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## Invited Essay

# The Role of Institutional Research in the Comprehensive Community College

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The profession of Institutional Research (IR) is relatively new, only emerging as a significant part of higher education in the 1960s and 1970s. The Association for Institutional Research (AIR) was established in 1965 (see <http://airweb.org/>). In addition to AIR, a professional organization focused on the two-year college is the National Council for Research and Planning (NCRP – a council of the American Association of Community Colleges and also affiliated with AIR, see <http://www.nmsu.edu/~NCRP/>).

With no preparatory discipline and only a handful of graduate programs, practitioners come from a variety of backgrounds. Training in social science research methods and statistical analysis is the closest common requisite for the field. Most individuals working in IR did not come to the field by intent or design. There have been numerous efforts to define the field but with little consensus (for an annotated review of the literature on the IR field see Peterson, Mets and Vega, 1993). Saupe (1990) focused on the functions of IR, while Terenzini (1993) analyzed the abilities needed to be an effective IR professional. The one characteristic that commentators do agree on is that IR is specific to an institution or system. This is in contrast to the research on higher education field, which pursues the development of knowledge applicable across institutions and the students served. Although the two fields often overlap, the primary purpose of IR is the generation of information and analysis in service to specific decision-makers within specific colleges and universities.

The profession has flourished in the era of accountability. Whether meeting state performance reporting or regional accreditation standards, few colleges can effectively respond to these requirements without an IR, or similar, office.

The most significant change in the IR profession over the last ten years has been the need for computer technical skills in database management (Access, SQL, GIS, etc. in addition to statistical packages such as SPSS). For the IR professional of today, these skills are equal to or even more important than a strong background in social science research. As Terenzini (1993) noted, however, technical skills are just the beginning: "Perhaps most important is an understanding and appreciation of the essentially political character of the decision areas ..." (p. 9) To be effective and successful, the IR professional needs to be able to navigate the cultural and political dynamics of the organization.

There has been little research, if any, on the differences in the role of IR by institutional type. This may be so because little difference is perceived. In reviewing the functions of IR as described by Saupe (1990), most, if not all, would apply to all institutions. Institutional type does influence the emphasis of the IR role. For example, enrollment modeling and tracking is a higher priority at four-year private colleges due to the relative importance of tuition revenue. As a generalization, the role of IR at four-year colleges and universities is more stable and integrated with other functions, such as planning and budgeting, than at community colleges. This difference probably is due primarily to the relatively young age of community colleges and the even younger age of IR offices at many of these colleges. IR is simply more established in the four-year sector while the IR office in community colleges is still somewhat tenuous (with recent budget reductions, some community colleges have eliminated IR offices). Since community colleges exist primarily to serve local communities, the IR role is likely to involve a greater focus on community needs assessment (surveys, focus groups, etc.) than at four-year institutions. Again, these differences are for the most part marginal.

Institutional size probably plays a greater role in defining the role and scope of IR than institutional type. The smaller the institution, the smaller the IR office, if there is an office. One-person IR shops are not uncommon. In some cases, the IR role may be distributed across offices or performed by an office/person with other primary duties (Registrar, Director of Computer Services). At the other end of the continuum, large organizations may assign potential IR functions across multiple offices. For example, many IR offices play a key role in supporting educational assessment, but at larger institutions this function is sometimes performed by a separate office. Some institutions have established a vice-president or dean position for Institutional Effectiveness, and this office may subsume traditional IR duties.

As with public postsecondary education in general, the future probably holds some major changes in role and focus of IR. Many commentators, such as Alfred (2002), argue that public postsecondary education is in process of undergoing a transformational change brought on by permanent reductions in state funding. The potentiality and nature of this change is discussed further in the last section of this essay.

### **IR as Institutional “Conscience”**

The role of IR varies by institution, as does its place within the organizational structure. Although there is a growing list of functions performed and products created by the typical IR office, IR’s significance within the organization is a combination of the value placed on information-based decision making by the institutional leaders and the talent and skills of the IR director. Fundamentally, the role of IR is to conduct systematic analysis and review of institutional performance with the aim of identifying weaknesses and possible strategies for addressing them. When performing its role effectively, IR will be at the center of some of the most contentious and politically charged issues within the organization. For that reason, the IR office must be seen as credible and neutral. The director of IR can never be truly “part” of the administration. A good IR officer is always standing outside looking in, attempting to assess the relationships between the organization’s strategic vision, operational plans, resource allocation decisions, and unit and overall performance. In this sense, IR is at the opposite end of the spectrum from college Public Relations departments. The latter is strictly focused on identifying and promoting college successes and strengths. IR does provide a similar role, and Public Relations offices will often use data and information generated by the IR office. However, IR also has an obligation to identify and analyze institutional failures, problems and weaknesses. Thus, there is always a bit of tension between IR and the administration.

