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The socio economic value of a digital library: economic approaches, management and policy issues

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1. INTRODUCTION

1.1 Overview

An essential part of the cultural heritage, part of the identity and the civil life of a Country, is preserved and organized in library.

Libraries are not only the hub of our memories, they could have the power to bring to life them to the contemporary times and to project them into the future, however, the only condition to get out of the cultural and political fog, as libraries are in the current state, is to abandon the self-activity and to mobilize resources interrogating other disciplines and skills.

The economy of library is not a new discipline, but it is an interdisciplinary field of proposals, methods and practices, it deals with cultural economics, public policies, cultural management, cultural and regional marketing, fund raising and so on...

The economic and financial crisis is not only the background where libraries are allocated, the dramatic consequences of crisis are not only highlighted in the cultural consumption but especially in funds of government spending for culture, search and education. The progressive cuts of funds and staff will increase structural difficulties of these sectors, so the way to take is to involve other ranges of study, such as cultural economics, and to bring space librarian such as an essential component of our collective identity and such as a relation space. [Giovanni Di Domenico, 2010].

In the 2014 edition of "Forum d'Avignon" , is emphasized "the positive effect of culture and creative industries on the economy, and also the actions that must be taken to ensure that they both be recognized as catalyser of values, employment and social cohesion, in the same way as other sectors are". The forum and its participants called for a mobilization of political stakeholders to develop a collective policy for the European culture, which promote economic development and citizens 'well-being.

¹ http://www.forum-avignon.org/en/edition-2014, last visit at the web site 27/11/14

1.2Scope of study

The main question of this thesis is that: is it possible to change the traditional features of the library, bringing it into a new model of changes, not only in the field of economy but also, trying to develop a progressive conception of the role of library?

Trying to order actions and activities of the library as in now stand, it isn't possible to forget the role of information and communication, so the new model wished take place in "digital library", meaning collections of digital documents organised into contents and finalised to specific users.

The main purpose is to organise in digital way the whole system to produce and accelerate the access of information and to build institutional repositories thanks to a better communication and collaboration among searcher. It is not so easy, there are many examples that encourage this approach, but there are also implicit paradoxes in "digital library" and in the economic model that must be taken, to ensure improvements in this field.

Two solution are proposed, in the first case: fundraising such as a non-conventional way to finance the activity of library and, according to it, another solution: big data.

One of the solution proposal is to change libraries from the paradigm of "data curation" to "big data curation". It is a complex technological and conceptual challenge: not only in order to have new and expensive infrastructures but also in the way to readapt library system into an inedited approach, that is to say the transit from the text form to the data environment. One of the example that moves in this direction is the "Sloan Digital Sky Survey", an astronomic project that consider mapping outer space. To this day, one hundred million of stars, one million of galaxies and one hundred-thousand of quasar have been catalogued. It is a titanic experience that bring a production of a huge quantity of data. To manage the complexity of these "big data",

the libraries of "John Hopkins of Baltimore University" came to the aid. [Fabio Di Giammarco, 2014]²

The thing that is enlightened is that it is necessary a new storage system, where libraries could help to find useful information in this amount of data.

In the meantime, libraries suffer of a generalized cut of resources. In the USA, according to ALA, libraries have lost hundred million dollars in funding in recent decades. In 2012, in Great Britain, have been closed plus than two hundred libraries. In the rest of Europe- caused to fiscal austerity programs- are not good time too. In Italy, the budget in cultural heritage and activities has been halved, so another way to assure capitals in libraries is to invest in private funds. Crowd funding is one of the things that could be used to improve income.

To embrace this revolution, in the field of role and in economic model, for libraries could mean from one hand, the open of new opportunities, from the other the decline of distributed library systems with a return into a centralised model of services.

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² Fabio Di Giammarco, 10 gennaio 2014, www.culturaledigitale.it/wp/linked-data/177/biblioteche-e-big-data/

5. CONCLUSION

Analysis conducted in this thesis, moves from a personal experience into the "Historical Archive of students" in Bologna. Having followed directly and personally the process of digitalisation of the archive, for some months, I understand the opportunities of this practice and the problems linked to this field.

