

National technology project for the libraries of the Bolivian Catholic University San Pablo (2020–2023)

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ABSTRACT

Problem: It has not been possible to implement an integrated library management system (SIGB) to unify the use of international standards and appropriate tools to provide services to end users and avoid unnecessary duplication of efforts in the different libraries at headquarters. **Objective:** This study aims to enhance the national library system (SINAB) by incorporating regulations and organizational structure of the SINAB and national acquisition and subscription of virtual resources, implementing an integrated Universidad Católica Boliviana San Pablo (UCB) library system (KOHA), and developing a national UCB libraries system web page as a tool that gathers all the university services for the support of learning, teaching, and research that benefit the UCB academic community. **Methodology:** For the development, drafting, and approval of the project, the project management body of knowledge (PMBOK) tool was used. According to PMBOK definitions, a project is a temporary effort undertaken to create a unique product, service, or result. In simple terms, a project can be any action that needs to be taken to accomplish something new. This can go beyond the business context, as it can encompass launching a product, starting a new course, and even making major purchases. **Results and discussion:** The study achieved several key outcomes, including subscription to 12 virtual tools and resources, all included in the NEO; learning; implementation of the SIGB KOHA in the four UCB sites, which are now in operation; creating tutorial videos;

regulations of SINAB-UCB, approved by the Board of Directors; and a call for the creation of the national web page.

Keywords: digital library, university library, information system, information technology, KOHA

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1. INTRODUCTION

In order to achieve a library system, it is important to standardize their integrated library management systems (SIGBs), as a first step, as well as the unification of services through regulations. This is why the project presented is tangible; national library system (SINAB) can be recognized through products such as the single catalog, the national web page, subscription to virtual resources through national proration, and the regulations approved by national bodies.

It is from the year 2020 that the way to realize everything advanced until that moment was visualized, and that is how the national project of technology for Universidad Católica Boliviana San Pablo (UCB) libraries was born, with the first intention of migrating the different bibliographic databases to an integrated system, starting from this huge work is that the project is put together including other objectives and products, which ended up in the approach of objectives presented in this work.

1.1. UCB National Library System

The definition of library system corresponds to the organized set of library services existing in a given geographical area (Arzamendi, 2003, p. 3).

There are several elements required by any library system: a competent administration that regulates the operation of library services, a regulatory basis dictated by the corresponding authority, and a technological infrastructure that supports the services in an efficient and responsible manner.

Thus, at the initiative of the National Academic Vice Rector, in 2020, we presented a project called, “technology project: UCB libraries,” which included different aspects such as hiring of professional staff, subscription of virtual resources and E-books, web page, and the implementation of a unique SIGB.

1.2. SIGB KOHA

The most complex product to carry out was undoubtedly the last one. The situation of the databases was very varied; in the four sites, there were five description formats, and in many cases, they did not comply with regulations in their processing. The services were also different, so it was decided to implement an SIGB. After many meetings, KOHA was chosen.

What is KOHA?

- KOHA is an integrated web-based library management system under the GPL license that runs on both Linux and Windows. KOHA was created in 1999 by the Library Trust in New Zealand.
- KOHA allows the librarian to handle most of the administrative procedures of a library, as well as provide visitors with a public catalog for reference and circulation.

- The word KOHA comes from Maori and means gift or donation (<https://koha-community.org/>).

Therefore, the expected output was “KOHA open source integrated library management system implemented and operational within UCB, according to the requirements proposed by the library staff.”

1.3. Subscription to Virtual Resources and E-books

According to Gómez Hernández (2002),

Digital library elements serve to enhance rather than replace the conventional library. The user coexists with electronic and paper documents. Services are produced in remote environments, their intrinsic form being digital, and in face-to-face environments, where digital technologies are also applied. The hybrid library affects not only the user in the provision of services, but also the professional in the management of processes (p. 171).

