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Measuring the academic library: Translating today’s inputs and outputs into future impact and value
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Measuring the academic library
Translating today’s inputs and outputs into future impact and value
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Abstract
Purpose – The purpose of this paper is to provide an Australian perspective of impact and value by examining how the broader international and national perspectives play out in practice in the Australian context and where adaption for local requirements is necessary.
Design/methodology/approach – This paper will explore the assessment of impact and value in academic libraries and the tools available to translate today’s inputs into future impact and value. It will focus on a range of methods and procedures, including international and national standards, frameworks and benchmarks.
Findings – The La Trobe University Library is presented as a case study to examine the challenges of leveraging tools to assess impact and communicate the value of the library across the university community.
Originality/value – Assessing the impact and demonstrating the value of the academic library in a digital environment is a constant challenge. While usage and service data are plentiful, traditional metrics no longer sufficiently demonstrate the academic library’s contribution to university learning, teaching and research outcomes.

Keywords Academic library, Frameworks, Digital environment, Research outcomes, Teaching outcomes, University learning

Introduction
Impact and value are hot topics in Australian academic libraries. In a constantly changing university environment, where all aspects of academic endeavour are scrutinised and measured – academic librarians are thinking differently about how to demonstrate the strategic value libraries add to the contemporary university. Over the past 20 years, the role of the library in the academy has broadened in its definition. Academic librarians have embraced opportunities for new partnerships within university communities that appreciate that the academic library “is not just a repository […] service […] or a place to study […] but rather “can also be a partner in research and in teaching” (SCONUL, 2017). However, closer alignment with university strategic priorities means that simply counting the number of resources, loans, downloads, visits, enquiries or classes, no longer sufficiently demonstrates the influence of the library or the complexity of the academic library’s value in the measured university environment.

The quandary for academic libraries is that traditional usage statistics alone cannot determine the impact of the library and the value of new learning and research partnerships. The difference libraries make to academic life for students and scholars alike is not easy to articulate. How can academic librarians give expression to the value that the library provides to the university, and particularly to students, in terms of our contribution to university learning and research strategies? How can libraries comprehensively validate relevance and success across both virtual and face-to-face services? To answer these
questions and craft a compelling impact and value proposition, academic librarians need to put the full range of assessment tools to work. Australian academic libraries use a range of methods and procedures, including international and national standards, frameworks and benchmarks, which are adapted to suit specific institutional contexts. The article presents a case study of how one Australian academic library – La Trobe University Library – has navigated this territory and the challenges encountered in leveraging a range of tools to assess impact and communicate the value of the library across the university community.

**Approaches to measuring the value and impact of academic libraries**

International development of new approaches to measurement in academic libraries can be traced through the standards, guidelines and performance indicators which have been established over the past decade. Approaches vary according to local context and needs; however, a number of trends are apparent in informing these new practices. For example, traditional usage statistics are no longer considered the sole or key indicators of success, as on their own, they do not fully measure or evaluate the library’s effectiveness or its contribution to the mission and goals of the university. Oakleaf’s (2010) call for academic libraries to connect their value to university strategy and communicate that value to stakeholders has been followed by attention to how libraries “contribute to the larger institutional mission” and “co-evolve with their institutions” (Robertson, 2015, p. 491). Quantitative usage data about library collections, services and spaces only tell part of the story. Usage statistics relate to the library’s “implicit value” rather than its “explicit” or “derived” value (Tenopir, 2011), which is a move away from long-held presumption that because a library is used, it is valuable to its institution.

In the current environment, usage, impact and value have a complex relationship. Understanding this relationship involves investigating the link between “implied” worth and the “explicit” difference library usage makes to the user in terms of their satisfaction, experience or scholarly outcomes. Academic libraries are focusing more on linking inputs and outputs to outcomes. This involves identifying a range of objective and reliable indicators for evaluating the impact of library services on stakeholders (de Jager, 2017). As Tenopir (2013) notes, the “value of the library to its constituents can be demonstrated in many ways [. . .] Multiple methods should be used to measure value, including quantitative, qualitative, and a mixture of both. No one method stands alone and the choice of methods must be tied to the mission of each specific institution” (p. 273).

