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Research Article

# Effectiveness of The Project Management in Libraries: A Systematic Review

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### **Abstract**

Technology is used to keep track of things and timing and make the best decision on the information available. Project Management (PM) has to offer through its various software and technical tools. PM software has always been compared to the traditional ways of libraries. If a library has always been compared to its traditional ways of doing projects, PM brings systematic strategies to the planned project of libraries from beginning to end. The main objective of this research is to find a systematic literature review on the software of PM, the -advantages of using PM in libraries, and the challenges faced by the libraries using PM. This research used the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) to illustrate the systematic literature review. The terms "Project Management" and ("library" OR "libraries") were applied to the advanced research of the five databases: Ebscohost, Emerald, Scopus, WOS, and ScienceDirect were selected databases to ensure relevant studies were captured. The main finding from the research is that using Project Management software in libraries has many advantages, such as clarity of planning and a good understanding of technical tools and software, despite many challenges. It provides end-to-end planning and can be adapted to frequent changes to increase productivity and success. In addition, unlike other studies, this study indicates the missing gap in the literature, and it is hoped that it will guide the researchers.

**Keywords:** Project Management, library, software, advantages, challenges.

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Araştırma Makalesi

# Kütüphanelerde Proje Yönetiminin Etkinliği: Sistematik Bir İnceleme

Fezile ÖZDAMLI\* , Sualeha SULTAN\*\* , Tolgay KARANFİLLER\*\*\*

# Öz

Proje Yönetimi (PY), çeşitli yazılım ve teknik araçlar aracılığıyla gerçekleştirilmelidir. Proje yönetimi yazılımları sayesinde iş akışını ve zamanlamayı takip etmek ve en iyi kararları vermek kolaylaşmaktadır. Proje yönetimi yazılımları her zaman kütüphanelerin geleneksel yöntemleriyle karsılaştırılmıştır. Bir kütüphane her zaman geleneksel proje yapma yöntemleri ile işleyişini sürdürmekteyse, PY yazılımı, kütüphanelerin planlanan projesine baştan sona sistematik stratejiler geliştirmesine yardımcı olur. Bu sebeple bu araştırmanın temel amacı, kütüphanelerde PY Yazılımı kullanmanın avantajları ve zorlukları hakkında sistematik literatür taraması gerceklestirmektir. Arastırmada sistematik literatür tarama kontrol listelerinden biri olan Sistematik incelemeler ve Meta-Analizler icin Tercih Edilen Raporlama Öğeleri (PRISMA) kullanılmıştır. Ebscohost, Emerald, Scopus, WOS ve ScienceDirect veri tabanlarının gelişmiş arama motorlarında ("Project Management" OR "Project Management Software" OR "PM") ve ("library" OR "Libraries" OR "librarian") terimleri aranmıştır. Araştırmadan elde edilen ana bulqu, kütüphanelerde proje yönetim yazılımı kullanımının birçok zorluklara rağmen planlamaya acıklık getirmesi, teknik araçlar ve yazılımlar kullanılarak planların ve sürecin iyi anlaşılması qibi birçok avantajının olmasıdır. Elde edilen diğer bir önemli sonuç ise, PY yazılımlarının baştan sona planlama sağladığı, üretkenliği ve başarıyı artırmak için sık yapılan değişikliklere kolayca uyarlanabilir olduğunun anlaşılmasıdır. Ayrıca, bu çalışma diğer çalışmalardan farklı olarak proje yönetimi yazılımları ile ilgili literatürdeki eksiklikleri de belirtmekte ve bu yönüyle araştırmacılara yol göstereceği umulmaktadır.

**Anahtar sözcükler:** Proje yönetimi, kütüphane, yazılım, avantajlar, zorluklar, proje yönetimi yazılımı.

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### Introduction

We are in a fast-changing era where technology has changed many traditional ways of doing things. People were relying on physical assets more than intellectual and technical resources. Technology has converted standard libraries to digital websites, mainly with online access to their users (Henkoğlu 2021), which has benefited the scientific research community as easy access to the library and open access materials (Er-Koçoğlu, 2022).

Implementing -PM- in libraries has brought success to many library projects. Moreover, it has brought favourable outcomes in modernisation; the library PM techniques are becoming more popular in library management (Cobo Serrano and Arquero Avilés, 2018; Pryima et al., 2019). However, it requires some knowledge and experience (Ratledge and Sproles 2017), and there is a significant role of a manager even though Project managers may not have official training for it (McGeary et al., 2021), the PM must be necessary for the LIS program (Sullo, 2017). Before PM, there was uncertainty, failure to make timely submissions, and difficulty managing multiple projects (Michalak & Rysavy, 2020). The PM brought the flow of work and brought library staff and their stakeholders together (Burress & Rowell, 2017).

