# Determining Value:
## The Development of Evaluation Metrics for Shared Content

*Genya O'Gara and Anne Osterman*

## Introduction

Budget pressures and the desire to provide sound stewardship of available resources mean that libraries are always searching for better, more informed ways to make decisions about selecting and managing resources. This need is amplified and the route to it becomes more complex when library consortia must make difficult decisions about member resources. Even when a consortium's membership is made up of like institutions, such as all academic or public libraries, there is inevitably diversity among member libraries' collection and licensing needs due to differing user populations. Coupled with these challenges, particularly in times of fiscal scarcity, libraries and consortia need to be able to clearly show their home institutions, funding bodies, and state agencies how they are making these difficult resource decisions within constrained budgets. Specifically, how the decisions being made directly support the needs of their diverse users. Additionally, there is a need in both the library and consortial community for a system that can compare dissimilar formats by assessing, for example, the value of an ebook collection as compared to a subscription media streaming service. As formats, licensing models, and information resources evolve, this need becomes even more acute.

To respond to these parallel needs, the Virtual Library of Virginia (VIVA) has developed a Value Metric system that attempts to use specific data points and member feedback to paint a picture of the value of a particular resource to a consortium's user population and curricula, the terms by which that resource is licensed, and the relevance of the resource to overall consortial shared values. Although the grids themselves are complex, the end result is designed to be both simple and intuitive, with a total possible score of a 100 for all format types, and allowing for comparison across formats, as well as between existing and potential resources.

## Background

VIVA is an academic library consortium in the state of Virginia. As a consortium, VIVA's primary objective is to level the academic playing field throughout the Commonwealth; more specifically, to ensure that students and faculty across the state have access to shared, high-quality research resources, no matter the size or type of their academic institution. The majority of the consortium's focus is therefore on negotiating and acquiring e-resources cooperatively on behalf of member libraries. VIVA also supports collaborative library projects and initiatives across the state through training, funding, and project management. Similarly, the aim of these initiatives is always on student and faculty access to, and the affordability of, rich academic research resources.

VIVA has 72 members; of these 39 are public schools that range from large research institutions, such as the University of Virginia and Virginia Tech, to comprehensive undergraduate programs, such as James Madison University and the University of Mary Washington, to large and small two year institutions with a focus on professional courses. There are an additional 32 private institutions that range from the very large (Liberty University's full time enrollment (FTE) in 2015/16 was 64,595) to small, specialized law and medical institutions with

as few as 145 FTE. The Library of Virginia is also a member of VIVA, although it does not participate heavily in acquiring shared resources.

Unfortunately for libraries and consortia, with ever-inflating costs of critical continuing resources, and rapidly diminishing materials budgets, cancellation is more often the norm than not. In a previous round of cancellation for VIVA, a tremendous amount of data, such as cost per use, usage ratios among types of members, administrative challenges, and member surveys was used to inform the decisions. There is also a steady influx of new products offered to VIVA, and the consortium has started a number of new products over the past few years, some completely through members' cost share contributions, rather than central funding, as was more standard practice in the earlier years of the consortium. Evaluating potential products always includes careful analysis of the data available, but direct comparisons to existing products have never been easy. Additionally, in both the 2014–2016 biennium, and in the upcoming 2016–2018 biennium, VIVA has faced a series of cuts to its budget, while adding new resources and initiatives, necessitating a close review of materials and expenditures. Because of this, the ability to compare dissimilar products to one another in a standardized fashion has become an urgent need for the consortium. The Value Metric project was born out of this need for a more programmatic approach to resource comparison in all parts of the acquisition cycle.

## Literature Review

In reviewing the collections assessment landscape, the need for the Value Metric project, with its focus on consortial resources, becomes clear. The advantages to academic libraries in participating in consortial contracts jointly are not disputed, in this cooperative manner libraries often achieve greater economy of scale, providing access to content that many member libraries could not afford individually.[1] Most often, content and services provided by academic library consortia focus on e-resource licensing programs.[2] However, from a member library perspective, there is less individual autonomy in a group model, creating a critical need to highlight the benefits of a shared resource to stakeholders. This makes identifying standardized and programmatic approaches to evaluating ever diversifying shared collection resources central to the work of an academic library consortium's collection development efforts. This need is coupled with increasing demands for accountability in higher education and evidence of data-driven decision making. In this environment the ways in which libraries and consortia approach evaluation of collections resources is rapidly expanding.[3]

