

A New Vision for Institutional Research

By Randy L. Swing
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In Short

- The *Statement of Aspirational Practice for Institutional Research* suggests a new model that addresses the real-world management needs of modern postsecondary education.
- This “change agency” vision of institutional research acknowledges that students, faculty, and staff are decision makers who affect achievement of the institutional mission.
- Institutional research once took pride in being the “one source of the truth,” yet the new role is in coaching a wide array of data consumers, managing institution-wide data and analytical requirements, and orchestrating “the economics of institutional research” in balancing information supply and demand.
- A focus on students can be further enhanced by intentionally grounding institutional research initiatives and reports in a student-focused perspective.
- The future role for institutional research is oversight of data and analytical tools as valuable resources that empower decision making at the tactical and operational levels—not just support for top-level strategy.

The field of institutional research developed more than 50 years ago to support improvement of postsecondary institutions through data-informed decision support and scholarly research. Today, offices of institutional research are nearly ubiquitous across higher education in the United States and are rapidly growing in collegiate settings around the world. Demand for data-informed decisions is high as institutions stretch to produce graduates while operating under economic conditions that require very wise use of resources.

On one hand, institutional research is enjoying the limelight of five decades of development since the founding of the Association for Institutional Research (AIR). On the other hand, the present status is dimmed by unmet demand for service, too few resources, and practices based on outdated decision and planning models. A recent study of public universities in the U.S. concluded that offices of institutional research are “deluged by demands for data collection and report writing that blot out time and attention for deeper research, analysis and communication” (Gagliardi & Wellman, 2014).

The burden on institutional research is due in part to its organizational placement as a narrowly defined service unit. That is, the dominant structure of institutional research is based on service relationships with a small set of key decision makers. Although actual structures vary, the most common is a dedicated institutional research office as a named unit with a small staff (usually fewer than six people and perhaps as small as one person).

The institutional research office provides services to a ranked set of users with the president, chief academic officer, and mandatory external reporting function as the top “clients.” In addition, the office serves an array of other lower-priority clients—but only to the degree that “extra time” is available after servicing the primary clients first. In reality, most lower-priority clients receive only limited access to data and analytic services, although best practices call for providing these users as much access to interactive data sets as can be arranged and automated.

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Simply put, a new vision for institutional research, not simply tinkering at the margins, is urgently needed if colleges and universities are to achieve their institutional missions, goals, and purposes. We advocate for a move away from the traditional service model of institutional research to an institutional research function via a federated network model or matrix network model. When capacity is gained by having many hands involved, new opportunities are possible. A broader range of decision makers are supported by the institutional research function, and a student-focused paradigm emerges without degrading required reporting and basic management support. To this end, the Association for Institutional Research, with funding from the Bill & Melinda Gates Foundation, created a *Statement of Aspirational Practice for Institutional Research*. This statement focuses on student success as a core element of an effective decision-support system of management.

INSTITUTIONAL RESEARCH HAS LEFT THE OFFICE

Offices of institutional research once held the uncontested right as the “one source of the truth” because of the special skills needed to access institutional data and use sophisticated analytic tools. The “one source of the truth” is quickly being replaced with data inspection through many lenses, creating an array of varying conclusions derived from the same raw data.

Most colleges and universities—including institutions operating under a service model—have experienced significant growth in decentralized institutional research capacity as data availability and access to analytic tools have allowed previously underserved decision makers to establish their own “data shops.” Decision makers with dedicated budgets

FIGURE 1. INSTITUTIONAL RESEARCH AS SERVICE PROVIDER (RANKED SET OF CLIENTS)



have invested resources to assure faster and more focused access to the data they need to make college, department, and unit-level decisions. These disruptive innovations have resulted in easier access to data, a variety of survey collection tools, and “consumer-quality” analytic technologies, thereby reducing the barriers for creation of a widely dispersed institutional research function.

