Review and proposal of indicators (KPI) for Library and Social Media

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Abstract: The objective of this paper is to develop a set of indicators, to help the units of information to evaluate the use and impact of their services through social Web o Web 2.0. This article provides guidelines for monitoring the libraries' online brand with the aim to obtain cost and return of investment (ROI) of such services. Libraries have a long way in evaluation process but, in this article, we propose to evaluate the ROI and offer to organizations that support the units of information or libraries, the justification in order to demonstrate the added value they provide with social Web. Appendixes are listed with indicator tables that are using in several libraries or proposing by researchers.

Keywords: KPI, Social Media Marketing, Library 2.0, ROI, Performance Measure.

1. - Introduction

Knowing how to understand and apply analysis tools constitutes today as one of the major tasks of expanding and potential to improve the way of doing business and controlling risks that waste time. The evolution of analysis tools is one of the most interesting trends of 2011, with a direct application to social networks. In May 2011 the McKinsey Global Institute published the article "Big Data: the new frontier for innovation, competition and productivity," where it was unveiled to be a task to collect, store, add, analyse and study data that is today the task of all managers within the global economy and in the near future, the demand for workers with analytical skills will be between 50 and 60% more than first predicted for 2018.

The aims that all types of businesses consider to make profit can be summarised into three goals (Burriel, 2010), that can be adapted to the aims of libraries are as follows:

1. **Increasing sales.** In this case, the aim is the increase in the use of contents, products and services that a library offers. In this sense, if offers the possibility of a faster accessibility to the collection, an increased use of the contents, increased

accessibility to carry out questions to librarians through any channel of social communication, increased assistance to training sessions and greater participation in the ecosystems of web services.

2. **Reducing costs.** The reduction of economic and human costs and materials constitutes the ways to reduce costs that has repercussions and offers savings for users in a triple sense:

   A) To save user time and attention to use such services and products as a means to resolve all information needs.

   B) To save costs of prevention using sources and services provided by the library that have been obtained through other mediums.

   C) To save operating costs to make the organisation of internal departments more profitable, through the use of services loaned by the library.

3. **To increase user satisfaction.** Measuring the grade of satisfaction of users through the services that are offered: measuring the importance that library offer users hold of library services and what constitutes as the image of the library brand name.

   Once we are clear with the principal objective, aims and strategies, the methodology regarding the gathering of data and its conversion of data into information, we have to establish indicators that allow us to measure the success or failure of our campaign. However, it is essential to know its business objective, its web objectives and a development action for the user and metrics related to this, before producing a list of indicators.

In the library context, Nuria Lloret (2011) refers to the need to measure the ROI (Return on Investment) of social media in libraries, not only to justify their use to gain visibility or improve the brand image but also to increase the quality of services that are offered, and likewise in their use. But also in times of economic crisis, an analysis of ROI can help institutions to evidence the saving of costs as contrasted with traditional marketing practices. It's also important to compare social media marketing with traditional marketing, but without forgetting a characteristic that they didn't have, bidirectionality. Taking away importance to the number of times that our message is read is not as important as the opportunity to listen and analyse what users tells us about our organisation and services to be able to make them more competitive.

Continuing with this author, the objectives that libraries establish when implementing social web tools into pro 2.0 marketing plan are:

- Increasing the continual traffic to our website
- Increasing the possibility of promoting reading
- Increasing user participation in library activities
- Improving services and the image of the library perceived by users.

In addition to the need to present data and establish measures, Broady-Preston and Lobo (2011), present a new measuring indicator, established in 2008 in the United Kingdom for services and are relevant to university libraries. This new indicator is based on three principals: to demonstrate the importance of libraries, the impact the service has and the level of satisfaction of users of the library.

For Anderson (2011), the justification must not only look for the objective importance that libraries have – that is generally the importance their own librarians grant – but the importance that users give the library. This importance depends on the needs that users have of the service in question, but not of its aims.

To prove the value of libraries, not only is user satisfaction of importance but also the satisfaction of governments, authorities and groups of interest (stakeholders) that support the library. As Hernon and Altman (2010, p viii) observe, one must develop new ways of providing services, directed towards the expectations of all groups of interest, and in its institutional context. Libraries need to find new ways of thinking and alternative ways to provide a quality service centred on the needs of its users. Those that interact with library services are the reason for its existence and their wishes and needs must guide the service.

It's not new that in times of budget cuts, libraries are called to prove their impact, and the importance of their service to society. But also in these times of economic crisis and even of existential crisis of all services that are significantly linked to its physical presence, one must make clear the need to demonstrate the importance that they continue to have both in association with digital settings, and on-line. In this way libraries face a situation in which it must justify costs employed in time, resources and concern to the user to prove its profitability and the importance it can have for its communities. (González, 2010).

"The value of Academic libraries" is a publication of the ACRL (Association of College and Research Libraries) (Oakleaf, 2010), whose objective is to articulate and document the importance of university libraries and research, and its contribution to the mission and objectives of its institution, and to answer the question that a large part of libraries ask: how should we evaluate, measure, and rate the importance of the social network services that a library offers?

2. - Retrospective over the evaluation and measurement of services.

In the field of evaluation and the application of quality standards (model EFQM), one can forecast the danger of implanting business rules over intellectual rules. Libraries have defined their importance and established their objectives by defining results that are evaluated in their local contexts. But the value of libraries must be measured in terms of users. One has to start with a new concept of the library. In the case of university libraries, these have lived an exceptional situation, being the centre of their institutions, with some captive users that can only find the answer to their information needs in the libraries. Their role was passive, maintained, under-used and as a guardian of books. Lecturers didn't see librarians as collaborative in training and research. In the case of public libraries, especially bearing in mind this era of crisis and that the budget given to culture is constantly reduced, it is imperative to measure the impact of its services (especially when they lack captive users as in the case of university libraries) and justify to politicians the need to count on funds, not only to maintain traditional library services but also to incorporate new services keeping with the real needs of citizens in the Twenty First century, using existing technology.

