

LIBRARY HERALD

Vol 62 No 2

June 2024

## Ranganathan's Five Laws in Changing Scenario

OM PRAKASH\*

**‘Dr. S. R. Ranganathan’s Five Laws of Library Science are the five pillars of the foundation of librarianship. These five laws have entered their 100<sup>th</sup> year, inspiring generations of librarians. Forty-seven studies covering Ranganathan’s Five Laws were collected from different online sources. Only 30 studies were found relevant to use for the study. The study determines how the five laws have inspired generations to apply them in various fields of study. As a result, the Five Laws have been applied to information and knowledge management, social media, technology, business, marketing, and web resources. It is also found that the use, user, time, form, growth, visibility, software and relevancy to manage information business are the core elements of the five laws. This study critically examined modifications and extensions of the “Five Laws” theory and proposed new theories in the dynamic nature of libraries.**

**Keywords:** *Five Laws, Librarianship, Web Resources, Marketing, Users, Social Media, Media Literacy*

### 0 INTRODUCTION

Dr. Shiyali Ramamrita Ranganathan Iyer (1892-1972) is considered a legend and a prolific author in the sphere of library science. He conceived the “Five Laws of Library Science” in 1924, published in 1931. Bianchini & Guerroni<sup>1</sup> discussed Ranganathan’s perspective on changing aspects of Information searching from traditional to using search engines. The fourth Law of library science—Save the Time of the Reader- seems more relevant today than in the past. Users do not search physical catalogue cards; instead, they prefer to enter a keyword into Library OPAC to find resources in the collection. Bibliographic control techniques and online resource types influence one or more aspects of Ranganathan’s library trinity and influence catalogues for

---

\* Assistant Librarian, Babasaheb Bhimrao Ambedkar University, Lucknow, UP. Email: omsays@gmail.com

change: readers, collections, and services. According to Carr<sup>2</sup> “Over the subsequent forty years, Ranganathan developed a vast array of work—totaling approximately sixty books and two thousand papers—that addresses practically every aspect of librarianship and that earned him renown.” The five laws are considered fundamental theories that explain the operation of library systems. At the time of conception, libraries were still considered bookstores within walls. However, the five laws are still at the core of librarianship and maintain an argument for their existence and relevance in the present scenario. In the last few decades, several efforts have been made to develop the ‘Five Laws’; however, the success that the original laws perceived is to be achieved. The study aimed to review the previous works on the ‘Five Laws of Library and Information Science’ that have inspired and applied in multiple fields. The study attempts to propose possible theories inspired by these five laws.

## 1 OBJECTIVES

The study focuses on the following objectives:

- i. To identify the efforts made towards developing Ranganathan's ‘Five Laws of Library Science’ theories.
- ii. To identify whether extending Ranganathan's five laws is possible and how these laws inspired new theories in various fields of the study.
- iii. To suggest possible theories of the ‘Five Laws of Library and Information Science’ in the changing scenario of libraries.

## 2 METHODOLOGY

Several full-text databases (JSTOR) and bibliographic and citation databases (SCOPUS & Research Gate, Google Scholar) were used to collect studies covering the ‘Five Laws’ of Dr S. R. Ranganathan during August-September 2023. The breakup details of studies retrieved from distinct sources and used for the study are given in Table-1:

**TABLE-1**

*21 Administration of Relevant and Precise Studies Covered under the Study*

Name of Database	Web Address	Number of Studies Found		Percentage of Use
		Relevant	Precisely Used	
Google Scholar	<a href="https://scholar.google.com/">https://scholar.google.com/</a>	8	7	88%
JSTOR	<a href="https://www.jstor.org/">https://www.jstor.org/</a>	7	4	57%
Research Gate	<a href="https://www.researchgate.net/">https://www.researchgate.net/</a>	12	8	67%
SCOPUS	<a href="https://www.scopus.com/">https://www.scopus.com/</a>	21	10	47.6%
<b>Total</b>		<b>48</b>	<b>29</b>	<b>60%</b>

Table-1 indicates that forty-seven (47) studies covered the ‘Five laws’ directly or indirectly in the four databases. However, due to the unavailability of full text, only eighteen (30) studies (Reference List) were found relevant to review and discussion for this study.

