



Sustainable Development Goals: Insights from Research Libraries

Roxanne Missingham

Abstract:

Research libraries have provided a key to unlocking the knowledge of the centuries. The nature of their stewardship of knowledge has led to a focus on understanding the value and sustainability in terms of collections. The extraordinarily rich collections have made a great contribution to education and to the communities they serve. A new theory of change which underpins the United Nations Sustainable Development Goals (SDGs) highlights the contribution that activities can make to improve national and international economic, social, community and governmental health. This article analyses the nature of major research library activities in light of the SDGs methodology. Taking this broad framework to the work of International Alliance of Research Universities (IARU) libraries provides new insights into the value and broader contribution of those libraries. The indicators assessed in the framework specifically relate to the outcomes of education and information within the societies they service. The case study suggests that the libraries make a significant and deep contribution both to the current national environments as well as in creating a framework for future returns on the investment to their universities.

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Sustainable Development Goals: Insights from Research Libraries

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ABSTRACT

Research libraries have provided a key to unlocking the knowledge of the centuries. The nature of their stewardship of knowledge has led to a focus on understanding the value and sustainability in terms of collections. The extraordinarily rich collections have made a great contribution to education and to the communities they serve. A new theory of change which underpins the United Nations Sustainable Development Goals (SDGs) highlights the contribution that activities can make to improve national and international economic, social, community and governmental health. This article analyses the nature of major research library activities in light of the SDGs methodology. Taking this broad framework to the work of International Alliance of Research Universities (IARU) libraries provides new insights into the value and broader contribution of those libraries. The indicators assessed in the framework specifically relate to the outcomes of education and information within the societies they service. The case study suggests that the libraries make a significant and deep contribution both to the current national environments as well as in creating a framework for future returns on the investment to their universities.

Keywords: Research University Libraries, Evaluation, Value of Libraries, Information Service Assessment; Sustainable Development Goals

INTRODUCTION

Research libraries in universities have nourished education for many centuries. Library collections have grown from manuscripts that record knowledge through the evolution of printed material that made the products of knowledge more widely available to new forms of information and storage in the digital age. Throughout these revolutions in the creation and storage of knowledge there have been challenges and opportunities that have led to the development of new activities that provide access to collections, as well as training that enhances the skills of those using collections to navigate their way to locate and use digital and print information resources.

The revolutionary nature of collecting and providing access to knowledge has been explored through the work of libraries over many centuries. Libraries have survived through periods of physical attacks, disasters and wars. Across this history of collecting knowledge the chains originally used to tie books to shelves have been unbound with generational change. The modern focus on providing access through digitisation and open access liberates knowledge to an audience never reached before.

Traditionally the review and assessment of libraries and their services have focused on use – the recording and monitoring of those who use the materials and facilities of the libraries. The nature of managing collections has seen an emphasis on the depth and breadth of collections and their contribution to the academy through use by students and academics.

The glory of the collections and their use is celebrated publicly in the histories of research libraries. The History of the describes the growth of collections collected carefully, expanded with the introduction of legal deposit, and significant donations Bodleian (Bodleian Library and Radcliffe Camera, 2020, p. 1). The milestones recognised at the beginning of the last century include usage of the Library by an average of a hundred people per day and the achievement of the 1,000,000th collection item in 1914. Given the small population in Oxford at the beginning of the last century, the difficulties and costs of transport and low participation in higher education these are remarkable facts.

The nature of scholarly publishing and libraries has evolved significantly. More recently the third and fourth industrial and information revolutions have fundamentally changed library collections and services. In relation to the third information revolution, the computation created a new opportunity:

Today's developments in digitization and globalization, one can argue, have led to such a radical overhaul and replacement of the previously established information infrastructures ...that they have created an information and communications revolution which seems to have no end in sight. This "revolution" has required the invention of new nomenclatures—neologisms for new technologies, media and functions, a new kind of language that brings the revolutionary developments into the realm of the comprehensible and discussable (Rayward, 2013, p.703).

The revolution which created "e-everything" saw new impact from libraries in the creation, curation and access to electronic resources. The measures were foundational in understanding the extent of collections with consequent increases in use because of the ease of access. Assessment has been based on the size and use of library collections, taking the concepts used in the print world.

