

Original article

Implementation of the planning function in libraries of selected military universities in Poland in the light of own research

Anita Kuźnik 

Faculty of Management,
General Tadeusz Kościuszko Military University of Land Forces, Wrocław, Poland,
e-mail: anita.kuznik@awl.edu.pl

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ABSTRACT

The article aims to present a part of the research results on implementing the management function in selected libraries of Polish military higher education institutions concerning the planning function. In an organization such as a scientific library, planning is the most crucial management function, especially in such a specific one as a military university library. The analysis of information infrastructure factors made it possible to evaluate the implementation of individual management functions in the analyzed military libraries, including the planning function as the most important for information resources management. The assessment of the implementation of the planning function shows significant implications that may contribute to the optimization of information infrastructure management in a modern military higher education institution library.

KEYWORDS

management, planning function, information infrastructure,
military university library



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Introduction

The management of the information infrastructure is essential for the functioning of modern information centers, such as university libraries. It can be concluded that information resources have become the most crucial, apart from human resources, in this type of organization (though probably also others). Along with the advancement of digitization, the library services market is developing increasingly dynamically. The requirements of stakeholders are also growing, and information resources should be developed and modernized to meet them. The vital issue is efficient management, without which the functioning of modern libraries would be impossible today.

Libraries of military universities, which function within the armed forces' structure and are a permanent element of the security system, acquire particular importance. That is where critical information for this system is collected and organized. Therefore, in the era of hybrid

threats, one can observe an increasingly dynamically expanding and evolving range of services provided by them. When striving for the most efficient functioning of modern information centers, such as military libraries, it is necessary to optimize their information resources. The management theory comes in handy, as it indicates the necessity to coordinate management functions. In managing the information infrastructure, it is crucial to identify the factors influencing its functioning and development. A team of scientists at the Faculty of Management of the General Tadeusz Kościuszko Military University of Land Forces carried out the research project *Information Infrastructure Management in the Military University Library*, of which the author of this article is proud to be a member. A detailed analysis of the information infrastructure functionality factors was performed and data from selected scientific libraries of military universities were compared within its framework. In effect, the impact of the information infrastructure on these organizations' functionality was determined, and the implementation of the management function was examined, which constituted the project main objective. The culmination was the indication of activities to optimize the information infrastructure management in selected libraries of military universities, as a result of which a model of information infrastructure management in libraries of Polish military universities was created. The author of this article presented a detailed research methodology in the article entitled *Methodology of the Research Project on Information Infrastructure Management in the Contemporary Military University Library* [8]. The author published the results of research on the impact of information infrastructure on key indicators of university libraries' activity in the article entitled *The Implications of Information Technology Infrastructure for Key Performance Indicators of University Libraries – results of the preliminary analysis* [2] and the results of preliminary research on the information infrastructure of selected military libraries in the article entitled *Influence of Information Infrastructure on the Functionality of Selected Military University Libraries* [3].

1. Planning as a management function

The management functions mentioned in the subject literature most frequently include planning, organizing, motivating, and controlling. However, it is widely accepted that Henri Fayol first classified them in his book from 1909 *L'exposee des principes generaux d'administration*. He distinguished five essential management functions, namely planning (closely related to prediction), organizing (all administrative activities), coordination (of resources and activities), leadership (ordering, giving instructions, bringing about the execution of the plan), and controlling (plan execution). With the development of management sciences, the list of those functions has continuously been evolving [3]. Ricky W. Griffin claims that management includes four primary functions: planning and making decisions, organizing, leading, and controlling. Planning means setting the organization's goals and determining how to achieve them. Decision making, which he believes is part of the planning process, involves selecting a mode of operation from among the options available. Planning and decision-making help to maintain management efficiency, thus guiding future actions [5].

The effectiveness and efficiency of the functioning of an organization, including a scientific library, as well as its response to social needs depend on the correct coordination of the planning, organizing, motivating, and controlling processes. This article analyzes the implementation of the planning function.

The first management function mentioned in the subject literature is planning, which should be the starting point for taking any action in the management of an organization, team, or project. Planning must seek to [4]:

- recognize and understand the current situation,
- predict future changes in the situation,
- define the goals to be achieved,
- define the necessary resources (technical, human, financial, etc.),
- formulate actions necessary to achieve goals,
- predict the consequences of taking and not taking any action,
- define the method of monitoring and controlling the implementation of the plans.

