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Cooperation as a policy factor for strategic development of a geographical collection: the case of Greek academic libraries

Abstract

Policies implementation has always affected Map/GIS libraries. Those policies influence their operation and determine the type and level of the provided services. The conduction of a collaborative partnership among libraries can be considered as a policy action, a characteristic that indicates their dynamic nature. Recently, the global financial crisis engaged libraries to develop synergies in order to achieve benefits for their users.

Although Greek libraries have significant geographical collections, of both contemporary and cultural heritage maps, the public and private sectors create and publish large sets of geospatial data, the patrons find difficulties in accessing and using the appropriate material. Surveys, in particular, highlight the discomfort of geographical information users about the collections and services offered by libraries. Meanwhile, librarians in Greece appear to be unable to adequately guide their users to the proper geographical sources and tools to process the geographical data they need. This paper, points out the importance of collaborations towards an organized development of geographical collections using as a case study the Greek academic libraries.

More specifically, there are academic libraries that serve departments where geographic information is an essential component of the educational and research process. Those particular libraries have built coordinated collaborative efforts regarding the organization, development and dissemination of their collections. The aforementioned collaborations displayed in the present study. Additionally, the paper will present the main purpose of the collaboration movement, the basic principles that underpin it, the achievements that the members managed to succeed and its future activities.

Key words: academic libraries, Greek Map/GIS libraries, cooperation, geographical collections, Greek Geographical Libraries Group

1. Introduction

The information explosion has increased the rate of change in higher education, in the workplace, and in our every day lives (Langley, Gray & Vaughan, 2006, p.xii). Rapid developments in technology, as well as changes in areas such as scholarly communication, data management, and higher education pedagogy are affecting user expectations and forcing academic libraries to develop new resources and service areas. Academic libraries are facing enormous pressures that require them to respond and adapt in order to remain relevant (Saunders, 2015).

At the same time, these libraries must balance new initiatives with core service areas such as instruction and collection development while their budgets are continuously decreasing.

Collection development has become an extremely complex process with the need to develop and maintain the balance between the various types of print and non-print materials in the library. The ability to create and adapt a collection development policy to satisfy its various users remains a huge challenge for the library. As a result, it calls for an understanding of the needs of a new generation of Internet-savvy users, as well as the availability and complexity of online and other forms of digital resources. Moreover, librarians, as information professionals, need to play a continuously active role in searching for innovative and beneficial solutions in adapting to new environments (Foo, et.al., 2002).

As reported by Murray (2015), most librarians have a culture of collaboration since it is considered part of their training, regardless of their work environment.

Libraries, in their long history, have always been compatible with collaboration; a fact that enables them to be so successful with partnerships of various kinds (Doherty, 2016, p.xvi; Wilding, 2002). Furthermore, libraries of different types and sizes cooperate with each other inside and outside national boundaries (e.g. International Federation of Library Associations/IFLA).

Collaborations for geographical libraries may include either the strengthening of existing relationships with the Department of Geography or the university's IT department or the forming of collaboration with other entities where each partner contributes to what can best benefit both parties (Steinhart, 2006; Argentati, 1997; Cox & Gifford, 1997; Boisse & Larsgaard, 1995). Collaborations are related to a wide range of library functions and may include hardware purchases/subscriptions, service development, technological infrastructure, institutional repositories etc. Additionally, cooperative schemes can be a part of a wider change in the academic publishing model (Maskell, 2008) giving libraries the flexibility to enhance individual strengths (McCabe, 1988, p.203).

Cooperation, collaboration, and partnerships are also critical for supporting the stewardship of geospatial data and SDIs within communities and organizations (Downs, 2015). After all, the expansion of GIS in the US academic libraries was particularly established in the echo of synergies between academic libraries and the private sector. As Cobb (1995) in March & Scarletto (2017) points out the collaboration was essential in the early days of GIS, for maximizing funds as well as

resources between local and near local organizations. These collaborations are often expanded on many simultaneous levels:

- between libraries,
- government agencies,
- academic institutions,
- professional organizations of libraries,
- GIS users.

