



Incorporating strategic management and competitive intelligence into library practice

**Olabisi Fadeke Adesina¹, Zainab Olanihun Ambali¹, Medinat Dolapo Laaro²,
Tunde Toyese Oyedokun¹**

¹ *University of Ilorin, Ilorin, Nigeria*

² *Kwara State College of Arabic and Islamic Legal Studies, Nigeria*

Corresponding email: Toyex4eternity@gmail.com

ABSTRACT

In the information value chain, libraries face competition from the Internet and web information providers, including online information vendors, information brokers, and others. To stay ahead of their rivals, libraries must use strategy and intelligence gathering to ensure dynamic information services that can meet a wide range of current and emerging users' information needs. This is especially important in an environment where libraries' operations are growing more challenging and competitive. This study is a review article that provides an overview of current thinking on the applicability of strategic management and competitive intelligence to contemporary library practice, as well as a critical examination of prior studies, opinions, and research. According to reports, competitive intelligence is a tactical endeavour that is closely related to and integrated with librarianship. Competitive intelligence in libraries comprises determining user profiles and information needs, as well as gathering and analysing external data to plan for the competitive delivery of information services. For a very long time, people have viewed librarians as gatekeepers who serve as intermediaries between information users and the world of information. Changes in information sources, management techniques, and advancements in information technology are converting the library's intermediary function into an enabler, providing the instruments to distribute information more rapidly and directly. To maintain or improve libraries' level of competitiveness on a global scale, it is crucial to emphasize the importance of competitive intelligence in modern information delivery as a synergy to expand intelligence availability.

ARTICLE INFO

Received : May 11, 2022

Revised : May 18, 2022

Accepted : July 25, 2022

KEYWORDS

*Competitive advantage,
Competitive intelligence,
Information value chain,
Libraries, Strategic
management*

Suggested Citation (APA Style 7th Edition):

Adesina, O.F., Ambali, Z.O., Laaro, M.D., & Oyedokun, T.T. (2022). Incorporating strategic management and competitive intelligence into library practice. *International Research Journal of Science, Technology, Education, and Management*, 2(2), 131-138. <https://doi.org/10.5281/zenodo.6951530>

INTRODUCTION

Competitive intelligence is the strategy for understanding competitors and the intensity of competition as well as acting accordingly. It is the systematic and coordinated monitoring of competitors in a specific task or service delivery, no matter where they are. Competitors are rivals or counterparts with whom one competes and contends. Competitive intelligence entails anticipating what a competitor will do before that action occurs, which will necessitate a variety of tactical tactics as well as the integration of current information infrastructure, data analysis, distribution, and, of course, the calculation of predictions based on that interpretation of data. Competitive intelligence entails the lawful gathering of data on competitors as well as the entire service environment. The knowledge gathered from this data is then applied to improve competitiveness (Johnson, 2018). Competitive intelligence is a business practice that entails knowing as much as you can and as fast as you can about your industry in general and any relevant competitors.

Similar to how knowledge management practices entered the profession of librarianship from the corporate world, competitive intelligence likewise found application in libraries. In consonance with the foregoing, Haliso and Aina (2012) stress that competitive strategy in libraries is the capacity to obtain information from competitors and other libraries in order to improve services and position oneself ahead of the competition. Stakeholders are beginning to appreciate the significance and value of competitive intelligence in libraries (Uzohue & Yaya, 2016). Most importantly, competitive intelligence may be applied to all of the functions and responsibilities of librarians, giving them a head start in terms of information service delivery. Competitive intelligence practitioners and library and information professionals have a lot in common because they're both in the business of obtaining, evaluating, and disseminating important data to help top-level management make better decisions (Diyaolu, 2019). However, applying competitive intelligence in a library, according to Abolariwa and Yaya (2015), involves gathering, sorting, preserving, and lending out library materials. It also includes utilizing normal policies and procedures when reviewing, acquiring, discarding, processing, organizing, maintaining, and circulating or loaning library items. The librarian will place an order to acquire such resources after carefully examining the titles they have chosen, either directly or through an exchange. Other important services provided by the library are the collection of user feedback via social media platforms, which can also be used to evaluate library services; internet access; library integrated management systems; online reference services; and automated catalogue and computer search services. Similar to this, Uzohue and Yaya (2016) argued that information professionals needed a set of core skills, such as tactical, technical, and communication skills, in order to provide their services wisely. Above all, access to both external and internally created information systems is crucial for any library's competitive intelligence activities. Furthermore, competitive intelligence also encompasses assessing competitors' tangible and intangible resources, as well as their methods (Mahjabin, Rezaeei & Amiri, 2017). When libraries gain competitive intelligence, they are better prepared for future opportunities and challenges, and have the potential to outperform their competitors by gaining a competitive advantage.