Henri Louis Le Chatelier presented the principles of rational (planned) action in the so-called “structured cycle” [4]. According to the author, each plan should contain at least: goals and objectives, necessary resources, a list of activities, deadlines for their implementation, and responsible persons. The level of detail of the plans depends on the specifics of the planned activities and the importance of the undertaken plans (e.g., strategic, tactical, or operational ones). Magdalena Jurczyk-Bunkowska specifies the types of planning. Strategic planning is carried out by top management and covers a long-term time horizon. Tactical planning sets the conditions for the implementation of strategic plans, covering a long-term time horizon. On the other hand, operational planning is defined as short-term and concerns the implementation of tactical plans [6]. Andrea Cambalikova states that the scheduling function provides the necessary performance standards or goals [7]. In turn, Laima Jeseviciute-Ufartiene draws attention to the importance of planning in the organization’s management and development. According to her, the planning process is related to the process of the manager’s mental activity. Constant changes in the environment make it impossible to purpose-fully use the manager’s mental activity and direct him/her to plan. Some believe that planning is not advisable since the plan must be reconsidered and changed [8]. Mike Schraeder claims in his publications that the planning function comprises various decision-making levels. Allowing employees to participate in these decisions can generate additional ideas that will provide valuable information. These new ideas can positively impact the plan quality as employees have a wide variety of experiences and skills [9]. In her book, Susan Fayette Everett writes that the planning function also includes activities such as clarifying goals, setting goals, establishing rules and standard methods for guiding those who do the work, as well as developing programs, strategies, and timetables to keep progress towards the goals [10]. In turn, Yun Zhang writes about innovation in the planning function; he believes that some of the most critical strategies in an organization always appear when least expected, which cannot be anticipated by senior managers beforehand. To take full advantage of these strategies, it is usually necessary to identify them and extend the impacts. For example, some of the new goals found by some salespeople can sometimes be turned into new corporate core businesses. Planners are always looking for modes in a failed experiment, seemingly random activity, or disrupting learning, and can usually find new methods to solve a problem or consider a problem, such as finding a new market that is not being entered, or understanding the characteristics of a suitable new product, and so on [11].

2. The importance of the planning function in library management

In an organization such as a library, planning is the most crucial management function, especially in such a specific as a military university library. Proper planning determines whether the library will develop in the desired direction and meet its clients’ growing expectations. This management function is the library director’s responsibility and the heads of individual departments, who should properly set the library goals and determine how to pursue them.

Persons in these positions, being responsible for the management of a military university library, should recognize the library's current situation and predict future changes that may occur in the organization. Planning necessitates accurately defined goals to be pursued, assigned tasks, and then the necessary resources (technical, human, financial, etc.) to achieve them. The library budget should be planned appropriately, assuming that the higher the library expenses, the higher its functionality. How high the budget a given library should depend on its needs, and most of all, the users' (clients') requirements. If the library's expenses are appropriate to the readers' needs, it will positively affect the quality of services. In a situation where a library has a too-small budget, and its users' needs grow, its quality also decreases. In the case of human resources, particular attention should be paid to the staff employed. They should be people with appropriate education, experience, and substantive preparation because they will directly impact the quality of the services provided. Thereby, proper planning in this matter is crucial. Then, in proper planning, actions necessary to achieve the set goals should be formulated in the form of specific tasks to be fulfilled by individual, organizational units. A critical skill is to predict the consequences of taking and not taking any action as this element of planning may directly impact the efficiency of the library functioning. Already at the planning stage, it is indispensable to define the method for monitoring and controlling the implementation of the plans.

