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EDUCATIONAL GAINS OF DIGITAL TRANSFORMATION IN ACADEMIC LIBRARIES: THE CASE OF ISTANBUL UNIVERSITY'S DIJITALKÜTÜPİST PROJECT

Pervin Bezirci
Istanbul University

Abstract. In an era of uncertain information explosion and accessible media, libraries worldwide have rapidly embraced the digitization of their resources to develop a survival mechanism and support education by increasing relevance. To meet the ever-changing needs of researchers and remain relevant in the 21st century, academic libraries have had to take on new roles. As cultural memory institutions, libraries have had to improve their infrastructure in line with the developments in information technologies to provide information resources following the needs and expectations of researchers, to support education, and to ensure that their collections can be used by future generations. This has led to the need to transfer existing printed resources to readable formats and/or media through communication technologies. In this framework, the study discusses the contribution of digitization projects, which have increased in academic libraries in parallel with digital transformation processes, to education. The Istanbul University "Istanbul Cultural Heritage Digital Library (DijitalKütüpİST)" project is briefly described as an example of information access services in new-generation libraries. In conclusion, this paper highlights the contributions that university libraries make to scientific research and education through digitalization and enhanced information access, by analyzing the researcher profiles and quantitative data from the DijitalKütüpİST Project, which digitally connects cultural heritage works of historical significance with researchers.

Keywords: digitization; rare works; digital transformation; university libraries; ıstanbul university library; linguodidactology

1. Introduction

The rapid evolution of information technology has made advanced tools indispensable for the production, preservation, utilization, and dissemination of knowledge. In today's digital landscape, where information serves as a critical asset, gaining authority in the field of information management requires not only

access to cutting-edge technologies but also the ability to leverage them efficiently for both dissemination and governance. As digital transformation accelerates and information becomes an increasingly fundamental resource, the significance of information and documentation centers has expanded, necessitating their adaptation to emerging technological advancements.

Next-generation libraries must transcend physical boundaries, offering richer and more integrated collections in diverse formats to researchers seamlessly and without restrictions. The continuous growth of digital data has created an urgent need for structured organization, effective management, and technological integration to facilitate accessibility. This has also necessitated the transformation of printed materials into digital formats to enhance both preservation and usability. As a result, the digitization of cultural heritage has become an inevitable process, ensuring the sustainability and accessibility of valuable knowledge assets.

This study explores whether digital transformation constitutes a fundamental element of information access services in academic libraries, particularly in their role of supporting education. To address this research question, the study examines how digital transformation reshapes academic library services to enhance educational support. This theoretical investigation is grounded in existing literature, incorporating established models in the field. Additionally, empirical insights are drawn from a case study on a digitization initiative, providing further validation of the findings. The research is structured around three key themes: the concept and significance of digitization in libraries, the impact of digital transformation on academic libraries and education, and a case study on Istanbul University's DijitalKütüpİST Project.

2. Digitization and Its Significance for Libraries

Digitization is the process of converting analog materials into digital formats, enabling their preservation, accessibility, and efficient management. It involves transforming documents, artworks, and other physical resources into structured digital formats for broader use (Omotayo & Aboyade 2009, p. 339; Nneji 2018, p. 11). More specifically, digitization ensures that physical or analog materials – such as paper documents, photographs, and graphic materials – are systematically converted into electronic formats, making them both machine-readable and easily retrievable (Yılmaz 2011, p. 118).

There are two primary approaches to the preservation of rare works: digitization for preservation and digital preservation. While the first approach creates digital copies of printed materials, the second ensures the long-term accessibility and integrity of digital resources, regardless of their original format (Bezirci, Bostancı & Gürel 2012, p. 131; Conway 2010, pp. 64 – 65). Digital preservation extends beyond digitally born content to include print materials that have been digitized for increased visibility in electronic systems. This approach not only secures rare

documents but also facilitates broader access to them by ensuring their sustainability over time (Külcü 2010, p. 297).

Metadata plays a crucial role in defining and categorizing digital resources, ensuring structured access to information (Külcü 2010, p. 301). As digital data continues to expand, libraries must implement efficient management strategies to maximize research accessibility. Digitization ensures both the preservation and enhanced accessibility of resources by enabling structured searches enriched with metadata.