The change from the newly emerged fourth industrial revolution is more complex and diverse. It frames the digital environment as moving to create cyber-physical systems that replace current work and the workforce (Schwab, 2015; Schwab, 2106; Davis, 2016). Preparing for a roboticized world where artificial intelligence is embedded in the information interactions within education, society, communities, government and business is a change that is yet to be realised but will have far-reaching consequences. The impact of this revolution will require a reconceptualization of library assessment.

In total, over the decades and through these revolutions the focus of understanding the nature of the contribution of research libraries has changed: Increasingly, academic library value is linked to service, rather than products (Kaufman, 2009, p. 2). Library literature reveals this shift in library emphasis from collections to experience, from resources to educational impact from access to sense-making, from mediation to enabling (Dow, 1998, p. 279; Lougee, 2009, p. 612). The change is logical. Because information products are generally produced outside of libraries, library value is increasingly invested in service aspects and librarian expertise. In fact, academic provosts have a future library focus that is "less on the library qua institution and more on the people who work in libraries...less on the library and more on the librarian" (Webster & Flowers, 2009, p. 306; Oakleaf, 2010, p. 23).

Gathering data to reflect the contribution of libraries reached a point of formalisation with the Information and Documentation: Methods and Procedures for Assessing the Impact

of Libraries (ISO 16439). The standard grew from a significant body of research from all library sectors. The combination of factors relevant to research libraries is relevant to many components of the standard. It has emphasised the value of the library as having research, social and financial components. Poll and Payne (2006) outlined these dimensions in detail, and Blagden (2006) contextualised the UK environment.

The standard contains an extension of demonstrated impact to ‘the influence of libraries and their services on individuals and/or on society’ at large’ (International Standards Organisation, 2014). Assessing the nature of available evidence reveals the complexities of aligning current data to the diverse goals outlined in the standard. There is not a single form of indicators or systems that provides a mapping of existing library indicators to the standard for all libraries. “From the large range of choices and aided by examples, librarians are able to construct their own investigations, based on their own needs” (De Jager, 2017, p.286).

Into this complex environment of diverse indicators and methods of assessment the United Nations Sustainable Development Goals (SDGs) have added a new framework to consider the nature of the contribution made libraries.

This article explores the nature of the SDGs in assessing International Alliance of Research Universities (IARU) libraries. In applying the framework, the extended impact of the universities through libraries are identified, identifying services provided including collection access that are consistent with the demands of the third industrial revolution. In conclusion, the article considers how the fourth industrial revolution will require a new fundamental understanding of libraries and their role which can be built upon from the insights from applying the SDGs.

UNITED NATIONS SDG

The SDGs have a prominent history in terms of development of an intellectual framework for the UN to achieve global progress. It was agreed by the United Nations 193-member states on September 25, 2015 in New York. The SDGs replaced the Millennium Development Goals expressing a commitment to improve the quality of life of people across the globe. There are 17 Sustainable Development Goals with 169 targets embodying the SDG framework.

Developed from the theory of change, the goals were the subject of significant international negotiation. The draft position paper notes that:

The central hypothesis that underpins the “theory of change” presented is that in order to effectively support implementation of a transformative, universal, integrated and rights-based 2030 Agenda, and to meet the expectations of Member States, the UN development system must more effectively “function as a system” in an integrated and coherent manner, at the global, regional and country level (United Nations, 2016, p. 1).

The theory of change rests on establishing a conceptual basis that recognises the intertwined nature of social, economic and individual relationships with a view to building economic, social and political systems that will deliver human rights and economic growth (United Nations, 2017). Weiss (1995), a member of the Aspen Institute Roundtable that facilitated the development of the theory of change, noted that the approach requires clarification of long-term goals as a necessary precondition to engage stakeholders in complex community initiatives. Briant (2015) traced the origin of the goals to Keynesian economics where state regulatory agencies (which must include in the case of the SDGs operational agencies) adopt a neoliberal economic approach to achieve national benefits within an international system that requires economically democratic processes.

Libraries are a key element in the economic, social and educational structure within nations. They deliver public, educational, health and state services that enhance community well-being and economic outcomes. Expanding the understanding of the value of libraries through exploring the SDGs had become a significant activity by the library sector.

International Federation of Library Associations (IFLA) Secretary General Gerald Leitner has commented:

I am convinced that there is a space for libraries in the world envisioned by the UN 2030 Agenda. Not just that there can be a space, but that there must be. We cannot achieve the SDGs without libraries (IFLA, 2019, p. 1).