They share technology, data, and expertise as well as creating troubleshooting opportunities for librarians at all levels.

Unlike what happens in US and other countries in the western world Greek academic libraries did not have any participation in European or national funding projects that could energize them to get involved with geographical information (cultural heritage geo-information or digital geospatial data). In those solely cases that such an opportunity occurred (e.g. Library and Information Centre of University of the Aegean) after the implementation of the initial project no other addition appeared.

Recently, six Greek academic libraries with department/s that depend on geographical information for educational and research purposes, along with the National Library of Greece, took into consideration the results of several surveys in Greece that highlight the lack of geo-collections and services and decided to change the scene. The paper aims to respond to a variety of questions (why, how, who) in order to describe the strategic decision that the aforementioned libraries took, towards the formulation of a collaborative schema for the utilization of a geo-user driven environment.

2. Geographical collections in Greece: defining the problem

In Greece, a continuously increasing number of institutes and organizations are using GIS technology to develop information applications for every citizen. The Institute for Mediterranean Studies with the “*Digital Crete*”¹, the American School of Classical Studies in Athens with the “*Maps, GIS data and Archaeological data for Corinth and Greece*”² and the Institute of Historical Research of the National Hellenic Research Foundation (IHR/NHRF) with the “*The settlements of the Peloponnese during the 1821*”³ are such kind of examples. The aforementioned institutes/organizations collect and provide historical cultural cartographic material e.g. Greek Literature and Historical archive⁴, and Cartographic Heritage Archives⁵, while most academic departments rely on GIS technology to successfully carry out their educational and research purposes.

Nevertheless, several needs assessment researches performed in Greek libraries highlighted the absence of geo-collections and geo-services utilization. Particularly, in terms of collections and services only 14.2% of academic libraries sustain

¹ <http://digitalcrete.ims.forth.gr/index.php?l=1>

² <https://www.ascsa.edu.gr/excavations/ancient-corinth/digital-corinth/maps-gis-data-and-archaeological-data-for-corinth-and-greece>

³ <https://www.settlements-peloponnese1821.eu/maps/>

⁴ <http://www.elia.org.gr/archives-collections/maps/>

⁵ <http://www.maplibrary.gr/en.htm>

geographical collections and GIS services (Vardakosta & Kapidakis, 2012) while the 86.4% of the libraries lack of GIS services (Liarou, 2015). Indicatively, librarians do not use maps / geospatial data (74.6%), and they have not developed a work strategy for GIS (not at all 71%). Additionally, librarians have not been able to identify potential needs regarding geographic information at their institution (not at all 54%), while stating that they are unable to manage a budget for geographical material (63%). Librarians also indicate that they are unaware of whether academic community produces geospatial data (44.3%), while the vast majority believes that a librarian needs additional skills so to be able to cope with a geo-library (78.1%) (Vardakosta et.al., 2016).

As for the users, they choose the internet in response to meet their geo-digital needs (82.2%), because they consider the geospatial collections in Greece insufficient (46.7%) since the use of Greek libraries (53.8%) do not fulfil their expectations (Vardakosta & Kapidakis, 2014). Moreover, they propose policy-making as a factor to improve geographic information collection (63.9%).

Both users (37.8%) and librarians (57.7%) indicate that the collaboration “*with other libraries for developing common collection development policies or common purchase/access to data*” and “*with other members/departments of the same organization that library belongs*” should be library’s priority and a key approach that a library should initiate so to develop geographical collections and services (Vardakosta et.al., 2016; Vardakosta & Kapidakis, 2016; Vardakosta & Kapidakis, 2014).

Groups’ members at their initial discussions for the necessity of collaboration conducted a survey aimed at their academic communities in order to ascertain their current views and desires regarding the fulfilment of their geographical needs.