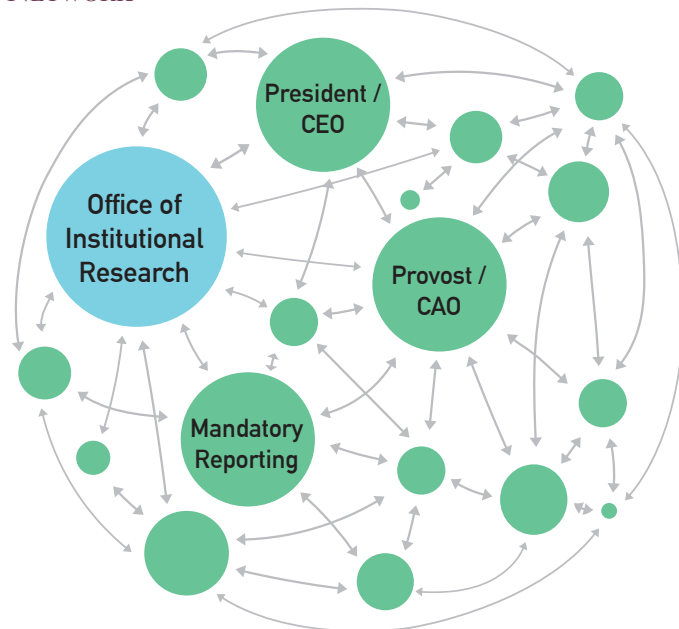
Whether individuals welcome this new Wild, Wild West of independent data and information brokers, or fear the Tower of Babel that might result, the movement toward a federated network is already well-established and rapidly growing.

FEDERATED NETWORK MODEL OF INSTITUTIONAL RESEARCH

In a federated network model, the institutional research office is still the largest center for analytics, and there remain ranked clients, large and small. The prominent shift in this model is the growth of capacity that occurs outside of the office of institutional research. Increased demand may result in additional resources for the office of institutional research, but the re-allocation of resources within decision-making units drives the growth of capacity for the entire institution. It is the expansion of non-traditional users and producers, coupled with increased access to technology and tools—not the decline of the institutional research office and ranked clients—that creates the new scale of institutional research work.

A federated network model signals that the institutional research function operates as an organization-wide resource. The institutional research office significantly contributes to the network, but additional value is developed by the array of independent and linked components *operating as a function*. A major advantage of this model is the opportunity to use existing human resources to add capacity.

FIGURE 2. INSTITUTIONAL RESEARCH AS FEDERATED NETWORK



Consider the difference between building a barn using two or three highly skilled carpenters and a community barn raising. The latter involves many hands working within their own capabilities in an orchestrated manner with a shared vision of the end product. In capable hands, a community barn raising makes light and fast work of a major task, but it could easily go very wrong without a strong, agreed-upon vision of the outcome. At best, a federated network is a rapid increase in institutional research capacity; the risk is that it leads to silos of efforts that are wasteful and complicated by turf battles.

Paths of Disruptive Innovation

Fortunately, the field of institutional research can learn from other areas of postsecondary education management that have faced similar disruptive innovations. Consider the organizational shift that occurred when computing centers, with mainframe computers operated by highly skilled staff, added support for the emerging networked personal computing environment. Computing got messy for a time as departments purchased hardware and software to address unique needs. Colleges and universities brought order to the arrangements by developing institution-wide structures and centralizing leadership, often under the direction of a chief technology officer.

A lesson learned was that a top-down, strategic management structure for computing was necessary, but not sufficient to establish effective technology practices broadly across an institution. A grassroots effort requiring a large commitment to professional development of technology skills was required as well. Workshops on email, word processing, technology-enhanced presentations, and use of networked systems became common. In large part, the development of individual skills across institutions created capacity and demand for technology, which led to widespread and more effective use.

A similar investment in skill development is needed in support of the function of institutional research as a federated model. The task is not to create a thousand skilled staff members who could work in an office of institutional research, but rather to develop an appropriate level of data literacy for decision-support roles that exist already. It is easy to imagine professional development specialists who work on building skills in collecting, cleaning, storing, summarizing, and communicating data specific to the work of units and departments. Perhaps a “Data and Decisions Support Service” is needed to give staff quick access to a “data guru” who is familiar with existing research models and practices.