Because of the multiplicity of possible methods for measuring value and impact and the need to tailor these for individual libraries, there has been limited standardisation of methods to evaluate the value and impact of academic libraries. In recent years, this gap has been filled by two international standards relating to library performance and assessment (ISO, 2014a; 2014b):

1. **ISO 11620:2014 library performance indicators**: The main purpose of this standard is to “endorse the use of performance indicators regarding the quality of library services in libraries and to spread knowledge about how to conduct performance measurement”. The performance indicators outlined in the standard measure various aspects of collections, access, facilities and staff and the standard is applicable to libraries of all types.

2. **ISO 16439:2014 methods and procedures for assessing the impact of libraries**: This standard considers the impact of libraries on individuals, institutions, the community and society and specifies methods for assessing this impact while recognising the variations between different types of libraries and different
countries. Impact is defined in the standard as “the influence of libraries and their services on individuals and/or on society” (ISO, 2014, p. 13). The standard recognises the challenges faced by libraries in attempting to measure impact and presents a range of methods for using quantitative and qualitative data to assess impact.

The strength of these standards is the clarification of terms and the clarity with which the path from input to value is defined and the elements of each step are described (Figure 1).

The importance of collecting inferred evidence, solicited evidence, observed evidence and using a combination of these methods to demonstrate impact, rather than prescribing a particular method is emphasised. Combining a number of methods is critical for assessing the impact of the library’s many services, programmes, collections and spaces, which may mean different things to different users of library (de Jager, 2015; Tenopir, 2013). Using a range of methods has many advantages (ISO, 2014b, p. 57) and extends to comparing data from library systems with data from university systems to assess library impact on university goals related to student learning success, student experience, student recruitment and retention, research publication and research grant income (ISO, 2014b, pp. 55-57). An illustration of the success of using multiple methods is found in projects that involve linking institutional data sets to library data. Correlation studies that connect library usage data to student IDs and attainment data are increasingly used to assess the impact of library services, spaces and resources on student academic success (Beile et al., 2017) and to measure the contribution of the library in student retention (Hagel et al., 2012; Haddow and Joseph, 2010; Murray and Ireland, 2017) and improving the student experience (Goodall and Pattern, 2011; Stone and Ramsden, 2013).

The international standards (ISO, 2014a; 2014b) help librarians navigate the complexity of impact assessment while acknowledging that there are challenges in practice at the local level. National associations play an important role in interpreting issues and guiding local practice. In the USA, the Association of College and Research Libraries (ACRL), a division of the American Library Association, has developed documentation and supported related projects to promote the changing nature of evaluation and the demonstration of academic library value and impact. The current ACRL Standards for Libraries in Higher Education differs from previous versions “by articulating expectations for library contributions to institutional effectiveness […] providing a comprehensive framework using an outcomes-based approach, with evidence collected in ways most appropriate for each institution” (Association of College and Research Libraries, 2011).

Oakleaf (2010) provides a comprehensive review of the existing literature on the value of libraries to their institutions, making suggestions for next steps and a research agenda to aid libraries in articulating their value. This research agenda has been progressed by ACRL’s Assessment in Action programme (Association of College and Research Libraries, 2017). Similarly, in the UK, SCONUL, RLUK and Jisc have supported a number of large-scale projects that demonstrate and articulate the value of libraries, including the Library Impact Data Project (Jisc, 2014), which investigated the correlation between student attainment and

**Figure 1.**
Assessment path: from library input to value

**Source:** Adapted from ISO 16439:2014 (ISO, 2014b, p.13)
library resource use (Stone and Ramsden, 2013), and studies that link institutional research performance and libraries (RIN and RLUK, 2011).