IFLA's tracking of stories from around the world demonstrating library impact against the SDGs demonstrates the application of the framework to all library sectors in many countries (IFLA 2020). Research libraries in universities are a very small part of the reporting. The stories are predominantly public, national and state libraries. This paper fills a gap in taking a deep dive into the research libraries across nine nations.

METHODOLOGY

The paper introduces the application of UN SDGs within a particular sector of libraries – research libraries. For the purpose of this assessment, four SDG goals have been selected in order to demonstrate the application of SDGs to research libraries. The goals that were selected are those most relevant to research – higher education and those who are the primary users of research libraries. The SDGs selected are:

- Goal 4: Quality education with a particular focus on higher education,
- Goal 5: Gender and equity as this recognises the contribution of higher education to equity,
- Goal 9: Industry, innovation and infrastructure as this includes research infrastructure and
- Goal 11: Sustainable cities and communities as this recognises the contribution research libraries make to the communities within their physical environment.

Libraries do contribute to other goals such as health and well-being, although more indirectly compared to the four selected goals. The methodology chosen for the assessment against the goals was to select data and case studies. The data was taken from the public reporting of members of the IARUs collected by the Librarians Group of the Alliance. The case studies were selected from presentations made at IARU Librarians Group meetings and initiatives highlighted on members websites. The combination of qualitative and quantitative information reflects the multifaceted contribution of libraries to the SDGs.

INTERNATIONAL ALLIANCE OF RESEARCH UNIVERSITIES

The International Alliance of Research Universities (IARU), established in 2006, is a network of eleven international research-intensive universities from nine countries across the globe. Its eleven members share similar values, a global vision and a commitment to educating future world leaders. Central to these values is the importance of academic diversity and international collaboration as reflected in its principles.

The IARU members are the Australian National University, ETH Zurich, National University of Singapore, Peking University, University of California, Berkeley, University of

Cambridge, University of Cape Town, University of Copenhagen, University of Oxford, the University of Tokyo and Yale University.

The IARU Librarian’s Group has actively worked together on projects including the green library, staff development and sharing information. A report published in 2020 on support during COVID-19 demonstrates the active sharing of information and ideas (Missingham, 2020).

IARU member libraries actively support the universities’ commitments to globally increase capacity through education and research, to make a better world. The alignment with the SDGs is evidence and visible through programs embedded within each library. The combined impact of the libraries creates a powerful story for the contribution of the universities to the SDGs.

An assessment of the work of IARU member libraries against four key goals revealed an infographic that illuminates the benefits from the libraries beyond the individual institutions and their collection. Client focused services demonstrate the application of philosophies that align to the SDGs.

IARU LIBRARY SDGS ASSESSMENT

Goal 4: Quality education

IARU member libraries enrich the educational experience of students in the universities through extensive services and extensive collections. Over 322,000 students and 41,600 academic staff (faculty members) benefited from the libraries in 2018.