3. Implementation of the planning function in selected military university libraries

Based on the research results carried out in the analyzed libraries, many activities, which impacted the implementation of their planning functions, undertaken in the area of information infrastructure, can be indicated. The author presented the research methodology in detail in the articles entitled *Methodology of the Research Project on Management of Information Infrastructure in the Contemporary Military University Library* [1] and *Research Methods in the Process of Managing the Information Infrastructure of Scientific Libraries* [12]. The analysis results show that some of them have been implemented correctly, and some identified with shortcomings or errors:

1. In the War Studies University Library plans expenses for printed Polish and foreign books adequately. Increasing expenditure on printed books, set in the library budget, consequently enhances the quality of services provided. It is especially vital when new fields of study are created because the users' needs grow dynamically then. However, it is significant that the expenses increase in proportion to the number of students, which requires proper budget planning.
2. In the Library of the Military University of Technology, the expenditure per user is correctly planned (both for traditional and electronic collections). If these expenses are still kept at an appropriate level to readers' needs and their number, the quality of services will continue to be high. On the other hand, research shows that expenditure on printed books per student is not designed correctly. Also, the high cost of using the collections, which shows how the expenditure on the functioning of the library translates into the actual use of library services, indicates the need for a correction in the library budget. Besides, the cost of using the collections index revealed that the planned library expenses are not fully reflected in the actual use of these services. Therefore, it can be concluded that the library does not fully manage its budget. The number of printed books per student was also incorrectly planned.

Although many printed books per student may indicate a rich book collection, if the number of printed books is inadequate to the number of students, it may have a negative impact on the provision of library services. In the MUT Library, this number is the lowest among the analyzed libraries – therefore, one can conclude that a mistake was made during the purchasing planning process and precisely at the stage of examining this library customer group's needs. The inaccurate planning thesis is also confirmed by the low percentage of computer-developed printed books out of the total number of books. The indicator provides information on a given library stage of "cataloging", and the number of books compiled indicates the effectiveness of the Department of Collection Development work, which introduces books to the library system. The number of books prepared at the MUT Library is low, which proves that this Department's work was not correctly projected.

3. In the Library of the Polish Naval Academy, the library's expenses per user indicate the proper implementation of the planning function because the higher they are, the higher its functionality, and hence the quality of services. In this respect, the Polish Naval Academy Library ranks first among the analyzed libraries.
4. In the Library of the Military University of Land Forces, the number of purchased printed books per user indicates the proper implementation of the planning function. As already mentioned, the large number of purchased printed books per user is evidence of a rich book collection. When the number of these books is appropriately planned, the library can meet its customers' requirements, and the interest in printed books will certainly not decrease. The number of hours of training and didactic classes for users per library employee was also planned.

4. Planning function in the information infrastructure management model of a military university library

It is commonly assumed that the most critical features of the original are presented as approximate as possible. The primary purpose of modeling in science is to up-claim complex reality to be subject to the research process. Modeling allows examining some selected aspects of the issue while ignoring others – e.g., information resources in a given organizational unit's available resources – without examining total resources in all comparable organizations. In the research project entitled *Information Infrastructure Management in the Military University Library* implemented at the Management Department of the General Tadeusz Kościuszko Military University of Land Forces in Wrocław, a system of elements that is isomorphic in relation to a given original system but more straightforward and more readily available for research was adopted as the model. Tadeusz Gospodarek distinguishes three types of models: semantic, analogous, and mixed interoperability. The model of the information infrastructure management process in a military university library can be classified as a model of mixed interoperability in the sub-type of data models. Objects treated as models are physical objects, fictional objects, descriptions, dependencies, logical constructions, and all possible combinations thereof. The model constructed by the author is abstract as its physical shape in the form of a diagram illustrating the system of factors determining individual management functions is a fictional creation. One may be tempted to say that the designed model is in the fourth – interactive approach to the ideal (apart from reacting, inactivity, and acting for the future). Russel L. Ackoff, Jason Magidson, and Herbert J. Addison mention it in their work entitled *Designing the Ideal. Shaping the Future of the Organization* since planning occurs in a place where the author would like the library to be located [13].

