemi Könyvtár (http://lib.ke.hu/)	ALEPH
21.	Károly Róbert Főiskola Könyvtára, Gyöngyös (http://lib.karolyrobert.hu/monguz2/	HUNTÉKA

22.	Kecskeméti Főiskola Könyvtár és Információs Központ (http://kik.kefo.hu/web/guest)	**ALEPH**
23.	Kodolányi János Főiskola Könyvtára (http://www.kodolanyi.hu/lib/)	**HUNTÉKA**
24.	Kölcsey Ferenc Református Tanítóképző Főiskola Központi Könyvtára (http://www.drhe.hu/konyvtarak, http://drhe-lib.drk.hu/)	**Corvina**
25.	Liszt Ferenc Zeneművészeti Egyetem Könyvtára (http://zeneakademia.hu/gyujtemenyek)	**ALEPH**
26.	Magyar Iparművészeti Egyetem Könyvtár és Dokumentációs Központ (http://mome.hu/hu/k%C3%B6nyvt%C3%A1r)	**Corvina**
27.	Magyar Képzőművészeti Egyetem Könyvtára (http://www.mke.hu/konyvtar)	**Corvina**
28.	Miskolci Egyetem Comenius Tanítóképző Főiskolai Kar Könyvtára (http://ekfck.hu/page.php?page_id=6)	**ALEPH**
29.	Miskolci Egyetem Központi Könyvtára (http://www.lib.uni-miskolc.hu/web/konyvtar/)	**HORIZON**
30.	Modern Üzleti Tudományok Főiskolája Könyvtára (http://tlwww.mutf.hu/tlwww/)	**TextLib**
31.	Nemzetközi Pető Intézet Főiskola Könyvtára (http://www.peto.hu/hu/index.php?option=com_content&view=category&layout=blog&id=57&Itemid=77)	**ALEPH**
32.	Nyíregyházi Főiskola Központi Könyvtár (http://www.olvass-sokat.hu/foiskola/)	**ALEPH**
33.	Nyugat-Magyarországi Egy. Benedek Elek Pedagógiai Főiskolai Kar Könyvtára (http://konyvtar.bpk.nyme.hu/index.php?id=13520&L=1)	**CORVINA**
34.	Nyugat-Magyarországi Egyetem Központi Könyvtár (http://ilex.efe.hu/)	**CORVINA**
35.	Nyugat-Magyarországi Egyetem Geoinformatikai Főiskolai Kar Könyvtára (http://www.geo.info.hu/konyvtar/)	**CORVINA**
36.	Nyugat-Magyarországi Egyetem Mezőgazdaságtudományi Kar Könyvtára (http://www.mtk.nyme.hu/index.php?id=371)	**CORVINA**
37.	Pannon Egyetem Központi Könyvtára, Veszprém (http://konyvtar.uni-pannon.hu/index-hu.html)	**ALEPH**
38.	Pannon Egyetem Georgikon Mezőgazdaságtud. Kar Központi Könyvtár (http://www.georgikon.hu/szervezeti-egysegek/kari-konyvtar-es-leveltar, http://www.georgikon.hu/lib/)	**ALEPH**
39.	Pázmány Péter Katolikus Egyetem Bölcsészettudományi Kar Könyvtára (http://biblsrc.btk.ppke.hu/)	**HUNTÉKA**
40.	Pázmány Péter Katolikus Egyetem Hittudományi Kar Könyvtára (http://www.htk.ppke.hu/konyvtar)	**HUNTÉKA**
41.	Pázmány Péter Katolikus Egyetem Jog- és Államtudományi Kar (https://jak.ppke.hu/ppke-jak-kari-konyvtar)	**HUNTÉKA**
42.	Pécsi Tudományegyetem Központi Könyvtár a Tudásközpontban (http://www.lib.pte.hu/kk/)	**CORVINA**
43.	Pécsi Tudományegyetem Történeti Gyüjtemények Osztálya (http://www.lib.pte.hu/tgyo/)	**CORVINA**
44.	Pécsi Tudományegyetem Benedek Ferenc Jogtudományi és Közgazdaságtudományi Szakkönyvtár (http://www.lib.pte.hu/ajkktk/)	**CORVINA**

