A New Lens for Evaluation – Assessing Academic Libraries Using the UN Sustainable Development Goals

Roxanne Missingham

University Librarian, Australian National University, Canberra, Australian Capital Territory, Australia

ABSTRACT
Library evaluation has evolved across the decades to take account of the role of services and collections within their institutions. The framework of the United Nations Sustainable Development Goals (UN SDGs) enables consideration of the value and benefits of libraries within national and international development. Taking this approach, based on the theory of change, provides different insights to the work of libraries. The article provides an overview of library assessment and information on the development of the UN SDGs. Australian academic library activities are assessed using four SDGs to reveal a contribution beyond the walls of their institutions. Methodological comparisons frame a discussion about the nature of value.

KEYWORDS
Academic libraries; evaluation; digital scholarship; statistics; library services; United Nations Sustainable Development Goals (UN SDGs); assessment; Australia

Introduction
Academic libraries have spent decades assessing their value through a wide range of methodologies. They have focused on recording the contribution made by their activities to their institutions. The theories behind the methodologies have generally been adopted from economics rather than theories of knowledge. The measures adopted reflect the actual use of the library and its collection, representing a transactional assessment, rather than the potential power of the knowledge and capabilities provided by libraries. More recently social value has been added to the repertoire of assessment, using an economic base.

A new means of assessing and understanding of value has emerged through the framework of the United Nations Sustainable Development Goals (UN SDGs). This methodology reflects concepts of national and international outcomes that create a
sustainable world where knowledge is part of the powerhouse for economic and social transformation. Taking a deeper view at the performance and measurement of libraries through this lens positions our services within a framework based on a theory of change.

In this article an overview of the nature of library assessment is undertaken. The application of the economic and social methodologies is summarized within a sector wide frame to provide a context to establish where and how the UN SDGs could be used. A case study of applying the methodology to Australian academic libraries allows for identification of opportunities the SDGs to highlight the contribution of academic libraries. The evaluation has found that the methodology enables the important role that university libraries play in national and international development and education to be highlighted. The article concludes with a discussion of the implications of using the theory of change to assess academic library performance to create new knowledge regarding the activities of these libraries.

**Background**

Academic libraries are a vital element of the infrastructure of a modern university, built on centuries of practice and theory. Within the changing environment of academic institutions, libraries have evolved their collections and services to maintain their relevance through grasping opportunities and challenges. Libraries are strongly focused on maintaining their relevance in an increasingly digital world. New forms of learning and pedagogies have affected the services provided to support education. Research in universities is increasingly data driven. Library services have both supported and shaped the new agenda in scholarly communication and education.

Understanding the nature of the 21st century academic library and its contribution to education and research has been a major focus of work within the sector. Other library sectors have assessed how they can provide value to their individual communities. As early as 1994, it was clear that assessing libraries and information needs in research and academic fields was already a vast discipline. For one component of scholarly communication evaluation the literature was extensive:

> There have been hundreds, perhaps thousands, of studies involving scientific and technical information communication performed over the last 25 years. (King & Jones, 1994, p. 2)

It is rare to read a library journal or magazine in recent years that does not include a report on library assessment, whether of libraries in a particular sector or of a particular service, be it resource sharing, research data management, digital library services, or collection building. Library, Information Science & Technology Abstracts (EBSCO, 2020) records more than 11,700 articles on the topic of libraries with the term value. Many thousands more are recorded in Google Scholar.

The changes and intensity of research into libraries and library services evaluations can be seen over at least six decades. The evolution of the methodologies has been significant. Research has developed from recording patterns of use of the collection, a characteristic of the studies in the 1970s (reflected in evaluation texts such as Busha & Harter, 1980) through to economic and social value methodologies in the 1990s. The
increased sophistication of methodologies has a parallel in application of evaluations in institutions in higher education themselves.

For the higher education sector there are highly developed evaluation tools. The international ranking systems produce comparative assessment based on extensive research. The results of each evaluation feature prominently in news, on university websites, and in marketing campaigns. Universities believe that these rankings influence applications from students and increase positive outcomes from applications for research funding. Well established evaluations include the Academic Ranking of World Universities (ShanghaiRanking Consultancy, 2020), The World University Rankings (Times Higher Education, 2020), and QS World University Rankings (Quacquarelli Symonds, 2020). Impact is also assessed in new ways in terms of influencing public policy (Becker and Vanclay 2003).