In the library, competitive intelligence aligns with and/or could be considered a type of strategic management process. Meanwhile, when it comes to acquiring competitive intelligence, competitors' websites are, surprisingly, the most reliable sources. A typical competitive intelligence report combines data and analysis from a variety of sources. Identifying competitors, selecting important areas of interest, and setting research goals are all part of gathering competitive intelligence. Without direction and milestones that add up to achieving a competitive advantage over other information providers, libraries would struggle to justify their existence, and for libraries to function at their best, they must assess their external environment for factors that may have a favourable or negative impact on their ability to meet their objectives. The World Wide Web and related technologies have had a significant impact on the evolution of digital library services. Information technology has been heavily used in the library's information management up to this point. In addition, what their peers and competitors do outside of the immediate information environment has an impact on the library's future information services direction. Any library, whether physical institutions or digital and virtual presentations of electronic information resources on the internet, that wants to thrive rather than just survive in the face of an onslaught of ever-increasing alternative sources of information must have a thorough understanding of the library's services and information products, as well as a thorough understanding of global trends, target group users, and the competitive environment in general.

The information delivery services offered to a library's users are determined by the collection's composition. The hub of service delivery is the library (Jerome, Nkiko, & Ifeakachuku, 2017). A balanced collection of resources that will fulfil the needs of and add value to the distribution of information to users must be ensured in terms of quantity, quality, and presentation. 21st Century libraries must actively and consistently acquire quality and quantity of information resources that will draw people and add value to the services they provide in order to stay ahead of the competition and attract more users. A well-stocked and integrated collection, correctness, completeness, relevance, consistency, and authenticity are necessary conditions for improving information distribution to users (Mathews, 2013). For a very long time, people have viewed librarians as gatekeepers who serve as intermediaries between those who need information and those who have it. On the other hand, shifts in information sources, management strategies, and information technology improvements are transforming the role of the intermediary into that of the enabler, offering the tools to deliver information more quickly and directly. Therefore, it is impossible to overestimate the significance of competitive intelligence in contemporary information delivery as a synergy to increase intelligence availability, which is essential for libraries to retain or increase their level of competitiveness on a global scale. Today's librarians must be competitive information leaders who communicate information for strategic purposes while being purposeful in their employment. They must apply competitive intelligence and information science.

Competitive intelligence's major goal was to influence strategic decisions. Finding out what data a decision-maker needs to know about the competition and the competitive landscape is the first stage. The second stage is the acquisition of raw data from public sources using legal and ethical ways, data analysis using any of a variety of instruments, conversion of data into intelligence on which someone may act, and communication of final intelligence to the decision-maker(s) for their use. It is a common practice in today's information age that libraries compete with related institutions that also provide information services directly to users, and if strategic action is not taken, the library may become a white elephant project with no corresponding benefits. The decision-making process in a library is stimulated by competitive intelligence. This process in the value chain takes data items, turns them into information that can be used to make decisions, and then moves on to the next stage. Competitive intelligence applications that are successful use information synthesis and data analysis. When libraries use competitive information to drive strategic management, they can strengthen their competitive position and gain a competitive edge. Libraries are therefore advised to strategize for internal and external trend monitoring to plan and adjust proactively to changes in the world of information systems and technological advancement in their zeal to provide quality information services that stand out among peers and competitors.

The introduction of internet technology and the massive expansion of electronic content available on the web made library services unpredictable, posing challenges in meeting users' demands. Meanwhile, competitive intelligence is a component of the library's strategic management process; as a result, libraries, in particular, must shift from an inward focus based on the collection and use of input, process, and output measures. The user focus, or outward orientation, has a variety of implications because users are the most essential part of the library community, so attracting new ones and keeping old ones requires meeting their requirements. Meanwhile, unless libraries are sensitive to those needs, they might be unable to meet them. As a result, libraries must consider new methods for gathering information about their patrons, counterpart libraries and competitors. It is based on this solid ground that this study presents an overview of an area where research is interdisciplinary, uncovers contemporary issues that bothered on the need for incorporating strategic management and competitive intelligence into library practice that will provide a firm foundation for advancing knowledge and facilitates theory formulation and development.