Importance of PMin libraries: The PM built the connection and brought more clarity to the project (Porter, 2019). PM instruments help record the project's advancement and enhancement (Nelson et al., 2020). Start-to-finish project framework is clearly defined (Kelly & O'Gara, 2018). The critical quality of the PM improves productivity (Shelby, 2019). In the virtual world, librarians must have more information and methods (Miller, 2018). In addition, good librarians worldwide should update themselves in communication (D'Amato & Erb, 2018) and marketing (Michalak & Rysavy, 2020). For the project to be on track, ownership or sponsorship is essential (Bjornen and Ippoliti, 2022). The PM brings creativity to the staff (Blythe, Solomon, and Gunther, 2019).

Even though its multiple advantages, there are also many difficulties faced by projects; some software, like Agile, only solves some problems (Stoddard et al., 2019). The librarian must have communication skills and knowledge of technology, and PM knowledge. Ratledge and Sproles recommend that project managers complete projects according to their budget and requirements (Ratledge & Sproles, 2017). Even though they were not taught about Project Management, and many librarians participated in projects, the PM must be included in the LIS higher education programs (Sullo, 2017).

There are many PM software applications that can be used according to the demand of the project. This study also discusses the software and techniques used for the PM: Agile, Asana, Notion Dashboard, Kanban, Trello, Cloud technology, and Tableau Public.

These software keep track of all the projects from beginning to end. This research aims to determine the types of software for PM in the Library, the advantages of using PM, and the challenges the libraries face. PM has helped libraries to adopt modern ways of doing things and has helped them to modernise with the help of ever-changing technology.

No previous systematic literature review on Project Management in libraries has been found in the literature. A systematic literature review is carried out against a database that includes the structure of your search history, which provides the evidence on which your research is based, combining appropriate search terms relevant to the research topic. Çınar (2021) defined systematic review as the systematic and unbiased screening of studies on the same subject by the determined criteria, evaluating the validity of the studies found and combining them by synthesising to find an answer to a research question prepared on a specific subject. This research aims to synthesize published articles about Project Management in libraries. This research conducts a systematic literature review to determine the effectiveness of PM in libraries with PRISMA. For this aim, it has been used PRISMA which is a systematic literature review technique (Moher et al., 2009). All relevant databases were included to ensure that the literature on PM in libraries has been covered extensively.

### **Research questions**

RQ1: Which PM software is preferred by libraries?

RQ2: What are the advantages of using PM in libraries?

RQ3: What are the challenges of using PM in libraries?

### Method

This research conducts a systematic literature review to achieve the research aim. As seen in Figure 1, the PRISMA technique was used as a systematic literature review for this study. A systematic review is a more scientific method of summarising the literature because specific protocols determine which studies to include in the review.

PRISMA stands for Preferred Reporting Items for Systematic Reviews and Meta-Analyses. It is a minimal collection of elements for reporting in systematic reviews and meta-analyses supported by evidence (Systematic Reviews, 2022). The information flow across the several stages of a Systematic Review is shown in the flow diagram. It illustrates how many records were found, included, and excluded, with the reasons (Systematic Reviews in Health, 2023).

The materials used to identify the systematic literature review's significant aspects were analysed and sorted according to the proposed classification context. Researchers used certain keyword combinations. The Logical formula for the search strategy is ("Project Management" OR "Project Management Software" OR "PM") AND ("Library" OR "Libraries") to find published articles studying Project Management in libraries. After searching for these keywords, the following Inclusion and Exclusion criteria were applied to reach the relevant articles.

### Inclusion and Exclusion Criteria

Inclusion and exclusion criteria are set to ensure that the searched articles are relevant to the research's purpose. The criteria determined are given in Table 1.

**Table 1** *Inclusion/Exclusion Criteria* 

Criteria	Inclusion criteria	Exclusion criteria
Exposure of interest Language Type of publication Period Access to article	PM in libraries Articles were written in English. Peer-reviewed articles 2017-2022 Open Access Articles	Project Management in other domains Written in any other language Book reviews, papers in conference proceedings, and editorials Before 2017 Full text is not available online

Project management papers from other domains were not included in the study's selection of articles appropriate for it; only materials with PM in libraries were. Editorials and book reviews were also not included in the screening process because they were irrelevant to the study's objectives. Additionally, the analysis only included articles from the years 2017 through 2022. The majority of the reasons the study was restricted to this time frame were that it was current and that there were a manageable number of studies, allowing for a thorough examination. Similarly, only papers written in English were included in the analysis. The fact that the common language used by all researchers in English and the universal language of science is English formed the basis of this limitation (Aktoprak & Hursen, 2022; Al-Dabbagh, 2005).