The result of this survey, which was conducted in October-November 2018⁶ and involved 266 members of the academic communities, confirms the above-mentioned research. The respondents stated that they use their library to meet their geographic information needs “*poor*” (35%) and “*fair*” (34%). Existing information sources available from the libraries of the Geographical Library Group cover “*fair*” (39%) only their information needs and for this reason users want additional access (in material beyond Heal-link’s⁷ agreement) and specifically in electronic journals (35%), data bases (34%), data sets (26%), maps, primary data. Their proposals include the need for digital maps (e.g. geological, urban planning, land use, aerial photography etc), and access to geospatial data of Greek Organizations which is not available under the INSPIRE Directive (e.g. Hellenic Military Geographical Service). Users also consider the development and distribution of an inter-university platform essential for accessing to geographical information, and for the dissemination and promotion of all the possibilities that exist regarding the geographic information. A typical example is the phrase recorded by a user - participant in the survey. The phrase, briefly describes the overall picture, reinforcing librarians’ decision to take action by reversing this view: *Unfortunately, I was previously unaware of the fact that I could access geospatial data through the [XXX] library and therefore never sought data in it.*

⁶ The National Library did not participate in the research due to transition and relocation procedures and the National and Kapodistrian University Library due to a technical obstacle to the dissemination of the questionnaire via e-mail.

⁷ Heal-Link is the Greek Academic Libraries Consortium

3. Issues for Greek Libraries

The results of the researches brought to light a number of issues for Greek academic libraries. More particularly, made them consider their role in preserving and organizing information resources by taking into account the changes occurring in the geographical information environment. Those issues can summarize in the terms of:

- **Collections/Services:** It turned out that academic libraries do not sustain neither significant geographical collections nor relevant services in any of the three-service level that Boisse & Larsgaard (1995) recorded. The geospatial data that users in every educational level (students, faculty, and researchers) need to derive and the GIS technology necessary to extract or manipulate those data are not provided by the academic libraries. GIS services require infrastructure (servers, PCs, printers, plotters, scanners, GPS, software etc.) that are not affordable for the low budget libraries.

- **Librarians' training:** Librarians do not have adequate skills in order to process the geographical information; therefore, they avoid using it. Additionally, they do not involve in the production of geospatial data in their institution. So far, the majority of librarians are not aware of the collection and management of geospatial research data that are produced in their institution and they have no involvement in such curation. Traditionally, librarians had been focused on print maps using the limited necessary fields in the metadata schema (e.g. UNIMARC, MARC 21) for organizing and making the information available through the automated systems to their users. Major funding agencies require the management of the geospatial data sets (Clemons, 2015) and librarians are those who are comfort to deliver information services to patrons (Dietrich et.al, 2012). Consequently, managing data sets and technology training are emerging roles for librarians (Gold, 2007). Despite the advent of geospatial technology and the proliferation of geo-information in Greek public sector and academia, there was no approach for “closing the gap” between the geographic information and librarians.

- **Users:** Due to the lack of provided library collections and services, users turned to the internet to cover their geo-informational needs. Though, the proliferated geographical information reinstates and emphasizes librarian's role: how do users search for data in a distributed information environment? How do they detect data in remote locations? How do they evaluate their suitability for use?

- **Access:** Although Greek academic libraries as members in Heal link consortium have access in a great amount and variety of resources (electronic journals, e-books, reference material, databases, etc.) yet this material does not include the necessary information to cover their geographical needs. Information such as data sets, map platforms, geographical databases, aerial photos etc. are not included in the accessed data. Due to economic constraints libraries have no access to geospatial data that are provided by private sector. Moreover, there is no coordinated and organized access to geographical information that specific public organizations produce that can be purchased.

At the same time, the financial crisis in Greece has affected the state funds and the budgets for all Greek public organizations (Giannakopoulos, Koulouris & Kokkinos, 2014). The economic crisis cut off the rising course of Greek academic libraries which had begun since the 1990s - mainly through research funding. Libraries of research institutes, organizations, etc. operate today having drastically reduced their

activities, acquisitions, and subscriptions to print or electronic materials, thus making their operation more difficult (Katsirikou et al, 2019).