MATRIX NETWORK MODEL OF INSTITUTIONAL RESEARCH

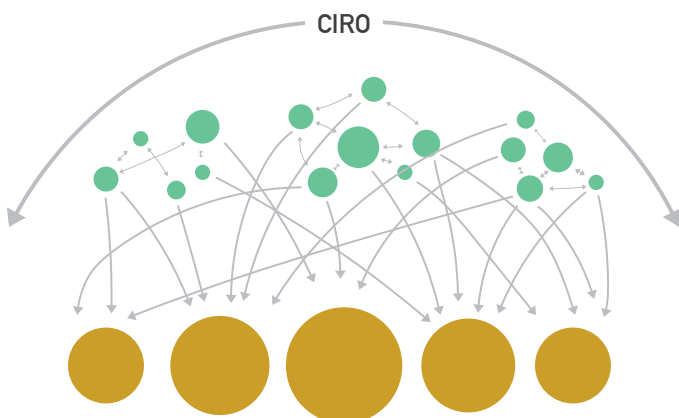
It is a rare postsecondary institution that can claim a mature federated network, although many have components in place and solid foundations. The difficulty of constantly

staffing and training for a decentralized institutional research capacity readily suggests that a federated model is just one step toward a more permanent and efficient solution. That future model is likely to come in the form of a matrix structure in which individual employees align with multiple teams rather than dedicated, single reporting lines.

In a matrix model, specialists in data collection, business intelligence, quality assurance, and other data-related skills are embedded in various teams on an “as needed” basis that allows talent to be shared across organizational boundaries. As such, units are not burdened with staffing for expertise that may be needed only infrequently. Key to this arrangement is leadership assuring that the entire matrix network has the resources—tools and analytic capacities—and the shared organizational structure to allow seamless building upon the work of others in the matrix. A matrix arrangement includes specialists, generalists, and novices who work within their capacities on shared problems and opportunities. The task-focused, rather than organizational unit-focused, arrangement further minimizes the idealized value of “one source of the truth” and makes turf battles over data ownership less likely. For example, individuals with outstanding skills in data visualization, predictive analytics, survey development, or conducting focus groups could coach and guide other teams/departments that only occasionally need these special talents.

In this model, leadership requirements shift dramatically as institutional research transitions from a single department to an institution-wide resource and matures as a matrix function. In the federated and matrix network models, true cabinet-level organizational thinking is required of leaders. Communications and strategic relationship skills rise in importance. Technical and statistical skills diminish in importance, but are not eliminated. The individuals who become chief institutional research officers (CIROs), a new position for many colleges and universities, will have varied professional backgrounds, including current directors of institutional research who are poised to transition to the role,

FIGURE 3. MATRIX MODEL—DATA USERS & PRODUCERS SERVE ON CROSS-FUNCTIONAL TEAMS



and other professionals whose paths may not include traditional institutional research experience.

A NEW VISION FOR THE INSTITUTIONAL RESEARCH FUNCTION

The move to an institutional research function—via a federated network model or matrix network model—is needed to assure that informed decisions routinely occur across an organization with the speed and flexibility required for real-world management of modern postsecondary education. When capacity is gained by having many hands involved, new opportunities are possible. A broader range of decision makers are supported by the institutional research function, and a student-focused paradigm can emerge without degrading required reporting and basic management support.

Decision support continues to be the cornerstone of institutional research, yet as Peter Ewell noted, it is often too late to start the scramble for data and information when a decision is on the table (personal communication, July 30, 2015). This new vision for institutional research calls for revitalization of *inquiry* as core work in the field. Surely, identifying and forecasting the decisions that *should* be made is as valuable as supplying information relevant to immediately pending decisions. Likewise, following Ernest Boyer’s (1990) idea of the *scholarship of integration*, institutional researchers should be counted on to know and use the discoveries of others in forming a blended view of higher education relevant to real-world, locally-centered problems and opportunities. It is unlikely that basic research or traditional scholarly research will account for more than a minor advisory role in the future function of institutional research.