The Australian context
The Australian higher education environment is competitive, increasingly global and constantly evolving. Quality measurement is expected. The sector has a clear quality framework and set of threshold standards for measuring performance and adherence to performance indicators. The Tertiary Education Quality Agency (TEQSA) is the independent national regulator of the higher education sector in Australia, with the role of assuring the quality of Australia’s large, diverse and complex higher education sector. TEQSA “registers and evaluates the performance of higher education providers against the higher education standards framework” Higher Education Standards Framework (Threshold Standards) 2015 (2015). The Higher Education Standards Framework (Threshold Standards) 2015 (2015) is a legislative instrument that must be complied with by all providers to participate in Australia’s higher education system. Measuring the impact of the library using the Higher Education Standards Framework (Threshold Standards) 2015 (2015) is not straightforward. The Framework has five areas in which university libraries may be represented (Owen and Lasserre, 2016); however, libraries are only mentioned specifically in the Learning Resources and Educational Support domain[1]. A recent case study by Monash University Library in Melbourne, Australia (Owen and Lasserre, 2016) demonstrates how it is possible to apply a range of the threshold standards to libraries to measure compliance and alignment, evaluate performance, benchmark and identify gaps. However, library measures of value and impact are not currently a specific focus of the Higher Education Standards Framework (Threshold Standards) 2015 (2015) and likewise are not overtly measured in Australia’s national student experience survey (Social Research Centre, 2012).

Apart from the broad sector requirements in Australian academic libraries, there has for many years been a culture of assessment that has been recognised, and indeed supported, by government initiatives. In 2000, the “Best Practice for Australian University Libraries” project was funded by the Australian Government under the Commonwealth Department of Education, Training and Youth Affairs Evaluations and Investigations Programme (EIP) to investigate and document best practice activities in Australian academic libraries. The outcome was a set of best practice guidelines (Wilson et al., 2000). There is also a long history of benchmarking across Australian Academic libraries. The Council of Australian University Librarians (CAUL) has centrally collected statistics from academic libraries since 1969 as part of aggregating statistical data for Australian and New Zealand university libraries to provide a high-level overview of key statistics based on traditional inputs and allow comparison across libraries. It has also conducted a common (although not prescribed) survey of student satisfaction with university libraries since 2001 known as the Insync Library Client Survey (Council of Australian University Librarians, 2009). This survey is undertaken by a number of Australian and New Zealand academic libraries, allowing comparison of results across libraries. The survey has undergone changes in recent years to reflect the changing nature of higher education library services, including digital services and resources, and to enable libraries to customise survey questions for their local context.

To further aid Australian academic libraries in assessment and evaluation CAUL has developed two documents which contribute to providing a quality framework for Australian academic libraries. The CAUL Principles and Guidelines for Australian Higher Education Libraries (Council of Australian University Librarians, 2016) acknowledges the changing nature of academic libraries and their contribution to individual university and national
higher education sector outcomes. The principles and guidelines aim to articulate how academic libraries add value through their alignment with institutional goals, leveraging the professional skills and digital capabilities of library staff. Like the US Standards for Libraries in Higher Education (Association of College and Research Libraries, 2011), the CAUL Principles and Guidelines do not offer a “silver bullet” for identifying and demonstrating value and impact but provide a framework for collecting evidence which enables libraries to describe and assess the role of a contemporary university library—a first step in moving beyond the collection of data to the articulation of value. Recognising the challenges posed by the increasing number of partnerships across the Australian and international higher education sector, as well as growth in the online and offshore delivery of courses, CAUL also developed the CAUL Principles and Guidelines for Library Services to Staff and Students at Remote Locations (Council of Australian University Librarians, 2015). This publication provides guidance in quality assurance of services for students who are based at remote locations.