The benefits of digitization, facilitated by expert librarians, offer significant opportunities, including:

– Ensuring continuous access to reliable digital data;

– Enhancing the quality of digital information;

– Promoting interoperability and collaboration through standardized frameworks for diverse datasets;

– Strengthening data reliability by implementing authenticity and accuracy controls;

– Establishing official records to validate data integrity for future legal reference;

– Expanding possibilities for access, data sharing, and analysis (Öztemiz & Özel 2019, p. 1209);

– Providing rapid, efficient, and advanced search capabilities across various materials and collections;

– Enabling in-depth exploration of resource content and facilitating comparative analysis through an integrated framework;

– Reducing physical storage requirements compared to traditional printed resources (Çakmak, 2018, p. 169).

Through these advancements, digitization has become a crucial strategy for preserving cultural heritage, ensuring accessibility, and enhancing the usability of information in academic and research environments. Additionally, digitization enables a better understanding of original works through advanced indexing and digital visual enhancements. It creates resources that can be used in education and learning, improves the public's ability to recognize, learn about, and understand cultural heritage, and also allows collections to be preserved and transferred to the future in digital format (Karataş Ateş 2015, p. 567). Ultimately, the need for digitizing library resources can be summarized under five main points. These are: preservation, accessibility, resource sharing, service delivery, prestige and visibility, and technological advancement (Küçük & Soydal 2003, pp. 123 – 124; Nneji 2018, p. 3; Tuna, Zogo & Demirelli 2013, p. 29).

Preservation; Preservation involves extending the lifespan of library and archival holdings by maintaining materials either in their original condition or in a more durable format through digitization. The protection of valuable information resources, particularly rare works and manuscripts, is a critical aspect of digitization.

Accessibility; Digitization enhances accessibility by allowing users to utilize library resources regardless of their physical location. It also improves the efficiency of information retrieval mechanisms, ensuring that digitized materials are more easily searchable and retrievable. Additionally, digitized resources can be made available online, further expanding access.

Resource Sharing and Service Delivery; Resource sharing is a collaborative approach in which multiple libraries jointly manage and utilize their collections. Digitization facilitates this process by providing a platform for replicating digital data and strengthening library networks. It enables the creation of virtual collections, fosters institutional collaboration, and expands global access to knowledge through interlibrary partnerships.

Prestige and Visibility; Digitization enhances the prestige and visibility of an institution's knowledge collection by increasing accessibility to unique and globally significant resources. This expanded reach strengthens the institution's reputation within academic and research communities.

Technological Advancement; As a key driver of the information age, digitization plays a crucial role in preserving endangered materials, optimizing search technologies, and improving access to library resources. By integrating digital solutions, libraries can ensure that their collections remain relevant, adaptable, and aligned with emerging technological developments (Nneji 2018, pp. 4 – 5; Nnenna & Ume 2015, p. 36; Singh 2017, pp. 3 – 4; Bezirci 2021, pp. 631 – 632).

3. Digital Transformation in Academic Libraries and Its Impact on Education

Information and communication technologies (ICT), particularly the internet, have not only digitized every aspect of human life but have also necessitated operating within this digital ecosystem. As a result, the modern world is often referred to as the "digital world." Internet-based technological advancements have driven digital transformation, which has further accelerated the development of digital tools and applications, fostering a dynamic and interconnected digital ecosystem (Sağıroğlu, Bülbül, Kılıç & Küçükali 2020, p. 3).

Rapidly spreading across the globe, ICT has transformed tools, applications, and services while fundamentally altering the way information is acquired and learning is conducted. The ability to access information quickly and continuously enables its rapid dissemination, making it more cost-effective and widely available. This transformation is bringing about profound changes across all aspects of life, significantly reshaping social, economic, and cultural structures. As a result, it is paving the way for unprecedented opportunities and innovations (Sağıroğlu et al. 2020, p. 4).

In today's world, where information has become the most critical raw material, information and documentation centers have gained increasing prominence

(Yıldızeli, Arıkan & Çakmak 2011, VII). The impact of technology on library services, particularly in facilitating access to digital information, has led to the emergence of e-libraries. Within this digital transformation process, academic e-libraries actively integrate digital technologies to create new value for higher education institutions and enhance operational flexibility in their pursuit of innovation. Academic e-libraries possess expertise in the early adoption of new technologies, particularly in digital curation, preservation, and archiving. Today, they stand at the forefront of technological advancements and have become a fundamental component of the digital transformation of higher education institutions (Pinho, Franco & Mendes 2020, p. 2).