The *Statement of Aspirational Practice for Institutional Research* makes student success a core element of an effective decision-support system of management. We acknowledge that similar statements could be formulated for aspects of institutional research aimed at public policy, consumer information, and other institutional missions. Still, the critical role of data and decision-support for assuring the success of students is worthy of specific attention and first efforts for improvement.

A CALL TO ACTION

This new vision for institutional research is not a prediction of some distant future, but rather, is a report of what is developing today. A number of institutions in the U.S. are already well into supporting a wider array of decision makers, developing student-centered paradigms, and creating new leadership for campus-wide, networked models of institutional research. Even as we discuss the changes that are underway, we are reminded that higher education has undergone dramatic transformations throughout its history.

We encourage readers to re-enact the pilot testing of the *Statement of Aspirational Practice for Institutional Research* in their own institutions, districts, or systems (see below).

“**The move to an institutional research function . . . is needed to assure that informed decisions routinely occur across an organization with the speed and flexibility required for real-world management of modern postsecondary education.**”

Distributing the statement as pre-reading for a meeting to critique the document in a local context proved to be useful for the ten institutions in the pilot test. Convening decision makers from diverse areas of the organization and varying levels of management easily filled two hours with rich conversations about the current state of data-informed decision making and the hopes for greater access to useful data-derived information. We hope you will accept this simple and low-risk challenge, and we welcome your resulting stories and insights at air@airweb.org.

To quote an oft-used quip among institutional researchers, “Data don’t speak for themselves, and they never talk to strangers.” We hope you will use this statement to engage in conversation about data and the student-centered paradigm today. ☐

RESOURCES

- Boyer, E. L. (1990). *Scholarship reconsidered: Priorities of the professoriate*. New York, NY: The Carnegie Foundation for the Advancement of Teaching.
- Gagliardi, J. S., & Wellman, J. (2014). *Meeting demand for improvements in public system institutional research: Progress report on the NASH project in IR*. Washington, DC: National Association of System Heads.

CREATION OF THE STATEMENT OF ASPIRATIONAL PRACTICE FOR INSTITUTIONAL RESEARCH

This aspirational statement was developed through crowd sourcing ideas about the necessary conditions of an effective institutional research function. Feedback gathered from inside and outside the field resulted in a holistic perspective that encompasses producers and consumers of institutional research from different types of institutions in the United States. More than 260 individuals provided ideas and served as direct participants, consultants, or subject matter experts in the formation and vetting of the concepts presented in the *Statement of Aspirational Practice for Institutional Research*.

The Association for Institutional Research expresses deep appreciation for the ten institutions that vetted the statement by convening meetings of individuals who produce and/or consume data for decision-making. The rich conversations among senior leaders (presidents, provosts, vice presidents, chief information officers, directors, etc.), academic leaders (provosts, deans, department chairs), students, and institutional research professionals confirmed most of the ideas, rejected some ideas, and help set the final tone and structure of the document. These institutions are recognized as the *Founding Institutions of the Statement of Aspirational Practice for Institutional Research*: Bridgepoint Education; Elgin Community College; Indiana University-Purdue University Indianapolis; Olin College of Engineering; Spelman College; Spokane Falls Community College; University of Denver; University of Nevada, Las Vegas; University of Wisconsin-Stout; and Utah Valley University.

Also, we acknowledge the individuals who contributed to this aspirational statement: Kristina (Cragg) Powers, Amelia Parnell, Rhonda Glover, Christopher Coogan, Darlena Jones, Jason Brunner, Julie Carpenter-Hubin, Mary Ann Coughlin, Fred Lillibridge, Jessica Shedd, Tim Stanley, and members of the grant advisory board.