In many cases, libraries have been measured themselves against peers, instead of the successful way a library contributes an added value to its institution, and its value as a brand.

From the perspective of a university library service, to measure its impact is difficult especially if seen not from a traditional view of statistics and satisfaction surveys of users, but from the contribution that theses libraries make to teaching, learning and research of its institutions (Poll & Payne 2006, p.560). This same observation is made by ACRL (Oakleaf, 2010, p.16.) in as much as librarians should judge in what measure they contribute to prestige, reputation and accreditation process in higher education.

Despite the long professional tradition in collecting data and establishment of standards that measure library quality, to measure directly their impact and the value of their services by users, this could be a challenge that libraries may want to avoid. (ACRL, 2010, p.21).

With regards to the document of the ACRL, it must be pointed out that the correct path, as suggested, is the evaluation of the concrete services and not of the global entity. This clarifies the initial objective of this document: the selection and securing of data by indicators that form part of the online web services offered by libraries, particularly on the gathering of costs and their investment costs:

- To measure the real impact of social web tools used to offer library products and services.
- To obtain indicators that give us greater control over what we do and help us to compare with other libraries.
- To establish steps that any institution would have to follow, to be able to obtain not only quantitative data but also investment returns and costs through relevant formulas that key marketing indicators provide.
- In the last instance, to increase the visibility of libraries.

For the providers of services in its entirety, the matter of understanding and measuring the concepts of value and the impact on the service environment constitutes a challenge and a problem, especially in regards to the evaluation of a client or the perspective of those interested parties. These challenges are equally applicable to library services, as any other, especially when established in the context of a global economic recession.

However, one could say that the role of rules and indicators is to reinforce the actual relationship and collaborations with clients to communicate the value of the service to external and internal interest groups, and to serve as a tool to improve the quality and experience of the client. One of the fundamental advantages is that excellence in customer service sends a subliminal message to staff: excellence in loaning our services must a top priority.

The active participation and collaboration with clients is essential if libraries want this to become not only important, but also vital for organisations and communities that depend on them.

Recognising the growing symbolic relationship with the models and methodology derived from marketing services and its employment in the measure and demonstration of the complex construction of the value, and of the impact in the setting of library service, can serve to strengthen the performance measurement and its evaluation.

3. Panorama of the 2.0 website in Spanish libraries. What is used, what for and with what results.

The evolution of the social web concept and library 2.0 has advanced greatly in the last six years, since its origins when it raised many susceptibilities. Today, there are very few who question it totally, perhaps because the social web is now so extended that it covers all fields and has now surpassed its experimental period. Matters such as the use of social web services in the library field have moved to the background and there are many libraries that have integrated into social networks.

In professional bibliography, can be observed a trend towards practical experience, while initial publications had a predominately theoretical character (with some exceptions) and came to review the concept of 2.0 library and social web. From this bibliography study it establishes that the use of social web services made by libraries is complementary, since each library usually employs different services for different ends: Flickr and Picasa to mount photographs, Youtube to display videos, Issu or Scribd to publish documents and Facebook, Twitter and/or Tuenti as mediums to publish. And at times you can link one with another, but determined patrons don't exist except in total liberty in their use.

In the Spanish context, Jose Antonio Merlo Vega & Noemí Gómez (2010) coordinated a dossier with a wide variety of examples of use of these tools by Spanish libraries.

Library 2.0 was defined by Michael Casey (2006) who attributed the term Library 2.0 as <<… a model of library service that promotes the constant and decisive change, inviting the users to participate in the creation of real and virtual services that they want, supporting the constant evaluation of the services>>.

In principle libraries use social web tools with three aims:

1.- To be where users are. If these users are using social networks to keep in contact, Wikipedia to obtain information and an instant mailbox service to communicate, the library must be present in these channels or it will gradually remove itself from the ecosystem of user information.

2 .- To keep the digital projection of the library up to date. These social tools have become widely-known in the last few years; if one wants the library or documentation centre to continue to maintain an up-to-date image it is essential that they are used.

3.- To cover their needs. Just as at other times libraries adopted electronic mail, now these same users use other tools to communicate to each other. It is correct to use them, but it will not be enough to carry out a correct technological use, it is right to apply this technology to give it an appropriate value, and use it correctly within the communication strategy of the Institution.

For Didac Margaix (2008), libraries use library 2.0 tools with two fundamental aims: inform and talk. On the one hand, social networks allow libraries to enter the ecosystem of information and interact with users. The paradox of social media implies that the most important aspect isn't that the user visits the library website, but is about the user access to the information they are interested in accessing in the web site of the library. This information can be biographical, news or activities. To achieve this aim it seems that tools such as Twitter or websites of social networks are more efficient, however the effectiveness of one tool or another is based on the use made of them by library users and which respond to a well designed marketing plan.

The conversation with users continues to be one of the most searched for and difficult aims to achieve. In order to converse in any field one has to use a tone that invites you to participate and deal with topics that arouse the true interest of speakers. These principles must also guide the performance of libraries and information services when they pursue this end. Until now blogs have been the most relevant tool to converse with users, but social network websites are gaining ground as a conversation tool. Perhaps this is due to these websites representing an environment that the user perceives as its own (the social network that they routinely use) and where they are regular users.

Another aspect of libraries that web 2.0 is influencing is the contents and functions of informational literacy. On the one hand, many libraries are taking up the training of users in determined tools: blogs, wikis, sites for sharing photographs and other media, through one-off training sessions or through annual training plans, in order to help and orientate users through quick searches and electronic mail, or through synchronized tutorial sessions via chat. From a wide approximation, 2.0 tools that libraries use can be classified according to Chua (2010), into tools to search for, spread, organise and share information.