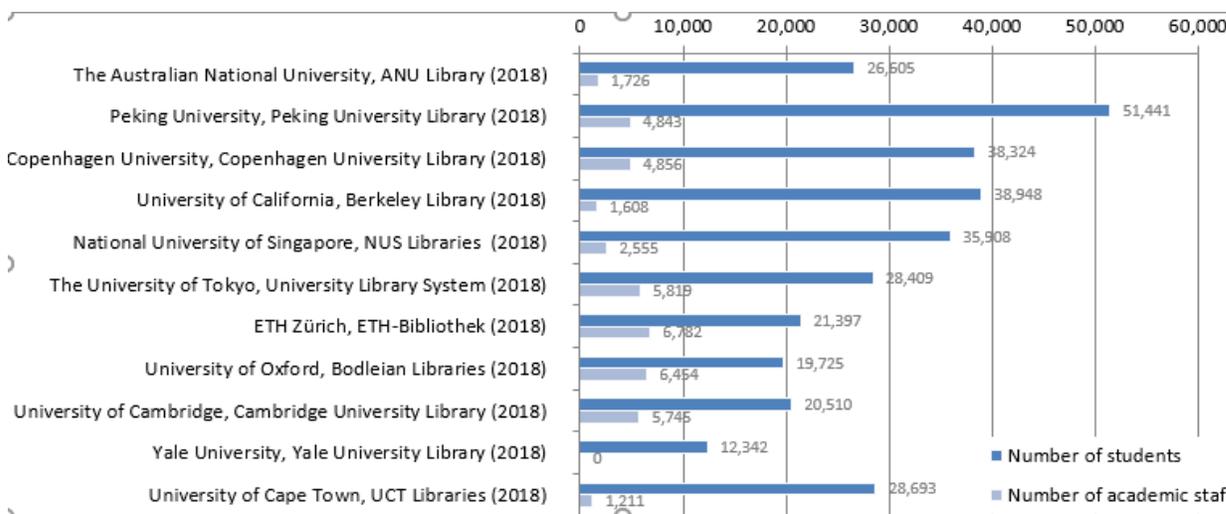


Table 1. Students and academic staff in IARU universities 2018

The libraries provide support for education that results in knowledgeable graduates who make a contribution through their careers. Innovation in service and education underpins library practice, fostering outcomes of student capabilities and educational practices.

Students and academics benefit significantly from services provided – in 2018:

- 216 service points were used by library clients,

- Almost 900,000 digital journals and over 11 million digital books were made available,
- Over 4.1 million items were lent and almost 9 million articles from digital journals were used,
- Over 31 million accesses to digital databases occurred.

The power of knowledge developed through university libraries is transforming individuals, families, communities and nations (see Boyce, et al, 2019). These case studies identified in the assessment below demonstrate how library services can change lives – the outcomes can be seen in the contribution students made through their work in industry, educational institutions, government, societies, families and local communities.

The footprint of universities is expanded through activities provided by libraries such as exhibitions and public events, connecting the community and visitors to the knowledge of the world, thus increasing knowledge to enhance economic potential.

Case study:

Innovation in support services for students inspires many to achieve excellence that changes their lives.

The Cushing/Whitney Medical Library (CWML) at the Yale School of Medicine provided innovative services that assist students with full support through an allocated staff member under the Personal Librarian Program. A survey indicated that 94% of students knew their personal librarian and comments indicated the deep impact of the program: “It’s a great privilege and resource to have a personal librarian, and if anything, we underestimate the benefits of having a personal librarian” (Spak & Glover, 2007, p. 23). The program has grown and expanded in terms of the individual support provided, establishing a comprehensive support program for students – one delivered successfully in the digital age.

New initiatives establishing collaborative wellness and self-care for students and other stakeholders, have also been successful. They are demonstrated by program attendance, diverse space use, and significant impact based on assessment through a survey (Funaro, Rojiani, & Norton, 2019). “Mindfulness on the Medical Campus” addressed mental well-being through a series of sessions and public events that delivered 30-minute mindfulness sessions. “Wellness and self-care space” was established through a drop-in space that allows individuals to engage in activities and support personal, health and spiritual care. Understanding the importance of supporting the whole person is a characteristic that fulfills the SDGs approach to create capabilities in students and indeed educators.

Goal 5: Gender and equity

Research libraries work to advance access to economic and social prosperity, encourage full participation in society, and counter the historical lack of access to material resources about underrepresented human groups in collections that we cultivate and steward (Association of Research Libraries, 2020).

Libraries support gender and underrepresented racial and ethnic groups by providing safe meeting spaces, programs, and ICT and literacy programs and developing collections to support the study of these groups. Equity has been a consideration in the build of collections, in particular to ensure that underrepresented voices are available to students and researchers.

IARU libraries have in particular developed support programs that have been integral to the response of universities to addressing sexual violence and sexual harassment in universities.

Library initiatives have included developing staff knowledge in preventing and participating in university programs to address situations of sexual harassment. The use of libraries as safe spaces has been a characteristic of university responses to sexual harassment. Libraries have provided spaces for information activities such as a drop-in session.

Library employment has also been an area of initiatives in equity and diversity. Many IARU libraries have diversity employment programs and report on their goals transparently.

Case study:

Collections and access

The University of Cape Town (UCT) libraries have actively sought to develop collections that reflect the diversity of the African people and experience. Recent initiatives include:

- *Shining a light on archival sources at UCT Special Collections.* The 14th of August marked the anniversary of the 1968 UCT sit-in over the Mafeje Affair. Archivist Clive Kirkwood (2020) wrote a blog post showcasing the wide range of primary sources used in Emeritus Professor Howard Phillips' second volume of a history of the University of Cape Town. UCT under Apartheid Part I: From Onset to Sit-in covers the years 1948-1968 and draws on primary sources held in UCT Libraries' Special Collections.
- *Africa Day 2020: Showcasing ongoing work on African collections.* UCT Libraries are working with African Tongue to develop a new showcase of the #Xhomi San community. This will involve re-development of a showcase website in close collaboration with community members, African Tongue, Special Collections and Digital Library Services. Dr Sanjin Muftic (DLS) and Dr Kerry Jones (African Tongue) co-presented at the First Workshop on Resources for African Indigenous Languages organised by the South African Centre for Digital Language Resources (SADiLaR).