### 3 DISCUSSION: FIVE LAWS AS STIMULUS FOR NEW THEORIES

Since 1992, some scholars attempted to interpret the Five Laws of Library Science into several areas and scenarios. A few of them are discussed under subsequent headings:

#### 3.1 INFORMATION AND KNOWLEDGE MANAGEMENT IN LIBRARIES

Dr. S. R. Ranganathan’s five laws (column 1 in Table 2) guide all library functions, embedding library systems and services into existing workflow. These laws enforced the effective use of library resources and library services. The library managers can use these laws as directive principles for policymaking, problem-solving and decision-making.

**TABLE-2**

*31 Five Laws for Information and Knowledge Management in Libraries*

Laws	Ranganathan’s Original Laws	Managing Knowledge & Information	
	1	2	3
<b>1<sup>st</sup> Law</b>	Books are for Use	Information is for Use	Knowledge is for use in ‘all’ forms
<b>2<sup>nd</sup> Law</b>	Every Reader his/her Book	Every Reader his/her Information	Every citizen has the right to access ‘all’ knowledge in ‘all’ forms
<b>3<sup>rd</sup> Law</b>	Every Book Its Reader	Every piece of Information, its User	Every piece of knowledge is for access by ‘all’ without discrimination of any kind
<b>4<sup>th</sup> Law</b>	Save the time of Readers	Save the time of information user	Save the time of ‘all’ of the knowledge seekers
<b>5<sup>th</sup> Law</b>	The Library is a Growing Organism	The Universe of Information is an ever-growing	A library or a knowledge system evolves with time to achieve all of the above laws.
<b>Coined By</b>	(Ranganathan, 1931)	Tipnis (2014)	Shadrach (2015)

Tipnis<sup>3</sup> has observed that Information is in place of books. However, the extent of new laws (Table 2) remains the same. She proposed the universe of Information in a broader perspective. Shadrach<sup>4</sup> proposed five alternative laws (Table 2) adapted from Ranganathan’s original Laws. Shadrach kept ‘Knowledge’ in the center instead of ‘Books’ and synonymously used the term knowledge with the books. Shadrach focused on using knowledge as a

single entity in all forms by every citizen without discrimination. The new laws under Table-2 cannot distinguish between books, Information, and knowledge. The new laws advocate considering Information and knowledge as a single entity, limiting the importance of other entities in libraries.

Thompson<sup>5</sup> opposed Ranganathan's Laws (Table-3) and gave a new concept of 'Books' regarding profit. Books can be profitable assets. The laws by Thompson encourage libraries to charge reasonable fees on consultation of books either by cash or through bills. Since the Library is an education and learning institute, the fifth Law of Thompson- 'The library is a growing organism' is unjustified and difficult to understand. Gorman<sup>6</sup>, president of the American Library Association, updated Ranganathan's Five Laws and introduced five new laws for library systems (Table 3). Gorman proposed five laws in a broader sense. Libraries are synonymous with education and offer countless learning opportunities. Thus, libraries can fuel economic, social and cultural development. Gorman's Laws are capable of supplementing Ranganathan's five laws. Walter<sup>7</sup>, emphasized journals instead of books (Table 3). However, journals and books are part of the library collection; hence, only adding journals in place of books does not impress as an alternative to Ranganathan's five laws.

**TABLE 3**

*32 Five Laws in Multifaceted Conceptions for Knowledge Management*

Laws	Multi-Faceted Conceptions			
	1	2	3	4
<b>1<sup>st</sup> Law</b>	Books are for profit.	Libraries serve humanity	Journals are for Use	Laws are for Criticism
<b>2<sup>nd</sup> Law</b>	Every Reader his bill.	Respect all forms by which knowledge is communicated	Every Reader his or her journal	Every Scientist his/her Context
<b>3<sup>rd</sup> Law</b>	Every copy its bill.	Use technology intelligently to entrance services	Every Journal its User	Every presentation, its audience
<b>4<sup>th</sup> Law</b>	Take the cash of the Reader.	Protect free access to knowledge	Save the time of Reader	Save the time of researchers
<b>5<sup>th</sup> Law</b>	The library is a groaning organism.	Honor the past and create the future.	Journals are Growing Organism	Science is a growing organism
<b>Modified by</b>	Thompson, (1992)	Gorman, (1998a)	Walter, 2012	Doyle, 2019