## **Database Search and Duplicate Elimination**

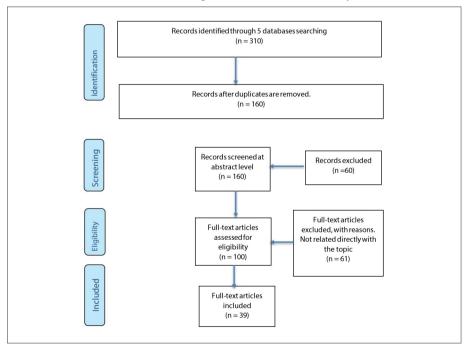
Ebscohost, Emerald, Scopus, WOS, and ScienceDirect were selected databases to ensure relevant studies were captured. It is possible to guarantee, find and refer to the most important scientific publications, as they offer comprehensive coverage of

quality publications. EBSCOHost provides services by compiling databases, Scopus and WOS include bibliographic citation directories, and ScienceDirect includes Elsevier's academic publications. Emerald Database provides academic journal database service. Two authors screened abstracts and titles against inclusion and exclusion criteria independently. Two authors extracted data independently using a standard form for the risk of bias and applicability assessment. The Concordance index between the authors (Cohen's kappa coefficient) of 0.9 was achieved.

### **Data Extraction Strategy**

After applying the Inclusion and Exclusion criteria, the researchers evaluated the research suitability of the individual articles, and the irrelevant articles were excluded from the study. Data analysis was carried out by examining the remaining articles in detail.

**Figure 1**The PRISMA Flow of Information Through the Different Phases of A Systematic Review



### **Conducting The Review**

A systematic literature review was conducted between 10 April 2022 and 1 December 2022. At this stage, databases were examined in detail. In the table below, it is seen that there is a suitable study with the criteria in each database.

**Table 2**Database Search Result

Database	Used terms and operators	Search field	No. of peer- reviewed articles
EBSCOhost	("Project Management" OR "Project Management Software") and ("library" OR "libraries" OR "librarian")	Abstract	100
Emerald	("Project Management" OR "Project Management Software") and ("library" OR "libraries" OR "librarian")	Abstract	6
ScienceDirect	("Project Management" OR "Project Management Software") and ("library" OR "libraries" OR "librarian")	Abstract	6
Scopus	("Project Management" OR "Project Management Software") and ("library" OR "libraries" OR "librarian")	Abstract	159
Web of Science	("Project Management" OR "Project Management Software") and ("library" OR "libraries" OR "librarian")	Abstract	42

### **Reporting Review**

The research process started with 310 articles, for which five electronic databases were used. Records were gathered using the keywords ("Project Management" OR "software") AND ("library" OR "libraries" OR "librarian") in the abstract.

After searching the electronic databases, the Identification, Screening, Eligibility, and Included stages were carried out. In identification, all the duplicated articles were removed from 310 articles from all five databases, and only 160 were left after removing 150 articles. Then in the screening process, 60 articles were excluded, 100 articles were further assessed for eligibility, 61 articles were excluded, and all the unrelated to the research articles were removed.

Finally, 39 articles were determined per the inclusion and exclusion criteria and examined for research.

**Table 3** *Most Important Results in Papers* 

No.	Reference	Result	
1	(Hartsell-Gundy, Lawton, and Rozear, 2020)	The team followed the "Learn by doing" approach throughout the project.	
2	(Stoddard, Gillis, and Cohn, 2019)	Agile did not solve every problem or include human factors by being "too corporate."	
3	(Shein, Robinson, and Gutierrez, 2018)	Agile provides the possibility of more excellent outcomes compared to the initial planning.	
4	(Collins and Wilson, 2018)	If it is not working, move on and reach other conclusions.	
5	(Ratledge & Sproles, 2017)	The librarian must have communication skills and knowledge of technology, and PM.  Complete the task with the given budget and requirements.	
6	(Monnin, 2020)	Asana PM tool is used for small libraries by collaborating and assigning tasks.	
7	(Porter, 2019)	The PM built the connection and brought more clarity to the project.	
8	(Sullo, 2017)	Even though they were not taught about Project Management, and many librarians participated in projects, the PM must be necessary for the LIS program.	
9	(Nelson et al., 2020)	PM instruments help in recording the project's advancement and enhancement.	
10	(Kelly and O'Gara, 2018)	It was concluded that a project should always start with the question of why, and projects to be done should be purposeful.	
11	(Zvyagintseva, 2018)	Productive methods are required to enhance digital platform growth.	
12	(Shelby, 2019)	For the PM, the critical quality is to improve productivity.	
13	(Chou, Shadle, and Teel, 2019)	Dissemination of titles between contributors, education requirements, and project information provides functionality.	
14	(O'Hara, Lapworth, and Lampert, 2020)	For PM, documentation plays an important role.	
15	(Lacuata, 2020)	The project must be well organized.	
16	(Pryima et al., 2019)	In modernizing the Library, PM plays a key role.	
17	(Rojişteanu, 2017)	PM can convert challenges into opportunities.	
18	(Miller, 2018)	In the virtual world, librarians must have more information and methods in this virtual world.	
19	(Michalak & Rysavy, 2020)	Conveys communication and delivers the marketing clearly and persistently up to date.	
20	(Mitchell, 2018)	PM smooths the strategic and in-operation projects managed by the Library.	
21	(Bjornen & Ippoliti, 2022)	Ownership or sponsorship is essential for the project to be on track.	
22	(Michalak & Rysavy, 2020)	Before PM, there needed to be more clarity, failure to submit on time, and difficulty managing multiple projects.	