Libraries initially focused on providing services related to information presentation, classification, dissemination, and archiving (The Future of Research 2009, p. 3). However, the concept of book-centered librarianship has long been replaced by user-centered librarianship. The primary mission of academic libraries is to support the goals, vision, and objectives of their parent institutions. As a result, academic libraries provide essential support for faculty members, students, and researchers in teaching, learning, and research activities (Jain 2013; Moran et al. 2013, p. 5).

Libraries that adhere to traditional approaches remain passive, potentially undermining their relevance and sustainability. This passive role leads to libraries risking being seen as 'underutilized, expensive storage facilities,' while librarians may be viewed as mere 'guardians of books' rather than active partners in education and research (Oakleaf 2010, p. 28; Matthews 2011). Consequently, next-generation libraries aim to transcend their physical boundaries by offering richer collections in various formats through a more integrated environment, ensuring efficient and rapid access to researchers without time and space limitations. This shift has led to a new model of libraries that emphasizes digital access, integration, and adaptability. In the literature, terms such as electronic library, virtual library, digital library, online library, and hybrid library are often used interchangeably or with nuanced differences, depending on the perspectives of different disciplines and professionals. The primary reason for these varied approaches is the widespread engagement with digital libraries and archives, as well as the ease of access to digital information via the internet (Afzali 2008; Bezirci 2018, p. 236).

The research landscape is evolving toward a more global and collaborative structure. Researchers are now expected to generate value not only for their academic peers but also for society. To achieve this, they are increasingly leveraging digital technologies to communicate with broader audiences (The Future of Research 2009, p. 13).

For these reasons, libraries, which play a critical role in organizing information and supporting scientific research, must act as data curators who preserve research materials for future use. Given the challenges of the current 'data deluge,' libraries

must develop advanced strategies for organizing, preserving, and curating digital information. The role of university libraries extends beyond providing access to content; they also facilitate learning, exploration, and intellectual development. To fulfill this role, university libraries must engage with not only subscription-based content but also open-access resources and publicly available digital archives. In the future, this comprehensive approach will further enhance the value that libraries contribute to both users and education.

Users accustomed to digital access now expect the same convenience for manuscripts and rare books. In recent years, significant initiatives have been undertaken in information centers to facilitate the delivery of manuscripts and rare works to users through digital platforms.

4. Istanbul Cultural Heritage Digital Library (DijitalKütüpİST) Project

In today's environment, where digital library platforms have become inevitable, Istanbul University is modernizing its library services to align with contemporary needs. Various projects have been conducted within the university's libraries to preserve valuable works in the Central Library and the Rare Works Library, prevent their deterioration, expand their accessibility, ensure the secure transfer of cultural heritage to future generations, and contribute to science and education. Within this framework, several projects have been implemented, including the Sultan Abdulhamid II Photograph Albums Project, the Newspaper Perspective on History Project, the Timeless Works Project, the Manuscripts Project, the New Perspective on the Old World Project, the Music Works Project ("Sealed Voices"), and the Barrier-Free Library Project[1].

As part of this study, the Istanbul Cultural Heritage Digital Library (DijitalKütüpİST) Project[2], one of the key initiatives that consolidates all project data from Istanbul University Libraries into a single platform, is introduced. The contribution of this project to education is demonstrated with quantitative data.

With the changing demands of 21st-century library users, the preference for accessing digitized works has steadily increased, surpassing the use of printed resources. This trend is particularly evident in the user data of Istanbul University's Rare Works Library.

The Rare Works Library attracts a diverse group of national and international users across various disciplines. Users access rare works either by visiting the library in person or through remote requests via email or telephone, which allow them to receive digital copies or consultation services. Access to requested materials depends on their condition and library policies. Some works may be digitized and provided on a CD, whereas others can only be accessed through designated computers in the library's reading rooms.

Additionally, users can access digitized works in standard reading quality through the library's automation system. As a result of these services, the statistics

in Table 1 and Table 2 indicate that an increasing number of users prefer remote digital access for consulting publications.

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
Number of Users (Remote Access: Email, Telephone)	5.681	7.648	5.175	6.567	8.192	7.599	3690	7390	66.816	82.562	115.636	316.956
Number of Users (Reading Room)	1.295	1.686	1.511	1.836	1.665	1.744	450	503	429	1201	40	12.360
Total Number of Users	6.976	9.334	6.686	8.403	9.857	9.343	4140	7893	67.245	83.763	115.676	328.723

Table 1. Number of Users in the Rare Works Library (2014 – 2024)

Table 1 clearly shows that users prefer electronic access to obtain the works they need. According to data from 2014 to 2024, from a total of 328,723 users, the number of users who accessed materials remotely was 316.956, while the number of users who utilized the reading room services was 12.360.