Australian evidence has suggested that academic library use can contribute to student success and that there is a link between students’ engagement with learning and their engagement with their university library (ACER, 2009; ACER, 2012). Australian academic libraries continue to explore how to demonstrate their value in this endeavour by linking data on digital library use with data about student experience (Haddow and Joseph, 2010). While acknowledging that, “without a valid, reliable way to collect data from various library and enterprise systems, it is difficult to quantitatively assert how a library adds value” (Cox and Jantti, 2012), the University of Wollongong Library has successfully integrated a number of local data sets to identify whether a correlation exists between usage of Library resources and academic performance, using student grades as an indicator. The “Library cube” outlined by Cox and Jantti (2012) links and supports the analysis of data already being collected in the university to provide a rich data set with which to understand the impact of the library on student success. Other Australian academic libraries, using combined data sources to demonstrate how the library contributes to student success in learning, have relied on ISO standards to inform the collection of inferred and solicited evidence, adopting methods to suit their local environment to demonstrate the difference the library is making in online teaching environments (Rae and Hunn, 2015).

Demonstrating library impact and value at La Trobe University

Guided by national and international frameworks, the qualitative and quantitative assessment methods used by Australian academic libraries is a varied mix that includes user surveys, learning and data analytics, ethnographic approaches, user experience studies, economic approaches and narrative approaches (Sputore and Fitzgibbons, 2017). In common with other Australian academic libraries, La Trobe University Library uses this full range of methods to assess programmes and services, maintain quality and collect evidence of the library contribution to university strategic priorities in learning and research. Many of these tools are part of our business as usual approach to measuring impact and value. Thinking differently about how we use existing methods of collecting evidence and the questions we ask is an important component of this continuing practice. In 2016, La Trobe University Library conducted the Insync Library Client Survey (Council of Australian University Librarians, 2009) with additional questions in an attempt to solicit information on students’ perception of the value of the library and its impact on their learning and experience of the university. The survey was completed by 3,949 students, a 58 per cent rise on the number of responses was received for the 2014 survey, so we have confidence in the results and the story we can tell about the Library’s contribution to student experience.
Our 2016 survey presented two customised statements to which students could respond “Yes” or “No”. The first statement was designed to explore the value of the library to student learning and research outcomes:

- “The Library contributes to my study/research success”;

while the second explored the impact of the library on student engagement:

- “In the Library, I feel connected and part of University life”.

In response to these statements, 97 per cent of respondents stated that the library contributes to their study and research success, while 90 per cent of respondents agreed that, in the library, they feel connected to the university and part of university life. The survey also revealed that 78 per cent of students coming on campus for classes come into the library at least once a week, 20 per cent of students access the library online on a daily basis and the library is the preferred place to study on campus for over 50 per cent of students.

The responses to these two statements plus usage statistics start to paint a picture of the library’s place in student academic life. Students perceive the library as an inclusive space that caters to diverse study needs, which makes a difference to their academic success, and is an important part of participating in student life and in the La Trobe academic community. Importantly, the survey also indicates that the library has a positive impact on student learning outcomes.

Another new question added to the survey in 2016 asked students about their grades and usage of the library. The results indicate that:

- A total of 61 per cent of students with a self-reported A or B grade average use the physical library daily or more than once per week.
- A total of 69 per cent of students with a self-reported A or B grade average use the online library daily or more than once per week.

Free text comments provided by the survey respondents give further insight and specific examples of the library’s impact on, and value to, student academic life; these comments can be also be used to weave a narrative around the data and support the story we tell about these results in terms of our contribution to student success and satisfaction. But more importantly, this data that brings together student usage and academic achievement also makes a difference to how we can promote the value of the library to students who want to increase their academic success (Table I).