LITERATURE REVIEW

It is noteworthy to mention that libraries all over the world have begun to embrace digital library services, resulting in a change from traditional library services to hybrid information services (Abdussalam, Adewara, Abdulraheem, Oyedokun & Balogun, 2021). Web-based information services make it simple to integrate activities within a library and across a network of libraries. Competitive intelligence and strategic management efforts rely on quick and efficient information dissemination as an important aspect of competitive intelligence and strategic management

efforts. The addition of intelligence gathering and strategic resource management expands the library's breadth of information offerings.

Strategic planning is required for the implementation of new information management and delivery strategies in libraries to ensure that the overall goal is achievable. On the other hand, goal formulation and environmental scanning are critical components of strategic planning. However, the ultimate purpose of strategic management through information collection is for the library to outperform the competition for patrons' patronage and, more importantly, to make provisions for planned change rather than those imposed by uncontrollable external factors. Unrestricted access to full-text documents and bibliographic data or metadata at the same time, as well as librarians' participation in newsgroups, discussion forums, and e-conferences that share and discuss new directions and trends in the world of information handling, management, and dissemination, are all benefits of enhanced digital library services resulting from strategic intelligence. Strategic management is a process that entails studying and learning from internal and external environments to define goals, developing strategies to achieve those goals, and putting those plans into action, all in order to satisfy key stakeholders (Sammut-Bonnici, 2015). Goal and objective formulation, analysis, strategy creation, strategy implementation, and strategy monitoring are all components of the strategic management process. By developing goal-oriented plans and policies and then assigning resources to implement those plans, strategic management gives overall direction. At the end of the day, libraries use strategic management to outperform their rivals. The main focus of strategic management is typically on effectively allocating people and resources to accomplish these objectives. Establishing a sense of direction, improving operational effectiveness, growing the clientele, and adapting to changes and viability are all benefits of being proactive as opposed to reactive.

The information environment in which libraries operate is rapidly evolving. In this context, libraries have been envisioned as enablers of a world of information that goes well beyond physical collections, providing access to knowledge on a global scale through online resources and systems while also creating their own digital content (Wenborn, 2018). In order to remain competitive, libraries are still looking into ways to re-engineer strategic and operational levels, streamline operations, and restructure the decision-making process for service orientation. It is anticipated that libraries will help drive and support some of the planned reforms. They attempt to do so despite ongoing threats from information exchange and the expansion of information access worldwide owing to the emergence and development of computer networks, especially the Internet. Additionally, libraries had to contend with a dearth of funding, a rise in the number of resources with open access, increased rivalry in the information industry, and a continuing need to demonstrate their value in a constantly shifting information environment. They must employ competitive intelligence to combine two separate but connected components, including the struggle to draw in resources and consumers, in order to neutralize the threat in this competitive environment (Moyane, Dube, Nkome & Ngulube, 2020). The need to research and increase the use of Internet technologies as competitive and innovative tools has developed as a result of the pressure libraries are under to be more efficient, productive, and competitive. The library should use and integrate technology in a way that maximizes its capacity to respond to user needs and expectations. Despite the difficulties, libraries must be proactive if they are to remain relevant to the constantly evolving needs of the 21st century. Library and information science professionals must be competitive information service providers, taking the lead in strategic information management to transmit information while being strategic in their capacities (Diyaolu, 2019).

When offering information services, libraries face unprecedented and escalating levels of competition. Libraries compete with web and internet information service providers, open-access resources, and internet search information resources for convenience and a perceived value chain. The existence of competitors and what each is capable of determines the level of competition. Rivalry is typically high when there are many competitors and a user can easily transfer from one competitor to another. Competitors threaten to erode libraries' value, position, superiority, and monopoly, pushing them to battle for survival and long-term viability. The environment in which libraries operate is dynamic (Potnis & Mallary, 2021). It is defined by changing demands such as hyper-competition and hostile competition, rapid innovation and proliferation of disruptive technology, dwindling funding, and a greater need to justify the purpose of existence and endurance. These changes are a threat to library operations, and competitive intelligence has been promoted as one of the tactics for dealing with uncertainty while

also improving service delivery. Libraries can alter their behaviour in reaction to competitive and creative trends using information obtained through competitive intelligence, maximizing the value of their unique competitive advantages.