Gorman, advocated that Libraries serve humanity where all forms by which knowledge is communicated and preserved. Libraries can only survive with the use of technology. Technology is a medium to entrance services that can help to protect free access to knowledge. Gorman<sup>8</sup> explained Ranganathan's Five Laws by giving facts in support on the University of Southern California webpage as follows:

- i. I will build collections not for vanity but for use, resulting in 120096 libraries in the USA and published 1.5 million books in 2011.
- ii. I will add helpful items to the collection and make them accessible to all, making the Library of Congress the largest in the USA in 2011.
- iii. I will be the connection between the library users and the material they need: presented fact that 58% of Americans age 16 and above have a library card and 69% of public libraries are essential to them.
- iv. I will add valuable items to the collection and make them accessible to all, supported by the fact that 70% of public libraries offer digital/virtual reference and information services to reply to patron questions.
- v. I will remember that libraries grow and develop and will plan accordingly. Presented that 76% of libraries offered e-books in 2012, 78% of libraries were on social networking sites in 2012, and 35% developed apps in 2012.

Doyle applied Ranganathan's fifth Law in science and considered science a growing organism. According to Doyle, it has proved accurate over time as scientific growth has been recorded exponentially. Scientists work in different contexts, facing criticism until proven right; they are fearless of criticism to adopt a futuristic approach.

### *3.2 FIVE LAWS FOR INFORMATION LITERACY AND SOCIAL MEDIA*

Dr Ranganathan inspired UNESCO to introduce five laws (Column 1 Table 4) on Media and Information Literacy (MIL) on December 19, 2018 (UNESCO, 2018). It is a combined body of knowledge, a set of approaches and skills for living in the 21st century. These five laws empower everyone to use freedom of expression and the right to Information. According to UNESCO, the coverage of the five laws of MIL includes all media types and their sources, such as libraries, museums, archives and the Internet.

The first Law of MIL (Table 4) suggests that all forms of knowledge are equal in stature, and none is more relevant than the other or should ever be treated as such. The second Law expresses that MILs are for all women and men equally nexus for all human rights.

**TABLE 4***33 Five Laws in Social Media and Information Literacy*

Laws	Five Laws in Social Media and Literacy		
	1	2	3
<b>1<sup>st</sup> Law</b>	All forms of Information are for use	Social media is for use – increasingly in libraries	Media are for use.
<b>2<sup>nd</sup> Law</b>	Every citizen is a creator of Information	Every User his/her Social Tool	Every patron has his Information.
<b>3<sup>rd</sup> Law</b>	The use and application of MIL should make this truth transparent	Every Social Tool, its User	Every medium its User.
<b>4<sup>th</sup> Law</b>	Every citizen wants to know and understand new Information	Save time for the User he/she seeks using the social tools	Save the time of the patron.
<b>5<sup>th</sup> Law</b>	Media and information literacy are acquired in stages.	Social media is a growing organism.	Library is a growing organism.
<b>Modified by</b>	UNESCO, (2018)	Munigal, (2016)	Simpson, (2008)

The third Law explains that Information, knowledge, and messages are not always value-neutral or always independent of biases to all citizens. Fourth, MIL law recommends that citizens' rights never be compromised when sharing Information. The Fifth Law of MIL advocates information literacy as a dynamic process of preserving and sharing Information. Media and information literacy laws fall under a broad area not limited to any particular field of study. It empowers people to access, create, use and understand Information and knowledge. Munigal<sup>9</sup> introduced 'social media' in the core of the five laws of library science (Table 4). Various social media platforms and apps are introduced every day. Libraries are not brick and stone anymore. Therefore, social media applications are essential for knowledge creation and dissemination among citizens. The librarians use these platforms to implement library services. In 2008, Simpson complied with five laws in the media landscape (Table 4) and expressed that 'media' and 'medium' were the central points of the five laws.