University and research evaluation has become a fundamental aspect of assessment by governments. In the United Kingdom the Research Excellence Framework reports on the quality of research in UK higher education institutions (UKRI, 2020). In Australia the Excellence in Research Assessment (Australian Research Council, 2019) provides a similar independent evaluation. Many other countries have similar programs.

In an environment where evaluation is a lingua franca for discussions of higher education institutions, it is not surprising that academic libraries are evaluated. Libraries have continued to evolve their assessment activities, applying methodologies from a range of fields to understand the "value proposition".

This article journeys through themes to review the assessment of the value of academic libraries using the economic and social lens that has been fundamental to research in the past decades. Recognizing that the contribution of academic libraries in a modern university goes beyond traditional concepts of research and collection-based services, the application of the theory of change through the United Nations Sustainable Development Goals is used to provide new insights. This approach situates libraries within an international framework and assesses the contribution made to powering the economy and reshaping nations through contemporary activities. This approach encompasses an understanding that society is transformed through the power of research, teaching, and learning. It situates University libraries within a paradigm that understands their role as essential knowledge and information infrastructures which enable student success and research excellence.

**Value of academic libraries**

In taking an historical view of academic libraries, it is important to note that the libraries have always been a defining feature of universities. Libraries have been recognized both as the keepers and disseminators of knowledge. Histories of libraries identify Middle Eastern university libraries dating back to the ninth century. The House of Wisdom in Bagdad, a university supporting scholarship and the translation of scholarly works has been identified as the initial academic library (Murray, 2009, p. 2). It is not surprising that information about early libraries indicates that their value was in their collection - the number of titles and disciplines represented.
Understanding the value of libraries has been a question considered from many angles. Users/readers has been an important locus - information seeking behavior of students and academics has been the subject of extensive research. Tenopir et al. (2013) had studied reading and library behaviors to understand who is using the collections and in what context – a value in use approach.

Assessing the depth of our collections has seen methodologies rise and fall. From simple measures of numbers of title to sophisticated assessment. The conspectus methodology was one complex and ultimately unsuccessful approach led by the research Libraries Group in the 1980s (Stielow and Tibbo (1987) provide a mild rebuke and Munroe and Ver Steeg (2004) report on a lack of adoption and problems).

Emerging from these service and collection level assessments has been a clear need for more holistic assessment. These have developed as libraries have created more complex services. The narratives of libraries have expanded requiring an expanded set of methodologies to assess the nature and delivery of value. Value assessment have been unpacked into many dimensions by a recent report which concluded that the current measurement of value and understanding of theories required considerable action:

When academic librarians learn about their impact on users, they increase their value by proactively delivering improved services and resources—to students completing their academic work; to faculty preparing publications and proposals; to administrators needing evidence to make decisions. Indeed, the demonstration of value is not about looking valuable; it’s about being valuable. (Oakleaf, 2010, p. 140)

In summary, the academic library assessment has evolved to look beyond collections or individual services. The two-key lens, used for meta-level assessment of value of are now “economic and social.” Borrowing methodologies from economics has been a feature in the overall environment of management and managerial focus on the financial costs and benefits of libraries.

Studies on the economic benefit of academic libraries have primarily used the concept of return on investment. This frames the evaluation within a financial context that recognizes the significant investment in libraries and the need to assess the nature and extent of the return to the university. This approach aligns with the economic assessments occurring in government and business through the 1990s.

Contingent valuation methodology has been the tool of choice – estimating the value placed on a service or good. It assesses passive use and has been applied to a wide range of libraries in national, state, public, and academic sectors. Studies of the British Library, South Carolina Public Libraries, Florida Public Libraries, St Louis Public Library, Canadian national union catalogue, and New Zealand Te Puna services have found a return on investment of between 2.5 and 35, depending upon the type of service and particular segment of the population served (Misingh, 2005). Compared to these industries, the investment return figures indicate that the benefit is much greater than the investment in the service. A study of university libraries found financial Return on Investment (Rol) of 136% to derive from centrally provided collections provided by the libraries (Outsell Inc, 2009).
Contingent valuation methodology has been criticized as limited and lacking depth.

We believe that contingent valuation is a deeply flawed methodology for measuring non-use values, one that does not estimate what its proponents claim to be estimating. The absence of direct market parallels affects both the ability to judge the quality of contingent valuation responses and the ability to calibrate responses to have usable numbers. (Diamond & Hausman, 1994 p. 52)

The high variance in results in its application in libraries gives rise to concerns. In terms of providing a true understanding of value, the limitation of assessment to specific services, such as access to a collection or in the case of Canada and New Zealand a shared database, speaks to the methodology providing only partial insight into the benefit of libraries.