The concept of virtual library is varied; however, the following clarifies the concept:

Virtual libraries are platforms that provide content, as well as bibliographic and documentary services. They are made to respond to the great demand for information from students, professionals, and any other person. Some virtual libraries present different types of content depending on the specific area of information. Many of them present dynamic tools and user-friendly resources. They allow the transmission of knowledge, access to information and facilitate research. The material you find in

these platforms is completely digital, in some cases to access the texts you will need a password and in other cases not. Sometimes you can even download or print them (IGNITE Online, 2010).

The UCB has a historical relationship with the subscription of virtual resources and the annual statistics of resources such as EBSCO, JSTOR, and DIALNET, being the first in Bolivia to subscribe to SCOPUS. However, the health emergency caused by COVID-19 showed us that the supply of virtual resources was not enough. It is for this reason that E-books and other remote access tools were incorporated, for example, to the offer that will later be developed in this document.

2. METHODOLOGY

Several meetings were held with librarians and computer scientists from the four regional academic units, as well as with librarian colleagues from different universities in Argentina and Chile, who shared their experiences in the management of library systems. Two working groups were formed to develop projects oriented to the organizational aspects of SINAB-UCB and library technology.

The project management body of knowledge (PMBOK) methodology was used for the development of the projects. It is a compendium of best practices, first published in 1996, which describes guidelines, terminologies, and other standardizations, ensuring a broad view of project management. The PMBOK guides management, providing important data for companies around the world to follow uniform directions in order to reduce failures, improve performance, and have a more accurate forecast of results (Sydle, 2022).

3. RESULTS AND DISCUSSION

3.1. Renewal of Virtual Resource and E-book Subscriptions Nationwide

The technology project: UCB libraries enabled the subscription of the following virtual resources at the national level:

- SCOPUS
- RESEARCH4LIFE
- EBSCO
- JSTOR
- ASTREA
- DOI subscription with CROSREFF company

It also enabled subscription to E-books through the following digital content companies:

- MCGRAW-HILL
- CENGAGE
- PEARSON

Figures 1 and 2 show the usage statistics of virtual resources and E-books, respectively.

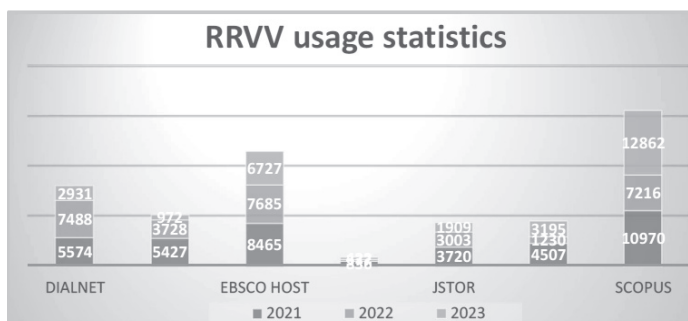


Figure 1. Number of RRVV use (2021–2023).

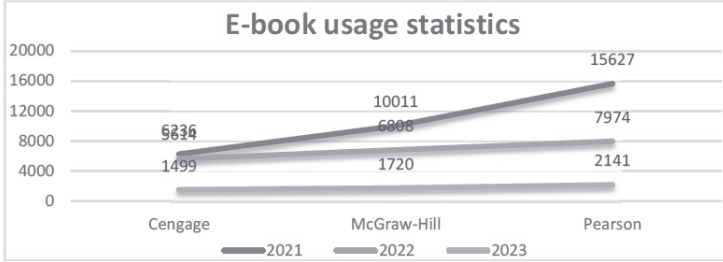


Figure 2. Number of E-books use (2021–2023).

3.2. Integrated Library Management System: KOHA

As of January 2022, the Argentine company INFODOC, represented by Pablo López Liotti, was contracted through an international call for proposals to undertake the implementation of a new KOHA library system, which will allow the creation of a single national catalog and other management modules, statistics, and reports that will solve the entire library management. The cost of the entire consultancy is \$14,000.