#### 4 FIVE LAWS IN THE TECHNOLOGICAL ENVIRONMENT

Since the 100<sup>th</sup> birth anniversary of Ranganathan, few librarians have attempted to update and modify the Five Laws. The information and communication technologies suggest the scope of Ranganathan laws. Few authors appropriately extended five laws in the context of web technologies.

As McMenemy<sup>10</sup> stated, digital technologies that Ranganathan would have only envisioned as having an essential role in accessing resources without walls. We are fortunate to have many technologies, such as digitization and virtualization, at the heart of librarianship. The past five decades have been marked by tremendous knowledge and information management development through ICT technology. As a result, Information can be accessed promptly on mobile devices regardless of location. Although built in the context of traditional libraries, Ranganathan's laws are used as services to the users. Today, every bit of Information is available in electronic form. Ranganathan would have considered Information filtering to save users' time in the Internet age. Instead of catalogue cards, OPACs are essential to save users time, regardless of physical location. The books, reader, and library are central elements of Ranganathan's five laws, which are still relevant in the modern technological age.

Cana<sup>11</sup> proposed "open-source software" (Table-5) as a 'Software Library' and its transformation from Ranganathan's original Laws. The basic principle remains the same: just place 'Software' instead of 'Books'. The bibliographic control through software in the information society shows that software has the potential to become more popular than books in modern societies. Noruzi<sup>12</sup> re-interpreted Ranganathan's five laws (Table 5) in the context of the Internet technology. He advocated the right to access, share and disseminate Information in real-time. Noruzi also supported open access to Information and protected user privacy. It shows that Ranganathan's five laws are still relevant for the library in the technology scenario.

**TABLE 5**  
*41 Five Laws in the Technological Environment*

Laws	Technological Environment			
	1	2	3	4
<b>1<sup>st</sup> Law</b>	Software is for use	Web resources are for use.	Google Resources are for Use	MOOCs are for use
<b>2<sup>nd</sup> Law</b>	Every User his / her software	Every User has his or her web resource.	Every User his/her Google Resources	Every learner his/her MOOC
<b>3<sup>rd</sup> Law</b>	Every software its User	Every web resource it's User.	Every Google Resource its User	Every MOOC his/her learner
<b>4<sup>th</sup> Law</b>	Save the time of the User	Save the time of the User.	Save the time of User	Save the time of Learner
<b>5<sup>th</sup> Law</b>	A Software Library is a growing organism.	The Web is a growing organism.	The Google is a Growing Organism	MOOC is a growing organism
<b>Modified by</b>	Cana, (2003)	Norouzi, (2004)	Vaja, 2019	Kausik, (2019)

Vaja<sup>13</sup> transformed 'the five laws of the library in the context of 'Google' and its resources (Table 5). Google's unique internet resources replaced the books, so the libraries should increase electronic resources for users. Vaja, was significantly influenced by Google and declared it as a growing organism. However, time witnessed a decline in search engines as few appeared in the domain. Massive Open Online Courses (MOOCs) have been emerging technologies for imparting education through Digital Learning. Kaushik<sup>14</sup> altered five laws (Table-5) in the context of MOOCs. MOOC educational programs increased manifolds in the technological environment. MOOCs have added additional convenient ways to education. According to Kaushik, in 2019, MOOCs have replaced physical books. However, the claim seems untrue, as the need for physical books will remain constant in future.

Kuromen and Paivi<sup>15</sup> added two supplementary laws to Ranganathan's original five laws: '*Every Reader His Library*' and '*Every Writer His Contribution to the Library*.' The supplementary laws established a relationship for increasing cooperation between users and libraries. This extension looks capable of supplementing the five laws of library science. Mohapatra<sup>16</sup> stated that Ranganathan's Five Laws can extended to the Internet and Information and Communication Technologies. It proved accurate as massive open-access resources are available in the public domain. Safii<sup>17</sup> re-defined five laws in accordance with the evolution of technology in a digital environment. he focused on the content, not the content writer, and supported user engagement through qualitative information analysis. She suggested learning commons through both online and offline modes for the User's information needs.