However, the Greek library community is aware of the benefits of creating consortia and networks; examples include the Hellenic Academic Libraries Association⁸ (Heal-Link), the “Organizing Committee for the Support of Libraries”, the Greek Libraries with European Documentation Centers (EDCs)⁹, and the “National Network of Science and Technology Libraries”. Lately, except of the aforementioned schemas, the Greek library community has also developed library collaborations based on the thematic area of expertise and interest like the “Hellenic Economic Libraries Network” (HELIN)¹⁰, the “Maritime Libraries Network” (MarliNet)¹¹, and the “Music Libraries Network”. International and local experience has shown the dynamics and various benefits of collaborating libraries based on complementarily, specialization, and exploitation of the strengths of each partner organization.

Thus, in the context of Heal - link, six academic libraries which support education and research regarding geographical information, along with the National Library, take into account the above two major constraints (a. the lack of providing efficient geographical collections and services, and b. the reduced budgets) proceeded to a strategic decision: to cooperate in order to find new ways to flourish. So, in the existing subject groups, another one was added and the “*Geographic Academic Libraries Group*” became reality.

4. Geographical Academic Libraries Group : The response

4.1. Members

The founding members of the Group composed of the following libraries whose geographical content are briefly mentioned.

1. Library & Information Centre of Aristotle University of Thessaloniki¹² (<https://www.lib.auth.gr/>): The library at the branch of the Department of Geology has a Collection of cartographic material which includes geological and topographic maps (Theophrastus Digital Library¹³). The Library digitizes and provides material of its own collections and other collaborating bodies as well as the Digital Library “Psifiothiki”¹⁴. One of the most important cartographic digitized collections available through the Digital Library is the Trikoglou Collection¹⁵, which includes rare manuscripts of the Aegean Sea from the 17th century. The central’s library collaboration with the Laboratory of Cartography and Geographical Analysis of the Department of Agronomy and Surveying Engineering highlighted a series of rare maps of the Aegean Archipelago created three centuries ago by the order of Louis XIV of France.

⁸ <https://www.heal-link.gr/>

⁹ https://europa.eu/european-union/contact/meet-us/greece_el

¹⁰ <http://diovi.lib.unipi.gr/index.php/en/>

¹¹ <http://marlinet.aegean.gr/>

¹² <https://www.lib.auth.gr/en>

¹³ <http://geolib.geo.auth.gr/>

¹⁴ <https://digital.lib.auth.gr/?ln=en>

¹⁵ <http://digital.lib.auth.gr/collection/Trikoglou%20Collection?ln=en>

Furthermore, it led to the development of a project to record, process and disseminate information to the public about maps embedded in the books of the Trikoglou collection.

2. Library and Information Centre of Agricultural University of Athens¹⁶ (<http://library.aua.gr/>): Library and Information Centre (LIC) has a collection of printed and digitized maps, as well as a set of spatial digital data concerning various areas of Greece. More specifically, there are about 470 maps in printed form that are arranged in the basement of the LIC in special trolleys. There are also 29 digitized maps while 4 maps are available in CD-ROM format.

3. Library and Information Centre of National and Kapodistrian University of Athens¹⁷ (<https://en.uoa.gr/>): The geographical collection of LIC of NKUA consists mainly of printed cartographic material and specifically of about 600 sheets of maps, printed books, magazines, atlases and databases. In addition, it has a CD-ROM with cartographic content.

4. Library and Information Centre of National Technical University of Athens¹⁸ (<https://www.ece.ntua.gr/en/libraries>): LIC has a geographical collection and relevant material, which has not been recorded so far. The collections housed in the K.A. Doxiadis Building includes monographs and periodicals, maps and aerial photographs, technical and urban studies, government publications, as well as files of newspaper and magazine clippings.

In addition, cartographic material is available in special closed access collections at the NTUA Historical Library. The collection consists of old and rare books, pamphlets, maps, engravings and encyclopaedias. Furthermore, in the immediate future the main collection will be enriched with about 3,500 books and maps which will be transferred from the Library of the School of Rural and Surveying Engineering.