# **Table 3** *Continued*

No.	Reference	Result	
23	(Potnis & Gala, 2020)	Risk, deadlines, and budgeting improve the quality of the project and can be adjusted with the help of the PM.	
24	(McLean and Canham, 2018)	The recording is entitled to-do, under construction, and accomplishments.	
25	(Waterhouse and Mann, 2021)	PM helps librarians to discover their qualities and also encourages them to grow.	
26	(Guo, 2019)	A favourable outcome does not always bring success to the Library, omitted if it is connected to the Library's goals.	
27	(McGeary, Guder, and Ganeshan, 2021)	Project managers may need to have official training for it.	
28	(Wu et al., 2020)	Culture may impact the implementation of PM.	
29	(Harden and Ajamie, 2020)	The project manager can lead even though do not have any management authority.	
30	(Blythe, Solomon, and Gunther, 2019)	The PM brings creativity to the staff.	
31	(Petters et al., 2019)	Training improves the productivity of the project.	
32	(D'Amato & Erb, 2018)	The critical part of PM is communication.	
33	(Kipps & Jones, 2020)	Librarians are constantly discovering different techniques to use software for functional management.	
34	(Stojanovic, 2021)	Trello provides workflow according to the different needs of their customer.	
35	(Koldunov & Cristini, 2018)	Python can be used for improving the scientific PM.	
36	(Burress & Rowell, 2017)	The PM brings library staff and their stakeholders together.	
37	(Cobo Serrano & Arquero Avilés, 2018)	In modernisation, library PM techniques are becoming more popular in library management.	
38	(Igbo et al., 2022)	Research on university libraries in Nigeria indicates that universities have only library websites and online databases.	
39	(Igwe & Sulyman, 2022)	It is stated that lack of technological knowledge, technophobia, data privacy and security are among the challenges of the intelligent library.	

### Results

Although librarians did not know about project management, it helped them develop their communication and operational skills when they embraced project management. The critical role of a project manager is to build a smooth workflow through effective communication.

PM tools help librarians with documentation and monitoring their progress. Despite this, Project Management software sometimes cannot be as effective as desired because it ignores the human factor (Stoddard et al., 2019).

### **Preferred Project Management Software**

The increasing growth of sophisticated library services like digital repositories and virtual reference points suggests that a librarian's job is shifting more and more toward project-based work (Kinkus, 2007). As time passes, libraries will be more technologyoriented as continuous progress and management tools increase productivity (Ratledge & Sproles, 2017). A PM tool is used for small libraries by collaborating and assigning tasks (Monnin, 2020). Many project managers have implied PM for success, where a project is detailed and executed with the help of a dashboard and toolkit (Mitchell, 2018). Agile broadly applies to the project's technical requirements and effectual results (Porter, 2019). In Project Management, there is more to Agile than meeting the requirements rather than being adaptable and receptive to change. Agile PM concepts and execution liberates the project from retrograde planning of the management; it instead motivates the team to be innovative and upgrade the existing plan and process for the expected outcomes (Shein et al., 2018). However, Agile did not solve every problem and was not include human factors by being "too corporate" (Stoddard et al., 2019). Agile elements are distinctly related to the advancement of project managers who sincerely embrace agile techniques but acknowledge that the Project Management's strategy must evolve according to the situation.

Project success is tied to agile factors, yet even managers who fervently support agile methodologies understand that each project's management strategy must be customized to the circumstances (Shein et al., 2018).

Notion Dashboard: The Notion Dashboard is a tool commonly used by managers during Covid-19, which helps them manage and keep their tasks in order with effective reporting (Michalak & Rysavy, 2020). Several tasks and areas of your workflow are centred on the Notion Dashboard, and they contain features, including a habit tracker, digital library, project list, and a to-do list. Librarians may quickly access their frequently frequented pages and information with the Notion Dashboard.