In January 2023, the consultancy was concluded, leaving 45 days of adjustments, and it is in April of this year that officially and with the authorization of national authorities, the implementation and opening to the public of the SIGB KOHA is carried out. This consultancy was supervised and coordinated by personnel from the Central Library, La Paz headquarters, in the area of librarianship and by CNTIC in the technical area.

3.2.1. Expected and Finished Products

First Phase: “Implementation of Modules”

Product: “Report of the implementation of the KOHA online SIGB”—verifiable at the following link: [https:// bibliotecas.ucb.edu.bo](https://bibliotecas.ucb.edu.bo).

Product: “Act of delivery of conformity of the operation of the loan and return of bibliographic material of the libraries in each academic site.”

Product: “Record of delivery and conformity of the reception of the KOHA interface according to UCB’s institutional graphic line.”

Second Phase: “Training”

Product: “Report of the general training process directed to all the librarians of the academic branches of the UCB,” attaching a list of participants.

Third Phase: “Migration to SIGB KOHA”

Product: “Act of delivery and conformity of migration and import of records in MARC21 format—KOHA,” based on 315,500 records in MARC format in SIGB KOHA.

Product: “Report on the specific training process aimed at IT technical personnel from each academic branch of the UCB,” attaching a list of participants.

Fourth Phase: “Various Adjustments, Support, and Maintenance of KOHA”

Product: “Final report on the implementation, start-up, and proper functioning of the SIGB KOHA in the libraries of each UCB academic branch.”

Product: “Act of delivery and conformity of the SIGB implementation.”

Product: “Adjustment report made to SIGB KOHA.”

The system began production on March 3, 2023, at all UCB locations. Adjustments, which allow the user to identify the date of the return more accurately, were made in the customization of loan vouchers, date and time, and thermal printer configuration in all sites, for example:

- User group import
- Creation of external user accounts
- Incorporation of an image to identify St. Andrews School and EPC students
- Correction of incorrect data of imported users
- Adjustments in circulation policies
- An “item type” online thesis was added
- Changes in the OPAC image
- Creation of the Cochabamba Library Group to solve the loan problem at the headquarters
- Migration of a batch of 129 theses cataloged in ABCD to the ABCD database
- Thesis at KOHA, carried out by the technical processes staff
- Enabling tag 130 in the monograph worksheet
- Enabling in label 245 of subfield \$h
- Enabling in the 504 tag of the subfield \$b
- Enabling in label 092 of subfield \$l
- Entitlement in label 952 of subfield \$7
- Enabling in tag 952 of the subfield \$d
- Qualification on label 675
- Worksheet created with RDA fields
- Configuration of labels and barcodes
- Correction in the book inventory

3.2.2. Training, Guidance, and Orientation

Two face-to-face training sessions have been held for La Paz headquarters staff and three virtual meetings with headquarters staff; however, orientation and guidance are continuous, depending on the needs

and the appearance of problems, doubts or findings. Several formats have been created for users of the new OPAC:

Several formats have been developed for the use of the users of the new OPAC:

- Video tutorial: https://drive.google.com/file/d/1t3q-JVzjMWcmwzmUqqxPHE4v_NGmj_vUI/view?usp=drive_link.
- Press release: <https://www.ucb.edu.bo/la-u-c-b-cuenta-con-un-nuevo-sistema-de-gestion-de-libraries-koha/>.
- Infographics:



3.2.3. Circulation Module

Figure 3 shows the number of loans made by each library during the 2023 trial period.

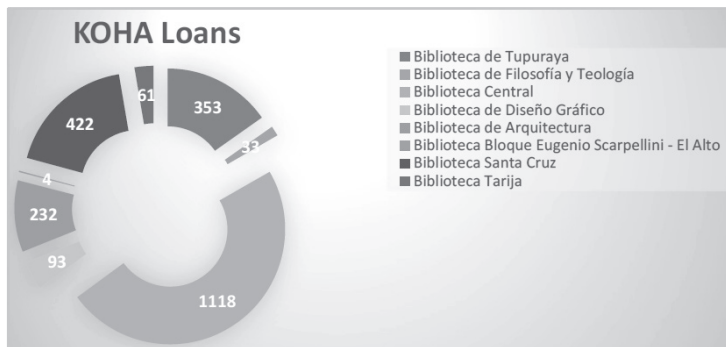


Figure 3. Number of loans in KOHA (quarterly).