From this perspective, we can consider blogs and wikis as tools what libraries are using to acquire information. Also we can consider like that, microblogging sites such as Twitter, RSS channels, websites for sharing multimedia or the same social networks. From all these resources libraries can obtain information subscribing through RSS to websites or blogs and wikis of interest, channels on youtube or following suitable accounts on Twitter or in social networks.

Libraries are using blogs and subject wikis to share access, to offer information to users, to spread it, and also to create it in collaboration with them. They facilitate the distribution of library news through RSS channels, Twitter accounts and social network sites created for this objetive.

As a system for organising information, Chua (2010), refers to social bookmarks as a system of representation of contents close to users and that facilitates access and recovery of information. Close to this tool, we can also include OPAC social utilities (online public access catalogue) such as tags, stars, recommendations, the most read documents and other related documents that promote the incorporation of information to library systems through the same users and which provides a social networks system for them.

To share information, libraries are implementing virtual reference systems via chat and instant message boxes, with the aim of communicating with users with no time or place restrictions. Social networks constitute a useful channel to connect with users and respond to their questions, such as Twitter channel or geolocalization systems such Foursquare. Finally, systems to share media as Flickr, Youtube or Prezi, constitute tools of great usefulness to offer, organise and share information.

The research group GRINDB of the information department of The University of Valladolid is carrying out an interesting study on “Digital Libraries in Spanish Universities and social web”. The results of the study will be made public and will allow a comparative analysis among several well-regarded libraries, by way of each one can observe advantages or faults regarding the implementation of the library 2.0 concepts they are carrying out at this moment. This data will help to improve its planning and will serve as a reference point within their own evaluation processes.

With regards to the results obtained up to now, there are very few displays and evidence of success or failure that use of these tools has produced. Perhaps for first hand evidence we can refer to case studies presented at the V Congreso de Bibliotecas Públicas held in Gijón, in 2010, on the round table about Social Networks: methods and ways of evaluation, with the interventions of Natalia Arroyo, Javier Celaya (2010), Daniel Torres-Salinas (2010) and Nieves González (2010), that deal with libraries on the social network from the perspective of evaluating data and obtaining evidence and ROI.

A second event in which evidence of how social marketing and libraries are approached, was at the 19as Jornadas infantiles de la Fundación Germán Sánchez Ruipérez (González, 2011), or the meetings on the Community Manager at the Rey Juan Carlos I University.

4. Methodology to follow to obtain indicators and metrics of social web services in libraries.

To set up and monitor one or various web services, a strategic process has to be followed that involves the following tasks:

Starting from the base that the information unit is the creator of these services, they must be interactive, compatible and serve as a conductor between the target/public object and the information they offer.

The social part of the process can be identified as actions capable of being carried out by users, relating to the contents that the services offer: to share, exchange, distribution and redistribution, interrelations, evaluation, participation and collaboration. These actions serve to maximize the use of these services, "building an area of influence and taking advantage of the potential of global communication, all implementing social interactions within a loyalty and commitment perspective and contributing to the power of the brand absorb their audience". (Bosco, 2011).

When asking ourselves what we must measure, we must have clear ideas of what marketing plan we have.

All measurements are a response to a prefixed marketing plan, in that a strategy has been established that begins with a definition of the objectives that one wants to reach, in function with the detected needs; defining the public objective and social media, websites and social networks, in which we are going to use, for those of which we are going to establish an action plan; on be establishing the actions that we are going to be carried out, the contents that we are going to be dealt with and the mechanisms that we are going to use to monitor performance, interactions and conversations, to be carried out on Social media and with our users; indicators have been established and a plan B has been prepared for a possible strategy rectification. We will look at each of the points next.

One understands that indicators of web services have to be reflected both in global planning strategy regarding those services that have the Information Service, and in the specific online marketing plan for each one. It is advisable to firstly to carry out this planning since it determine the fact or its own distinctive factors to build the brand identity online.

Having the aforementioned planning as a base, starting with the target identification that one wants to achieve, it establishes a relationship with the particular on-line marketing plan for each service, that is to say:

- Identification of potential public profiles, which we want to offer services.
- Establishing tactical objectives. These have to be aligned with those that propose both the definition of the aim and planning focus, with the strategic objectives of the online marketing. “Objectives have to be specific and realistic and must especially be able to measure” (Muñoz, 2011). For example, the aim could be to increase library catalogue searches through a specific search application for our catalogue, created and added to the Facebook page that the library has.
- To select the adequate strategy for the acquisition of the objectives established in the previous example.
  - To attract visits to the library Facebook page through promoting library training activities; communication emails remembering this possibility within this page; the positioning of search engines and the creation of a profile, within which the library has in Google Analytics.
  - To convert the visitor to the page into a client. One can measure this through the traffic previously generated in the service we have establish previously in Google Analytics.
  - Engagement with-clients, keeping update the information about new resources that they look on the catalogue.
  - To convert engaged clients into allies of the service, and consequently give incentives to them, such as offering some benefits for using this channel, gifts, reductions of fines or an increase in loan periods. Another form of loyalty is to invite clients to try new units and services before they are overexploited, offering the opportunity to give suggestions through a corporate library social network website or through its blog.
- To allocate resources and time. Quantify the marked objectives, to determine how they are to be measured and within a determined time limit. Following the previous example, the visits made to the services established in Google Analytics will be monitored and measured, statistics from Facebook Insight will be used.
- To define the measure of success of the service. To discover the cost of one visit. In this case, we can achieve this by dividing the cost of the investment (in this example, what the developer of this application has charged) by the number of clicks. With respect to ROI, and in addition to the previous investment, we have to take into account fixed costs (both personal and for the maintenance of the computer used) and variables (for example, adding any new functional characters to the aforementioned application).