Asana: Asana is another tool that project members and managers use. It has two types, unlimited and limited; the limited one is for 15 staff-member. It helps them to communicate and collaborate. Managers can assign duties to complete the project (Monnin, 2020). Asana has many features. Some of those; include a to-do list for projects that can be created, clarity about who should do what and when; tasks are divided into sub-tasks, making the larger task easier to complete; a clear person can be assigned to each task so everyone knows their responsibility; Deadlines ensure that each task is completed on time. Tasks can be viewed in an Asana calendar or even a business calendar. Not only that but with Asana, a timeline can be created to provide a more comfortable view of the schedules; gantt-style task and project deadlines can be specified; Files can be attached to any task or message from the device used, Google Drive, OneDrive, Dropbox or Box. Users can vote or like a message, comment, or task sent in teamwork.

Kanban: A tool known as Kanban is made in Japan, which means signboard. It is a tool that helps project managers envision the project, put it in order, and finalize it. For iterative projects, the Kanban procedure is applicable even if the project is bounded by limits or continual daily work progress (McLean & Canham, 2018). While using Kanban, some difficulties are reliance on supporting systems and dependency on other processors. Staff must report and cooperate (Ahmad et al., 2013).

Trello: PM tool Trello has shown effective results by providing a practical framework (Kipps & Jones, 2020). Trello application can be customized according to user needs (Stojanovic, 2021). Trello application can be customized according to user needs. Projects can be carried out step by step through the application, regardless of the number of people in the organization. To-do lists can be prepared, and the percentage of tasks completed can be tracked with checklists. Required documents can be added to the required tasks area by drag-and-drop method. In addition, automatic reminders can be made by adding important dates.

Another important result is that research on university libraries in Nigeria indicates that universities have only library websites and online databases, and it is seen that there are no Project Management systems for the libraries (Igbo et al., 2022).

### **Advantages of Using Project Management**

Agile provides more excellent outcomes than initial planning (Shein et al., 2018), as it frames the whole program with the title listing and deadlines to all the staff, and all the tasks are well defined. Try, and if it is not working, then move on and reach other conclusions (Collins and Wilson 2018); you always have more options to correct and monitor the staff's mistakes and correct or change the strategies for better outcomes.

With Project Management software, the Project Manager can present the goals and tasks of the projects more clearly; the entire project framework can be clearly defined (Porter 2019). In addition, according to the results obtained from the studies, communication between teammates and project management software is better (Kelly & O'Gara, 2018).

Also, according to the results obtained, people working on the project gained much knowledge of soft skills (Hartsell-Gundy et al., 2020), not just the traditional knowledge, as the librarian has been familiar with it for many decades. Adding PM skills to their knowledge always benefits both libraries and librarians. By applying the agile software, staff learned new skills that helped the Library's financial resources(Stoddard et al., 2019). The project illustrates how as technology has advanced and libraries have absorbed it, the scope and scale of the Library's technology-associated roles have grown (Ratledge & Sproles, 2017). Interaction and openness have evolved the paperwork and management, considering the resources and structured decision-making procedure (Porter, 2019).

Documentation is essential for any project as it ensures everyone working on the project is on the same page. It lets stakeholders comprehend the project's goals, procedure, planned results, and possible outcomes (Kelly & O'Gara, 2018). Librarians constantly discover different techniques to use software for functional management (Kipps & Jones, 2020). Productive methods are required to enhance digital platform growth (Zvyagintseva, 2018). Functional communication indicates better outcomes (D'Amato & Erb, 2018).

### **Challenges of Using Project Management**

Conveying the idea is a very analytic part of any project. The project requirements must impart the opportunities to intensify the skills which will prepare them for their near future projects (Hartsell-Gundy et al., 2020). The other challenge most commonly faced by the libraries is budgeting; GW libraries also have a hard time budgeting for the requirements of the project personnel training to keep up with the research (Stoddard, Gillis, and Cohn, 2019). Keeping up with the new technologies is another challenge the libraries face because they continually inspect their customers (Ratledge & Sproles, 2017).

Another difficulty that the PM can face in libraries is over-analyzing and over-prescription. In a study conducted by Porter (Porter 2019), one participant said: "when all you have is a hammer, every problem looks like a nail, and sometimes a hammer is not the right tool for the job because the problem is not a nail, it is a screw."