Statement Report and Pilot Overview: www.airweb.org/aspirationalstatement

STATEMENT OF ASPIRATIONAL PRACTICE FOR INSTITUTIONAL RESEARCH

Overview

Data are everywhere across institutions of higher education, and access to analytical tools and reporting software means that a wide array of higher education employees can be actively involved in turning data into decision-support information. As such, models of decision-making are changing, which opens new opportunities for wise use of data resources. This *Statement of Aspirational Practice for Institutional Research* presents a hybrid approach in which offices of institutional research work in conjunction with other departments and units to produce an organization-wide *institutional research function*. This approach includes continuation of most current functions, reallocation of some resources, and the addition of new, focused approaches. Key to this vision are a broadened definition of “decision makers” supported by institutional research, an intentional structure and leadership for data capacities, and adoption of a “student-focused” paradigm for decision support.

This approach builds on the 50-year collaborative nature of the institutional research field. It is a hybrid model of past traditions and new structures, founded on human resource capacities—within a dedicated office of institutional research and embedded in decision points across the institution—with focus on the collection, interpretation, and use of data to achieve an institution’s mission. The goal is for smart people to make smart decisions to improve student success.

An Expanded Definition of “Decision Makers”

Senior leaders have been, and will continue to be, priority consumers of data and information provided by the institutional research function. They are not, however, the only decision makers who impact an institution’s achievement of its mission. Other decision makers include students shaping their own experiences, faculty shaping their teaching and interactions with students, and staff shaping program designs and direct interactions with students.

Top-down policies and structures alone do not ensure informed choices and commitments to successful pathways. Broadly engaging all stakeholders in data-informed decisions (tactical, operational, and strategic) is essential for institutional excellence. This hybrid model positions students, faculty, staff, and other decision makers as key consumers and clients of institutional research, and is foundational to a change agency vision of institutional research as a driver for institutional improvement.

Students as Decision Makers

Colleges and universities have responsibilities for assisting students in decisions about their educational pathways. These decisions include student choice to comply with institutional requirements and to select non-required pathway options. Students deserve access to usable information that is focused on their decisions, is of high quality, and is not so highly aggregated or obfuscated by higher education jargon to fail to be useful.

Activating Data-Informed Student Decision Making

- Institutional research topics inform decisions students make (e.g., how to best use time, academic and extra-curricular choices, and life decisions that impact collegiate success).
- Institutional research is produced and disseminated with students as the target audience and/or unit of analysis.
- The timing for release and promotion of institutional research products is intentionally aligned with the cycles of student decisions, which often differ from fiscal, multi-year strategic planning, and academic term calendars.

Faculty as Decision Makers

Faculty members are the frontline in achieving an institution’s mission and they are the chief architects of the academic environment. Focused and intentional data management and institutional research provide timely and useful faculty decision support for curricula, teaching, and governance.

Activating Data-Informed Faculty Decision Making

- Faculty and faculty committees have access to data and information to support decisions about policies and structures for which they have oversight.

- Individual faculty members have access to data and information to support them in designing their work, with special emphasis on student learning outcomes.

Staff as Decision Makers

Staff members have frontline responsibilities for fostering student development of academic and civic behaviors, establishing challenge and support structures for many student learning outcomes, and minding the safety and well-being of individuals in collegiate spaces. Disaggregation of data by unique subpopulations and robust data on out-of-class and life experiences informs planning, design, and implementation of student success initiatives and structures.

Activating Data-Informed Staff Decision Making

- Staff members and staff committees have access to data and information to support decisions about policies and structures for which they have management oversight.
- Individual staff members have access to data and information to support them in designing their work, with special emphasis on disaggregation of data to address the unique needs of specific students.

Structures and Leadership for Institutional Research

The complexity of modern higher education demands investment in leadership and staffing for strategic, tactical, and operational decisions. Use of data for institutional research cannot be restricted to one office. With greater access to data sources and data tools, and increased department-specific data, institutional research products are widely dispersed across higher education institutions already, even when a strong central office of institutional research exists. An increasing number of staff and mid-level administrators are expected to use data to inform decisions, and decision makers at all levels are establishing their own data collection processes and analytics. Where institutional research once took pride in being the “one source of the truth,” the reality is that the new role for institutional research is in coaching a wide array of data consumers, managing institution-wide data and analytical requirements, and orchestrating “the economics of institutional research” in balancing information supply and demand.