- The final strategical evaluation of this service, once collect periods and conversion of data are respected, is essential to make decisions about the continuity of managing the service, or carrying out modifications that are considered necessary.

4.1 The Indicator Selection Process.

Not only is it necessary to evaluate why we want to make these measurements (marketing) and why we want to justify, for example, time employed by Information Service personnel in managing web services. There is a subject to consider, and that is the evaluation of the "online brand", what has been gathered until now by corporative information described on the library website. When managing these services we are evaluating the intangible value (as the products and / or services that we offer) that users have over our Service, and consequently over the brand that we belong to.

Having the business as an objective, we can found a list of points that Pamela Seiple (2011) consider related to the mediation process and data collection:

- Always start by keeping in mind the aims of the business.
- Define how to measure them, and by what criteria.
- Compare and test.
- Monitor the users sentiment and conversation (listening).
- Understand the consumer.
- Know what platforms they use (sites and social network).
- Know the difference between sites and social network
- Define your strategy and implement it according to what has been defined.
- Compare results.
- Involve all staff of the organization.
- Define what you are going to measure and monitor.
- Repeat the process by listening again.

According to another author, David B. Thomas (2011), it is important from the outset, establish the differences between the distinctive actions that a measurement involves:

Listen to what the people say about the brand and where. Different tools can be used for this end, such as Google or Bing, Twitter Search or Google Blog Search, to find mentions of the library, librarians, products and competitions. It's about only hearing what is being said, without intervention, and in a passive way.

Monitor, is the next step. It is about pay attention to what is being said 24/7 (24 hours a day, 7 days a week), and trying to capture what is most relevant in mentions. Tools such as Google Alert make this task easy, and likewise other tools that charge a fee and include alert services.

Measure, is the following step to integrate the results of activity on social media, into the management of the library. After listening and monitoring, the next step is to know how this is being carried out: Is it improving its presence? Is it doing better than its competitors? Is it doing well? With quality parameters one has to measure. For this one has to establish high quality performance (KPIs -key performance indicators-), and prove they are appropriate for the business. For example: Are there more commentaries on the blog than in previous years? How fast are more followers being obtained on our Twitter account? The danger is searching the item of data by the item of data and not by what that data implies. What benefits has to have many followers?

Analyse: Are objectives being fulfilled? What means the success of the measures? Are there more conversations (conversion index, more loans, more consultations, more reference questions or more visits? Does having more fans increase the leadership of the library? To understand the analytical nature of the activities carried out on social media is the same as understanding the value of the marketing activities, public relations and promoting the library. It is essential to establish the relationship between social marketing activities and the conversion that we want to achieve.

ROI (Return on investment). Its definition is to quantify how much profit is returned in relation to the investment carried out.

4.2. Methodological Proposals for choosing indicators.

With regards to establisher measuring, these are the different proposals we have selected from the existing bibliography. It is necessary to consider that they must reflect both quantitative and qualitative indicators.

A first measurement proposal is obtained through metric AIR (Brown, 2011), which establishes three indicators:

Activity. Frequency of activity in blogs, social sites services, in social network services (SNS), How many updates are being made? And how many promotions have been carried out? Would constitute a first phase.

Interaction. To measure the level of involvement of users (fans and followers), through " I like" displayed and shared elements (videos, photos) retweets, contents created by these users, comments, participation in forums, feedback, information petitions, download of documents from the Library website, the downloading of tutorials in multimedia formats, visits made to the website, time in the pages of this web site, loans, renewals, pages visited on the web and subscription to RSS (Real Simple Syndicate). Will constitute a second phase.

ROI (Return on investment) measures the existence of an increase or decrease in the relationship between what has been invested in each of the library social web services that are managed and the profit gained by each one: questions of reference, loans, renewals and selective dissemination of information, search and access to resources, both printed and in electronic format. This metric can be found on each level of the conversion funnel showing these social web services. The relationship established between investment, fixed and variable costs and profit will tell us if there is a greater demand for the library and its librarians by society, by institutions, if their prestige is rising and if the users are more satisfied with the service, etc. This constitutes a third phase.

In second place a combined quantitative and qualitative method has been selected. The author of this second proposal is Clay McDaniel (2011), who proposes to measure in a usual way the following three values: size, traffic and impression, and to offer a comparison that serves to demonstrate the impact of Social Web services on the community.

Total Online Community Size (sCRM)

sCRM is equivalent to the total of all community members and /or social networks that are being managed. The total size of the online community and the sum of all so-called micro-audiences, are important because you can control its evolution in time. It is about the population that by someway receive the library's message. The absolute results aren't as important as it evolution. This data must be in constant increase.

It is necessary to manually gather graphs and data from the most important platforms that they are going to use, to make weekly and monthly calculations, to hold this information in spreadsheets and produce graphics that display the trend. It's recommendable to search for the data results of three competitors and compare them with your own, every month.

Monthly Referred Social Traffic to site (sTraffic).

sTraffic is equivalent to the total one-time users of websites from social network sites. It gathers the traffic that has been generated towards a reference service web: website (or individual pages) or blogs. This traffic proceeds from shared links from other blogs, forums, social network services and social web sites. One registers all social media that has provided links to the website and blog on a monthly basis.

Tools that can be used are: WebTrends, Google Analytics or any other analytical web tools.

It is necessary to export absolute data of the traffic to websites proceeding from social media and the percentage that the traffic represents, from analytical web tools used to spreadsheets. It generates monthly graphics to reflect these trends.

Social Monthly Impressions (sMI)

sMI measures the mentions of the library brand made on all sites and social networks, during a set month. To measure the impression that the brand produces in the community is the most difficult part.

It is necessary to monitor the brand mentions, in an established timescale, using tools such as Google Alerts. Despite not being exhaustive, it offers a regular vision of the mentions of the brand on the web, both in blogs such as social media, or networks such Twitter or geolocalization as Foursquare. In addition, on can select tools to monitor the brand on the web (Internet) such as Social Mention.