In comparison to competitors, the increased competition produces a survivalist environment, compelling libraries to review their resource attractiveness, dependability, speed, and efficiency as well as the functional quality of their services. The number of competitors has increased throughout time as a result of information brokerage, globalization, and the development of information technology and networks. The majority of them take an aggressive, fast-paced, and disruptive approach to providing enhanced and improved services and information. In a similar vein, they have more modern information resources and better access to finance, all of which enhance their capacity to provide information users with critical information (Unobe, 2019). Although libraries are at the centre of their institutions, competitors are displacing or removing them from that position. Hence, they must act cogently to gain a better grasp of operations from other libraries that have risen above the competition to improve in the areas where they are lagging. In order to obtain information from other information providers and apply that knowledge to your competitive advantage for better user services, this calls for the aggressive use of competitive intelligence.

The existence of the library was threatened by the emergence of a pervasive, affordable, and worldwide communications network that was progressively making documents easily and freely available. This is being driven by a number of distinct developments, including print-on-demand publishing, the rise of open access, the digitization of information, the development of repositories, and the development of e-readers (Jerome, Nkiko & Ifeakachuku, 2017). The fact that the latter is accessible every day of the week and is constantly updated with the most recent information exacerbates the competitive gap between the library and other user-mediated information sources. Google is viewed as a very potent rival, posing a challenge to libraries' dominance in a variety of different spheres like availability, usability, efficiency, accessibility, and adaptability.

OBJECTIVES

The main objective of the study is to carryout integrative review of literature on the applicability of strategic management and competitive intelligence to contemporary library practice. The specific objectives are to:

1. Identify library's competitors in the information value chain;
2. Achieve library's goals of competitive intelligence and strategic management;
3. Identify how intelligence gathering and strategic management expands the library's breadth of information offerings.

METHODS

This study is a review article, essentially a survey of previously published research, opinion papers, and an overview of current thinking on the relevance of strategic management and competitive intelligence to modern day library practice. This study relied on secondary data sources from Google Scholar, ResearchGate, ProQuest, and PDF documents. Literature was reviewed under themes such as competitive intelligence gathering, strategic management in libraries, and library competitors in the information value chain. The topic was chosen as a subject of the study because it is a contemporary issue that has not been given due representation in the literature and past studies.

Ethical considerations

Writing a review article does not necessitate gathering participants' highly private, sensitive, or confidential information, unlike quantitative and qualitative research. Before beginning a systematic review, researchers are rarely needed to obtain institutional ethics permission. Instead, they might use readily available and accessible publications as evidence and information sources. Despite the aforementioned submission, this study adheres to the ethical principles that govern systematic reviews by choosing an appropriate purpose for the review article,

searching for prior studies, analysing, infusing, and relating the evidence from selected documents, and communicating the review's findings to the intended audience.

Data collection

Formulating criteria for search keywords, creating a search strategy, searching databases, screening abstracts and full texts, extracting data, analysing the relationship between variables, checking data, and then writing the manuscript are all steps in the data gathering process for this review article. Information databases such as Google scholar, ResearchGate, ProQuest and PDFDRIVE.net was navigated, where competitive intelligence, strategic management and library practice constitute the search terms. Journal articles offer helpful broad perspectives on the subject as well as keyword suggestions for additional literature searches. From the pool of available information resources, only sixteen (16) of them are found useful and relevant to current study.

Data analysis

A carefully and systematically evaluation of search results was carried out to judge the worthiness, value, and relevance of information presented there-in. The data analysis process involves identifying relevant literature, synthesizing and integrating relevant information, analysing and then presenting the extracted data in a thematic way. Literature was reviewed and discussed under the theme library goals of competitive intelligence, library's competitors in the information value chain and how intelligence gathering and strategic management expands the library's breadth of information offerings.