Building and Supporting an Institutional Research Function

The greatest potential for building effective institutional research is leveraging talent across the institution. The function of institutional research connotes the institution-wide use of data and analytics, and not just the products of an office of institutional research. Building the function requires coaching and professional development of employees across the institution in a purposeful and intentional process that increases capacity for data-informed decisions to permeate the institution. Coaching must differentiate an “auto-pilot” “data-driven” strategy from the intended “data-informed” strategy, which includes professional judgment, innovation, experience, theory, and wisdom in decision-making.

The goal is for data literacy to be as ubiquitous as expectations for writing, speaking, and computer skills. These are reflected in position descriptions and performance reviews.

Activating a Networked Institutional Research Function

- Data and analytic tools are available institution-wide to activate a broad network of institutional research aligned with strategic, tactical, and operational decisions.
- Human Resource practices identify the data literacy skills required of employees who produce and/or use data and information in their work assignments.
- Institutions provide training and continuing professional development of data-related skills for all employees. Institutions establish and support networks of data users and consumers who share good practices and collectively advocate for the data, tools, and dissemination methods required to meet the institution’s needs.

Leadership for the Institutional Research Function

A Chief Institutional Research Officer (CIRO), at a commensurate level of others who manage valuable resources (e.g., Chief Financial Officer and Chief Information Officer), is prudent to provide leadership to build and maintain the *institutional research function*. This role is broader than a traditional director of institutional research in that the CIRO is responsible for the tactical and strategic direction of the institutional research function.

The CIRO leads by supporting and coordinating all institutional research, institutional effectiveness, assessment, accreditation, mandatory reporting, business analytics, and other data-focused decision-support activities. The position assures an effective institutional research function, internally-driven and resourced through purchased and shared services. It requires a significant focus on building relationships with individuals throughout the institution, understanding data and information structures and capacities, and connecting disparate pieces of information.

Activating Leadership for the Institutional Research Function

- The Chief Institutional Research Officer (CIRO) institutes strategic plans for growing and maintaining an institution's analytic and data capacities.
- The CIRO communicates the value of data-derived information in a holistic model of decision making that includes professional judgement, institutional mission, and environmental factors.
- The CIRO is a leader of the institution's data governance strategy.
- The CIRO ensures that decision-makers have timely and useful information.

A Student-Focused Paradigm

In this aspirational vision of institutional research, data and analytics are transparent and are intentionally focused on improving the student experience. Many of the past successes in institutional research have focused on students—enrollment management, retention, engagement, and graduation rates. Yet that focus can be further enhanced by *intentionally* grounding institutional research initiatives and reports in a student-focused perspective. A key question to be addressed in all institutional research is “how does this exploration serve students?” An essential component of communicating these results is making clear their underlying student-centered purposes.

Activating a Student-Focused Paradigm

- The selection and design of institutional research is predicated on a commitment to the success of all students.
- Using expertise in communications, institutional reports demonstrate effective strategies for “telling the data story” and intentionally connecting all exploration to the student experience, including learning outcomes.
- Institutional research avoids “silo” approaches that fail to recognize that students experience an institution holistically and not as individual administrative functions and units.

Summary

This Statement of Aspirational Practice for Institutional Research is not a prediction of a distant future; rather, it reflects changes that are already observable. It is not a critique of institutional research functions that have served higher education well over the past five decades. These ideas address and support the rapidly growing culture of data-informed decision making and provide a starting point for a new vision for institutional research in higher education. The ultimate goal is institutional engagement, not a prescription for a specific path for change.

The future role of institutional research is creating demand for decision-support and balancing it with the supply of information to meet that demand. While celebrating the success of institutional research in shaping colleges, universities, and state and national educational policies, this aspirational statement is intended to promote active re-envisioning of the institutional research function needed for the short- and long-term future of postsecondary education.