The fragile place of IR within the organization often gives rise to ethical dilemmas for the IR practitioner. These ethical dilemmas can involve the disclosure of confidential information, slanting data and information or omitting critical pieces of information, and use of inappropriate methodologies among others. “In many institutions the institutional researcher is viewed as the ‘guardian of truth’ or the ‘conscience’ of the institution” (see AIR Code of Ethics at <http://airweb.org/>). Thus, the IR practitioner has multiple and sometimes competing obligations: to the college or university on the one hand, but also to the canons of the discipline of IR on the other.

In summary, the value and effectiveness of IR within a specific college can vary widely, from a critically important part of the decision making process to simply an office that produces routine reports seldom read and usually ignored.

### **The Functions of IR**

An IR office, particularly within the community college, routinely performs functions related to federal and state reporting, enrollment analysis and forecasting, and producing what is commonly known as a fact book.

#### *Federal and State Reporting*

This area would include the federal IPEDS (Integrated Postsecondary Education Data System) and state reporting requirements and could include state reimbursement reporting, Perkins grant performance and other related reporting functions. Although this function involves the actual preparation of reports, in most cases it is a coordinating function. For example, normally the Business Office would prepare the IPEDS finance report, while Human Resources would prepare the IPEDS reports on faculty and staff. Usually, vendor-based administrative information systems include the ability to generate IPEDS reports. In this case, IR would coordinate with Computer Services. The key is to have a central and coordinated response to various external reporting requirements. A decentralized and distributed approach is likely to lead to duplication of effort, frequent failure to meet reporting time lines (and potential fines in the case of IPEDS), poor quality control, and failure to gain maximum utility from the information being reported. Without a centralized and coordinated approach, it is also likely that information reported internally will be inconsistent with the data reported to external agencies.

#### *Enrollment Analysis and Forecasting*

This would include FTE and headcount for the college as a whole, but also enrollment trends for programs and disciplines. Enrollment reports should be prepared and distributed on a regular basis – early in the term to provide estimates and trend analysis, end of term and annual summaries. These reports should provide a comparison to previous terms and years (4<sup>th</sup> week Fall 2001 versus 4<sup>th</sup> week Fall 2000, five-year trends, etc.). This can also include analysis of faculty load trends. Enrollment forecasting is more challenging and requires expertise in advanced statistical analysis.

#### *College Fact Book*

This annual publication is most typically based on time-series data on enrollment, student demographics, number of graduates, and staffing levels among others. An effective Fact Book is short and concise, focusing on providing data that respond to frequently asked questions about the college.

Typically, a “pure” IR office has relatively few direct responsibilities. However, this is changing. At some institutions, IR is combined with planning, but if not, one would certainly expect IR to play an important supporting role. IR is an appropriate place to headquarter institutional effectiveness and educational assessment efforts. The office can also be heavily involved in grant development and evaluation (TRIO, Title III, Perkins, etc.). With the advent of information-based personnel evaluation systems (i.e., faculty evaluation), the IR office can play a lead role in the design and implementation of systems for such evaluations. The IR office can maintain and support the course evaluation system (student ratings of instruction).

An IR office might also provide support for planning, institutional effectiveness, educational assessment, accreditation and enrollment management.

#### *Strategic/Master Plan and Operational Planning*

Any good plan is based on solid information and analysis. Whether IR has direct responsibility or is in a support role, areas covered include environmental scanning, inventory of strengths, weaknesses, threats, and opportunities, area demographics and population projections, enrollment analysis and forecasts, space utilization and facility needs analysis and many others. An effective planning system is dependent on direct linkages to resource allocation and assessment. Without these feedback loops, planning is essentially an exercise with little relevance to faculty and staff. IR can play an important role in helping to strengthen these connections by providing documentation and analysis. The relevant higher education organization dealing with all aspects of planning is the Society for College and University Planning (SCUP, see <http://www.scup.org/>).