## 5 FIVE LAWS FOR BUSINESS AND MARKETING

Bhatt<sup>18</sup> found the relevance of five laws in the marketing of Library and information products and services. Bhatt stated that the five laws remain relevant and serve as guiding principles for the optimal use of resources, services and facilities. Bhatt also advocates that to take advantage of these laws, libraries must adopt marketing tools, such as, information brochures, advertisements, posters, outreaching activities, communication with shareholders, creating discussion groups and websites, blogging, and more. Further, he also explained that Dr. Ranganathan's five laws help increase people's memory. Five laws inspire librarians and business managers to understand how to provide services and resource materials to clients.

Ranganathan's first law deals with the use and access of books and their preservation; likewise, the 'goods' and 'products' must be supplied to the customers, and their preservation is equally important. The second law emphasizes meeting the customers' needs; it is also applicable in a business enterprise to satisfy the needs of their customers. The third law is more or



less the same as the second - making books more accessible to find and use. Similarly, enterprises also ensure convenience for their customers by providing goods at their doorsteps. The fourth law recommends efficiently and promptly supplying the books in real-time. This law also applies to businesses; online stores supply items immediately. The fifth law is all about change and flexibility to adapt to the changing needs of users.

Similarly, business managers adopt regular changes in the quality, quantity and packing of goods and serve their customers. Thompson opposed Ranganathan's Laws and gave a new concept of 'Books' in terms of profit. Books can be profitable assets.

## 6 FIVE LAWS IN INTERDISCIPLINARY FIELDS

Rettig<sup>19</sup>, while paying tributes to Dr Ranganathan on the occasion of his birth centenary, discussed the five laws and opined that "*A decade ago I posited a Sixth Law, an extension of S. R. Ranganathan's Five Laws of Library Science. At the time, I conceived that the Sixth Law— "Every reader his freedom"—applied only to the type of service (i.e., instruction or provision of Information). Today, it also applies to the mode of delivery—in-person, telephone, online—and tomorrow to holographic interactions and 3-D virtual reality.*" Rettig firmly believed that the laws would apply in the modern virtual library environment. Noruzi identified and cited that Dr Ranganathan's Five Laws have inspired many scholars (Gorman, 1995; Walter, 2001; Hall, 2004) who have proposed the Five Laws under different names and contexts as follows:

- i. Michael Gorman's Five New Laws of Librarianship (1995);
- ii. Mentor Cana's Five Laws of the Software Library (2003);
- iii. Virginia A. Walter's Five Laws of Children's Librarianship (2001);
- iv. Lennart Björneborn's Five Laws of Web Connectivity (2004);
- v. Tracie D. Hall's Five Laws of Diversity/Affirmative Action (2004).

Connaway and Faniel (2014) reordered Ranganathan's Five Laws as follows:

- i. Save the time of the User (in place of the fourth law)
- ii. Every Person places and picks up his or her Book (in place of second law)
- iii. Books are for Use (in place of first law)
- iv. Every Book its Reader (in place of third law)
- v. A Library is a growing organism (this law is unchanged)

The reordering of the original five laws can be considered in the context of relevancy with technologies, visibility and diversified capabilities of users and libraries.

**TABLE-6**  
*61 New Conceptions of Ranganathan's Five Laws*

Laws	Ranganathan's Original Conception	New Conceptions of Five Laws			
	1	2	3	4	
1 <sup>st</sup> Law	Books are for Use	E-books are for reading	Netflix is for watching	Blackboard is for studying	
2 <sup>nd</sup> Law	Every Reader his/her Book	Every listener of her iTunes	Every artist has Photoshop	Every student here, Easy Bib	
3 <sup>rd</sup> Law	Every Book, its Reader	Every Blog its Reader	Every Google Map, its Traveler	Every Digital repository its researcher	
4 <sup>th</sup> Law	Save the time of Readers	Save the time of listener	Save the time of Traveler	Save the time of researcher	
5 <sup>th</sup> Law	Library is a Growing Organism				

(Source: Connaway and Faniel, 2014, p. 4)

Table-6 presents an extension of Ranganathan's five laws in the present context. However, under the Second Law, iTunes, Photoshop and EasyBib may not be valid under specific conditions. For example, iTunes may only work for someone with a digital device. Likewise, Photoshop may only work for someone who knows how to use it. Every artist does not necessarily use Photoshop; instead, original creativity comes up with intuitions, not by manipulating the original creatures. The new concept of the third Law, like every blog reader or every Traveler on Google, may only be valid if someone has access to the Internet. Netflix is not necessarily to watch due to its adult content and high cost. Similarly, Google Maps is only sometimes dependable and accurate. It may lead to an unknown journey and waste valuable time.

