Faculty and Research Information Management Systems Final Report

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Submitted by:

- Cody Behles
- John Evans
- Bob Johnson
- Erno Lindner
- James Orr
- Abby Parrill-Baker
- Scott Sundvall
- Chen Zhang

Executive Summary

Software to support the academic program commonly address either the research or the administrative functions of the academic program. The team assessed the needs of the university, compared them to the available systems, and outlined the values of each solution. The team's work resulted in the following recommendations:

1. Subscribe to a Faculty Information System to meet the administrative needs and relieve the manual burden placed on every administrator and every faculty member involved in an administrative task.
2. Create an institutional ORCID account and promote faculty engagement in ORCID.
3. Adopt the full Academic Analytics suite to build on the investment in Academic Analytics<u>: Research Insights</u> and benefit research program planning.
4. Grow the faculty research support tools to include Web of Science and Scopus.
5. Develop solutions in phases, beginning with the immediate needs and shorter payback period of FIS implementations and working toward a full RIMS implementation.

The following paragraphs provide a review of our charge, process, and considerations that went into these recommendations.

The Charge

At the inaugural meeting, Dr. Nenon expressed concerns about the current software tools to support faculty research activity and scholarly communication, professional and program evaluation, and productivity and accreditation reporting. He noted the tension between diminishing campus financial resources and the escalating cost of products and services, and he charged the group to consider the full spectrum of academic program management needs and make recommendations by the end of the year.

The Process

In addition to attending product demonstrations, the team met seven times from October 7 to December 15, 2020, collecting requirements, reviewing products, and making the following observations and recommendations.

First, the team identified multiple areas of concern within the charge, such as

1. Research support resources, such as citation tools and databases,
2. Research development resources, such as match-making services and research promotion,
3. Research and scholarly activity reporting,
4. Individual scholarly profile management,
5. Faculty evaluation, performance evaluation, and program evaluation, and
6. Institutional reporting, accreditation, and compliance activities.

The group then spent a meeting or portion of a meeting on each topic to determine:

1. The resources and services being used for each area,
2. The users associated with their use,
3. The amount the university spends on these services and resources, and
4. The benefit the university derives from each.

The first three are oriented to the research agenda of the academic program, and faculty members use both research support resources and development resources extensively. Given the university's ambitions, these observations are not surprising. However, the team discovered quickly that the financial support underpinning the research support resources have remained static for two decades as prices have risen as much as five percent in any given year. During the team's activities, the Library was forced to abandon Web of Science to adopt Scopus, whereas many of the university's peers maintain both. Decommissioning products for citation management has provided financial room to delay deeper material cuts, but the need to change digital asset management systems has diminished that room. In short, the Library's budget is unable to support further investments in research support or other aspects of the team's charge.

The second and third areas of concern, research development resources and research reporting, are well represented in recent investment into Academic Analytics. The product is mature, and further investment is indicated for developing not only researchers and research centers but also for developing research strategy at the university. The university stands to benefit from growing its involvement in strategic research activity by establishing an institutional ORCID account and by promoting each researcher's public scholarship presence.

The other areas of concern – individual scholarly profile management, faculty evaluation, performance evaluation, and program evaluation – belong to a different class of important data management issues. The tools available for faculty and administrative use are outdated, inadequate, independent, and unintegrated. Academic staff and administrators create and re-create the same data sets in painstaking processes that must be repeated each time an analysis or report is required. Additionally, complying with regional and national accreditation requirements as well as internal control needs is inefficient and ineffective.

The Candidate Solutions

Recognizing that the problems cluster around research and faculty information, the team investigated four product families associated with Research Information Management Systems (RIMS) and Faculty Information Systems (FIS):

- Academic Analytics
- Watermark Digital Measures
- Interfolio Faculty180
- Symplectic Elements

Academic Analytics

Academic Analytics features two tool sets, Discovery Suite and Benchmarking Suite. Discovery Suite has three tools: Research Insight (an administrative tool to build research teams and find funding opportunities which the University currently subscribes to), Faculty Insight (a faculty tool to find funding opportunities, collaborators, and profile builders), and External Discovery Site (a public-facing website to display the institution's researchers and their activity). Benchmarking Suite has three tools: The Comparative Product and Tools (a database tool for strategic planning, hiring and retention initiatives, department review support, publication strategies, and mentorship planning), Graduate Outcomes (for institutional effectiveness studies), and Unit Modeling (to create what-if scenarios for grants, recruitment, and program development).