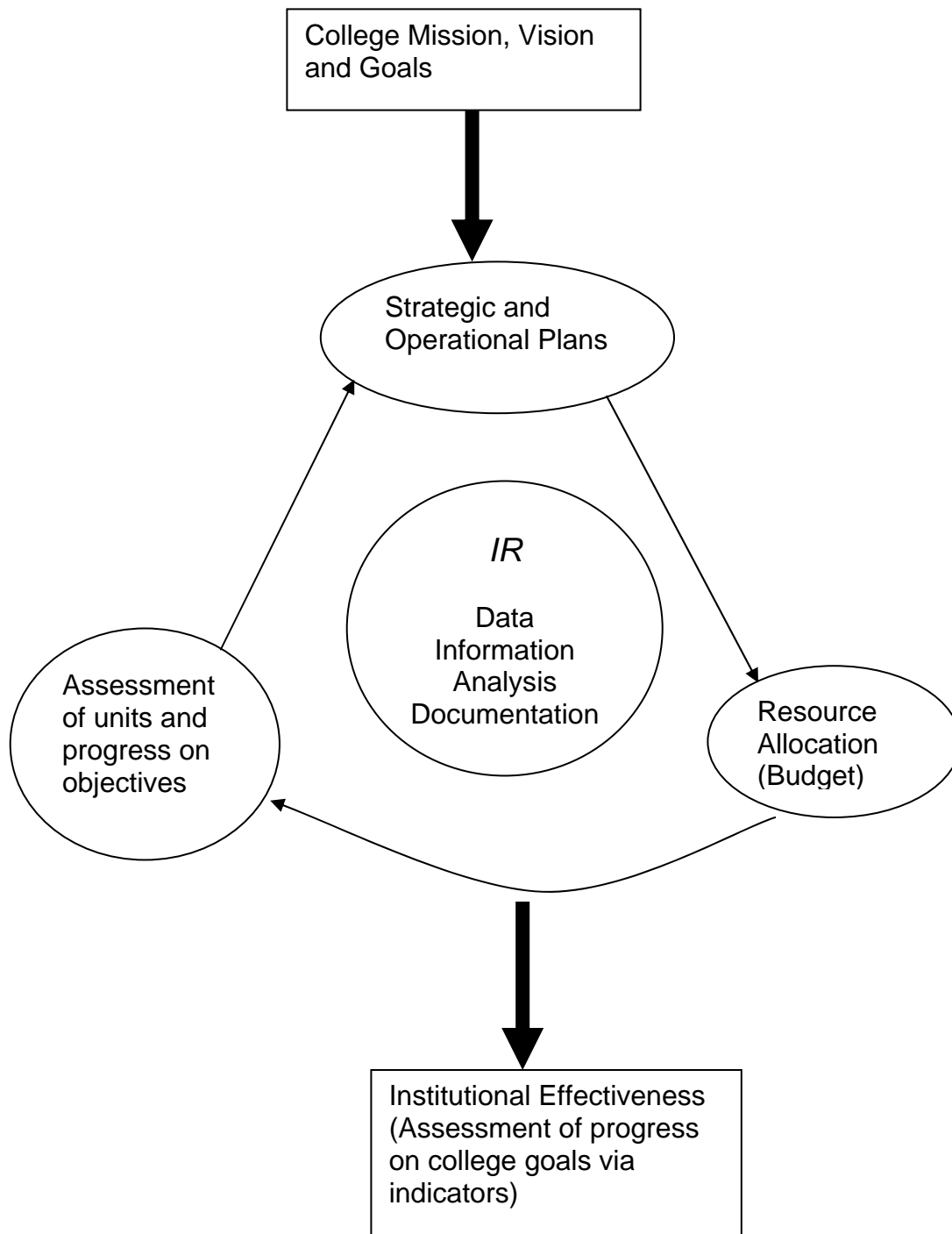
#### *Institutional Effectiveness and Assessment of Educational Programs and Service Units*

This is a critical area even if only done to meet accreditation requirements. The focus of educational assessment is on student outcomes and program improvement, but cannot be completely separated from planning and resource allocation decisions. Most faculty members do not have the time or expertise to effectively carry out assessment of their program or discipline. IR can provide technical support as well as needed data and analysis to support the faculty, department chairs and deans in carrying out educational assessment. This would include analysis and reporting of student outcomes based on student follow-up surveys and/or analysis of results from administrative unit record matching (Unemployment Insurance records for job placement for professional technical students and four-year college and university records for transfer rates and performance). It is also important to assess student and administrative support functions, which can have a significant effect on the performance of instructional programs. Again, IR can provide technical support (i.e., student satisfaction surveys) as well as data and analysis. IR can also play a support role in compiling results, preparing summaries and tracking progress.