45.	Pécsi Tudományegyetem Bölcsészettudományi és Természettudományi Kar Könyvtára (http://www.lib.pte.hu/btkttk/)	**CORVINA**
46.	Pécsi Tudományegyetem BTK-TTK Angol Német és Osztrák Könyvtár (http://www.lib.pte.hu/ano/)	**CORVINA**
47.	Pécsi Tudományegyetem BTK-TTK Filozófia - Politológia Szakkönyvtár (http://www.lib.pte.hu/fp/)	**CORVINA**
48.	Pécsi Tudományegyetem BTK-TTK Földrajzi Intézet Szakkönyvtára (http://www.lib.pte.hu/fold/)	**CORVINA**
49.	Pécsi Tudományegyetem BTK-TTK Társadalomtudományi Szakkönyvtára (http://www.lib.pte.hu/tarstud/)	**CORVINA**
50.	Pécsi Tudományegyetem Illyés Gyula Kar Könyvtára (http://www.lib.pte.hu/igyfk/)	**CORVINA**
51.	Pécsi Tudományegyetem Művészeti Kar Könyvtára (http://www.lib.pte.hu/mk/)	**CORVINA**
52.	Pécsi Tudományegyetem Pekár Mihály Orvosi és Elettudományi Szakkönyvtár (http://www.lib.pte.hu/aok/)	**CORVINA**
53.	Pécsi Tudományegyetem Pollack Mihály Műszaki Főiskolai Kar Könyvtára (http://www.lib.pte.hu/pmmik/)	**CORVINA**
54.	Pécsi Tudományegyetem Egészségtudományi Kar Kaposvári Képzési Központ Könyvtára (http://www.lib.pte.hu/etkk/)	**CORVINA**
55.	Pécsi Tudományegyetem Egészségtudományi Kar Központi Könyvtára (http://www.lib.pte.hu/etkp/)	**CORVINA**
56.	Pécsi Tudományegyetem Egészségtudományi Kar Szombathelyi Képzési Központ Könyvtára (http://www.lib.pte.hu/etksz/)	**CORVINA**
57.	Pécsi Tudományegyetem Egészségtudományi Kar Zalaegerszegi Képzési Központ Könyvtára (http://www.lib.pte.hu/etkz/)	**CORVINA**
58.	Pécsi Tudományegyetem Felnöttképzési és Emberi Erőforrás Fejlesztési Kar Könyvtára (http://www.lib.pte.hu/feek/)	**CORVINA**
59.	Semmelweis Egyetem Egészségtudományi Kar Központi Könyvtára (http://www.se-etk.hu/magyar/hallg/konyvt/01.php)	**HUNTÉKA**
60.	Semmelweis Egyetem Központi Könyvtára (http://www.lib.sote.hu/)	**HUNTÉKA**
61.	Semmelweis Egyetem Testnevelési és Sporttudományi Kar Könyvtára (http://tf.hu/oktatas/konyvtar/)	**ALEPH**
62.	Széchenyi István Egyetem, Egyetemi Könyvtár (http://lib.sze.hu/kezdolap)	**HUNTÉKA**
63.	Szegedi Hittudományi Főiskola Könyvtára (http://www.gff-szeged.hu/konyvtar/)	**CORVINA**
64.	Szegedi Tudományegyetem Egyetemi Könyvtár (http://ww2.bibl.u-szeged.hu/index.php)	**CORVINA**
65.	Szent István Egyetem Kosáry Domokos Könyvtár és Levéltár (http://dis.gau.hu/)	**TINLIB**
66.	Szent István Egyetem Ybl Miklós Építéstudományi Kar Könyvtára (http://konyvtar.ymmf.hu/)	**HUNTÉKA**
67.	Szolnoki Főiskola. Könyvtár és Távoktatási Központ. Gazdasági Könyvtár (http://konyvtar.szolfportal.hu/kezdolap)	**ALEPH**
68.	Tan Kapuja Buddhista Főiskola Könyvtára (http://www.tkbf.hu/konyvtar)	**E-CORVINA**

69.	Nemzeti Közszolgálati Egyetem Egyetemi Központi Könyvtár (http://portal.zmne.hu:7778/portal/page?_pageid=34,17473&_dad=portal&_schema=PORTAL)	**OLIB**

Appendix 2. The studied American libraries

Number	USA university libraries	Web page
1.	Arizona State University	https://lib.asu.edu/
2.	Binghamton University	http://www.binghamton.edu/libraries/
3.	California State University	http://www.calstate.edu/library/
4.	Central Washington University	http://www.lib.cwu.edu/
5.	Cleveland State University	(http://www.ulib.csuohio.edu/
6.	Columbia University	http://library.columbia.edu/
7.	Georgetown University	http://www.library.georgetown.edu/
8.	Harvard University	http://lib.harvard.edu/
9.	Minnesota State University	http://lib.mnsu.edu/
10.	New York University	http://library.nyu.edu/
11.	Ohio State University	http://library.osu.edu/
12.	Oklahoma State University	http://www.library.okstate.edu/
13.	Oregon Health – Science Univ.	http://www.ohsu.edu/xd/education/library/
14.	Pennsylvania State University	http://www.libraries.psu.edu/psul/home.html
15.	Princeton University	http://library.princeton.edu/
16.	Seattle Pacific University	http://spu.edu/library
17.	Southern Utah University	http://www.li.suu.edu/
18.	University of Arkansas	http://www.uark.edu/
19.	University of Idaho	http://www.lib.uidaho.edu/
20.	University of Louisville	http://louisville.edu/library/
21.	University of Michigan	http://www.lib.umich.edu/
22.	University of Missouri	http://missouri.edu/
23.	University of New England	http://www.une.edu/library/
24.	University of New Mexico	http://elibrary.unm.edu/
25.	University of North Carolina	http://library.uncw.edu/
26.	University of Oregon	http://library.uoregon.edu/
27.	University of pennsylvania	http://www.library.upenn.edu/
28.	University of South Alabama	http://www.southalabama.edu/library.html
29.	University of Southern Indiana	http://www.usi.edu/
30.	University of Tennessee	http://www.lib.utk.edu/
31.	University of Virginia	http://www.library.virginia.edu/
32.	University of Wisconsin	http://www.uwp.edu/departments/library/
33.	Univ. of California, Los Angeles	http://www.library.ucla.edu/
34.	Univ. of California, San Diego	http://libraries.ucsd.edu/
35.	Univ. of California, San Francisco	http://www.library.ucsf.edu/
36.	Univ. of California, Santa Cruz	http://library.ucsc.edu/
37.	Utah Valley University	http://www.uvu.edu/library/
38.	Western Washington University	http://www.library.wwu.edu/
39.	Yale University	http://web.library.yale.edu/