5. Library and Information centre of the Aegean University¹⁹ (<https://www.lib.aegean.gr/en>): LIC of the Aegean University has printed collections of cartographic material, while in the context of European co-financing it has developed relevant digital services and infrastructures. Initially, the "Digital Map Library"²⁰ service was developed resulting in the creation of 55 thematic maps, which are displayed on its website. Subsequently in the context of its financing from the operational program "Digital Convergence" developed the "Spatial Data Infrastructure"²¹ of the University of the Aegean aiming at the support the collection, organization, documentation, processing, analysis, search, display and distribution of spatial data that are produced by or used from academia. It consists of a set of information systems, international interoperability standards and organization procedures, as well as human resources, which interact to exploit the spatial data in the educational and research work of the University.

The "Spatial Data Infrastructure consists of : the *Geoportal*²², which provides geospatial data, the *Web-based Geographical Information System*²³ which allows the

¹⁶ <http://library.aua.gr/>

¹⁷ <http://www-en.lib.uoa.gr/>

¹⁸ <http://lib.ntua.gr/?lang=en>

¹⁹ <https://www.lib.aegean.gr/en>

²⁰ <https://www.lib.aegean.gr/en/menu-search-in-other-sources-digital-map-library>

²¹ http://sdi.aegean.gr/index_en.html

²² <http://wg-geoportal.aegean.gr:8080/geoportal/catalog/main/home.page>

²³ <https://wg-web.aegean.gr/webGIS/>

display, processing and analysis of geospatial data through subsystems of cartographic imaging, cartographic processing and processing of spatial information, spatial information analysis and video and water treatment data, and the *Spatial and Socioeconomic Data Deposit Service*²⁴ which is an online tool that enables members of the Aegean University academic community to submit spatial & socioeconomic data to the content managers of the respective repositories (Spatial Data Infrastructure and Socioeconomic Data Repository).

6. Library and Information Centre of Harokopio University²⁵

(<http://www.library.hua.gr/index.php/en/>): LIC sustains about 150 printed maps (geological, historical etc) from 20th century till today created by various public sector bodies (e.g. Hellenic Survey of Geological and Mineral Exploration, Hellenic Statistical Authority). The historical “*Map Collection of General Athanasios Daskarolis*” which is in the possession of LIC, has been digitized and it is available through the Institutional Repository²⁶ “ESTIA”. At the same time, a collection of geospatial data is also available, and is currently operating on a pilot basis²⁷. This collection aims to gather the geospatial data created by the teaching and research staff of the institution. In addition, LIC has books, magazines, and maintains a link (GIS@HUA)²⁸ on its official website through which it provides rated links (i.e., domain-controlled, publisher, author, date, author, and trustworthiness) of a variety of issues related to GIS.

7. National Library of Greece²⁹: The NLG map collection includes printed and handwritten documents that have been published from the 16th century until today in Greece and abroad. The collection includes maps of varying interest, whether independent or integrated into atlases. Indicatively, they include geographical, maritime, hydrographic, geological and military maps, city plans, portolanos, izolaria, as well as travelogues and geographical texts. So far, 5694 cartographic titles can be searched in the NLG Electronic Catalogue³⁰. The digitized cartographic material is available through the NLG Digital Collection Platform³¹.