Table 1. Planning in the process of managing the information infrastructure in a military university library

I. PLANNING
<ul style="list-style-type: none"> A. Planning expenditure on printed Polish and foreign books as a percentage of expenditure on library collections. B. Planning the library budget to increase the collection (in the form of a book). C. Planning the library budget so that the expenses per user in PLN are appropriate. D. Planning the library budget so that the expenditure on electronic resources per user in PLN is appropriate. E. Planning appropriate expenses for printed books per student in PLN. F. Planning the appropriate cost of using the collections in the library budget. G. Planning an appropriate number of printed books per student. H. Planning work on computer-processed printed books in relation to the total number of printed books (in %). I. Planning the purchase of printed books considering the number of users. J. Planning the appropriate number of hours of training and classes for users in relation to the number of library employees. K. Planning an appropriate number of places to work in the library in relation to the number of students.
↓
II. ORGANIZING
<ul style="list-style-type: none"> A. Employing the number of library workers adequate to the number of users. B. Organizing the amount of work space in the library appropriate to the number of users. C. Arranging working hours (during the week) when library services are available. D. Organizing an appropriate number of training and didactic hours for users per library employee. E. Organizing free access to books, taking into account the total number of books in the collection. F. Employing as many employees as possible with higher librarian education in relation to basic activity employees. G. Organizing the shortest possible time for book preparation. H. Arranging the right amount of work space in the library in relation to the number of students. I. Providing access to web and/or interactive services.
↓
III. MOTIVATING
<ul style="list-style-type: none"> A. Enabling and encouraging library employees to publish their works, taking the number of basic activity employees into account. B. Enabling participation in vocational training, considering the number of library employees. C. Enabling and encouraging active participation in national and international conferences on the subject of libraries, and in other scientific events. D. Allowing participation in language courses.
↓
IV. CONTROLLING
<ul style="list-style-type: none"> A. Controlling the number of non-electronic library collections per user. B. Controlling the number of printed books per user. C. Checking the number of rentals per actively borrowing user. D. Controlling the number of users per library employee. E. Controlling the increase in collections (in the form of a book and other non-electronic collections). F. Controlling the number of downloaded documents from licensed electronic journals and full-text databases. G. Controlling the cost of using the library stock. H. Controlling the number of printed books per student. I. Controlling the computer development process of printed books, taking into account the percentage of the total number of printed books. J. Controlling the purchase of printed books in relation to the users' number and needs. K. Controlling the number of publications of library employees in relation to the number of employees of basic activity.

Source: Own study.

Table 1 presents the implementation of the planning function in managing the information infrastructure in the light of own research. In addition to the factors that have been subjected to detailed analysis, the author added other equally important ones. She indicated them based on observation and direct interview and her own experience gained during many years of work at the Library of the General Tadeusz Kościuszko Military University of Land Forces in Wrocław, where she performed various functions (including managerial ones).

Figure 1 shows the special place of the planning function in the model of managing the information infrastructure in a military university library.

5. Implications arising from the developed model

As indicated in the model presented in Figure 1, there are significant interactions between the functions of planning, organizing, motivating, and controlling, which should be considered when trying to optimize the entire information infrastructure management process in a military library.

The research has shown that the planning and controlling functions in a military university library are particularly strongly coupled (strong interaction), which implies the following conclusions for actions that may contribute to the optimization of its information infrastructure management:

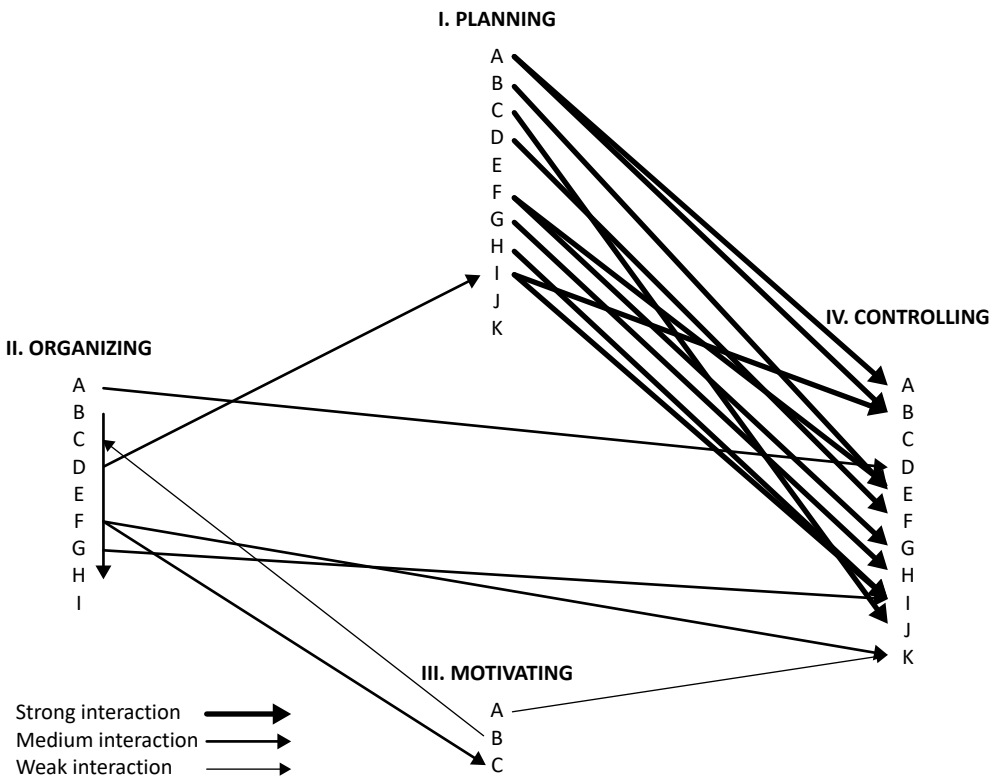


Fig. 1. Coupling of management functions in military university libraries in the light of own research results

Source: Own study based on [13].

- I A–IV B, IV A: Planning the expenditure on printed Polish and foreign books, in particular as a percentage of expenditure on library collections, should be implemented using data from the control of the number of printed books per user and the number of non-electronic library collections per user.
- I B–IV E: Planning the library budget to increase the collections appropriately (in the form of a book) should be carried out using the data from the control of the increase in collections (in the form of a book and other non-electronic collections).
- I C–IV J: Planning the library budget, with the expenses per user in PLN taken into account, should be made using the data from the control of the purchase of printed books in relation to the users' number and needs.
- I D–IV F: Planning the library budget, considering the expenditure on electronic resources per user in PLN, should be made using data from the control of the number of downloaded documents from licensed electronic journals and full-text databases.
- I F–IV E, IV G: Planning the appropriate cost of using the collections in the library budget should be made using data from the controlling the increase in collections (in the form of books and other non-electronic collections) and the cost of using the collections.
- I G–IV H: Planning the appropriate number of printed books taking into account the number of students should be made using the data from the control of the number of printed books per student.
- I H–IV I: Planning the work on computerized printed books in relation to the total number of printed books (in %) should be done using data from the control of the computerized development of printed books including the percentage of the total number of printed books.
- I I–IV I: Planning the purchase of printed books should be done using data from the control of the computer development of printed books, including the percentage of the total number of printed books.
- I I–IV B: Providing access to web and/or interactive services should be done using data from the control of the number of printed books per user.

Moreover, in the libraries under study, a significant link with the organization's function is shown by controlling, planning and motivating functions, which also implies conclusions for actions that may contribute to the optimization of its information infrastructure management:

- II A–IV D: Employment of the library staff adequate to the number of users should be performed using data obtained from the controlling the number of users per library employee.
- II D–I J: Organizing appropriate number of hours of training and didactic classes for users per library employee should be preceded by planning them with the use of inspection data.
- II B–II H: Organizing the number of workplaces in the library in relation to the number of users should be preceded by planning with the number of students taken into account.
- II F–III C, IV K: Employment in a library should be conditioned by having a university degree in librarianship, and employees should have the opportunity and be encouraged to actively participate in national and international conferences on libraries, as well as in other scientific events. Both candidates and employees already hired

should be controlled in terms of the number of publications in relation to the number of employees in the basic activity.

- II G–IV I: Organizing the shortest possible preparation time for a book preparation should be preceded by controlling the computer development process of printed books, considering the percentage of the total number of printed books.

The research has also proved that, to some extent, the controlling and organizing functions in a military university library are coupled with motivation, which also implies certain conclusions for actions that may contribute to the optimization its information infrastructure the management:

- III A–IV K: Enabling and encouraging library employees to publish their works, taking into consideration the number of the basic activity employees, should be preceded by the control of the number of publications of library employees in relation to the number of the basic activity employees.
- III B–II C: Enabling library employees to participate in vocational training in relation to the number of library employees should take into account the organization of their working hours (during the week), when library services are available.