A newer body of work has emerged to assess the social impact of libraries including Social Return on Investment (SRI). This methodology has been applied to museums and galleries as well as libraries. SRI is based on collecting and analyzing information about the social value of resources consumed by programs. The methodology is founded on outcomes that are identified by the stakeholders, with data collected through interviews, focus groups, and workshops. Data analysis identifies key themes. The results are both qualitative and quantitative, drawn from a broad interpretation of the theory of change. Built upon program evaluation, theory of change “applies critical thinking to the design, implementation and evaluation of initiatives and programmes intended to support change in their contexts”. (Vogel, 2012, p.3)

While these methodologies have been applied in a range of studies, their overall focus means that the results are limited to a particular goods or services. The approach is characterized by conceptual limitations with regards to the value of culture.

The fact that economic valuation techniques cannot capture the whole of cultural value is well-established amongst many cultural economists… (Crossick & Kaszynska, 2016, p. 138)

Oakleaf (2010) also notes the development of frameworks to attempt to establish social value are limited. She poses questions about the value assessing the transactional activities of the library in improving intra institutional outcomes such as student learning. Insights from the studies are within an organizational framework, owing most to grounded theory and lack assessment of the value or impact of the sector.

Given the limitations of the major assessment tools used so far to establish value, there is a need to continue to review new methodologies. The emergence of the UN SDGs provides an opportunity to view academic library services from a different theoretical and developed methodology.

**UN SDGs**

The 2030 Agenda for Sustainable Development was agreed by the United Nation’s 193-member states on September 25, 2015 in New York. The SDGs replaced the Millenial Development Goals and continued a program designed to lift the quality of life of people across the globe. The historic agreement was negotiated to allow for a program of interconnected activities that would be delivered within individual countries and across countries through programmatic activity.
The 2030 Agenda has 17 Sustainable Development Goals and within these, 169 targets (Figure 1).

Based on 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 combines concepts from environmental, management, and organizational psychology with an underpinning theme of capacity building. Complexity theory (see for example Cairney, 2012; Geyer & Rihani, 2010; Mitchell, 2009), program theory (see Bickman, 1987; Funnell & Rogers, 2011), program evaluation (see Burch, 2016; Shackman, 2020) and psychology (organizational psychology and organizational change) are used to create action focused concepts that will ultimately build economics, social and political systems that will deliver human rights and economic growth (United Nations, 2017). Weiss, a member of the Aspen Institute Roundtable that facilitated the development of the theory of change, notes that the approach requires clarification of long-term goals as a necessary precondition to engage stakeholders in complex community initiatives (Weiss, 1995). Briant (2015) traces 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 archive 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)

The Development and Access to Information report (International Federation of Library Associations and Technology & Social Change Group University of Washington Information School, 2019) focused on the need to approach an understanding of the value of libraries from the point of view of meaningful access. They identify the SDGs as the first framework that fully recognizes the potential of libraries and information to achieve transformation in civic, social, and economic activities across the world.

A review of Australian University libraries using the SDG framework (Missingham, 2019) provides an opportunity to assess the relevance of the approach to academic universities and consider value within a new light.

**Case study: Australian university libraries**

In Australia, university libraries provide services that are essential for education, research, and the full range of scholarly communication activities. There are 39 Australian university libraries supporting the education of 1.5 million students in 2017, and the research and teaching undertaken by over 1,20,000 full-time equivalent staff.

University education is a very significant component of the Australian economy, the third largest industry which added an estimated $140 billion to the Australian economy in 2014 (Deloitte Access Economics, 2015).

Academic libraries support the SDGs through a wide range of activities including:

- Promoting literacy, including digital, media and information literacy, and skills, with the support of dedicated staff.
- Closing gaps in access to information and helping individuals in all aspects of their life understand information needs better.
- Providing a network of delivery sites for government programs and services.
- Communicating knowledge created in our universities.
- Serving as the heart of the research and academic community.
- Building global partnerships and collaborations that provide greater access to digital collections and information capability programs.
- Preserving and providing access to the world’s culture and heritage.

In relation to the SDGs, four emerge as highly relevant to the academic library sector—quality education (Goal 4), gender and equity (Goal 5), industry innovation and infrastructure (Goal 9), and sustainable cities and communities (Goal 11). The goals were chosen because they are directly linked to education and the equity of access to education. While other SDGs such as inequities are relevant this subset provides the opportunity to testing measures in a clear manner.