Besides these two proposals, in relation with the indicators which the Library must extract the KPIs (Key Performance Indicators) and metrics that were related with the objectives planned for their social web services, we found the following approximations to this topic.

Andrew Schiestel (2011) offers a new option in his blog Interacter, the model BIIR: brand, integration, interaction and retention, to examine the present state of libraries.

Brand: the image of a library brand isn't very dynamic. It is not just a place to send silent. The librarian and librarian should exercise not only employee.

Integration: The increase in information and its accessibility through networks forces the library to find its integration in an online search.

Interaction: Interaction barely exists between librarians and both its physical and online users.

Retention: What encourages users to return to the library? Retention is achieved with offers or discounts that can also be applied to the library business.

Next, we relate some of the actions that can carry this out:

- Integrate social media environment within the structure of the library.
- Building a search engine, image and similarity to Amazon, which offers the same functionality on the documents that it already provides.
- Put QR codes into each book, so that when users see it they receive information about it stored in the catalogue database of the library.

According to Schiestel (2011), libraries can once again become attractive to users thanks to new search engines and the integration of the library into the cultural landscape of the community that serves and reconsiders its space as a place of the transfer of knowledge and learning. In this way we will obtain the following result:

Brand: the service is flexible, responding to the needs of the community, and is seen as a place of added value.

Integration: The library knows what its target public wants and to provide it.

Interaction: the library can interact with its users and potential clients through different social media.

Retention: The library achieves a compromise with its users because it knows who are his targets, where they are and what they need. Likewise, users of the library can give feedback via bidirectional communication.

Lastly, the author Nuria Lloret (2011) makes a specific proposal for information units, that implicates the following indicators: Engagement, brand, influence and ROI.

Table 1. The Level of Return from Social Media.

Level	Indicator	Análysis
Direct	Engagement	Mentions RT Interactions (etc.)
Intermediate	Brandig Influence	Online Reputation / Action Analysis / 2.0 Research
Final	ROI	Business Intelligence /Market studies / Social research

Another practical example could be the indicator and metrics set named by Javier Celaya (2010) at the V Congress of Public Libraries in Spain:

- Analysis of dependencies (Google, direct traffic and reference sites).
- Number of visits to the web. The quality of the visits (time spent logged on).
- Quota of media space in searches for key words.
- Attention level of our fans, the number of mentions, the number of RT and the number of links.
- Ratio of customer service.
- Perception of the value of our services.

4.3. Indicators, KPIs and Metrics of the social web services of the library.

The aim of this article, as previously commented, is, in one way, to show some initiatives that exist in the social media word to measure the impact of social media in business clients and, in a few instances, in libraries users. Until know, we have describe some interesting initiatives in this way that will serve to us to establish the second aim of this article: to put forward a series of indicators and metrics that serve to evaluate the continued actions carried out by libraries through social network sites, as well as their impact on the corresponding user community.

According to Wikipedia, Key Performance Indicators (KPI) measures the performance level of a process, focussing on the "How" and indicating the performance of the processes and to be able to accomplish fixed aims. The key indicators of performance are financial metrics or not, used to quantify objectives that reflect the performance of an organization, and is usually reflected in its strategic plan. The act of monitoring the key performance indicators in real time is known as **business activity monitoring**. Performance indicators are frequently used to "value" activities harder to measure, as the benefits of leading development, employee engagement, service or satisfaction.

The KPIs are usually tied to the strategy of the organization (illustrated in techniques such as the Balanced Scorecard). The KPIs are "Communication Vehicles". They allow high-level executives to transmit the task and company vision to lower levels of the hierarchy, directly involving all collaborators in the working of the strategical aims of the business. In this way, the KPIs hold these principle objectives: to measure the level of service, carry out a diagnostic test of the situation, communicate and inform about the situation and the aims, and motivate the responsible teams of the completion of the objectives reflected in the KPI and to progress constantly.

The author Pedro Rojas (2011) indicates that to carry out this perspective exercise when we analyse results in social media, it helps us to convince our clients, anxious for data, that the strategy works. Applying this reasoning to our business serves to demonstrate to our officers that time and invested resources have served to fulfil the company's objectives, now that one can demonstrate the evolution of the KPI; and at the same time, we have the opportunity to verify if our strategy works, if it is necessary to make changes and if protocols have been correctly structured.

To accomplish this, it becomes essential that we have previously identified and selected KPIs are fully consistent with our objectives. These KPIs must be taken into consideration at the planning stage of strategy. Only too frequently the problem arises that strategies don't contemplate KPIs at the beginning but in hindsight, that is to say, once the campaign is in motion, and when our presence in social media and other social media has commenced. Besides being a huge mistake, can greatly complicate the work, as not thinking at the time KPIs not allow us to plan well the actions are carried out, and the tools that we will need to perform analytics data, accord to our marketing plan. Put in another way, we won't be able to know if our data are precise and reliable.

Going against what has become routine, will not establish indicators and their corresponding metrics based on each tool that offers these metrics, but related to the type of results they produce or that is to say, related to their impact.

Are presented in Annex (Scorecards and metrics of libraries and researches), a set of tables with practical examples of libraries that use the applications and services of social web, such as private research, that has established indicators and metrics to evaluate and measure efficiency. Based on this data and the methodical proposal of the AIR metric and of Clay McDaniel, previously referred to, we present our proposal for the strategical objectives or business objectives, tactical objectives or web objectives and metric susceptible to be managed by units of information.