Figure 1 summarizes the flow between planning, resource allocation and assessment. The mission/vision as adopted by the institutional or system governing board establishes the foundation for all the other activities. The next step is articulation of the college goals, usually prepared/approved by the president and other top administrators, with or without input and feedback from the faculty and staff (top-down versus bottom-up process). These goals are then translated into objectives with indicators of progress. For example, a key part of the mission of most community colleges, and thus a goal, is the provision of professional technical education with the primary indicator being the gainful employment of students completing these programs (a job related to the training with a living wage). These and other indicators provide the basis for assessing and reporting on “institutional effectiveness”. Especially in the absence of a planning officer, the IR professional can play a key role in the development of the plan and institutional effectiveness reporting by ensuring logic, consistency and documentation.

The budget development and resource allocation process should reflect the priorities in the plan. Typically, the chief breakdown of the process diagrammed in Figure 1 is a disconnect between plans, assessment of performance, and budget decisions. The IR professional can assist in holding the administration accountable for maintenance of these relationships as well as supplemental analysis, such as in the case of cost studies (comparison of cost/FTE for instructional programs).

Figure 1. Planning, Resource Allocation and Assessment



Assessment of units and progress on objectives acts as a feedback loop to refine plans and resource allocation decisions. In the case of instructional units this is often referred to as “educational assessment” and can be a rather sophisticated process unto itself. As described above, IR can play a key role in this arena via provision of data and technical support. Educational assessment and assessment of service units needs to be related to but is distinct from institutional effectiveness. Returning to the example of providing professional technical education and job placement, educational assessment refers to the job placement rate for a specific professional technical program, whereas institutional effectiveness refers to the overall job placement for all professional technical program completers. Further, some unit or program performance indicators may not have a counterpart in indicators of institutional effectiveness, but are still important and relevant to the unit or program. Institutional effectiveness represents the overall performance of the planning, resource allocation and assessment subsystems.

#### *Accreditation*

Each of the components in Figure 1 comes into play in meeting regional accreditation standards. Beginning with the Southern Association of Colleges (SAC), accreditation standards have changed dramatically over the last 10-15 years. Rather than focusing on characteristics and processes, accreditation review has increasingly focused on outcomes and performance. As a result of accreditation review, many colleges now produce annual institutional effectiveness reports, based on college mission and goals. Other changes include more emphasis on educational assessment and evaluation of faculty. Obviously, if IR is performing the functions described above, then IR will also play a key-supporting role in the preparation of self-studies and interim accreditation reports.

#### *Enrollment Management*

Another relatively new development within higher education, enrollment management brings together instruction, public relations, and enrollment services in an effort to develop a systematic approach to student recruitment, retention and success. The development and implementation of enrollment management plans at colleges has been slowed by the fact that many college presidents and other institutional leaders simply do not understand what enrollment management is or its value (this is often overcome when a dramatic enrollment decline occurs). In any case, IR has an important role to play in enrollment management through market analysis and other studies (i.e., student persistence) needed to guide the institutional team leading the effort.

#### *Special and Ad Hoc Studies*

A major indicator of the effectiveness of an IR office is the extent to which it receives requests to prepare special studies. If institutional leaders and department heads truly value the IR office, then they will utilize the office to assist with development of needed information and special studies. It is nearly impossible to describe the variety of these requests. Providing technical assistance for a customer satisfaction survey and analyzing the possible effects from a proposed change in policy are only a few examples.

### **The Place of IR within the Organizational Structure**

Ideally, the IR office should report to the college president. Such a reporting structure is likely to maximize the value of IR to the college since its priorities would correspond to that of the president. It also avoids the turf wars and concerns over impartiality if the office is reporting to one of the other major administrative areas – instruction, student services or administrative support.

IR is dependent on other offices for the quality of and access to data – Enrollment Services, Instruction, Business Office, Human Resources, Financial Aid, Computer Services, etc. In turn, IR supports many of these offices with data analysis. Many projects, such an analysis of local economic impact of the college, instructional program cost analysis, and others require a team approach to be successfully executed. Regardless of position within the organizational structure, it is imperative that IR develops and maintains collaborative relationships with the offices across campus.