Having intrigued about this sector, I decided to deepen my knowledge and to discover new methods and approaches to the librarian environment.

Another cue of interest arrived from my personal researches about big data. I addressed to this field in order of my continuous work of updating into communication and marketing. The new challenge that I propose is connected to the use of big data in librarian dimension. Studies about application of big data in other sectors are defined in many experiences and experiments, but in this field, it isn't so obviously to find researches.

The use of fundraising is an instrument underused in Italy to find added funds to the State support. This practice largely used in USA, could be the starting point to bring new opportunities to libraries and to make citizens active into participation of public decisions, in order of investments and promotion of culture.

The culture that isn't at the first place in order of public support, could have new opportunities starting by companies and their investments and by single citizens, but only if they will be active parts of the process of organisation and promotion of culture causes.

All considered, applying the two solutions considered above, that is to say: fundraising and big data, there is a revolution that takes place in all the librarian environment. The challenge is to find solutions in order of a series of problems concerned curation, archiving, research, sharing, transfer, visualisation and analysis of data.

The revolution of digital has changed the organisation and the management of library, but it isn't sufficient to increase the economy of this sector, because of the crisis of the sector. Problems are connected to budget, funds and attractiveness of the library.

Fundraising is the solution that could be applied to libraries to raise money and to solve the problem defined, but it isn't simple to have the capacity to do something innovative, using the right instruments and involving the right potential target.

On the other hand, the impact of big data is deep. It needs big economic, technological and operative commitments chancing the actual librarian assets.

The revolution of the "explosion of big data" isn't affordable for small libraries, and this gap could mean the decline of distributed librarian systems with an unexpected return to a centralized model of services.

Ultimately, the two solution proposed could have a big impact on the librarian system, they could bring new structure and organisation, bringing libraries in 2.0 world, keeping pace with the time and the new challenges, on the other hand this revolution could determinate the end of small libraries that can't go in this direction.

Using big data in libraries is a new field of study, there are few example in this sense that could determinate the systematic application of this approach in libraries.

BIBLIOGRAFY

Boldrini, N. [2013], *Biblioteca Apostolica Vaticana: big data per custodire tesori*, in http://www.zerounoweb.it/approfondimenti/business-intelligence/biblioteca-apostolica-vaticana-big-data-per-custodire-tesori.html (last visit 12/01/201).

Di Domenico, G. [2010], *Perché un'economia della biblioteca?*, Milano, Convegno stelline.

Di Giammarco, F. [2014], Biblioteche e big data, Milano, in Biblioteche oggi.

Dubini, P. [1999], Economia delle aziende culturali, Milano, Etas.

Getz, M. [1995], Evaluation of Library Resources in the Field of Economics: A Case Study, Collection Management.

Greenfield, J. [1996], Fund-raising cost effectiveness: A self-assessment workbook, Hoboken, NJ, Wiley.

Grossi, R. [2013], A strategy for culture, a strategy for the Country, in annual report of Federculture.

Kingma, B. [1997], *Interlibrary Loan and Resource Sharing: The Economics of the SUNY Express Consortium*. Library Trends.

Ostrom, E. [1993], Institutional Incentives and Sustainable Development: Infrastructure Policies in Perspective, Oxford, Westview Press.

Reed, S.G. – Nawalinski, B. – Peterson, A. [2004], 101+ great ideas for libraries and friends, Marketing, Fundraising, Friends Development, and More, Paperback.

Rezzani, A. [2013], Big data: architettura, tecnologie e metodi per l'utilizzo di grandi basi di dati, RN, Maggioli.

Sacco, P. [2006], Il fundraising per la cultura, Roma, Meltemi.

Sacco, P. – Ferilli, G. [2006], *Metodologia di analisi per l'individuazione e lo sviluppo del distretto culturale*, Roma, Istituto Luigi Sturzo.

Sargeant, A. – Shang, J [2010], *Fundraising Principle And Practice*, San Francisco, Jossey-Bass.