²⁴ <http://wg-repository.aegean.gr/jspui/>

²⁵ <http://www.library.hua.gr/index.php/en/>

²⁶ <http://estia.hua.gr/browse/49?p.tpl=list>

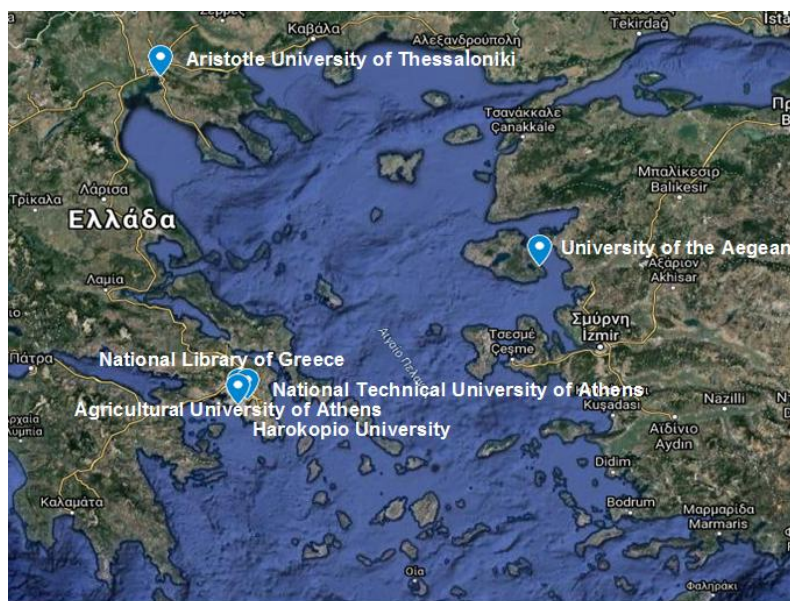
²⁷ <http://estia.hua.gr/browse/15098>

²⁸ <https://bit.ly/2ISfmLD>

²⁹ <https://www.nlg.gr>

³⁰ <https://catalogue.nlg.gr>

³¹ <https://digitalcollections.nlg.gr/index.html>



Map 1: Geographical Academic Libraries Group

4.2. Objectives

Currently, any Greek academic institution can join the cooperative scheme as long as it has a department / departments whose study programs require the use of geographical information systems (e.g. Department of Geography, Department of Geology, Environmental studies, etc.).

The objectives of the Group as they recorded during the first meeting of its members include the best possible management of the geographical material, and consequently the provision of services of added value to the public. The objectives of this scheme are:

- The conformation of common policies for the development of geographical collections, after the description of users' needs, the overview of the material collected for their necessities, the detailed recording of the issues added to the collection, as well as the processing, placement of material, preservation, rejection or removal (Vardakosta & Kapidakis, 2012).
- The utilization of geographical material that until recently may not have been recorded, processed and displayed. The ultimate goal of creating and developing geographical collection policies.
- The awakening of librarians to the value of geographical information and the adoption of its use will be accompanied by the support and strengthening of skills in its management due to the growing demand for quantity and type of material requested by users. Facts that according Hallmark (1998) and Andrew et.al. (2008) lead to the need for professionals with specialized knowledge (Vardakosta & Kapidakis, 2012).
- Joint actions to access digital sources of geographical interest aimed at saving resources, through the allocation of financial costs and infrastructure.

- The expansion of geographical sources of information (the search, evaluation, and integration into the already offered, new sources of information with open content and various topics).
- The improvement of geographical information services, through the development of new tools and the expansion of the already offered services, aim to modernize them, as well as the initiative for the implementation of new services of added value.
- The exchange of ideas between professionals in the field of geographical information (print and digital).

4.3. Overall Achievements so far

At their first meetings, Groups' members decided to take actions that would lead to both the improvement of the librarian's daily work in dealing with geographic information and communicate the establishment of the Group and its intentions to the users.

Given the fact that the first meeting of the Group took place in December 2017 the following actions have taken place so far:

2018

- **Common cartographic material cataloguing.** A common template for the cataloguing process of the cartographic material communicated to the members of the Group.
- **Investigation of the needs of institutional users** through a mini-survey conducted on the users of the institutions.
- **Seminar organization** entitled "*Current methods in the management of geographical information*"³². Addressed to librarians, archivists, and generally professionals who either work in libraries, museums, archives with geographical content, or have in their bodies geographical material which have not exploit or were generally interested in how to approach maps, aerial maps, aerial photographs, geography and digital environment. 70 participants, mostly librarians, students of Library, Geography and Economics, GIS Administrators, statistical scientists, PhD Candidates in Economics and Geography, attended the seminar.³³
- **Participation in a questionnaire** for recording information regarding the material / services / human resources of the geographical libraries in order to highlight the collections, to identify possible common forms of material, for the adoption of new practices in a common direction.
- **Policies formulation** between members and the adoption of new practices. That way there is a common direction and implementation of uniform policies by all participating members of the Group.