Goal 9: Industry, innovation and infrastructure

IARU member libraries support industry and infrastructure through a range of initiatives that collect and disseminate research from their universities. "A major initiative of university libraries has been developing research data capabilities and access to this data" (Council of Australian University Librarians, 2019). The libraries generally also support ORCID to ensure that researchers can identify their research outputs through an international system of registration.

Libraries deliver programs that make their university's research available to the world. Repositories make research available overcoming paywalls and expensive subscriptions (Council of Australian University Librarians, 2019).

In addition, university research is communicated by publishing. IARU libraries contribute to publishing both through making world class collections available to researchers and through contribution to university press boards (Council of Australian University Librarians, 2019).

Case study:

Digital access and support for researchers

IARU libraries hold the results of the most significant research studies undertaken over centuries including theses and research data. At Cambridge University, the Library and the Research Strategy Office work together on open access policy and practices (Cambridge University, 2020). Apollo, the repository holds the research output of members of the University of Cambridge. With more than 1.8 million downloads in 2019-2020, the research undertaken at the university reaches a world-wide audience.

The Research Data service provided by the University of Cambridge Library ensures that researchers and students have access to research data management training and a repository that assists researchers to meet open access requirements of funders and make data available to industry and external researchers.

Goal 11: Sustainable cities and communities

IARU libraries support their communities and cities through removing barriers to information.

- Libraries offer members of the community access to their collections through opening their doors to visitors.
- Access to information and collections is enhanced through online and physical exhibitions and public lectures.
- Online digital literacy resources and training are made available freely to increase the knowledge and skills of the community.

The global and national documentary history is held in libraries. IARU library activities include:

- Programs that are increasing access to these important resources including exhibitions.
- Sharing of these resources through visibility via national and international discovery services such as national bibliographic databases and WorldCat.
- Work with other research bodies for funding to develop greater digital access.

Case study:

Theses brought to life

Over the past two years, the Australian National University Library has been undertaking a digitisation project to make the university's entire collection of theses available online through the Open Research repository. This sees research once largely hidden from view being exposed to people from all over the world. Digitising the print theses expands engagement with the collection, provides visibility to the ground-breaking work being done, and supports the careers of our academic community.

In late 2019, the Library completed the digitisation of every research thesis available at ANU from 1954 to 2018 when digital deposit was implemented. The collection of over 13,000 digitised theses through the Open Research repository can now be browsed. The most downloaded thesis of all time "A great deal of sickness": Introduced diseases among the Aboriginal people of colonial Southeast Australia by Peter Downling has had over 17,770 downloads. Theses make up 45.69% of all downloads from the ANU Research section of the repository. In 2019, each thesis was downloaded 239 times on average, this is a dramatic increase in impact compared to the average number of uses when theses were in print only.