To begin to meet these challenges at the consortial level some have developed consortial electronic resources management systems (ERMs) to conduct cost analysis and track usage rates.[4] However, the more traditional volume counts and usage statistics, disassociated from student and research outcomes and affordability, are not providing an understanding of user need connected to institutional or regional priorities that administrators and funding agencies are increasingly interested in.[5] And although there are local member library efforts to use student activities to inform collection management, these necessarily individualized institutional efforts do not translate at the consortial level.[6] Further, although studies on e-resources in academic libraries are fairly abundant, very few of those focus on the academic library consortium. There are some exceptions, one notable one in a 2013 article by author Marisa Scigliano, where the assessment tool "MINES for Libraries®" (a transaction-based survey that collects data on the purpose of use of electronic resources and the demographics of users) was examined in conjunction with the creation of peer groups and the use of regression analysis to explore correlations between usage and member libraries' print holdings, acquisitions budgets, and sponsored research revenues.[7]

Cost per use (CPU), an extremely valuable metric in evaluating big deals in particular, is often used as a primary evaluation tool within consortia. Although it is certainly a critical metric for consortia to consider, as the Carolina Consortium found, assessment falls short if it is the only factor considered.[8] This is particularly true

when considering and attempting to compare differing types of use across varied resource formats and subject areas. Understanding the need for more in-depth and holistic approaches to consortial resource evaluation is one thing, implementing it another. Few studies, either in academic libraries or at the consortial level, have attempted the daunting task of systematic assessment projects using multiple formats, tools, and data sources. In part this is because of a lack of man power, and in part because of the weakness inherent in currently available tools and methods.[9] And although comprehensive approaches that employ quantitative and qualitative data within flexible rubrics are beginning to appear within the library collections landscape, these efforts are often still in their infancy or pilot stages.[10]

Finally, as noted by author Albert in 2014, in addition to closely connecting library collections assessment to user outcomes and institutional and funding priorities, communicating the results of analysis and assessment in a meaningful way to stakeholders outside of the library remains an ongoing challenge for academic libraries.[11] What good is the analysis if its results cannot be clearly communicated with stakeholders outside of the library or consortia? These challenges provide the background against which the work of the task force was framed.

## Developing the Value Metric System

In the late spring of 2016, the VIVA Collections Committee created and charged a Value Metric Task Force (VMTF), specifically to:

> *Design and apply a framework for the coherent and holistic evaluation of VIVA products. The task force will determine what the highest collection development priorities are for the consortium and examine how these can be translated into quantifiable values. The end result will be an assessment framework and value metric system for the evaluation of shared resources that are reflective of VIVA's overarching values.*[12]

The VMTF was chaired by Genya O'Gara, VIVA's Associate Director, as this effort represented a core function of collections assessment support that the central staff traditionally provides. The other members selected were representative of institution types within VIVA, and included public doctoral research institutions (Beth Blanton-Kent from the University of Virginia and Madeline Kelly from George Mason University), public four year/comprehensives (Cheri Duncan from James Madison University and Summer Durrant from the University of Mary Washington), a public two year community college (Crystal Newell from Piedmont Virginia Community College), and a non-profit private institution (Julie Kane from Washington & Lee University).

Ensuring a representative task force was critical to this process. Due to the variety of members, consortia face an added layer of complexity in developing grounded assessment, which starts with establishing the priorities and goals of its institutions and users. The highly diverse institution types that make up VIVA may naturally perceive the value of a given resource differently. For example, a resource that is important to a small liberal arts college with a focus on multidisciplinary undergraduate education may not be as critical to a large STEM-focused research university.

Although VIVA is fortunate to have collection contacts at the member institutions that share a long and friendly history of deep collaboration, this does not mean that all are familiar with the specific needs of each institution's user types. To address this and build a common knowledge of the consortium's needs, in the first planning meeting the Task Force completed several exercises. First, each member contributed the specific consortial priorities of their schools. Next, in order to more thoroughly explore the similarities and differences in needs, the task force completed a persona exercise.[13] This exercise was revised from its traditional application in

libraries; instead of creating student and faculty personas, the task force used institution types as the personas, focusing on what their needs were from the consortium. The representative(s) of each institution type described their user populations, needs, and priorities. Some of these showed common concerns across the four institution types, such as space and cost savings, and some, such as weeding for the two-year schools or research support for the doctoral schools, represented more local concerns. However, the exercise showed that over 40% of the brainstormed priorities by persona type were priorities for all four institutional types, 30% were priorities for 3 institutional types, 9% for 2 institutional types, and only 7 priorities were individual to a single institutional type.