Table II. Indicators Proposals

Objetivo estratégico	**Objetivo táctico**
Visibilidad de la marca	1.- Popularidad
	2.- Actividad
Fidelización	3.- Tráfico
Influencia	4.- Percepción social del valor de la marca
Relevancia	5.- Interacción (compromiso)
	6.- Conversión

We consider that this group of indicators provide a wide vision of their impact on the community, and of the use of libraries are making of social network tools. Nevertheless one has to bear in mind that modifications can be made with respect to the chosen indicators, given that the very same tools add new indicators and statistics about themselves, and on the other hand, don't cease to develop new tools and characteristics to measure. Likewise, and following an evaluation period of data, it is possible for indicators that haven't been considered at that moment to increase in relevance and to vary the content possibilities that each tool offers.

In relation to specific indicators, to measure the impact of mobile versions of these services, it is recommended that if user access via this route to library resources is higher than 6%, libraries must build specific applications for access via mobile telephones to the library resources.

The first strategical objective refers to the **visibility of the brand**. To achieve this, the following tactical objective must be considered:

1. Popularity. (Followers). The total size of our online community.

Online popularity can simply be conceived as the quantity of interested persons for our media or business. Despite many pointing out that quality is more important than quantity, if one looks for advertisers or sponsors, we will be more successful if 12,000 people compared to 800 follow us on Twitter.

Process (the same activities and tasks described next will be carried out, for each one of the tactical objectives related).

- Manual collection of data from the most important platforms to be used.
- Weekly and monthly calculations will be carried out.
- The graphics are stored in spreadsheets.
- The aforementioned graphics have to show data trends.
- It is essential to add data from three other competitors and compare them with our own.

Listed below are some of the metrics (KPIs, in the event that such metrics coincide with planned objectives), taking into account not only measure these individual indicators, but also the combination of these:

- Followers on Twitter.
- Fans (Facebook pages).
- Followers on blogs.
- Friends (Google+)
- Subscribers (through each channel on social sites to share media).
- Contacts (in LinkedIn or other services of social networks).
- Subscribers to RSS channels.
- Subscribers to web services developed by units of information.

Next we propose some useful tools to gather data:

- Klout.
- Facebook Insight.
- Statistics from blogs, wikis etc.
- Statistics from relevant service, like:
  - Twitter grader http://twitter.grader.com
  - Twitter counter http://twitter.counter.com/
  - Google+Statistics http://socialstatistics.com/

2. **Activity.** The frequency of the activity in social media services and social applications of the units of information.

Not only we are going to measure contributions carried out for units of information, but also the responses given to the concerns of potential clients.

Process (the same activities and tasks described in Indicator 1. Popularity will be attained).

Listed below are some of the metrics (KPIs, in the event that such metrics coincide with planned objectives), taking into account not only measure these individual indicators, but also the combination of these:

- Post in blogs. In relation to the blogs, one can measure the number of postings on blogs, comments that have been responded to and comments on other blogs.
- Entries and updates on wikis. These could be updates or the creation of new pages or comments of response.
- Entries to wall and timelines on social networks (Facebook, Tuenti, Twitter, LinkedIn and Google+, etc).
- On social network websites to share archives, one can count the number of items uploaded on Flickr, YouTube, Issuu, Scibd, Netvibes, etc.
- Links created in social bookmarks, directing people to the website or blog as a reference service.
- Respond to comments made on social network sites.
- With regards to chat (Instant mailbox), the number of calls answered by the library.
- Groups, lists and circles created by the library.
- Comments on external social web.
- The percentage of answered comments, that indicates if we use the web service in a bidirectional way (an essential characteristic of social media), or only as a communication platform (unidirectional).
- The response time to comments. It is sine qua non that the user or potential client obtains feedback as quickly as possible, in order to fulfil their expectations of the service.

In this case, the tools will be documents that we can use to gather information manually, though aided by using other specific tools such as:

- Statistics of the services in question.
    - Twitter grader http://twitter.grader.com
    - Twitter counter http://twitter.counter.com/
    - Google+Statistics http://socialstatistics.com/

The following strategical objective refers to engagement to the brand (brand awareness) marking the traffic that derives from the reference web service the tactical objective.

Create brand awareness must be one of the main objectives in social media. When starting a campaign from scratch, and it takes time to create this awareness. We must be able to measure this trend and keep track of the progress.

3. Traffic. Collecting of the traffic generated to the website, websites, from shared links from blogs, forums, sites and social networks; all social media that have contributed entries, links to the reference site. For this indicator should be measured not only unique visitors but also page views, bounce rate, time of permanence.

Process (the same activities and tasks described in Indicator 1. Popularity will be attained).

Listed below are some of the metrics (KPIs, in the event that such metrics coincide with planned objectives), taking into account not only measure these individual indicators, but also the combination of these:

- Unique Visitors
- Page views
- Inbound links
- Time spent at the referring site
- Bounce rate

We propose some useful tools for data collection: WebTrends, Google Analytics, and any web analytics tool.

The next strategic objective aims to determine the brand loyalty, and the influence it.

The tactical objective is covered through the use of KPIs to measure the social perception of value to our brand.

In social media, its participation translates or refers to the number of conversations generated about our brand as opposed to our competitors. For this, it is essential to use and resort to special monitoring programmes that help us to follow up all mentions made to the brand and of our competitors during a fixed timescale.

Measuring our social influence in a precise way is very hard to achieve, but at least we can get close enough if we apply some analysis tools that we have at our disposal. The influence is directly linked to confidence, therefore it will result determinant to how our followers perceive us as a relevant source of information.

To measure the sensation that the brand produces in the community, we need to measure the loyalty and fidelity of our clients. Do we form part of the conversations maintained on the web when somebody talks of products and services that we offer? And how do our users perceive us as opposed to our competitors?

4. Social Perception Value of our Brand.

Process (the same activities and tasks described in Indicator 1. Popularity will be attained).