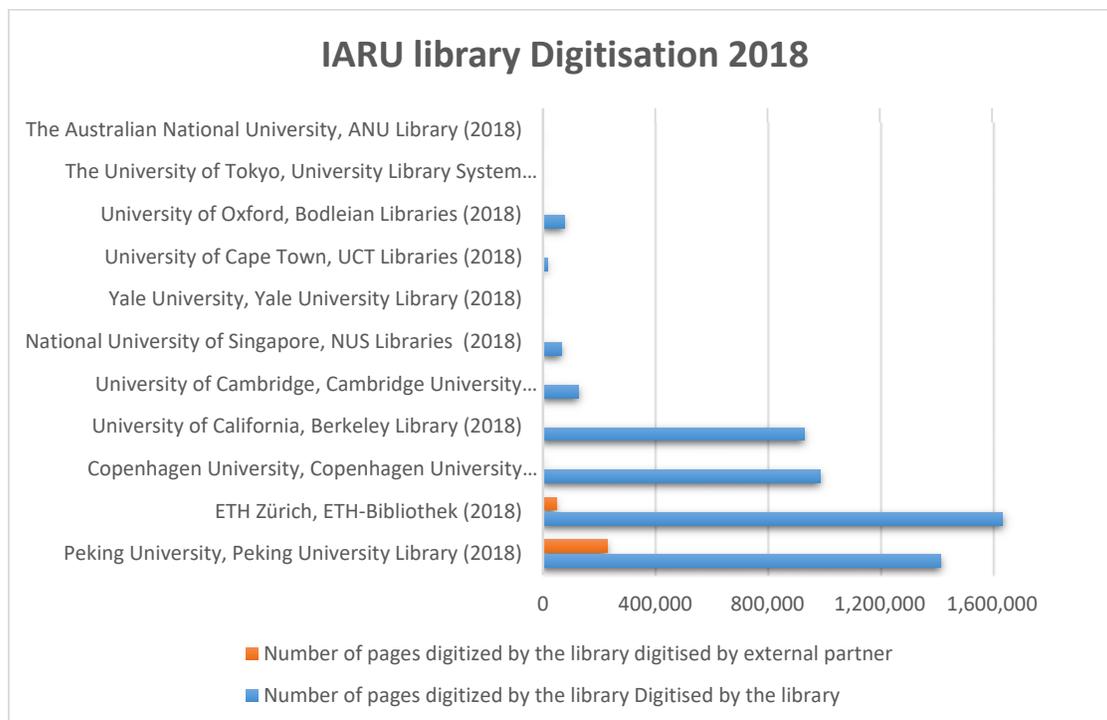


Table 2. Digitisation - number of pages – by IARU libraries 2018. Note not all Member libraries collect page count data.

DISCUSSION

Assessing the work of IARU libraries through the SDGs framework highlights the contribution made to the community beyond the walls of the university. It reveals the value of library collections and services in building national and international capacity. The ramifications of the work of libraries are seen through many facets of research, education, community development and economic benefit.

By compiling the data on achievements against the four goals into a preliminary infographic, contributions of the libraries are visible in a new way. An infographic based on high level information from the IARU Library benchmarking and information from individual libraries gives a summary of the measures explored through this paper.

The infographic provides a model to which annual information can be added to provide a rolling view on library activities and initiatives that make a genuinely sustainable contribution to the nation in which the individual libraries are located, and the aggregated activities then increase the knowledge and promote the development of all individuals in countries around the world. It embodies the aspiration of the theory of change to create a systematic uplift of community. The essentially democratic distribution of knowledge and building of institutional capabilities, in particular to assist in the transmission of knowledge, align closely with the SDGs.



Table 3. Sample infographic

CONCLUSION

The SDGs provide a framework to reconsider the benefits that are provided by research libraries both to their institutions and the broader community. Academic libraries have explored evaluation methodologies for many decades. Implementing an approach that takes into account

the complex relationship of international research universities and the global impact of their services provides a rich field to explore the SDGs.

Multiple communities benefit from the activities of these libraries – library patrons, their institutions, the cities and regions they are within, the nation and indeed the world (particular in terms of the dissemination of their university’s publications and data).

A common theme in terms of the third industrial revolution has been the digital transformation of library services. Through the lens of the SDGs it is possible to see how this transformation has unleashed the power of research within individual universities and contributed to the development of capabilities across the globe through digitisation and open access.

The case study of IARU libraries establishes that the SDGs can be used as a reporting framework despite the lack of specific library measures. From the case studies it is clear that these libraries provide a value to their stakeholders which goes beyond numeric measures of economic and social benefit. The values observed align with the critical roles of IARU universities – of education, research and international impact.

There is opportunity to rethink the value of libraries and their institutions to establish how the higher education sector, and indeed the combined infrastructure of research libraries, produce values in new and different ways as library practice evolves. There is also an opportunity to meet the challenge of understanding value by applying the theory of change and theory of change that underpin the SDGs.

In developing the capability to rethink services and roles under the fourth industrial revolution, the framework, applied as it is in this article, provides some insights into library services that contribute to national and international growth. Focusing on the next transformative wave could bring further impact and dissemination of knowledge This article has outlined the opportunities to understand the value of libraries from a theory of change and highlighted the diversity of library activities that are relevant to the SDGs, in particular the work of IARU members. The evolution of the international aspects of IARU libraries will undoubtedly provide further insights into establishing sustainability and international impact from the next round of developments in these libraries.

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