The Task Force used the overlapping priorities identified during the persona exercise to survey member institutions. This survey focused on gaining an understanding of how member institutions valued these identified facets *depending on the specific format*. The results of the survey showed that for **all** consortial resource format types the top two concerns were cost savings and alignment with curriculum, but after that, the priorities diverged. For example, for ebooks, the next highest top priority, after cost savings and alignment with curriculum, was digital rights management (DRM) restrictions, as compared to databases, where the next highest priority was easy one-stop content delivery.

Another important consideration for components to be included within the Value Metric system was available data. The Task Force completed a data inventory of all available data, such as degree and graduate counts maintained by the State Council of Higher Education in Virginia (SCHEV) or usage and cost data collected and maintained by the VIVA central office. This inventory allowed the task force to not "reinvent the wheel" in terms of data collection. They then mapped this pre-existing data to what questions they could answer in the survey-identified areas of need. For each product type, the group asked a series of questions, including: what data do we already collect; does this data align with ways in which libraries measure value for their users; and are there other factors we aren't collecting that could help answer these questions? The task force philosophy could be summarized as, just because something was measurable, that was not necessarily a reason to measure it. Instead the focus was on existing data that could serve as a temperature taker for each format and priority area.

In the end, the majority of the data used in the grids was already collected by the central office, making this a natural extension of the work of VIVA and not a new workload that could not be absorbed given current staffing. Examples included components as diverse as cost per use, ways in which broad appeal could be measured, state priorities and program levels, cost avoidance, protection from model changes, and more. Also important to the task force was that member institutions should be able to easily adapt whatever framework the task force landed on for use at the local level, so ensuring that the included metrics would be measurable, attainable, and easy to implement was key to the work of the group.

## The Value Metric System

Over the course of seven months, the Task Force developed the components to be included in the Value Metric system, using the results of the survey, identified consortial values, and data inventory to weight them according to their relative importance to the consortium. The Task Force developed mechanisms to measure the components quantitatively, ensuring that formerly disparate formats could be compared. The result was eight grids—one each for databases, ejournals, ebooks, and streaming media, for both existing and potential products. These data-dense grids speak to the relevance of subscribed and potential products to member institutions in a holistic sense through curriculum analysis and the demonstrated usefulness (or not) to a broad view of the consortium. They also reflect VIVA's values, which include an emphasis on open initiatives, independent publishers, COUNTER-compliant statistics, and the importance of specific usage rights, such as those for Interlibrary Loan.

Each grid contains overview data, including name, brief description, provider, subject area(s), and a total resource score. All resources may score up to 100 points. Below that the criteria categories (including sub-criteria and metrics) are listed, with a possible total score, score given, notes and calculations (e.g. where to show your work), rubric, and detailed instructions for how to determine a given score. There is variation between the new resource grids and the existing resource grids. A few metrics were necessarily modified or eliminated. For example, usage by institution type and length of consortial subscription, metrics in the current resource grids, were replaced with number of current subscribers and alignment with state collection priorities. This allows the grids to be compared to one another, with both types of grids summing to 100.

As mentioned above, alignment with curriculum and/or accreditation requirements rose to the top as priorities for all types of institutions for all formats of materials. These concepts are measured using four components. The first two deal with the official curricula: "Resource constitutes a high percentage of VIVA content within the subject area by format" and "Resource belongs to subject area with high number of degrees awarded." The first is designed to help ensure that subject areas are not left without coverage by cancellation. If greater than 75% of the journal titles in music studies were in a particular resource, for example, it would score the maximum amount for this component. The second is the intuitive marker of relevance to curriculum. Business, management, and marketing degrees represent over 15% of Virginia's degrees awarded, so products reflecting substantial content for this area would gain points for this connection.