Shadrach considers Ranganatha's Five Laws as the sutras (canon) of knowledge that ensures everyone's participation in knowledge creation. Ranganatha's Five Laws uphold the principle of non-discrimination in access and dissemination of knowledge. In 1992, Rettig attempted to extend Ranganathan's Law as the Sixth Law, "*Every reader his freedom*", in the context of access to Information provisions. Kuromen and Paivi, in their second Law, '*Every Writer His Contribution to the Library.*' is concerned with the individual Reader's or citizen's freedom of expression as a right that can be put into practice and not merely articulated in principle. Looking for answers to issues instead of applications of curiously modern innovation; weighing the cost-effectiveness, cost-benefit, and overall impact on the benefit of any proposed development; reexamining the program, service, or workflow computerized.

## 7 FINDINGS

Analysis of five laws shows that these laws inspired scholars across the fields. The significant findings of the study are as follows:

- i. Library resources must be used.
- ii. All forms of knowledge and Information should be acquired, processed, stored and disseminated by the libraries.
- iii. Readers are at the heart of the library system. All services, activities and programs should be user-centric and in the interest of them.
- iv. The time of the users and staff is significant; hence it must be saved.
- v. The collection, staff, users, and library building growth is a continuous process.
- vi. All readers have access to information resources available in the Library without discrimination.
- vii. The library should market information products at reasonable prices.
- viii. The library serves humanities by preserving the knowledge and cultural heritage of the nations.
- ix. Libraries need to incorporate technology to serve the users.
- x. The library should acquire valuable collections to help the users.
- xi. Transformation of print to electronic resources is the need of the hour.
- xii. The library must establish connectivity between the collection and users.
- xiii. Software, web resources and the Internet form a new trinity of modern libraries. In other words, the software is one of the four pillars along with collection, users and staff. Software and web resources are equally crucial as books for libraries.
- xiv. Books are profitable assets.
- xv. Open educational resources are significant and must be aggregated for the library users.
- xvi. The library can contribute to creating MOOCs and become a hub for them.

## 8 CONCLUSION

The Five Laws theory deals with information services and has proven to be the philosophy of libraries and information centers. There is no reason to believe that Ranganathan does not intend to use books as a substitute for any media the library may collect, catalogue, and disseminate. The idea that Information could one day be encoded in digital form and shared among connected computers worldwide probably did not cause Ranganathan to change the word “Book” in his five laws theory. The five laws are the first step towards a scientific and systematic approach to library routine work. The

findings show that the five laws theory has expanded multi-dimensionality across disciplines. The dynamic theory started with managing book services in libraries, and so far, it has been still progressive. The five laws of library science influence the ways of storing, processing, retrieving, and disseminating Information to facilitate user access to a massive and complex set of documents. The findings of the study suggest core elements of these laws: use of resources, readers, formats, time of users/staff, equal rights to access information, and growth in terms of resources and users. The applicability of the five laws of Ranganathan in the present scenario of the digital age has become more relevant than ever before.