Listed below are some of the metrics (KPIs, in the event that such metrics coincide with planned objectives), taking into account not only measure these individual indicators, but also the combination of these:

- Mentions the brand in external web services and social network sites, blogs, third-party proprietary applications, etc.)
- The percentage of positive comments in proportion to the total amount.
- The percentage of negative comments in proportion to the total amount.
- The percentage of neutral comments in proportion to the total amount.
- Social Mention Index
- Influence parameter belonging to the index Klout
- Conversation parameter belonging to the index SoMeS

Next we propose some useful tools to gather data.

- Google Alerts. Despite not being exhaustive, it offers a standard vision of our brand mentions on the web, both on blogs and media or social networks.
- Socialmention.com
- Klout.
- SoMes.

The following strategical objective refers to brand relevance. To achieve this, the following tactical objectives are considered.

5. Level of interaction. (Compromise)

Compromise is the grade in which people interact with our brand, and specifically with our contents and become involved with it. Participation demonstrates that people are interested in what it offers in a way that makes people participate. Measuring participation is important to be able to see to what measure and how frequently users interact with our contents.

One measures interactivity that is produced on our web services, as well as the level of engagement of our potential clients compared with other periods in time.

Process (the same activities and tasks described in Indicator 1. Popularity will be attained).

Listed below are some of the metrics (KPIs, in the event that such metrics coincide with planned objectives), taking into account not only measure these individual indicators, but also the combination of these:

- Comments. An important number of comments reflect the maturity of the community we are creating. Participation must be fostered so that it grows each day.
- The number of labels to our contents.

- Information request, how many questions, and the number of subscriptions to the channel.
- Comparison of contents that includes multimedia archives.
- Retweets.
- Favourites, votes, recommendations and "shared with" comments.
- "I like " comments. Measuring this interaction gives more visibility to contents and therefore to the brand. Not only is it important to have many "I like" comments but also to have sustained growth.
- Lists and circles that incorporate the unity of information.
- Visual multimedia archives.

In this case, the tools which support us, in addition to documents used to gather data manually can provide the statistics that social network services offer or by URL shorteners.

6. Conversion rate.

The number of potential users that convert into customers carrying out actions that have been forecasted to specify the strategic objectives, - business objectives, - and tactical - web objectives. The action to be performed by the user is what is measured as KPI, as it relates to the specified target.

It is about increasing the use of social web services that manage the library and consequently the increase of loans, visits to the web service reference, renewals, reserves, reference questions, request for training courses, downloads of electronic documents and tutorials, information requests and the time spent logged onto the web services.

The level of conversion can be found by dividing the tactical objectives achieved (for example, the amount of users that use the interlibrary loan form from the corresponding web service) by the number of users that accessed the same web service. For this reason, any predetermined action in any of the web services has a conversion rate. This means that to find out it is necessary to define actions once both strategical objectives (business strategies) and tactical objectives (from the web service), and not only the access to web service itself (for example, visits or the number of visits to the website pages).

One must measure the conversions that take place on the website and in physical space during a month compared with other time periods in which these social media campaigns weren't made. It is necessary to hold interviews to find out if users are encouraged to use the library through these campaigns. Despite not being exhaustive, they offer a regular perception of possible conversions that have favoured this social media. In addition tools can be used to listen, such as Google Alerts or Specify.com.

This indicator must respond to the following questions: Are we capable of creating better relations with our audiences? Do we form a part of conversations in which previously we were not part of? Have we passed from monologues to dialogue with our users? And how are we doing compared with our competitors?

For example, the conversion rate could have its business objective in the access to its service (web page, or its own development on a Facebook page) through which users can access one special electronic resource. The web objective would be to increase the number of clicks to this resources. To get a rate of conversion, we would have to know the number of clicks to the web service and the number of clicks to resource (in this case, this data can be given to us by the provider, or the counting of the logs of the users to this resource), this way we can know how many clients we have acquired from the total number that have accessed the service. The real cost would be the result of the ratio between what it costs us to subscribe to this electronic resource and the number of customers that have accessed it. The assessment would be important in order to maintaining the subscription or not.

Noting the conversion rate as KPIs, this metric influence the actions that are planned to be performed by users on the social web services.

Process (the same activities and tasks described in Indicator 1. Popularity will be attained).

Next we relate some of the actions to extract the conversion rate (KPI).

- Sending of forms for interlibrary loans.
- Sending of application forms for training courses.
- The sending of renewal forms for document loans.
- Downloaded electronic document archives.
- Request for acquisitions.
- Request to reserve conference rooms.
- Request for information and reference.
- The number of training courses applied for and the number of people enrolled on training courses.
- Downloaded tutorial.

5. Conclusions.

We are conscious that it is about a project in continuous evolution, not definitive, that opens many doors to many different paths and depends on the development of social media and marketing, which have yet to emerge. Likewise, as in its own evolution and compromise capacity, that libraries and information services want to attain with users and society in general.

In this research project we have to a certain extent touched upon to unique quantitative indicators and in this respect leaves us to define other types of indicators: ROIM (return of investment Media) or IOR (Impact on relationships). Among the aspects to be addressed in the future, it includes both the quality of contents and the topics related to leadership in social organization.

However we consider that reflection and indicator proposals that this article offers comes to occupy a place in evaluation processes and the gathering of data by libraries, and is linked with its productivity in a digital and connected society, in which its presence is more and more evident and useful.

Libraries, information services, have a social web presence that is largely undoubted. However, there are few units that provide indicators of return on resources invested in that presence and communication with their communities. The need to establish indicators to measure the performance of the work done is seen as essential by all of information units.

The proposed indicators that we consider, sought by both strategic objectives (which should be included in the strategic plans of the unit itself or library), and tactical, intended as a way to contribute to cover a metrical vacuum of libraries in our country that in the case of the social web, will give us a picture of the library based on different parameters: the level of popularity reached and activity developed on social media, traffic is able to produce from these media to reference web site each unit established, the social perception of brand value in each community library, and finally, the interaction rate and conversion or commitment, or real transactions occurring in the website or physical.