³² <https://sygchrones-methodoi-sti-diacheirisi-tis-geogra-ikis-pliro-ori.webnode.gr/>

³³ Seminar assessment's report [in Greek]:

http://www.library.hua.gr/images/Apotelesmata_axiologisis_Seminariou_12.10.18.pdf

2019

- Amongst the members of the Group a guideline text was shared in order to follow the instructions and compile policies for the development of their geographical collection.
- Distinguished scientists from the USA in the area of GIS (addressed to users) and Libraries (addressed to librarians) gave two lectures for the Groups' members academic communities.

2020

Communication is one of the biggest challenges for the Group. Therefore, the current year the actions involved the development of a:

- Facebook Group
- Helpdesk (in progress)
- Webpage (in progress)

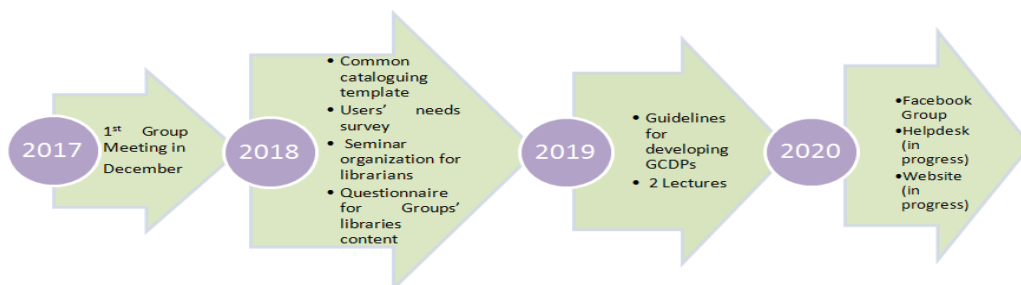


Fig.1: Group's achievements from 2017 through to 2020

5. Challenges - Future work

Academic libraries that formed the Group represent various collections, staff resources, infrastructures abilities, and budgets. Another one detail is that those libraries are geographically dispersed.

As communication is extremely important the Group employed Skype meetings and e-mail as communication means to overcome the distance, to discuss and take decisions. Additionally, whenever the members of the group participated in Greek librarians' community events, they had the opportunity to discuss issues closely related to the implementation of the group's goals. The last year due to pandemic crisis Group's meetings are taking place under the use of Google Meet telecommunication platform.

The communication framework should expand and therefore the development of a website and a helpdesk application is under construction.

Greek librarians in higher education through the collaboration initiative responded to the increased geo-information needs of their patrons. They confirmed their willing to overcome any challenges and difficulties and utilize, as Bidney and Piekielek (2018) state, their collections “(regardless of format or ownership) as critical information resources that contribute to a multi- and inter-disciplinary research environment”. Group’s establishment within a larger consortium like Heal-Link that is already committed to collaboration was an obvious choice and members anticipate its positive influence (e.g. access expansion). It must be stated that so far, the Group’s work is not financially supported by any organization. Therefore, its participation in funded programs is one of Group’s immediate priorities. One of the first actions that should utilize then is a common integrated catalogue for the geographical material that all libraries sustain.

The Group’s establishment treated as a welcoming change in Greek Librarians’ community. Among its goals is to assist Greek librarians to gain Map/GIS Librarians’ skills by coordinating training efforts.

Despite the difficulties that occurred (e.g. budget cuts, covid-19), Greek librarians are trying to find ways to move forward. The “Geographical Academic Libraries Group” is here to stay and determine the changes needed to be applied in order to assist Greek libraries provide added value geo-services to their users.

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