DIGITAL RISKS. CASE STUDY ON DIGITIZATION PROJECTS OF THE LBUS LIBRARY

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Abstract

Digital technologies changed all the social life domains in society, as we are now living in the digital era, in the information society or in an interconnected world. Besides the improvements in every day life, digital changes also brought inherent risks, from cyber-security, hacking, cyber-bullying, to the vulnerability of personal data, or the mental health consequences of information explosion.

This article reviews the risks of the changes brought by the digital transformation on libraries in general, with examples of the LBUS Library, drawing from the last 10 years of development experience of informatic book management systems (electronic catalogue) and of the digital library system. A group of library experts took part in local cultural projects promoting the city of Sibiu, as well as in four major European projects focusing on "Europeana", and developing highly valuable cultural, historical, and scientific digital collections. As relatively new and highly complex technical activities comprising a high volume of new information, the management of these projects also posed risks related to decision-making and to choosing the best solutions to ensure their success. We have identified and highlighted the major risks.

Keywords: digital society, digitization risks, library management, digital library

1 Premises: Risks in traditional libraries versus risks in modern, digitized libraries

The risk concept has numerous meanings; after a detailed analysis, we ascertain that risk is mostly associated to negative factors: uncertainties, insecurities, probabilities, loss, damages that lead to the production of undesirable consequences.

Risks must be identified and evaluated according to the probability of potential events and the possible impact of the occurrence of that possibility[1].

When we look at things from a different perspective, risk appears when the organization is unable to meet its predetermined objectives [2]. In this case, risks represent a threat that can only be identified and defined in relation to the objectives and in direct correlation with the mission of the organization.

In project management, the risk is used to measure the probability and the effect of an event on the objectives of a project [3], while digital risk is defined as exposure to the loss or the partial/total destruction of the digital data needed to fulfil the organization's objectives [4].

When performing a "digital risk" evaluation at the level of a digitized organization, one must consider and analyze multiple aspects related to atomized processes, the architecture and the complexity of IT systems, the quantity and the quality of data/metadata, as well as the level of organization and the institutional management, and cultural aspects [5].

Digital transformations have had a major impact on libraries as well; their high level of automation and digitization came with IT processes through which the information and the data on physical formats was transferred to an online digital environment, so that they can be accessed by more users anywhere and at any time.

Therefore, digitization can be seen as a great opportunity: library services have improved considerably, as users (pupils, students, professors, researchers) can access information much easier and much quicker. Changes have also been implemented at the level of the library's management and organization, through the automation brought about by IT systems.

However, the same digitization, through its key elements (computer network, the volume of data/metadata, IT systems), has brought specific risks[6], besides the traditional ones.

A February 2019 OECD study entitled "How's Life in the Digital Age? *Opportunities and Risks of the Digital Transformation for People's Well-being"* [7] lists the major risks of the digital society:

The ***digital divide*** refers to the differences regarding the access to and the use of the internet and the digital competences (Dictionary: *"there is a 'digital divide' between rich and poor in terms of computer use"*);

The lack of "digital literacy" equals the lack of knowledge and of emotional skills to sort through/choose quality information, to self-control in digital involvement and to avoiding mental health issues;

Digital insecurity: personal/private data, cyber-hacking, cyber-bullying.

The difference in technological development, and implicitly the differences in access to the internet have led to an even higher discrepancy in the world, as this gap between access and lack of access to information represents a major social risk for the contemporary world.

This is connected to the lack of digital literacy, of training regarding the correct use of information means: computers, tablets, software, the internet. This results in the need to integrate "digital training" in education, in organizations, in society, which is so necessary to prepare users who are used to credit cards, e-mail and online accounts to deal with cyber-attacks, data theft, fraudulent use of personal data.

Moreover, if we talk about the information explosion brought about by the internet, with possibilities for free speech and to report events from various standpoints, which also leads to misrepresentation, the so-called fake news that has become omnipresent, the library is a source of verified information, organized knowledge, access to data basis of genuine information which is classified according to its scientific value.

In today's information society, technological and digital training has become a necessity in order to prevent risks, information alienation and to ensure professional success and safe social coexistence.

2 Case Study Library of the "Lucian Blaga" University of Sibiu - Risks in Digitization Projects

From the general to the specific, in order to identify the risks faced by the library, we have conducted an evaluation, first by defining the library's mission, its general and specific objectives, the resources and activities used to fulfil its mission and to meet its objectives.

2.1 The Mission and the Objectives of the Library

The mission of the Library of the "Lucian Blaga" University of Sibiu is to purchase, organize and ensure access to a great variety of information, materials and services with a view to fulfilling the intellectual, information and research needs of all its users (students, professors, researchers) within our University and the local academic community.

Table 1: Objectives of the Library

General objectives	Specific objectives
Ensuring an adequate reference collection to support education and research programs	Purchasing publications fit for the LBUS educational offer, according to the Library's purchasing policy: every month, between 10 and 20 titles, depending on the books published and on the allocated funds
	Subscribing to printed internal and external periodic publications at the end of November for the following year (around 200 subscriptions)
	Expanding the LBUS digital collection by scanning and processing around 2,000 pages per year
	Participating to the Gaudeamus Book Fair