Sen, A. [2001], Development as freedom, (2nd Ed.) Oxford, New York Press.

Tammaro, A. M. [1998], L'accesso conviene, Milano, in Biblioteche oggi.

Throsby, D. [2001], Economic and Culture, Cambridge, University Press.

SITOGRAFY

Economy of the library:

http://www.bibliotecheoggi.it/2010/201000400701.pdf (last visit 15/11/2014)

Forum of Avignon:

http://www.forum-avignon.org/en/edition-2014 (last visit 16/11/2014)

Libraries and big data:

http://www.culturadigitale.it/wp/linked-data/177/biblioteche-e-big-data/ (last visit 08/01/2015)

Federculture:

http://www.federculture.it/ (last visit 25/11/2014)

Report Federculture of 2013:

http://www.beniculturali.it/mibac/multimedia/MiBAC/documents/1372690283778_DATI_Rapporto_Federculture_2013.pdf (last visit 02/12/2014)

European legislation on reuse of public sector information: http://ec.europa.eu/digital-agenda/en/european-legislation-reuse-public-sector-information. (last visit 02/12/2014)

European directive of cultural big data:

http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:175:0001:0008:IT:PDFhttp://www.culturadigitale.it/wp/linked-data/171/la-direttiva-201337ue-apre-ai-%E2%80%9Cbig-data-culturali%E2%80%9D/ (last visit 13/12/2014)

Europeana:

http://www.europeana.eu/ (last visit 13/12/2014)

Mibac:

http://www.beniculturali.it/mibac/export/UfficioStudi/sitoUfficioStudi/Contenuti/Pu bblicazioni/Volumi/Volumipubblicati/visualizza_asset.html_1410871104.html (last visit 15/12/2014)

Report IFLA:

http://www.ifla.org/publications/statement-on-libraries-and-sustainable-development (last visit 23/11/2014)

Legislative decree 2004, n. 42:

http://www.camera.it/parlam/leggi/deleghe/04042dl.htm (last visit 24/11/2014)

Economic model of digital library:

Wikipedia:it.m.wikipedia.org/wiki/Biblioteca_digitale#Modello_economico_della_bi blioteca_digitale (last visit 20/02/2015)

Digital library:

http://www.slideshare.net/digitalfay/building-a-digital-library13046112?related=3 (last visit 05/01/2015)

Economy of digital library:

http://www.bibliotecheoggi.it/1998/19980706001.pdf (last visit 25/01/2015)

Banking foundations:

http://www.dirittobancario.it/sites/default/files/allegati/diciottesimo_rapporto_acri_s ulle_fondazioni_di_origine_bancaria_anno_2012.pdf (last visit 28/01/2015)

Grantmaking:

https://www.wordnik.com/words/grantmaking (last visit 25/10/2014)

Bodleian library:

http://www.bodleian.ox.ac.uk/bodley (last visit 25/10/2014)

California Digital Library:

http://www.cdlib.org/services/uc3/ (last visit 13/11/2014)

Fundraising:

http://www.openstarts.units.it (last visit 28/02/2015)

ROI analysis:

http://nccsdataweb.urban.org/PubApps/levis/roi.html (last visit 10/02/2015)

Data curation:

http://www.niso.org/news/events/2013/webinars/data_curation (last visit 11/01/2015)

Apostolic Vatican Library:

http://www.zerounoweb.it/approfondimenti/business-intelligence/biblioteca-apostolica-vaticana-big-data-per-custodire-tesori.html (last visit 11/01/2015)

Emc:

http://italy.emc.com/products-solutions/index.htm?cmp=knc-cor-tra-trg-Google&k=e%20m%20c&m=b&n=g&c=44803860069&d=c&a=1t1and (last visit 03/02/2015)

Dedagroup:

http://www.dedagroup.it/static/content/Dedanext-153.aspx (last visit 03/02/2015)

Information heritage initiative:

http://italy.emc.com/leadership/features/information_heritage_initiative.htm (last visit 03/02/2015)