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
Original Works	4.747	3.366	600	3.658	536	1.260	121	193	30	45	27	14.583
Digital Works	22.972	46.139	89.314	833	88.391	132.569	32.830	62.965	431.421	357.359	443.350	1.708.143
Prepared CDs3	615	693	554	607	658	891	369	413	105	0	0	4.905
Digital Images	86.008	788.649	104.734	53.228	190.684	216.840	137.058	---	431.421	357.359	443.350	2.809.331

Table 2. Number of Rare Works Used in the Rare Works Library (2014 – 2024)

According to Table 2, the total number of original works used between 2014 and 2024 was 14.583, while the total number of digital works accessed was 1.708.143. The number of digital images used is 2,809,331. This clearly indicates a significantly higher interest in digital resources compared to printed works.

As evidenced by the data presented in the tables, the growing demand for digital access to scientific knowledge has underscored the necessity of establishing the Istanbul Cultural Heritage Digital Library (DijitalKütüpİST) Project[4]. The following section provides a brief overview of this project, highlighting its contribution to education through quantitative data.

4.1. Objectives and Goals of the DijitalKütüpİST Project

The primary objective of the project is to provide access to the cultural heritage collections of Istanbul's libraries, particularly university libraries, through a unified digital platform. This includes digitizing similar collections to enrich the platform's content and eliminating inefficiencies caused by separate access points within individual library databases, which often result in time-consuming discovery and access processes. Ultimately, the project aims to make information more readily accessible and easily retrievable.

By integrating the cultural heritage works of Istanbul's libraries into a shared digital platform, the project aims to evolve into a national knowledge network dedicated to cultural heritage, expanding as stakeholder participation increases over time. This initiative will also strengthen the library and cultural heritage sectors as part of Istanbul's digital transformation.

Under the Istanbul Development Agency's "Innovative Istanbul Financial Support Program" (TR10/21/YEP/0051), the Istanbul Cultural Heritage Digital Library Project has facilitated the following key achievements:

– The **catalog records** of 4,189 printed books and periodicals in Ottoman Turkish and Arabic, as well as 1,450 manuscript works in Ottoman Turkish, Arabic, and Persian, have been created in accordance with international librarianship standards.

– Approximately 1,300,000 images of these works have been **digitized** through high-resolution scanning.

– A new **automation and digital content scanning system** has been implemented, along with software development processes.

4.2. Project Work Steps

The project was carried out in three main work stages: *automation system/web platform activities, cataloging activities and digitization activities.*

4.2.a) Automation System / Web Platform Activities: During the preparation phase of the web platform, global best practices such as Europeana[5], Gallica[6], and Turkey's Bibliopera[7] projects were extensively analyzed in terms of their strengths, weaknesses, infrastructure, and operational systems. Based on these evaluations, the core features of the shared digital platform were established. The platform was designed to allow all participating institutions to enter their own data in compliance

with international standards in the background. Through this system, institutions will be able to share their cultural heritage materials on a common platform, while other institutions can access these materials, better direct their digitization efforts, and avoid unnecessary time and financial losses. The platform enables the entry of journals, photographs, newspapers, engravings, maps, calligraphy, books, articles, musical scores, theses, manuscripts, and audiovisual materials (such as sound recordings and videos) following the Dublin Core metadata standard.

Materials can be uploaded in various formats, including PDF, JPEG, JPG, TIF, MP3, PNG, MOV, MP4, as well as GIF, BMP, MPG, WMA, ASF, WAV, AVI, DOC, XLS, ZIP, and other commonly used file types. To enhance accessibility, the system allows for unlimited keyword entries, enabling easier searches. Additionally, people and location tags can be assigned to uploaded photographs, which can also be used as search criteria. The OCR engine supports Turkish and other alphabetic characters, ensuring that the extracted text is automatically transferred to the corresponding metadata field within the software.

The platform is mobile-compatible and fully conforms to the standards of the Open Archives Initiative (OAI), enhancing interoperability between archival systems and promoting data sharing. As a result, the system is designed to be accessible worldwide through aggregation sites, ensuring seamless integration with global digital archives.