An assessment of national achievement against these goals identifies values that have not previously been expressed through economic and social analysis. Data from the
Goal 4: Quality education

Australian academic libraries provide support for education that results in informed citizens who contribute through activities around the globe. Innovation in service and education underpins library practice, fostering outcomes of student capabilities, and educational practices.

Students and academics significantly benefit from services provided – in 2017 (Council of Australian University Libraries, 2018):

- 47,748,189 users visited university libraries.
- 8,056,573 books were borrowed.
- more than 214 million uses of electronic resources occurred.
- 955,218 enquiries from students and academics were answered – providing a transfer of knowledge building capabilities for the future.
- 481,381 members of Australian universities attended information literacy training sessions that build skills as diverse as searching, writing, data management, and using technologies.
- 21,127 group sessions were held to engage with the academic community and those outside the university to build knowledge.

The power of knowledge developed through university libraries is transforming individuals, families, communities, and nations.

Patrons occupied 92,857 seats and were provided with services 24 h of every day through access to information resources and physical library spaces.

These activities 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 through their careers.

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

Innovation in affordable access to text books has been achieved at Western Sydney University through the Accessible text books project (Western Sydney University, 2019). The University recognized that for many the cost of textbooks is prohibitive, particularly those with social and economic disadvantages. The initiative reaches across disadvantages to provide all students enrolled in first-year subjects with free digital textbooks, established in 2017, the initiative continues.

The University was the first in Australia to provide free digital textbooks for its students. Western’s ground-breaking initiative is one of the world’s largest provisions of free textbooks for commencing students. With the average cost of a textbook being $100 per book, our commencing students receive up to $800 worth of value. The library undertakes a key role in establishing and enabling the initiative which transforms access to information and education for the students. Rather than
carrying bulky textbooks, students have easy access to fully searchable digital textbooks, with the ability to highlight and mark notes on-screen for future reference. For students with a disability, the books are completely accessible to screen readers and other support tools. This program is in direct response to student feedback indicating that covering the cost of purchasing textbooks was one of the biggest financial hurdles when starting university.

**Goal 5: Gender and equity**

Libraries support gender equality by providing safe meeting spaces, programs for women and girls on rights and health, and ICT and literacy programs supporting women to build their entrepreneurial skills.

University libraries have in particularly developed support programs that have been integral to the response of universities to addressing the findings of the Human Rights Commission study into sexual violence and sexual harassment in universities.

Library initiatives have included developing staff knowledge in preventing and supporting situations of sexual harassment, use of libraries as safe spaces, and information activities conducted through library services such a drop in sessions.

Library employment has also been an area of initiatives in equity and diversity. Libraries have adopted the Aboriginal and Torres Strait Islander Protocols for Libraries, and Archives and Information Services first published in 1995 by the Australian Library and Information Association. The Protocols were most recently updated in 2012 and endorsed by the Aboriginal and Torres Strait Islander Library and Information and Resource Network.

The Protocols are intended to guide library and information practitioners in the provision of appropriate services and management of resources about Aboriginal and Torres Strait Islander peoples and cultures. The Protocols offer a path to reconciliation, a guide to culturally appropriately managing collections and services. Broad in scope and principle based they cover governance and management, content and perspectives, intellectual property, accessibility and use, description and classification, secret and sacred materials, staffing, developing professional practice, awareness of Aboriginal and Torres Strait Islander peoples and issues, copying and repatriation of records, and the digital environment (Aboriginal and Torres Strait Islander Library, Information and Resource Network, 2012).

An initiative that reflects the valuable contribution of libraries is the partnership of Charles Darwin University Library with researchers to sustain and preserve Aboriginal languages and culture (Godfrey et al., 2016). The Library has contributed to the Living Archive of Aboriginal Languages by assisting in building a repository, web application and digitization program to preserve endangered Indigenous resources and facilitate both Indigenous community engagement and international linguistic research. The project serves as a rich case study demonstrating how academic libraries can work with researchers to support the archiving of cultural heritage. A key contribution to the project was the Library’s expertise in knowledge and resource organization and its management in relation to creating, storing, preserving, and sharing the type of materials included in the Living Archive. Furthermore, the Library played a crucial role in the
establishment of the Archive by providing ongoing technical information management support needed to ensure its success and sustainability. The Library hosts the Archive in its institutional repository.