The project's success does not rely just on a great idea, it is essential to have a great idea, but for implementing the idea, all the necessary resources are also important such as people willing to join the project, inter-departmental collaboration, working together, software and duration of the project (Kelly & O'Gara, 2018). Strategies must align with the limited resources of the PM (Waterhouse and Mann 2021); because of its limited resources, A project must be well-planned from start to end. Some managers focus more on project success and less on what may go wrong, which makes the project unsuccessful (Guo, 2019). There may be difficulties in training staff as appropriate training programs covering all aspects of the project are difficult to find (D'Amato & Erb, 2018). Appropriate training for both project managers and other project workers should be included in the Library Information Science program (Sullo 2017).

In Igbo's study, the most significant difficulties are the lack of library management software to guide the process, the insufficient knowledge and skills of professionals in applying digital information services, and the lack of corporate digital information provision policies (Igbo et al., 2022).

### **Discussion and Conclusion**

In the last two decades, ways of doing things have changed from traditional methods to modernise the system. Along with the developing technology, the software has also been developed for the Project Management process. According to the results obtained from the study, libraries have started to benefit from PM software. In the systematic literature review, it is stated that the use of PM software in libraries has many opportunities and difficulties. These possibilities and challenges are summarized in Figure 2.

**Figure 2**Summary of Results

# ADVANTAGES Communication Proper Documentation Key Role High Success Rate Start-to-End planning Multiple Project Management CHALLENGES Budgeting Over-Analyzing Limited resources Proper Training Programs Premium Options

Many PM software and techniques are available; most project managers have used Agile PM software because of its iterative nature and the project's start-to-end plan. Where all the job titles, tasks, and deadlines are available, it brings the best out of the people by making them innovative and thinking critically. Other software and tools used for the PM are Trello, Kanban, Asana, Notion Dashboard, and Google Tools, which helped the libraries' small and big projects.

PM use in libraries has many advantages, such as it brings clarity in planning and is well-understood using technical tools and software. It provides start-to-end planning and is adaptive to frequent changes to increase productivity and success. The training and knowledge gained by the staff can be further used in future projects. The manager initially allocates all the titles and tasks to avoid confusion and cluster in the plan. It provides better software tools and techniques for communication and documentation, which are two main aspects of any project and, if done correctly, can increase the success rate.

Despite all the advantages, the most common challenges library project managers face are budgeting, limited resources, and over-analyzing training programs. Because of budgetary constraints, the manager has to make poor choices, such as using free software and tools and not purchasing access to premium options, affecting the project success rate. Many researchers concluded that the Project Managers were not given any formal training in their LIS program, and the researchers have recommended that PM training be given to the librarian in their LIS program. Another difficulty was that sometimes Project Managers analysed the situation and made complicated decisions when the solutions were simple. Another challenge was finding the proper training programs for the staff where their full potential was used for the project's success. There are no difficulties with only project management software in libraries. A study stated that lack of technological knowledge, technophobia, data privacy and security issues are among the smart library challenges (Igwe & Sulyman, 2022). Problems such as technophobia, data privacy, and lack of technological knowledge may affect project management software use. The effects of these factors on PM use can be investigated in future studies.

An overview of professional project management is provided in this article, along with a review of related management and library science literature. According to the results obtained from the study, it can be recommended to determine the factors affecting the use of effective Project Management Software in libraries in future studies.

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Not Applicable. This work has not been published anywhere.

### **Author Contributions Statement**

SS, FO and TK first determined the topic by brainstorming and reviewing the literature. After SS prepared the problem situation of the study, SS and FO conducted their screening independently of each other by the inclusive and exclusive criteria. Then, the reliability of the study was tested by comparing the results. Reporting has been prepared together, and FO chose the journal and arranged it according to the format. TK revised the manuscript according to the reviewers' comments. All authors read and approved the final version of the manuscript.