The second two components in the Alignment with Curriculum and/or Accreditation Requirements category deal with usage, as usage across the institution types and member institutions is critical to understanding the usefulness of a resource to the consortium. This was measured using "Percentage of total use coming from single highest-use institution" and "Percentage of total use coming from highest-use institution type." These are essentially safeguards against products that are only used by one type of institution or only used by a single institution due to a niche degree program or emphasis.

The second most important category, Cost Effectiveness, was determined with three components: Cost-per-Use, Cost Avoidance, and Annual Increase. Cost Avoidance is defined here as the difference between what VIVA pays for the public institutions and what the joint list price would be for those institutions. Past cost data was used to inform the quantitative approach for components such as Cost-per-Use, outlining what might typically be "good value" for the consortium. There is an additional cost effectiveness component that reflects the public-private partnership of the consortium. If the product is shared by the majority of the private institutions through what is known as the Pooled Funds program, it gains additional points, since this adoption shows value to the entire consortium.

After this point, the categories and components included in the grids diverge by format. The database grid, for example, includes Interoperability with Discovery Systems; Easy, One-Stop Content Delivery; Stable Access; Multidisciplinarity; Usage Statistics; Technical Issues; and Supports Open Initiatives, in that order. The ebook grid, on the other hand, has DRM Restrictions as the third most important category, includes a new category of Supports Independent Publishers, and does not include Multidisciplinarity as a criterion.

Additional parts of the grid include a metadata and platform checklists, tailored by format type, to ensure that individuals populating the grids use the same scoring criteria. These scorecards are located on separate tabs. As an example, the metadata checklist for ebooks looks for the presence or absence of certain MARC fields, and when this is filled out it auto-populates scores into the grid. The platform checklists for the respective formats include criteria relative to the particular format. The ebook platform checklist, for example, includes the abilities to download, print, and email chapters, while the database platform checklist includes the ability to generate citations and/or export citations to a reference management system. Reviewers fill out these checklists and then their score is auto-populated into the grids.

The survey to the member institution collection contacts informed not only which areas would be included in the grids but also the relative weights. The categories of Alignment with Curriculum and/or Accreditation Requirements and Cost Effectiveness, for example, each have 18 total possible points across all formats and for both potential and current resource grids. The subsequent categories and weights differ by identified priority and format type. The task force has agreed to make all of the materials openly available upon request using a CC BY-NC license.[14]

## Going Forward

All Collections Committee members (as they all have products assigned for the regular work of the committee) were asked to help fill out the grids for their products, to both test the ease of use of the grids and to check whether or not the scores fell around where members expected them too. Additionally, in order to more efficiently update grid results, the VIVA central office has created an Access database to store the grid data and ease comparison and reporting of different evaluative sections among products. The expectation going forward is that the VIVA central office will fill these out for each product, in consultation with the product manager, and the results will be presented to the VIVA Collections Committee for review and deeper analysis.

As mentioned above, the task force's intention was that these grids would be relevant to individual institutions with a few adjustments, such as using only the institution's degrees awarded and local usage. And although complex at first glance, they are deliberately designed to be "plug and play," with as little additional data gathering as possible. Already members of the Virginia Community College System have begun adopting and adapting them for use within their specific institutional context.

The development of this framework approach has given the consortium and its members a comprehensive approach to telling the fuller story of what VIVA provides to its members and to the state through thoughtful, data-informed resource decisions. Some of the most important outcomes for VIVA include: a better understanding of how resources align with student and curricular needs throughout the Commonwealth; a model and framework that provide a standardized approach to the review of new and existing products; and the use of existing data to strategically inform collection development and compare dissimilar products. Finally, the grids serve as a spur to difficult conversations about important research resources, giving reviewers and collection development librarians a place to begin the tough conversations that must be had about the relative value of given resources in times of constrained budgets and expanding product options.

## Notes

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13. "Creating Personas." *Learning Spaces Toolkit.* Accessed May 01, 2016. http://learningspacetoolkit.org/needs-assessment/working-with-data/creating-personas-workshop-tool/. The persona exercise used by the task force was modified from the persona development workshop highlighted in the Learning Space Toolkit.

14. "About the Licenses." *Creative Commons.* Accessed January 23, 2017. https://creativecommons.org/licenses/. This Creative Commons license "lets others remix, tweak, and build upon your work non-commercially, and although their new works must also acknowledge you and be non-commercial, they don't have to license their derivative works on the same terms."