

How can Institutional Research be Undertaken?

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Introduction

Institutional research (IR) as an activity has always been an on-going process in tertiary education planning and administration to an extent, since it involves collecting, interpreting, and managing information. However, as a field of enquiry, the term itself (as discussed in the earlier article) is still relatively new and subject to various interpretations. The United States (US) is regarded as the leader in this field. Many educational administrators and planners considered the first Forum of the Association for Institutional Research (AIR) convened in 1965 as the watershed for the professionalisation of IR. Since then the US-based AIR had conducted its 30th Annual Forum in 1990.

In Australia, the restructuring of the higher education sector to promote greater efficiency and effectiveness in institutional processes and outcomes has also spearheaded the formation of the Australasian Association for Institutional Research (AAIR). AAIR has the broad aim of promoting IR so as to promote a better understanding of planning and operation of tertiary education institutions within Australasia. Some Australian institutions have already established IR centres to enhance institutional performance. Similar trends are being followed in New Zealand, Hong Kong, Japan and other parts of the Australasian region.

The general aim of this paper is to describe how IR can be conducted. Subsumed within this aim are the following objectives:

- provide a background to conducting IR;
- describe the procedures for initiating an IR program;
- develop a conceptual framework for conducting IR; and
- discuss how organisational differences influence the way in which IR is conducted.

Background to Conducting IR

In the past, IR activities were mainly concerned with data collection, management, and dissemination techniques and inclined to be somewhat informal and decentralised. This loose operating style was more appropriate for a pre-computer age of relatively small institutions. As campuses and budgets began to grow in the US and the Australasian region, and the technology for tracking that growth became more sophisticated and widely available, the need to professionalise the process of handling information has increased. The focus on financial and academic accountability in tertiary institutions by central funding authorities in the Western industrialised countries, including Australia (as highlighted in Dawkins' *Higher Education: a policy statement*, 1988) and New Zealand, has likewise increased the need for a professional IR function.

Even in the US until recently, many college and university campuses did not have an individual administrative officer with a title linked to IR, institutional studies, analytical studies, management information, or even in educational/institutional planning. Frequently in the US, such personnel are called assistant or associate deans and/or assistant or associate vice-presidents. Common titles in Australia, Asia, and Europe include pro vice-chancellor, or deputy vice-chancellor, vice-principal, vice-rector, secretary, registrar, director, adviser, consultant, researcher, statistics officer, planning officer, planning manager, or some combination of deputy or assistant with one of these titles. In Australia, only Curtin University has a centre specially designated for IR.

Whatever these personnel are called, the duty that all institutional researchers in tertiary education environments of sufficient size and complexity share in common is responsibility for information management. This new responsibility of managing information is different from the previous tendency of operating on the basis of hearsay and instinct rather than summarised facts. Of course, data do not make decisions. Most institutional researchers would argue that the existence and comprehension of sound data lead to better decision making than would be the case in the absence of such information. It is noted that some researchers make a distinction between “data” and “information”. Information is the product of IR through the transformation of the data.

Despite the relative youth of IR as a profession in the US, there is some history available as to the major trends in the field during the twentieth century. In the first half of the 1900s, the main thrust of activity was in the area of student studies. Psychologists, sociologists, and others interested in student intellectual and personal growth conducted a number of institution-specific research. Of special concern during this period was the question why academically capable students discontinue their education. Students from rural areas or economically depressed areas were of particular interest in many of the researches. Some of these efforts were broad in scope and included longitudinal data gathered over a number of years, revealing a methodological sophistication which is admired by scholars to this day. In Australia such researches were conducted a decade later and, especially in the area of educational access in rural areas, substantial studies were undertaken only in the 1980s.

In the US, the 1950s and 1960s saw greater emphasis being placed on management information for administrative, as opposed to academic or curricular purposes. The exploding demand for education at all levels resulting from the post-World War II “baby boom” made it imperative for resources to be planned and managed efficiently. This was also the period when the scientific management movement was popular in business and government and IR took on the flavour of that approach.

The 1970s were a period of levelling off, and in some cases, declining student enrolment and financial resources were experienced. Also during this period, many institutions increased their curricular breadth and level of degree offerings. Scientific management principles were applied to steady-state or decline as opposed to growth. Many activities of institutional researchers revolved around planning for the decline which population projections were predicting for the 1980s and 1990s.

A number of factors kept the decline from occurring overall, though it has happened in some places at some times. The attention given to the predicted decline, and resulting action taken to head off or soften its effects, are among the factors credited with its not occurring. In contrast, this was a period of expansion in Australia, especially with the amalgamation of teachers’ colleges with technical institutes to form colleges of advanced education or institutes of technology in the mid-1970s. It was nearly a decade later that funding cuts were experienced. However, student numbers remained steady if not increased marginally.

The 1980s have seen a “back-to-basics” movement. External governmental and other groups have demanded financial and academic accountability of colleges and universities. There has been great pressure to prove what and how much students are learning. Evaluation and assessment of outcomes have become commonly heard terms. In a sense we have returned to the basic educational concerns of the first half of the century. Centralised planning is being modified by strategic management as American institutions have sought to regain some of the authority that they had lost throughout the decade.