The relationship of cause / effect can be inferred from the indicators, and use of services and library collections, staff expertise, should serve as a warning and call attention to the way in which they are investing resources the organization in the social Web.

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Annex. Scorecards and metrics of libraries and researches

Chart 1. Indicator of brand visibility. Popularity

Indicator Visibility/ Popularity	Seville University Library	A Coruña Municipality Libraries	Vancouver Library (metrics on social network Twitter)	Luisa Alvim (researcher) (metrics on social network Facebook)	José Luis Menéndez (researcher)
Popularity (facebook)	# visits	# news fans # news friends # visits # profiles and pages visits # friends requests received # friends requests made		# people who become fans o friend of profiles or pages # fans (page) or friends (profile)	# total of fans # news fans # delete fans # unique visitors to the page # total of unique visitors to a particular page of the profile # videos watched # viewing photo # audio playback
Popularity (blogs)	# followers # collaborators				
Popularity (social media sites)	# contacts / subscribers / followers # friend requests				# channels subscribers # videos watched # viewing photo
Popularity (wikis)	# collaborators	# participants # visits			

Popularity (rss)	# subscribers	# subscribers			
Popularity (other social networks)	# followers # page fans # contacts # friends				# visits # news users # returning visitors # absolute unique users

Chart 2. Indicator of brand visibility: Activity

Indicator Visibility/ Activity	**Seville University Library**	**A Coruña Municipality Libraries**	**Vancouver Library (metrics on social network Twitter)**	**Luisa Alvim (researcher) (metrics on social network Facebook)**	**José Luis Menéndez (researcher)**
Activity (Facebook)	# contributions to own wall	# contributions to own wall		# publications # video publications # photos publications # audio publications # Photos # Notes # Blogcast (link to blogs) # Links to Slideshare # Links to YouTube # publications to other walls	# comments # publications to own wall
Activity (blogs)	# entry or post in each service / tool. Frequency of entries # comments in other blogs	# entry or post in each tool or application. Frequency of entries			
Activity (social media sites)	# items / links / files uploads	# photos uploads # videos uploads # recommended books in LibraryThing # broadcast messages			
Activity (wikis)	# updates. Updates frequency	# updates. Updates frequency			
Activity (chat)	# queries answered # number of times a month a Library attends # queries not answered				
Activity	# tweets, RT,		# post with photos		

(twitter)	resend # media files uploaded and shared		and videos		
Activity (Slideshare)		# publications			
Activity (delicious)		# recommended resources (tagged)			
Activity in sites of the other: Blogs	# comments in other blogs				
Activity in sites of the other: Social networks	# post in other pages			# publications to other walls.	

Chart 3. Rate of loyalty: Traffic

Indicator Rate of Fidelización/ Traffic	**Seville University Library**	**A Coruña Municipality Libraries**	**Vancouver Library (metrics on social network Twitter)**	**Luisa Alvim (researcher) (metrics on social network Facebook)**	**José Luis Menéndez (researcher)**
Traffic to the reference web from social networks					# from traffic sources # from direct traffic # from reference websites # from search engines
Traffic to the reference web from Twitter			# traffic to web site of the library		

Chart 4. Rate of Influence. Social perception (mentions) of the brand value.

Indicator Rate of influence/ Mentions	**Seville University Library**	**A Coruña Municipality Libraries**	**Vancouver Library (metrics on social network Twitter)**	**Luisa Alvim (researcher) (metrics on social network Facebook)**	**José Luis Menéndez (researcher)**

Mentions of the brand (Facebook)	# mentions of the brand		# mentions of the account		# critics # positive comments on the wall post # negative comments on the wall post
Mentions of the brand **(social media sites)**	# mentions of the brand		# mentions of the account		# positive comments in the photo gallery / contents in video channel. # negative comments in the photo gallery / contents in video channel.
Mentions of the bookmarks (other social networks)	# mentions of the brand		# mentions of the account		# positive comments on publications in the different services. # negative comments on publications in the different services.
Mentions of the bookmarks (twitter)	# mentions of the brand		# mentions of the account # quality of @replay and DM of followers		

Chart 5. Rate of Relevance. Interaction (engagement)

Indicator Rate of Relevance. Interaction	**Seville University Library**	**A Coruña Municipality Libraries**	**Vancouver Library (metrics on social network Twitter)**	**Luisa Alvim (researcher) (metrics on social network Facebook)**	**José Luis Menéndez (researcher)**
Interaction (Facebook)	# Likes in wall # comments from contacts # application of contact / friendship	# comments # interactions		# Likes # comments in publications # comments in wall by the users / visits # wall publications by the users # Likes (publications, links, status, video, activities) # events # notes # links to other content # groups that have joined # blogs follow # favorites pages	# comments # publications in wall # Likes # suggestions for new services un profile
Interaction	# comments # Likes	# comments # visits			

(blogs)		# Likes			
Interaction (social media sites)	# messages # times like favourites # downloads # readings documents # comments				# comments # favorites # suggestions for new photos / video # reproduction of channel
Interaction (wikis)	# comments				
Interaction (rss)	# links from contacts	# links from contacts			
Interaction (other social networks)	# lists, circles that include the brand				# page views # contents # unique page views # suggestions to include news services in the social network
Interaction (twitter)			# volume of answers to followers of the profile, solicited and unsolicited # Reweets (RT) # List that include the brand # RT of followers # RT of contents of followers in the brand timeline		

Chart 6. Rate of Relevancia. Conversion (ROI).

Indicator Rate of Relevance/ Conversion	**Seville University Library**	**A Coruña Municipality Libraries**	**Vancouver Library (metrics on social network Twitter)**	**Luisa Alvim (researcher) (metrics on social network Facebook)**	**José Luis Menéndez (researcher)**
Conversion (Facebook)					ROI (return on investment) about visitors-metric views to the library profile for a period of 6 months