	each November
Creating and maintaining appropriate library facilities	Conducting in-library marketing studies at the end of each calendar year, by asking users to fill in questionnaires
Ensuring access to the library's collections and to its other services	Organizing weekly meetings with users, in groups of maximum 30 people, for specific information-retrieval services, guidance and access to using the data bases
Writing specific works to ensure that users are informed about existing documents, ways to retrieve information from and to consult catalogues, reference materials, reader conferences, thematic exhibitions, book presentations, newsletters	The quarterly publication of printed and online catalogues and reference materials regarding new entries
	Making available 100 reference lists to students every year, as per the recommendations of mandatory bibliography
Digitizing library-specific activities	Continuous management of the Library5 information system, tracking and ensuring that it is always operational
	Permanent usage of technology and of ITC in specific activities
Developing cooperation and document exchange relations with other libraries in Romania and abroad or with other academic, scientific and research institutions	Supporting internal and international exchange of LBUS professors' publications at the end of each quarter (around 100 copies to 60 partners)
Methodological and scientific support to the public libraries in the city and in the county of Sibiu	Quarterly meetings with 50 librarians in the education system in the county aimed at granting them methodological and scientific support
Ensuring the qualification, continuous development and recycling of its personnel through individual study, the organization of library science classes and sending them to the courses organized at central level by the competent ministry	Conducting training session for library employees, through annual meetings with members of the professional associations
Organizing conferences, scientific symposiums, experience exchanges on library science and bibliology-related topics, participation at local, national, and international specialized events, conducting	Organizing the annual International Conference on Information Science and Literacy

research in bibliology or in other domains of science and culture, collaborating with professional organizations of libraries in education and in other networks	
Concluding agreements, conventions, contracts regarding specific activities with Romanian and international bodies and organizations	Securing local, national or international projects every year, through direct competition or in partnership with various institutions.

It can be said that a library's mission is closely connected to its documentary collections, as it mostly focuses on their development, preservation and circulation. Thus, in order to identify the risks related to all its collections, the potential threats related to the information, research, documentation processes, as well as those that may prevent the fulfilment of these needs must be clearly understood.

Considering its mission and its objectives, the LBUS Library has defined the risks below:

Table 2: Risks in a Library.

Risks	Risk-associated circumstances
The risk of not providing continuous collection development	Library strategic planning / Operational plans for hardware
	Current legislation
The risk of not making the collections available to the users in due and proper time	Insufficient fund allocation / The changing priorities in the investment policy
	Delays in publication / No longer editing a publication / Provider-related problems
The risk of physical degradation of the collections	Availability of online information resources
The risk generated by the educational infrastructure	Changing priorities related to research / Delays in receiving the educational offer
Digital risk	Non-dissemination of information from higher structures to direct beneficiaries / Not understanding users' needs
	Insufficient / incompetent / uninterested personnel
	Faulty promotion

	Outdated technology / Equipment failure / Insufficient IT hardware / Improper management and maintenance of digital content
	Improper management of the physical space / insufficient infrastructure
	Storage conditions / Damage through use

Once the risks have been identified, the next step is to appoint the people responsible for the management of each risk and then to evaluate them based on the probability of their occurrence and their estimated impact. Each responsible will adopt a strategy and establish action plans and control instruments to mitigate each risk.

2.2 Digital risk

We shall now focus on **_digital risks_**, identifying and analyzing them in the context of the continuous changes which the library has undergone over the last two years, especially because of the new technologies implemented that have resulted in fully atomized activities and services.

Digital risk has been identified for the action domains below:

- preventing the discontinuation of the library activities: records, archiving, processing, statistics, circulation, and creation of digital content, intranet and e-mail access;

- the availability of digital information: online catalogue, subscribed data bases which can be accessed online, the LBUS Digital Library;

- digital data security: information content, digital content;

- protection of personal data: information about library personnel, users, copyright;

- protection against viruses, destructive software, cyber-attacks.

Digital risks are a result of threats by: people, through internal or external, intentional or unintentional actions; technology, directly connected to technical issues; or natural, independent from human action.

We have become extremely aware of digital risks and of disturbing factors for the activities we unfold following our participation at digitization projects, in which, besides the importance granted to human resources and to information technology, without which it would have been impossible to fulfil the objectives undertaken, we have identified other potential areas of risk:

- choosing the correct library management and digital library information system;

- choosing the proper server systems, both hardware and software;

- implementing an effective digitization project, choosing valuable documentation content that is suitable for the users and corresponds to the technical requirements, in line with the "Europeana" Digital Library;

- managing and taking part in activities and work meetings within the various projects;

- allocating an optimum amount of time to each activity;

- reallocating budget per activities;

- insufficient documentation regarding the work flow or method;

- incomplete documentation and technical requirements;

- unrealistic expectations;

- lack of previous experience;

- problems related to partners, collaborators, providers.

All these aspects had to be managed very efficiently: the risk evaluation was conducted starting from the planning phase, so as to allow the project manager to identify the weak or risky points and to plan strategies to deal with the actual occurrence of the risk.

Conclusions

In today's digitalized society, new information technologies have brought about new specific risks. In this paper, we have documented the general and the specific risks of the digital environment.

We then looked for, identified, listed, and analyzed the potential risks for the Library in Sibiu, which has undergone a modern development process through the implementation of modern library-specific information technologies.

On the one hand, we have the value of information and the importance of protecting it; on the other hand, there is the free movement and the accessibility of information on the internet. Our experience over the last two years of the digitalization process and projects has made us more aware of how to manage, process and keep information safe. New measures and information security systems are thus required, capable of excluding threats, regardless of whether they are man-made or of natural origin.

The use and the implementation of risk management helps institutions reduce the negative effects of risks and to achieve better results, exceeding initial estimates, thus supporting the organization to fulfil its objectives.

Risks cannot and should not be completely eliminated, they appear regardless of the experience accumulated, and when properly managed, can even be turned into opportunities.

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