3.2.4. Technical Processes Module

Figure 4 shows a summary of the number of records modified and/or added to the bibliographic description and authority control database in KOHA.

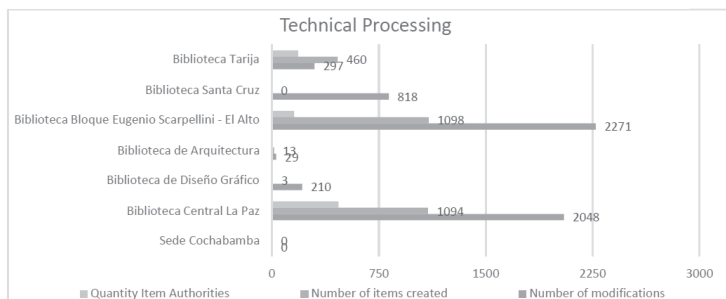


Figure 4. Number of records created and modifications in KOHA (quarterly).

3.2.5. Integration of the KOHA User Module with UCB Institutional Accounts

The integration of KOHA with the institutional Google accounts used by UCB was an indispensable requirement

for the success of the project. As a technological policy, UCB uses Google accounts as a means of authentication for all its services and technological systems. This helps to improve security with the management of users, with blocking through preset rules and the double authentication factor, among other important factors.

Due to this policy, special emphasis was given to the integration of KOHA users with Google accounts, a specialized technical work of great effort and importance since there are no examples or references of use cases in the KOHA community. However, following the basic KOHA documentation, Google documentation, and a lot of trial and error, the integration of Google accounts in the KOHA-UCB system was put into production.

The KOHA central authentication service (CAS) was worked on following the required recommendations and configurations, and the Google OpenID Connect was configured based on the Google development console documentation. A project was created, OAuth 2.0 credentials were generated, the API access management for Google identities was configured, and finally these credentials were used in the KOHA CAS to accept Google as an identity provider.

3.3. SINAB-UCB Website

The website is developed with WordPress version 6.4.2 using the template `scientia.themerex.net` according to the colors of the institutional brand of the UCB hosted in the domain <https://ucb.edu.bo/biblioteca/>. Key features of this website are as follows:

- Multi-language website
- Website with social media integration

- Responsive web design (responsive website design)
- Website with plugins for people with disabilities (visual and hearing)
- Integration of repositories (journals and intellectual property) and subscription resources
- Video tutorials and guides

4. CONCLUSIONS

Within the framework of the objectives set, the project has achieved 90% of its objectives, and it remains to call a consultant for the creation of the national web page, which would be the conclusion of the work carried out. However, it is undoubtedly the implementation of the SIGB KOHA, the heart of the project. This meant the strengthening of SINAB-UCB. The statistics of use, both in loans and in the modules of users, cataloging, are clear examples of the operation of the system. The collaborative work required by the KOHA has transformed the way of working of the staff of SINAB-UCB. This is the first tangible product that shows us as a system, providing collective standards, but without neglecting the particularities of each site.

This process was very interesting, with online discussion sessions and proposals from each of the sites, ending in a consensus regulation that has already been approved by the Research Administrator and the National Academic Vice Rector's office. The creation of the national web page is still pending, another very important challenge, since it will be the portal that visualizes the UCB libraries. The terms of reference have been drafted; however, it requires a technical adjustment.

Another pending aspect is the formal conformation of the head of the system, which is why a national unit is

proposed to direct the SINAB-UCB, from which resources should be managed for national training, training at headquarters, virtual resources, updating of the SIGB, and other activities.

The technology project: libraries will conclude in 2023; however, the challenges that it has left us are many. We believe that the path has already been traced and now we must move forward with difficulties but also with a more robust system, strengthened by the commitment of the members.

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