### **The Future of IR**

The recent economic downturn following “9/11” has left many states in fiscal crisis. As a result, state funding for public higher education is stagnant or declining. Rather than temporary, this funding trend is likely to be permanent due to competing needs for state funding (i.e., K-12, healthcare, corrections, etc.). This, in turn, has led to a re-evaluation of how public colleges and universities should be operated. Many presidents and policy makers now argue that postsecondary institutions should become more self-reliant and accept/adjust to less state funding (for example, see results from SCUP 2002 National Planning Roundtable at <http://www.scup.org/nfr/nfr.pdf>). Add to this

increasing competition from private, for-profit educational providers, and the result is an explicit advocacy for adapting the business model to college operations (Alfred, 2002). Movement toward “privatization” has many implications of course, including the future role of IR. The previous functions of IR and potential additional roles are described in Figure 2. The roles – services, mandates and strategies – are ordered from the bottom up in terms of priority and how essential the role makes IR to the organization. The top role is new, poorly defined and much less concrete than the traditional roles and functions of IR. This new role involves collecting, compiling and analyzing data and information that will assist institutional leaders in charting new directions and maintaining competitive advantage. What is not clear is how well equipped IR is for fulfilling this role.

A good place to begin in assessing the capacity of IR professionals to meet the challenge of transformational change is Terenzini’s (1993) conceptualization of the nature of IR:

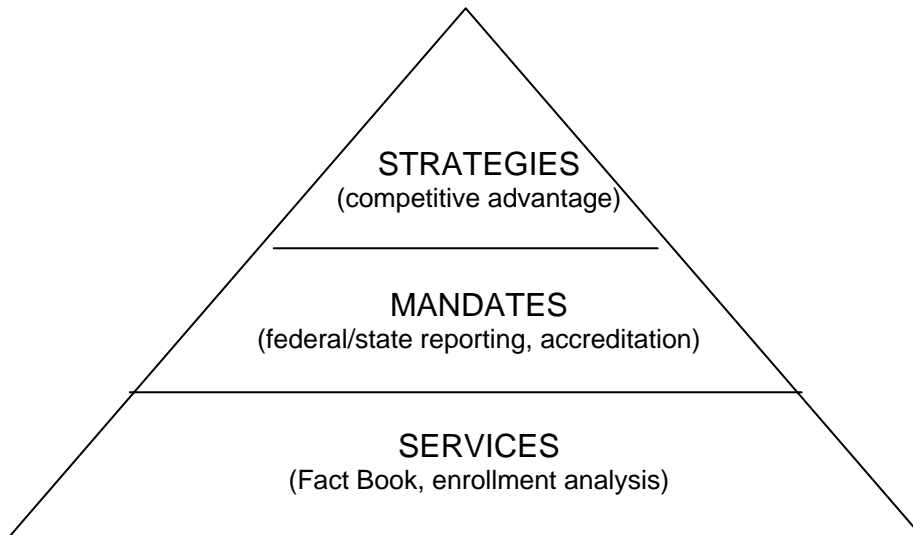
Tier 3, or contextual intelligence, requires an understanding not only of the culture and customs of higher education in general, but also of the particular institution in which the institutional researcher serves. It is a “sense of the place,” of what it has been, what it is, and what it is becoming or can become. At base, it is a form of institutional wisdom, the crowning form of institutional intelligence, transcending both technical competence and general administrative understanding (p. 9).

If the chief IR professional has this wisdom, it is likely that he/she can make a positive contribution as institutional leaders struggle to find their way in the new environment.

A second step is for the IR professional to forge even stronger ties with other key organizational units. For example, a good public relations/marketing officer understands the importance of comparative advantage and has already identified the particular institution’s strengths in this area. A marriage of this market savvy with the analytic expertise of IR could provide significant returns to the organization.

Finally, with the “commercialization” of public postsecondary education, institutional leaders will be dealing with new and unfamiliar relationships, such as in the case of public-private partnerships. Revenue generation from non-traditional resources will be at a premium. Although community colleges have a long history of working with business and industry, this has usually been as a service provider. An example of a future role is joint operation of an instructional program with a private, for-profit partner providing a significant portion of program costs in exchange for share of tuition/fee revenue. Such a role raises new questions. What role will a private partner play in recruitment of students? How does the community college ensure that students are provided with appropriate and accurate information about the nature of the program and expected job and wages following completion of the program? As community colleges increasingly focus on programming tied to potential revenue generation, what happens to the traditional concern with meeting the needs of those who are academically under prepared and/or low income? The role of IR as institutional “conscience” may take on even greater importance as community colleges take on new roles and approaches to fulfilling their mission.

*Figure 2. The IR Pyramid*



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