DISCUSSIONS

The major lever for achieving the library's goals of competitive intelligence is through the promotion of library services, which entails the coordination of all library-initiated activities to establish channels of information and persuasion to supply library information resources and services or promote an idea (Israel, 2018). Yi (2016) asserts that libraries can advertise their services and resources using a variety of tools, including print materials like posters and hand-outs, events like orientation tours and workshops, direct mail, Web 2.0 applications, and displays, as well as digital media like the library's website, email lists, blogs, and podcasts. Because it serves as a direct channel between the library and its users, a strong library website assists in bringing resources and services together in a distinctive way. Additionally, it acts as a channel of communication with users. Some forms of media can serve multiple purposes; for example, flyers, brochures, and posters can be used to promote programs and events. Newsletters can be used to promote current offerings as well as to introduce new ones. It is simple and effective to target particular audiences using email lists and the Internet. Since they require little resource input and are delivered right away to the intended client, these services are cost-effective. Promoting library services and resources has traditionally involved human contact, circulars, memoranda, phone calls, meetings, direct mail, exhibitions, seminars, newsletters, and library tours (Yi, 2016).

A properly-designed competitive intelligence system can help the library with strategic planning as well as establish the intentions and capabilities of its competitors, allowing the library to determine the level of the risk to which it is exposed. Competitive intelligence is a component of the value chain that begins with data elements and translates them into actionable information that leads to strategic decisions. Competitive intelligence-enabled libraries are rarely shocked by events that affect their services and performance since they can predict changes in their competitors' actions and alter their activities accordingly. Competitive intelligence assists libraries in learning more about new technology, information products, and activities that affect them and considering which is best for their success. Libraries save time, money, and resources by learning from the achievements and failures of others. Libraries will be better positioned to expand the scope and quality of future acquisitions, mergers, and partnerships. Competitive intelligence also forces libraries to be more outwardly focused, rather than being solely focused on the library itself. Libraries that have previously been unable to install and maintain the most up-to-date management systems due to a lack of knowledge are now able to do so successfully owing to competitive intelligence, which provides fast, accurate, and valuable information (Moyane, Dube, Nkome & Ngulube, 2020).

A range of tactics are used to promote library services and resources, including outreach programs, giving lectures, switching up library exhibits, giving library tours, in-class instruction, one-on-one consultations, library homepages, online catalogues, and one-on-one training. To keep up with the rapidly evolving information technologies, librarians can use a range of software programs, including blogs, wikis, podcasts, media-sharing platforms like YouTube and Flickr, and social networking services like Twitter and Facebook. Wikis and blogs, as well as social networking and information-sharing websites like Facebook, Flickr, and YouTube, all produce new kinds of content. Information professionals employ marketing strategies including RSS (Really Simple Syndication), tagging, and bookmarking. Aside from Facebook, blogs, and wikis, users can embed YouTube videos on other Web 2.0 sites as well. In addition to advertising their collections, libraries can use images of their personnel and facilities to give visitors a virtual tour (Qois & Wijayanti, 2021; Mirji, 2021). Twitter is gaining popularity as a social networking platform because of its capacity to highlight important news, features, or events.

CONCLUSIONS

Library competitors were well-equipped with cutting-edge technology and up-to-date information. In the library, competitive intelligence meant staying one step ahead of the competition. Supporting the organized collection of intelligence data is essential for successful implementation. Competitive intelligence is a tool that libraries utilize to not only provide a wealth of knowledge but also information for making wise judgments. It is crucial to remember that libraries must change as the workplace gets more complicated and competitive by offering essential services like quick access to reliable, high-quality information so that decisions can be made in a timely manner. Competitive intelligence and strategic information management techniques help libraries make better and more effective decisions by reducing risk, avoiding blind spots, and getting things right the first time. Information on competitors, newly found scientific and technological developments, new products, services, information on users, suppliers, and experts are all areas where intelligence is gathered.

IMPLICATIONS

To stay up with the fast-changing society, libraries are expected to provide innovative and dynamic information services. Meanwhile, librarianship is a multidisciplinary and creative profession that adapts quickly to societal and technological change while also making room for new ideas and intellect. What has kept library and information science professionals relevant up to this point is their willingness to welcome change and, as a result, move into new knowledge fields. The pace of libraries is accelerating, and the only way to stay on top of this new pace is through efficient strategic management and competitive intelligence. Competitive intelligence and strategic information resource management can analyse and evaluate the information gathered and provide the most pertinent, high-quality, and accurate information to users, saving them the time and effort of sorting through massive amounts of data when faced with information overload.