4.2.b) Cataloging Activities: As part of the cataloging efforts, identification processes for publications are carried out. The bibliographic records of scanned works are cataloged and entered into the automation system, with scanned images and catalog information linked and transferred to the digital platform.

Cataloging, classification, and access standards in libraries facilitate the global sharing of resources. The integration of data into national and international aggregation platforms ensures its usability, which is only possible through the correct application of standards. Accordingly, within the scope of the project, the cataloging of rare works was conducted using the MARC-based RDA method, ensuring integration with library systems, digital bibliographic access tools, and federated search engines.

4.2.c) Digitization Activities: At this stage, works are scanned with high-resolution equipment for transfer to the digital environment. The scanning and verification processes are carried out in accordance with established digitization guidelines and workflow plans. Quality control procedures and image adjustments are implemented to ensure that the digitized works retain their original color fidelity, image clarity, and appropriate resolution.

Quality control is a critical phase in digitization processes. Digital copies produced within the project undergo a multi-step verification process. The control team initially inspects the images, and approved files are uploaded to the project system for a second review. Any rejected images are sent back to the digitization

unit for rescanning and corrections. These steps are meticulously executed to ensure that the highest quality images are obtained in accordance with the value of the works. During the digitization process, five A3 scanners were used, and works were scanned in TIFF format. Copies intended for online access were prepared in JPEG and PDF formats to facilitate efficient web access.

The final stage of digitization involves ***storage and accessibility***. At this stage, the digitized works are stored and made accessible to users through the web platform. Works transferred to the automation system are converted into formats that allow fast and multi-user access, ensuring global online availability.

4.3. Project Outcomes

Following the approximately two-year duration of the DijitalKütüpİST Project, open and rapid access to digital cultural heritage resources has become available to researchers, academics, students, professionals, and other user groups worldwide.

Additionally, the project has contributed to:

– Ensuring that cultural heritage materials are accessible to researchers anytime, anywhere.

– Increasing the number of digitized cultural heritage works in Istanbul's libraries, thereby contributing to the expansion of Turkey's digital cultural heritage collection.

– Facilitating education and scientific research across various disciplines.

– Preserving the cultural value of works, enabling digital access, and ensuring their transmission to future generations.

– Providing researchers with the opportunity to examine, interpret, and analyze historical social, cultural, economic, and political developments through various archival collections.

– Encouraging knowledge-sharing and partnerships in digitization efforts.

– Offering digitization training and increasing the number of qualified personnel in the field (Bezirci, 2020, p. 1776).

The digitization and long-term preservation of cultural heritage materials serve as a form of insurance for protecting content. The DijitalKütüpİST Project has created a valuable new resource that contributes to scientific research and education. Notably, the project website has recorded 12,099,511 searches, demonstrating high engagement and interest. Analysis via Google Analytics confirms continued high levels of access, usage, and impact since the project's launch. The following tables present an analysis of DijitalKütüpİST Project researchers, including demographic distribution and search criteria. Due to the extensive volume of data, a selection was made based on the most frequently accessed records, and the tables have been compiled accordingly.

Table 3. Most Frequently Queried Geographic Entities

Most Frequently Queried Place Names	Search Count
Aleppo	5059522
Arabia	4157949
İstanbul	2557899
Thessaloniki	1193376
Yemen	770006
Egypt	708045
Syria	379973
Amasya	357882
Ankara	349001
Sofia	348082
Geneva	231958
Crete	215931
USA	181445

Table 4. Most Frequently Queried Mixed Topics

Topics	Search Count
Matbaa (Printing press)	4241121
Muharrir (Author)	3636932
Manastır (Monastery)	3104063
Özdeyişler (Proverbs)	2790794
Tarih (History)	1524867
Sanayi (Industry)	1165311
Hamidiye (Hamidiye)	1158842
Vilayet (Province)	1120035
Muhammed	901986
Printed	762934
Emsal (Precedent)	744471
Cevahir (Gem)	744458
Mediaeval	721982
Tarikatlar (Sects)	702985
Bektaşilik (Bektashism)	697097
Şebab (Youth/Shebab)	684785
Telif (Copyright)	636343
Dilbilgisi (Grammar)	612810
Ahmediyye	603939
Bektaşiyye	603893

Salname (Yearbook)	540580
Dersaadet (Old name of Istanbul)	504275
Osmanlıca (Ottoman Turkish)	383444
Paşa (Pasha)	322935
Maarif (Education)	266898

*In this table, the words searched in Turkish are translated into English in brackets.