# Kaynakça

- Ahmad, M. O., Markkula, J., & Oivo, M. (2013). Kanban in software development: A systematic literature review. 2013 39th Euromicro Conference on Software Engineering and Advanced Applications, 9-16. https://doi.org/10.1109/SEAA.2013.28
- Aktoprak, A., & Hursen, C. (2022). A bibliometric and content analysis of critical thinking in primary education. *Thinking Skills and Creativity*, 44, 101029. https://doi.org/10.1016/j.tsc.2022.101029
- Al-Dabbagh, A. (2005). Globalism and the universal language. *English Today*, 21(2), 3-12. https://doi.org/10.1017/S0266078405002026
- Bjornen, K. K., & Ippoliti, C. (2022). Making it better: A project management framework for creating a research data services program. *Issues in Science and Technology Librarianship*, 99. https://doi.org/10.29173/istl2623
- Blythe, K., Solomon, J., & Gunther, W. K. (2019). The hard task of soft skills: project management for the materials review process. Serials Review, 45(3), 158-159. https://doi.org/10.1080/00987913.2 019.1647745
- Burress, T., & Rowell, C. J. (2017). Project management for digital projects with collaborators beyond the library. *College & Undergraduate Libraries*, 24(2-4), 300-321. https://doi.org/10.108 0/10691316.2017.1336954
- Chou, C., Shadle, S., & Teel, K. (2019). Cooperative cataloging projects: managing them for best results. *The Serials Librarian*, 76(1-4), 110-113. https://doi.org/10.1080/0361526X.2019.1535682
- Cobo Serrano, S., & Arquero Avilés, R. (2018). Project management techniques at the Complutense University: academic librarians' perceptions. *New Review of Academic Librarianship*, 24(2), 124-135. https://doi.org/10.1080/13614533.2017.1406378
- Collins, M., & Wilson, K. (2018). An agile approach to technical services. *The Serials Librarian*, 74(1-4), 9-18. https://doi.org/10.1080/0361526X.2018.1443652
- D'Amato, K., & Erb, R. A. (2018). The road from millennium to alma: two tracks, one destination. *The Serials Librarian*, 74(1-4), 217-223. https://doi.org/10.1080/0361526X.2018.1428475
- Er-Koçoğlu, N. (2022). Kütüphanecilik ve bilgi bilimi alanında yayımlanan bilimsel makalelerde serbest erişimli bilgi kaynaklarının kapsamı. Bilgi Dünyası, 22(2), 329-349. https://doi. org/10.15612/BD.2021.641
- Guo, J. X. (2019). Measuring information system project success through a software-assisted qualitative content analysis. *Information Technology and Libraries*, 38(1), 53-70. https://doi.org/10.6017/ital.v38i1.10603
- Harden, M., & Ajamie, L. (2020). Product ownership and the library website redesign process. *College & Undergraduate Libraries*, 27(2-4), 385-396. https://doi.org/10.1080/10691316.2021.1892 559
- Hartsell-Gundy, A., Lawton, K., & Rozear, H. (2020). 17 librarians and one big undertaking: creating a digital project from start to finish. *Journal of Electronic Resources Librarianship*, 32(1), 19-28. https://doi.org/10.1080/1941126X.2019.1709730

- Henkoğlu, H. Ş. (2021). Türkiye'deki üniversite kütüphane web sitelerinin web içeriği erişilebilirlik kılavuzu kapsamında değerlendirilmesi. *Bilgi Dünyası*, 22(2), 251-288.
- Igbo, H., Ibegbulam, I., Asogwa, B., & Imo, N. (2022). Provision of digital information resources in Nigerian university libraries. *Information Research: An International Electronic Journal*, 27(3). https://doi.org/10.47989/IRPAPER936
- Igwe, K. N., & Sulyman, A. S. (2022). Smart libraries: changing the paradigms of library services. Business Information Review, 39(4), 147-152. https://doi.org/10.1177/02663821221110042
- Kelly, M., & O'Gara, G. (2018). Collections assessment: developing sustainable programs and projects. *The Serials Librarian*, 74(1-4), 19-29. https://doi.org/10.1080/0361526X.2018.1428453
- Kinkus, J. (2007). Project management skills: a literature review and content analysis of librarian position announcements. *College & Research Libraries*, 68(4), 352-363. https://doi.org/10.5860/crl.68.4.352
- Kipps, K. L., & Jones, A. K. (2020). Things are looking up: using cloud-based technology tools in collection management workflows. Serials Review, 46(3), 215-223. https://doi.org/10.1080/009 87913.2020.1806646
- Koldunov, N. v., & Cristini, L. (2018). Programming as a soft skill for project managers: how to have a computer take over some of your work. *Advances in Geosciences*, 45, 295-303. https://doi.org/10.5194/adgeo-45-295-2018
- Lacuata, A. N. (2020). Digitization of library resources in higher education institutions in La Union, Philippines. Preservation, Digital Technology & Culture, 49(4), 139-158. https://doi.org/10.1515/ pdtc-2020-0031
- McGeary, B., Guder, C., & Ganeshan, A. (2021). Opening up educational practices through faculty, librarian, and student collaboration in OER creation: Moving from labor-intensive to supervisory involvement. *The Canadian Journal of Library and Information Practice and Research*, 16(1), 1-27. https://doi.org/10.21083/partnership.v16i1.6149
- McLean, J., & Canham, R. (2018). Managing the electronic resources lifecycle with kanban. *Open Information Science*, 2(1), 34-43. https://doi.org/10.1515/opis-2018-0003
- Michalak, R., & Rysavy, M. D. T. (2020). Managing remote projects effectively with an action dashboard. *Journal of Library Administration*, 60(7), 800-811. https://doi.org/10.1080/01930826 .2020.1803022
- Miller, A. (2018). Innovative management strategies for building and sustaining a digital initiatives department with limited resources. *Digital Library Perspectives*, 34(2), 117-136. https://doi.org/10.1108/DLP-08-2017-0029
- Mitchell, E. T. (2018). Lightweight tools and dashboards for program management in libraries. *Technical Services Quarterly*, 35(1), 68-82. https://doi.org/10.1080/07317131.2017.1385295
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *BMJ*, 339(jul21 1), b2535-b2535. https://doi.org/10.1136/bmj.b2535
- Monnin, C. (2020). Asana (product review). *Journal of the Canadian Health Libraries Association*, 41(3). https://doi.org/10.29173/jchla29509