In the 2016 Insync survey, the Library also trialled the use of the net promoter score (NPS), a tool commonly used by businesses to gauge customers’ overall satisfaction with a company’s product or service. The NPS measures the willingness of customers to recommend a company’s products or services to others. In the business world, intention to recommend is a single indicator of satisfaction – and therefore potential company growth – that can replace customer satisfaction surveys (Riechheld, 2003). To transfer the use of this tool to the academic library environment, students were asked “On a scale of 0 to 10, how

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<th>Weekly visit physical library (%)</th>
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<td>A and B</td>
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<td>39</td>
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likely are you to recommend the library service to other students?” Based on their response, students are classified as detractors, passives or promoters. “Detractors” (response lower or equal to 6) are not particularly excited by the service and could potentially damage the library reputation by negative word of mouth. “Passives” (response of 7 or 8) are satisfied and probably would not spread any negative word of mouth, but they are not enthusiastic enough about the library to actually promote it. “Promoters” (response of 9 or 10) love the library and its services, and they are likely to enthusiastically recommend the library services to other students. In the La Trobe University Library’s use of this tool, 44 per cent of undergraduate respondents were classified as “promoters”, 37 per cent were classified as “passives” and 19 per cent as “detractors”. Compared to undergraduates, postgraduate respondents were slightly more likely to be “promoters” (48 per cent) and “detractors” (21 per cent). The NPS is expressed as an absolute number – the difference between the percentage of “promoters” and “detractors” – and can range from −100 to 100. The library’s NPS of +25 score is a positive score that indicates the library has more students who are library advocates than students who are dissatisfied with the library (Figure 2).

The NPS is not commonly used in academic libraries, and while the library’s NPS score is positive, we are aware that, in the corporate world, the highest performing organisations are situated on the NPS scale between +50 and +80. Because it is borrowed from business, using the NPS in a library setting positions students as “customers” and it could be argued that it promotes neo-liberal ideas of the corporate university that do not necessarily reflect how the library approaches service, partnership or our values. Our use of the NPS was an experiment, and we have not yet agreed upon how useful it is in a library setting. Intention to recommend may be a meaningful construct in marketing and business and even in a competitive higher education market (Ang et al., 2016); however, service satisfaction is multifaceted and a criticism of the NPS is that, by oversimplifying this complexity, results may be misleading (Keiningham et al., 2008; Kristensen and Eskildsen, 2014). For the library, it prompts further questions that need to be investigated. For example: If over 90 per cent of students agree that the library connects them to the university and contributes to successful learning outcomes, why is it that only 44 per cent would actively recommend the library to others?

The La Trobe University Library also uses standards to measure compliance with common frameworks. As part of a university-wide process, the Library has mapped current

Figure 2.
Library Advocates – percentage of students likely to promote the library
practice to the Higher Education Standards Framework (Threshold Standards) 2015 (2015), identifying and documenting evidence of compliance with the standards and gaps which need to be addressed. A similar process was undertaken with the CAUL Principles and Guidelines for Australian Higher Education Libraries (Council of Australian University Librarians, 2016). While the guidelines presented in each of these frameworks are broad, these reviews have been informative for the Library in identifying areas of risk which require further attention. The two relevant international standards (ISO, 2014a; 2014b) have provided guidance as the La Trobe University Library continues to refine methods and practice for articulating and demonstrating value and impact. International tools need to be assessed and, where necessary, adapted for relevance to the local context; at the La Trobe University Library, we have used these tools selectively to inform our practice and tell our impact and value story across the university.

In learning and teaching, the La Trobe University Library has worked closely with academics to embed research skills into the curriculum. While the ISO standard (ISO, 2014b) recommends pre-/post-testing as a method of demonstrating library impact and value in this area, it is not always feasible to implement this method on a large scale. Building on evidence of pre-/post-testing in selected disciplines that demonstrated that an embedded approach makes a difference to student learning outcomes, our approach is to align intended learning outcomes, activities and assessment in the curriculum design. For other services, such as services that contribute to research, the measurement of impact is more challenging. For example, it is not easy to directly relate library input to the preparation of grant applications with the success of these applications; however, return on investment in the grants process can be calculated by quantifying the library contribution to grants process (Kaufman, 2008; Tenopir et al., 2010).