LIMITATIONS

This is a review article that deviates from the usual paradigm for both quantitative and qualitative research methods, sampling techniques, data gathering, and data analysis. The study is susceptible to bias, including the impact of the authors' individual opinions. Conclusions were reached based on secondary data from prior studies. No statistical or emic data were gathered to support the report from the literature review. It is recommended to consult subject-matter experts for their feedback and opinions in further studies.

REFERENCES

- Abdussalam, T.A.B., Adewara, J.O., Abdulraheem, J.W., Oyedokun, T.T., & Balogun, T.R. (2021). Funding issues and development of digital libraries in Nigeria. *Library Hi Tech News*, 38(9), 23-25.
<https://doi.org/10.1108/LHTN-10-2021-0067>
- Abolarinwa, S.T. & Yaya, J.A. (2015). Utilization of competitive intelligence by health information workers of the Nigerian Institute of Medical Research. *Pyrex Journal of Library and Information Science*, 1(5), 36-40.

- Diyaolu, A.M. (2019). The role of competitive intelligence in the provision of quality information services. *Library Philosophy and Practice (e-journal)*, 2480. <https://digitalcommons.unl.edu/libphilprac/2480>
- Haliso, Y. & Aina, R.F. (2012). Quality Collection of Library Resources in Meeting Users' Needs in Academic Institutions: Competitive Intelligence Approach. *Global Journal of Human Social Science Linguistics & Education*, 12, 12.
- Israel, O.A. (2018). Use of competitive intelligence in curriculum enhancement through collection development strategies in academic libraries. *Nigerian School Library Journal*, 16. <https://www.ajol.info/index.php/nslj/article/view/164571/154085>
- Jerome, I.O., Nkiko, C., & Ifeakachuku, O. (2017). Value-added Service to academic library users in 21st Century: Using competitive intelligence approach. *Library Philosophy and Practice (e-journal)*, 1570. <http://digitalcommons.unl.edu/libphilprac/1570>
- Johnson, A.R. (2018). *What Is Competitive Intelligence?* <http://www.aurorawdc.com>
- Mahjabin, S., Rezaeei, C.N., & Amiri, N.S. (2017). Competitive intelligence and developing sustainable competitive advantage. *Administer*, 30, 73-194. www.eafit.edu.co/ad-minister
- Matthews, J. (2013). *Corporate libraries: Adding value in the workplace*. SLA: Connecting People and Information. https://www.sla.org/wp-content/uploads/2013/05/Corporate%20Libraries_Matthews.pdf
- Mirji, H. (2021). Artificial intelligence in recruitment: Assessing flipside. *International Research Journal of Science, Technology, Education, and Management*, 1(1), 79-87. <https://doi.org/10.5281/zenodo.5195766>
- Moyane, S.P., Dube, L., Nkomo, N., & Ngulube, P. (2020). Competitive intelligence as a coping strategy for academic libraries in South Africa. *Library Management*, 41(6/7), 593-606. <https://doi.org/10.1108/LM-05-2020-0083>
- Potnis, D. & Mallery, K. (2021). Proposing an information value chain to improve information services to disabled library patrons using assistive technologies. *Journal of Information Science*. <https://doi.org/10.1177/0165551520984719>
- Qois, Z.A. & Wijayanti, L. (2021). The Effect of Library Virtual Tour on Library Image Construction: Study on Perpustakaan BPK RI. In: Ke, HR., Lee, C.S., Sugiyama, K. (eds) *Towards Open and Trustworthy Digital Societies*. ICADL 2021. Lecture Notes in Computer Science, 13133. Springer, Cham. https://doi.org/10.1007/978-3-030-91669-5_16
- Sammot-Bonnici, T. (2015). Strategic management. *International Management*, 6. <https://doi.org/10.1002/9781118785317.weom060194>
- Unobe, E.S. (2019). Influence of competitive intelligence in the promotion of information delivery in agricultural libraries in Ahmadu Bello University, Zaria. *Journal of Humanities and Social Science*, 17(4), 1-17. https://www.hummingbirdpubng.com/wp-content/uploads/2020/07/HUJHSS_Vol17_No4_1-17.pdf
- Uzohue, C.E. & Yaya, J.A: (2016). The use of the Internet by information professionals: A competitive intelligence approach. *International Journal of Education and Information Technology*, 2(4), 19-27.
- Wenborn, C. (2018). *How technology is changing the future of libraries*. Wiley. <https://www.wiley.com/network/librarians/library-impact/how-technology-is-changing-the-future-of-libraries>