- Nelson, G. M., Goates, M. C., Pixton, D. S., Frost, M., & Broadbent, D. (2020). Collection weeding: Innovative processes and tools to ease the burden. *The Journal of Academic Librarianship*, 46(5), 102139. https://doi.org/10.1016/j.acalib.2020.102139
- O'Hara, G., Lapworth, E., & Lampert, C. (2020). Cultivating digitization competencies. *Information Technology and Libraries*, 39(4). https://doi.org/10.6017/ital.v39i4.11859
- Petters, J. L., Brooks, G. C., Smith, J. A., & Haas, C. A. (2019). The impact of targeted data management training for field research projects a case study. *Data Science Journal*, 18. https://doi.org/10.5334/dsj-2019-043
- Porter, S. (2019). Project management in higher education: a grounded theory case study. *Library Management*, 40(5), 338-352. https://doi.org/10.1108/LM-06-2018-0050
- Potnis, D. D., & Gala, B. (2020). Managing the "backend" of LIS research projects: A project management perspective. *Library & Information Science Research*, 42(1), 100996. https://doi.org/10.1016/j.lisr.2019.100996
- Pryima, S. M., Anishchenko, O. V., Dayong, Y., & Ivanova, N. A. (2019). Formation of the project competence of future specialists in information, library and archive services in a digital society. *Information Technologies and Learning Tools*, 70(2), 121. https://doi.org/10.33407/itlt. v70i2.2639
- Ratledge, D., & Sproles, C. (2017). An analysis of the changing role of systems librarians. *Library Hi Tech*, 35(2), 303-311. https://doi.org/10.1108/LHT-08-2016-0092
- Rojişteanu, C. E. (2017). Google me this: what can project management be for libraries in the age of Google et al.? *Journal of Library and Information Science*, 13(2), 27-46. https://doi.org/10.26660/rrbsi.2017.13.2.27
- Shein, C., Robinson, H. E., & Gutierrez, H. (2018). Agility in the archives: translating agile methods to archival project management. *RBM: A Journal of Rare Books, Manuscripts, and Cultural Heritage*, 19(2), 94. https://doi.org/10.5860/rbm.19.2.94
- Shelby, J. (2019). Convergent evolution of innovative teams in technical services. *Serials Review*, 45(3), 150-153. https://doi.org/10.1080/00987913.2019.1644711
- Stoddard, M. M., Gillis, B., & Cohn, P. (2019). Agile project management in libraries: creating collaborative, resilient, responsive organizations. *Journal of Library Administration*, 59(5), 492-511. https://doi.org/10.1080/01930826.2019.1616971
- Stojanovic, V. (2021). Trello (product review). *Journal of the Canadian Health Libraries Association*, 42(1). https://doi.org/10.29173/jchla29545
- Sullo, E. (2017). Academic librarians at istitutions with LIS programs assert that project management training is valuable. *Evidence Based Library and Information Practice*, 12(3), 180. https://doi.org/10.18438/B8TMIS
- Systematic reviews. (2022). What is PRISMA? https://guelphhumber.libguides.com/c. php?g=213266&p=1406923#:~:text=What%20is%20PRISMA%3F,a%204-phase%20flow%20 diagram
- Systematic reviews in health. (2023). University of Canberra. https://canberra.libguides.com/systematic/report

- Waterhouse, J., & Mann, S. (2021). Mapping domain knowledge for leading and managing change. *The Serials Librarian*, 80(1-4), 3-10. https://doi.org/10.1080/0361526X.2021.1863140
- Wu, Y., Guimaraes, A., & Wang, Z. (John). (2020). Product owners at hesburgh libraries: increasing stakeholder engagement and accountability through continuous organizational enhancement. *Journal of Library Administration*, 60(7), 695-713. https://doi.org/10.1080/01930 826.2020.1797329
- Zvyagintseva, L. (2018). Community-led digital exhibits service at the edmonton public library: research and consultation. partnership: *The Canadian Journal of Library and Information Practice and Research*, 12(2). https://doi.org/10.21083/partnership.v12i2.3957