The challenges of demonstrating impact and value in the academic library

In the past decade, librarians have questioned the validity of relying on quantity as an indicator of the value of library services, collections, programmes and spaces (Nitecki, 2011; Walters, 2016). Methods traditionally used to measure the value of the print library often do not translate successfully into the contemporary academic library. What is clear is that a range of different methods are required to “measure” academic libraries. The recent announcement of a new joint initiative between OCLC research and Ithaka S + R (Schonfeld and Malpas, 2017) acknowledges that libraries have traditionally measured their effectiveness by the size of their collection, with little alignment with the goals and needs of their parent universities. The literature indicates that one assessment tool is not enough; a variety of methods is required to assess value and impact, and the tools need to be relevant to the national and local contexts. Challenges experienced by La Trobe Library are similar to other libraries and indicate that there is no one answer or solution (ISO, 2014b). Standards such as the ISO standards provide a consistent methodology which can provide comparisons; however, these are not the only frameworks or methods which can be used to measure value and impact. Libraries will need to identify tools which are fit-for-purpose for their particular environment and requirements and this will necessarily mean using a range of tools and methodologies rather than a single solution.

Another challenge in effectively demonstrating value is to weave a compelling narrative around data so that our target audiences can relate to and understand the impact of libraries. Libraries must be able to tell stories about their impact and value drawn from reliable data. The way in which we communicate our value and combine data sources to develop narratives that are valued by our community (Calvert and Goulding, 2015) is critical. Finding the stories that make data meaningful will “capture the rich pictures that retain the
essence of our achievements” (Brophy, 2008, p. 15). As noted by one participant in a study of the perceptions of Canadian Provosts on the role of academic libraries (Robertson, 2015), “I ask what impact is the library having on those areas that deal with our strategic plan, and in many cases, those stories are as important [...] as the metrics” (p. 506).

When reviewing outcomes, there are many variables which could contribute to student success – and the library is often only one of these. There is a risk – and challenge – that academic libraries are not always seen as a high priority in terms of university-wide assessment. The challenge is to retain the focus on the importance of assessing the library. University support and investment in large scale measures are often required, and these can result in a success story in terms of keeping library assessment, impact and value in full view, such as the Library Cube at the University of Wollongong (Cox and Jantti, 2012).

The ultimate challenge for measuring value and impact is not data but time, effort and focus (ISO, 2014b). This is related to another challenge: building library staff capacity in understanding data, visualising and analysing data and communicating impact (ISO, 2014b; Luther, 2016; Murray and Ireland, 2017). Staff empowerment “to understand and conduct impact assessment work” (Streatfield and Markless, 2009, p. 137) should be an underlying principle of library assessment work. Uncertainty about how to use and communicate data has the potential to waste opportunities for successfully communicating our story and securing our place in the future of the university. Thinking about the capability we need to engage in assessment work captures why at La Trobe we have turned to an assessment plan. Having a plan will help us think about how we join up the qualitative and quantitative methods we use and achieve a more focused, coordinated approach.

Conclusion

For academic libraries, demonstrating value and impact is a continual learning journey. We often hear from academic staff at our institution that they “love the library”. The question is why: what does this statement mean and how can we translate this sentiment into a common understanding of the value of the library? We need to actively and programmatically collect and collate evidence to demonstrate value through a variety of means.

As we refine our methodologies and our analysis, the La Trobe University Library can also make the link between standards and stories by creating a narrative around the available data, describing how academic libraries make a difference to student retention and success and research quality and outcomes. Using a mix of qualitative and quantitative data and drawing on a range of standards, frameworks and tools will ensure we are equipped to actively participate in conversations in our institutions, backed by evidence. With a convincing evidence-based narrative, we can ensure that academic libraries are able to translate today’s inputs into future impact to demonstrate their contribution to student success and their university’s strategic goals.

Note

1. “The learning resources, such as library collections and services, creative works, notes, laboratory facilities, studio sessions, simulations and software, that are specified or recommended for a course of study, relate directly to the learning outcomes, are up to date and, where supplied as part of a course of study, are accessible when needed by students”.

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Further reading


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