**Goal 9: Industry, innovation, and infrastructure**

Australian University Libraries support industry and infrastructure through a range of initiatives including the Government’s National Collaborative Research Infrastructure Strategy (NCRIS). A major initiative of university libraries has been developing research data capabilities and access to this data. Australian university libraries have developed services that (2017 data; Council of Australian University Libraries, 2018):

- provide access to 569,927 openly accessible research outputs.
- resulted in 30,651,406 downloads.

In addition, university research is communicated by publishing. One in four university libraries in Australia is publishing original scholarly works in some form (mostly journals), with most available online and are open access.

An example of achievement of publication and dissemination of scholarly works is the Australian National University (ANU) Press, which sits within the ANU Library. At the end of 2019, the Press had published more than 880 titles – all of which are available via open access. The reach of the ANU Press is significant – 4,662,755 downloads in 2019. Highly influential works reach all corners of the globe, particularly developing nations, in a way that print books could never have achieved. Prof Adam Shoemaker’s award-winning book “Black words white page: Aboriginal literature 1929–1988” has been for almost a decadence been one of the top read works. It has influenced thinkers and researchers in nations as diverse as South Africa and India. If the work were in print there would not have been a copy in a library in either continent – the open access digital publication enables scholarship to have impact and contribute to innovation and learning around the world. In addition, a new textbook series is dramatically opening-up education materials to all across the world.

**Goal 11: Sustainable cities and communities**

University 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 is made available freely to increase the knowledge and skills of the community.
The documentary history of the nation and the world is held in libraries. University library activities include:

- Digitization programs that are increasing access to these important resources.
- Sharing of these resources through national and international databases such as Trove and WorldCat.
- Work with national, state, and public libraries to develop greater digital access.

Libraries deliver programs that make Australian research available to the world. Our open repositories enable research to be available overcoming paywalls and expensive subscriptions (Council of Australian University Libraries, 2018).

- 569,927 accessible research outputs including conference papers, journal articles, book chapters, and other research papers are made available openly.
- 63,883,120 accesses occurred to research outputs in 2017.

Australian universities support communities through making theses accessible. These are the result of extraordinarily deep research often unearthing discoveries that will change the way we live, work, and understand the world. Theses in this case refers to the products of doctoral research and masters by research.

In 2017, libraries achieved access to over 2,75,000 theses of which more than 95% were available openly. The theses were used by others in more than 190 countries around the world.

At the Australian National University more than 83% of the individuals who benefited from accessing the research came from other countries. There was an average of over 78 downloads per thesis – with barriers to access overcome for the researchers and those who were able to use the outcomes of the research. An example is research into Timor Leste that is being used to reshape the agenda of non-government organizations in addressing ways to deal with violence.

In Tasmania, the City of Launceston’s Queen Victoria Museum and Art Gallery, University of Tasmania, State Government bodies Libraries Tasmania (including the Tasmanian Archives and State Library), and the Tasmanian Museum and Art Gallery are working together on the Digitized Cultural Experience sub project of the Greater Launceston Transformation – Creating our Digital Future Project funded by the Australian Government (Department of Infrastructure, Regional Development and Cities, Australia Government, 2019). This project will digitize and make discoverable the substantial cultural assets from Launceston and the region. The project will cumulate in development of two extended reality products for education and tourism.

The spirit of cooperation has resulted in a unique partnership, bringing together cultural institutions, local and state governments, and higher education to share technology, expertise, and knowledge to showcase Tasmania’s significant historical and cultural assets. By working together, the discovery and sharing of Tasmania’s treasures is delivered benefiting artists, remote communities, researchers, industry, tourists, and schools.
Findings

From the application of the SDG framework to Australian University libraries, it is clear that qualitative and quantitative measures can be integrated to provide insights into the value provided by academic libraries to the communities within their institution, city, and regional communities and national impact.

The SDG framework was explored to understand the assessment of value to a level of complexity not available through other more widely applied methodologies. When the results are compared to that of economic (contingent valuation/ROI), SRI, and value in use (size and use of collection and information use studies) there are considerable differences. Assessing the major differences, the four methodologies fill particular aspects of reporting (Table 1).

Assessed by the author against these criteria, the SDG framework provides a multi-dimensional assessment not available from the other methodologies. The other methodologies have different strengths and weaknesses. Much of the difference stems from the theoretical base of the approaches. SRI and the SDGs are based on theory of change and thus have more in common that the other methodologies. Value in use comes from library ad information science while economic ROI comes from economics.

Comparing the methodologies enables consideration of the applicability of each system to different reporting and stakeholder information needs. Evaluation must be contextual to organizational situations.