The strengths of Academic Analytics stem from its function as a strategic planning tool. It has more fundamental, basic purposes, and the university currently benefits from those, but its real power comes from its employment as a planning suite for research strategy.

The weaknesses of Academic Analytics relate to its lack of tools for reporting performance outside of research, especially for regional and national accreditation. These weaknesses, however, are unrelated to the design and purpose of the suite.

Watermark Digital Measures[1]

Digital Measures is an example of a FIS. It is a web-based information management system designed to streamline the collection, organization, storage, and reporting of faculty teaching, research, and service activities. It aggregates data for these processes along with the annual review process, CV creation, and accreditation reporting. Its purpose is to reduce the time required to enter and manage faculty activity data, and it includes advanced tools for monitoring and managing the promotion and tenure processes, supporting faculty web profiles, and analyzing opportunities for process improvement. Digital Measures is one in a suite of tools available from Watermark to support academic program needs.

The strengths of Digital Measures include its user-friendliness, large market presence, and integration with other academic program support tools. It seems also that the initial importing of data into Digital

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[1] Please see the Infographic file for full descriptions of these tools.

Measure is more customizable and powerful than for competitors, which may alleviate faculty's initial data entry efforts and help gain faculty's buy-in during the initial adoption phase.

The weaknesses of Digital Measures relate to its lack of research support tools, which are unrelated to its design and purpose. It is also exhibiting some market weakness as institutions are migrating to Interfolio Faculty180.

Interfolio Faculty180

Interfolio Faculty180 is an example of a FIS. It is a web-based platform for centralizing faculty data for activity reporting, annual review and accreditation. It eases the burden of tracking tenure review process data and documents, and it facilitates faculty lifecycle planning by offering tools from faculty recruitment through retirement. Like Digital Measures, it aggregates data for these processes along with the annual review process, CV creation, and accreditation reporting. Its purpose is to reduce the time required to enter and manage faculty activity data, and it includes advanced tools for monitoring and managing the promotion and tenure processes, supporting faculty web profiles, and analyzing opportunities for process improvement.

The strengths of Faculty180 are its user-friendliness, lifecycle management, and flexibility. Whereas Digital Measures offers extreme customization, Faculty180 seems to offer more out-of-the-box functionality. Faculty180 at this point appears to be the fastest growing FIS on the market.

The weaknesses of Faculty180 are the same as those of Digital Measures – its lack of research support tools. These weaknesses are unrelated to its purpose and design.

Symplectic Elements

Symplectic Elements is the only product available today whose design and purpose addresses both RIMS and FIS needs. Elements is intended to be a single point of organization, presentation, and reporting for all scholarly and research activities. The product provides continuous, automated capture of research output data from multiple internal and external sources, easing burdens for researchers, librarians, and administrators simultaneously. Like Digital Measures and Faculty180, Elements supports cv creation and faculty profiles, annual review workflow, and integrations with HR, financial, and academic data systems.

The strengths of Elements are its bridging between research program and academic program support needs. Its integrations appear to be superior to those for Digital Measures and Faculty180.

The weaknesses of Elements are to be found in the depth of its support for administrative and research functions. Where Academic Analytics excels in strategic planning, Elements is not as strong. Where Digital Measures and Faculty180 are deep and flexible for administrative tasks, Elements is less sophisticated.

The Future State

The university is stretched between immediate and eventual needs as well as between software resources needed and financial resources available.

Today, our researchers must have access to a standard, integrated toolsets that enable them to maintain a consistent public representation, do their research, automatically update their profile, and find grant opportunities. Our administrators require tools that meet evaluation and reporting needs while reusing the data in the faculty research, main administrative, and grant management systems. These tools are unlikely to fall under one suite. The university must attend to its basic needs as represented in the FIS options, but its ambitions and higher order goals will depend upon the use of a RIMS solution.

Our recommendations are to:

1. Subscribe to a Faculty Information System to meet the administrative needs and relieve the manual burden placed on every administrator and every faculty member involved in an administrative task.
2. Create an institutional ORCID account and promote faculty engagement in ORCID.
3. Adopt the full Academic Analytics suite to build on the investment in Academic Analytics: Research Insights and benefit research program planning.
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