Table 5. Most Frequently Queried Countries and
Visitor Numbers

Country	Visitor Count
United States	6,107,376
Singapore	105,998
Russia	88,917
Turkey	80,674
Germany	3,889
China	909
Morocco	380
Japan	204
Ukraine	101
United Kingdom	92
Austria	52
France	24
Azerbaijan	18
Netherlands	15
Greece	14
Algeria	13

Table 6. Most Frequently Queried Cities and Visitor Numbers

City	Visitor Count
Ashburn	5,708,181
Montreal	207,207
Redmond	170,991
Moscow	88,554
Administrativnyy Okrug	73,704
İstanbul	69,372
Singapore	67,331
Petesburg	10,670
Jose	10,669
Boydton	6,728
Vechelde	3,615
Ankara	2,988
Dublin	1,714
Boardman	1,465

Upon examining Tables 5 and 6**,** it is evident that the project has received significant international attention and engagement, with the highest number of users from the United States, Singapore, Russia, Turkey, Germany, China, Morocco, and Japan. Additionally, an analysis of search keywords reveals that researchers from various disciplines conduct searches across a diverse range of topics. The total search count of 12,099,511 recorded on the project's website [8] further underscores the high level of research activity and the project's substantial contribution to scientific inquiry.

5. Conclusion and Evaluation

Information-seeking behaviors are heavily influenced by rapidly evolving computer technologies and developments in the education system. With the advent of digital advancements, users now engage more extensively with the latest trends in information access, leading to major transformations in modern academic libraries. Library users have increasingly high expectations from librarians and information professionals, demanding seamless access to accurate and relevant information at the right time, in the right format, and from any location (Chutia 2015). Students and researchers emphasize the importance of integrating technological tools into university library practices and information access standards, advocating for a more effective information literacy framework that supports the evolving role of academic libraries in the digital age (Sandi, Olga, Nadezhda, Zhetibayev & Zhetibayev 2020, p. 644).

Therefore, if libraries seek to remain relevant and effectively serve users in today's digital transformation era, they must move beyond the traditional library-centric approach and structure their services and resources around a "user-centered model". This shift is essential for academic libraries to maintain their position in an increasingly competitive information environment (Uribe & Macdonald 2009).

In this process, delivering manuscript and rare works—classified as cultural heritage—through digital means has necessitated the acquisition of new skills in libraries and information centers. Users who have developed a habit of accessing all types of resources digitally now expect similar services for manuscripts and rare works. Given their status as valuable historical records and key components of special collections, ensuring the preservation and continued accessibility of these works is of strategic importance. Their identification and conservation are critical, as they hold significant evidentiary value for scientific research. This study highlights the importance of improving access conditions for rare works in alignment with technological advancements. As emphasized, "Digitizing and ensuring the accessibility of rare works, particularly manuscripts that, once lost, can never be replaced, is seen as an effective and essential strategy for preserving these invaluable materials for future generations" (Gökkurt Demirtel, Fulya Yıldırım & Funda Can 2023, p. 334).

The digitization and long-term preservation of cultural heritage materials serve as a form of insurance for safeguarding their content. The web platform developed as a result of the DijitalKütüpİST Project has created a valuable new resource that supports scientific research and academic studies. Through this project, rare and valuable works have been digitized, their bibliographic records have been created, and they have been made accessible in a digital environment. Beyond ensuring the preservation and accessibility of these collections for future generations, the project also allows researchers to analyze, interpret, and study the social, cultural, economic, and political history of the period through these materials – independent of time and location. By enhancing access to these resources, the project has contributed to both education and scholarly research, thereby making cultural heritage studies more inclusive and efficient.

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1. For Istanbul University Libraries' digital transformation projects, see: https://kutuphane.istanbul.edu.tr/tr/content/iu-sanal-kutuphaneleri.
2. See: https://dijitalkutupist.istanbul.edu.tr/
3. CD preparation service will not be provided as of 2023. That is why the value 0 is written in the table.
4. See: https://dijitalkutupist.istanbul.edu.tr/
5. https://www.europeana.eu/en
6. https://gallica.bnf.fr/accueil/fr/html/accueil-fr
7. https://bibliopera.org/
8. https://dijitalkutupist.istanbul.edu.tr/

✉ **Dr. Pervin Bezirci, Assoc. Prof.**
Istanbul University
Faculty of Letters
Department of Information and Records Management
Istanbul, Türkiye
E-mail: pervinb@istanbul.edu.tr