Limitations

Evaluating alignment through the UN SDGS is increasingly a topic in scholarly communication and publishing. While this article is limited to the role of libraries, publishers are increasingly opting to commit to the SDGs and assessment their publishing against the goals. The recently introduced SDG Publishers Compact (United Nations, 2020) reflects adoption by major publishers of the need to ensure that research is published and available to support the goals. SpringerNature (2020) provides an example of the depth of evaluation of research using the SDGs. Understanding the broader impact in terms of dissemination of research will require the added dimension of publisher activities.

Table 1. Library assessment frameworks – assessment of dimensions.

| Framework                        | Economic (contingent valuation/ROI) | SRI         | Value in use | SDG |
|----------------------------------|-------------------------------------|-------------|--------------|-----|
| Economic aspects                 | Y                                   | Y           | Y            | Y   |
| Library strategy                 | N                                   | Y           | N            | Y   |
| Impact measure                   | N                                   | N           | N            | N   |
| Holistic patron perspective      | N                                   | N           | N            | Y   |
| Social benefit measurement       | N                                   | Y           | N            | Y   |
| Community impact measure         | N                                   | Y           | N            | N   |
| University sector wide measure   | N                                   | N           | N            | Y   |
| Collaboration measure            | N                                   | N           | N            | Y   |
Conclusion

Academic libraries have explored evaluation methodologies for many decades. The major activity has been in the application of theories and tools borrowed from other disciplines such as economics and management. Studies from library and information science theory have focused on users (significantly information behavior). This work has formed individual reports that have sought to establish numeric indicators, consistent with the environment of university evaluation.

Understanding the value of library services is, however, a complex interplay of latent value (such as collections), research services (including data management), educational support services, and activities in the realm of scholarly communication.

Blending the qualitative and quantitative indicators to provide holistic reporting has been an aspiration not yet realized. Malapela and De Jager have suggested:

The concept of valuing a library service has concerned library and information professionals for more than three decades, there has however been little consensus on the best approaches to determine and measure the value of library services. (Malapela & De Jager, 2018, p. 276)

Situating the value of libraries within a complex system framework with the UN SDGs provides an opportunity to reflect on value that is experienced by multiple communities – library patrons, their institutions, the cities, and regions they are within, the nation and indeed to world (particularly in terms of reach in dissemination of their university’s publications and data). Such an approach provides new insights that identify the richness of activities and innovations of academic libraries.

Recent developments in the SDGS have identified new levels of reporting. These measures are focused on government and industry and as yet have little relevance to libraries, despite the best efforts of library associations to reinterpret them (for example Australian Library and Information Association, 2019; American Library Association, 2020).

The case study of Australian academic libraries establishes that the SDGs can be used as a reporting framework despite the lack of specific library measures. From the case study, it is clear that academic libraries provide a value to their stakeholders which goes beyond numeric measures of economic and social benefit. The values observed align to the critical roles of a modern university – of education, research, and national impact. The nature of the diverse benefits reflects the three levels of individual library, institution, and national benefits.

There is opportunity to rethink the identification of value of libraries and their associations to establish how the sector, and indeed the combined infrastructure of academic 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 complexity theory that underpin the SDGs.

Consideration of the SDGs also raises the issue of how the assessments can be used to influence or create new objectives and activities for the sector. Establishing areas for change including commitments for governance for change requires a new approach to decision making (for governance aspects see Kemp et al., 2005).
Implications and future research

This article has outlined the opportunities to understand value from different theoretical approaches and methodologies. It has tested the application of SDGs to tell the story of the unique contribution that libraries make to higher education and their nations. It finds that the dimensions offered through the SDG framework fill a gap in library assessment. National and international impact have previously been generally assessed in terms of research outputs for the higher education sector rather than library services. The case study of Australian libraries provides a springboard for international comparisons in the future.

For Library administrators this article provides an example of how their libraries contribution can be presented using the four main goals most relevant to higher education libraries in a manner that both uses existing indicators and stories that describe impact. The methodology draws together traditional statistical information in a new way that provides an institutional, national, and international contest for their work.

Further work could be undertaken to enable analysis of the application of methodology to reshape governance and program delivery in academic libraries. The research could also provide comparative information between nations, potentially mapping to national reporting against plans for implementation of the SDGs.

Future research could also look at the nature of the role of libraries and publishers in making knowledge available to support the SDGS. The new compact between publishers and the UN around the SDGs in 2020 suggest that analysis and data will be available in the future to analyze the contribution of both these parts of the scholarly information ecosystem.

ORCID

Roxanne Missingham http://orcid.org/0000-0003-1881-8380

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