Conclusions

The information infrastructure management in a military university library is critical for this type of organization's functioning as modern information centers. The proposed model of the information infrastructure management process in a military university library allowed for the specification of the essential elements in each of the management functions essential for the proper functioning of libraries. There are interactions between the discussed management functions, which the author considered when trying to optimize the entire process of managing the information infrastructure in a military university library. In the research, the author has shown that in military university libraries, planning and controlling functions are interconnected, the visible coupling is shown by the function of organizing with the functions of controlling, planning, and motivating, and to some extent, the functions of controlling and organizing are linked with motivating. The resulting theoretical model of managing the information infrastructure of a military university library contributes to further research that will be developed in the future. It can be used as an element of the decision support system in managing the resources of modern information centers. The above considerations lead to conclusions and recommendations regarding implementing the planning function for individual analyzed libraries of military universities. In the Main Library of the War Studies University, the personnel policy should be continued while keeping the number of employees at the current level, adequate to the number of users. On the other hand, it is recommended to increase the number of workplaces in the library for stationary clients by acquiring additional usable space and increasing the dynamics of the growth of the collection in the form of books by investing in new items. In the Main Library of the Military University of Technology Jarosław Dąbrowski, efforts to project library expenses should be continued, expenses for printed books should increase, and at the same time, it would be advisable to better plan and control the costs of using the collections and the purchase of printed books and the work on computer processing of printed books. The management of the MUT Library should also take better care of training and didactic classes for the clients (users) of its services. In the Library of the General Tadeusz Kościuszko Military University of Land Forces, the activities undertaken in planning the purchase of printed books, including the so-called

free access and designing and organizing training and didactic classes for both employees and library users should be continued. The personnel policy is also adequately conducted. Besides, the low cost of using the library collections proves correct budgeting. However, actions should be taken to increase the dynamics of the increase in collections (other collections are intended to be non-electronic), above all, in terms of reducing the time of the so-called book preparation. Finally, in the Main Library of the Lech Kaczyński Polish Naval Academy, the general expenditure of the library should be planned more carefully, and, as for human resources, the better care should be taken of the recruitment process so that the majority of them have a university degree in librarianship.

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Conflict of interests

The author declared no conflict of interests.

Author contributions

The author contributed to the interpretation of results and writing of the paper. The author read and approved the final manuscript.

Ethical statement

The research complies with all national and international ethical requirements.

ORCID

Anita Kuźnik  <https://orcid.org/0000-0003-0187-5645>

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Biographical note

Anita Kuźnik – MA, the author is a graduate of the University of Wrocław. In 2011-2018, she was an employee of the Library of the Military University of Land Forces (in 2017 she opened a doctoral dissertation at the Faculty of Management at the AWL). Since September 2018, she has been an employee and a doctoral student at the Faculty of Management of the General Tadeusz Kościuszko Military University of Land Forces, where she is working on her doctoral dissertation entitled *Zarządzanie infrastrukturą informacyjną w bibliotece uczelni wojskowej (Information Infrastructure Management in the Military University Library)*. She has participated in a number of national and international research projects at the Faculty of Management at the AWL. She is a member of 3 scientific and research teams.

Realizacja funkcji planowania w bibliotekach wybranych uczelni wojskowych w Polsce w świetle badań własnych

STRESZCZENIE

Celem artykułu jest zaprezentowanie fragmentu wyników badań nad realizacją funkcji zarządzania w wybranych bibliotekach uczelni wojskowych w Polsce dotyczący funkcji planowania. W organizacji takiej jak biblioteka naukowa planowanie jest najważniejszą funkcją zarządzania, a szczególnie w tak specyficznej, jaką jest biblioteka uczelni wojskowej. Analiza czynników infrastruktury informacyjnej pozwoliła na ocenę realizacji poszczególnych funkcji zarządzania w analizowanych bibliotekach wojskowych, w tym funkcji planowania – najistotniejszej z punktu widzenia zarządzania zasobami informacyjnymi. Z oceny realizacji funkcji planowania wynikają znaczące implikacje mogące przyczynić się do optymalizacji zarządzania infrastrukturą informacyjną współczesnej biblioteki uczelni wojskowej.

SŁOWA KLUCZOWE

zarządzanie, funkcja planowania, infrastruktura informacyjna, biblioteka uczelni wojskowej

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