#### REFERENCES

1. BIANCHINI (C) and GUERRINI (M) (2015). A turning point for catalogs: Ranganathan's possible point of view. *Cataloging and Classification Quarterly*. 53 (3–4): 341–351. <https://doi.org/10.1080/01639374.2014.968273>
2. CARR (PL) (2014). Reimagining the library as a technology: An analysis of Ranganathan's five laws of library science within the social construction of technology framework. *The Library Quarterly: Information, Community, Policy*. 84 (2): 152–164. <https://doi.org/10.1086/675355>
3. TIPNIS (M) (2014). Five laws of library science in ICT era. *Research Gate*. [https://www.researchgate.net/publication/352836897\\_](https://www.researchgate.net/publication/352836897_)
4. SHADRACH (B) (2015). S R Ranganathan's five laws of library science: A foundation for democratizing knowledge. *Informatics Studies*. 6 (2): 33–36. <https://www.academia.edu/43587107>
5. THOMPSON (J) (1992). The five laws of library science. *Newsletter on Serials Pricing*. 47 (3). <http://www.lib.unc.edu/prices/1992/PRIC47.HTML#47.3>
6. GORMAN (M) (1998a). Our singular strengths: Meditations for librarians. American Library Association. <https://web.archive.org/web/20191018232339/https://librarysciencedegree.usc.edu/blog/dr-s-r-ranganathans-five-laws-of-library-science/>
7. WALTER (S) (2012). Ranganathan redux: The "Five Laws" and the future of college & research libraries. *College & Research Libraries*. 73 (3): 213–215. doi: <https://doi.org/10.5860/0730213a>
8. GORMAN (M) (1998b). The five laws of library science: Then and now. *School Library Journal*. 44 (7): 20–23.
9. MUNIGAL (A) (2016). 124<sup>th</sup> Jayanthi Sandhar Banga: Grandhalaya taps Ranganathanku Diwali. *Granthalaya Sarvasvam*. 4–7.

10. MCMENEMY (D) (2007). Ranganathan's relevance in the 21st century. *Library Review*. 56 (2): 97–101. Doi:10.1108/00242530710730268. ISSN 0024-2535.
11. CANA (M) (2018). Open source and Ranganathan's five laws of library science. <http://www.kmentor.com/socio-tech-info/archived/000079.html>
12. NORUZI (A) (2004). Application of Ranganathan's laws to the web. *Webology*. 1 (2) <https://www.webology.org/2004/v1n2/a8.html#9>
13. VAJA (B L) (2019). Application of five law of library science to the Google. *CHETANA: International Education Journal*. 3: 7–20.
14. KAUSHIK (A). (2021). Five laws of library science in MOOCs environment. *Library Hi Tech News*. 38 (1): 6-8. doi:10.1108/LHTN-12-2019-0094
15. KURONEN (T) and PEKKARINEN (P) (1999). Ranganathan revisited: A review article. *Journal of Librarianship and Information Science*. 31 (1): 45–48.
16. MOHAPATRA (N). Webrarian: A librarian on the web. In: Handbook of Research on Records and Information Management Strategies for Enhanced Knowledge Coordination. 2021; 458-470. doi:10.4018/978-1-7998-6618-3.ch027
17. SAFII (M) (2018). Redefining the five laws of library science in digital age. *Advances in Social Science Education and Humanities Research*. 2: 24-27.
18. BHATT (R K) (2011). Relevance of Ranganathan's laws of library science in library marketing. *Library Philosophy and Practice* (e-journal). 551 <https://digitalcommons.unl.edu/libphilprac/551>
19. RETTIG (JR) (1992). Self-determining information seekers. *RQ*. 32 (2): 158–63.
20. AMERICAN LIBRARY ASSOCIATION. Social role of the library: Libraries matter. <http://www.ala.org/tools/research/librariesmatter/category/social-role-library>
21. CONNAWAY (LS) and FANIEL (IM) (2014). Reordering Ranganathan: Shifting user behaviors, shifting priorities. *Journal of Information and Knowledge*. 52 (1): 3–23.
22. GORMAN (M) (1995). Five new laws of librarianship. *American Libraries*. 26 (8): 784–785.
23. HALL (T D). Making the starting line-up: Best practices for placing diversity at the center of the library. In: Diversity in Libraries Making It Real. 2004.

24. MISHRA (S) (1998). Principles of distance education. 1998. <http://hub.col.org/1998/cc98/0051.html>
25. RANGANATHAN (S R) (1931). The five laws of library science. 1931. London: Edward Goldston. [https://babel.hathitrust.org/cgi/pt?id=uc1.\\$b99721;view=1up;seq=1](https://babel.hathitrust.org/cgi/pt?id=uc1.$b99721;view=1up;seq=1)
26. SIMPSON (C) (2008). Editor's notes: Five laws. *Library Media Connection*. 26 (7): 6.
27. WALTER (V A) (2001). Children and libraries: Getting it right. 2001. Chicago: American Library Association.