In the case of Australia, New Zealand, and in the Commonwealth countries of Asia, there has been a tendency to move towards centralisation in which institutions were funded on the basis of student load, teaching and research profiles. The annual profile exercise which Australian tertiary education institutions have to undertake in their negotiation for funding with the Commonwealth government is part of the process of financial and academic accountability imposed on institutions from the central authority. Like their north American counterparts, tertiary education institutions in Australia need to increase non-governmental funding sources (such as from overseas student fee income and co-operative education arrangement with industry) in order to gain some form of autonomy from total central control.

The historical trends, especially in the US, noted above represent major directions or movements; their discussion here does not imply that a large number of other activities were not going on among institutional researchers during this present period. As an example, the 1990 AIR Forum had seven tracks where presenters were slotted, only one of which directly mentioned outcomes assessment and none of which were limited to American concerns. They included:

- enrolment management and student affairs
- student learning and outcomes assessment
- academic program and faculty issues
- resource management and development issues
- planning, policy management, and governance
- theory and practice of institutional research
- technology and tools for institutional research.

Comparatively speaking most of the IR activities in Australia and New Zealand until recently have been conducted by government agencies such as the Australian Commonwealth Department of Employment , Education and Training (DEET). There are, however, a handful of Australian institutions which are establishing specialised centres for IR as a result of the current restructuring of the higher education sector under the Unified National System (UNS). How to initiate an IR program and to conduct IR would therefore be an important consideration for many institutions in this period of dynamic changes in the tertiary education sector, especially in relation to the efficient and effective use of resources in times of constraints.

Beginning an IR Program

The first step in beginning an IR program is to determine the purpose why are we conducting such research. Obviously the direction taken will be determined by the individual needs or mandates of the institution at a specific point in time. Here it is important to carry out a systematic evaluation of the institution, its environment, its goals, its programs, and its decision-making processes.

There are various techniques which can be used to evaluate the institutional environment and its goals, programs or decision- making processes. For example, the technique of scoping is important in setting the level/s of assessment of a particular policy/program or project; in establishing time horizons; and in developing the research design. Problem identification involves formulating policy goals and planning objectives; identifying public and private sector concerns; performing needs assessment; and determining evaluative criteria.

The next step in getting an IR office or program started is to determine what is being done to date. A basic inventory of existing activities and resources as identified in the first stage will allow planning for the crucial startup period. The results of this startup period will serve the purpose of convincing the decision makers that an investment in IR produces tangible and almost immediate benefits for the organisation as a whole. The plan of action should be to do a few things well at first so as to build confidence within the institution. Grandiose plans that do not have a chance for implementation until far in the future will quickly undermine credibility. Particularly in the beginning, it is important to seek and use the advice of the key decision makers in the institution so as to empower customers to define their needs.

After a few products or services, no matter how modest, are delivered, it is necessary to seek feedback to determine if revisions or deletions are necessary. Users of IR will not always come forward voluntarily with suggestions or complaints. An organised feedback mechanism is often necessary. Likewise it will not always be obvious who is and is not using reports. It is not uncommon for certain reports to be produced for a number of years at substantial effort without usage being determined.

In some cases reports have been temporarily discontinued without complaint or notice by the supposed clients, since they had long ago disregarded the reports. A new IR program should work to avoid getting into a pattern of superfluous reporting early on. There should also be a concerted effort to regulate standard reports and other recurring activities as much as possible to allow for new, and often more interesting, initiatives.

A few suggestions that might prove useful in initiating an IR program include the following:

- a. Do not forget that all data are potentially political in that they can help make a point that someone in the hierarchy may or may not wish to be known. One example which illustrates this point is a map of the US (common in institutional fact books) with various colours or shading to show that the college or university has students from every other, or nearly every other, state. Often these maps are used to show that the institution is national or regional in character. However, if the state government, which funds tertiary education in the state, has been expressing concern about the number of out-of-state students enrolled at an institution, such a map can be damaging politically and financially.
- b. Do not overlook the seemingly simple or obvious. For example, an institution is struggling over the best summer school calendar with little information about practices elsewhere, while the library contains an entire section of college and university catalogues which include summer school calendars. An afternoon spent in the library or on the telephone with colleagues yields a variety of options, as well as a summary of practices at other similar institutions.
- c. Do not get locked into a single methodology. Often institutional researchers are selected in part due to their statistical and computing expertise. In fact computers and statistics are quite useful and appropriate in studying a number of topics. Likewise mail surveys are often used to gather information. There are other instances, however, where telephone surveys, focus group interviews, or individual interviews are the best way of gathering data needed for decision making.

The problem should always determine the appropriate methodology and not the other way around.

A Conceptual Framework for IR

One useful way to initiate an IR program is to develop a conceptual framework which views the activity as operating on the following three levels:

- a. *Level 1 or strategic level.* Institutional research at this level is interpretive, qualitative, and culture-bound. It emphasises the institutional culture and knowledge of the organisation. It seeks to gather, analyse, and report the most appropriate information for that particular environment. The view at the strategic level is long term. Support for the decision-making process is relatively unstructured and depends more on techniques such as environmental scanning than on routine reporting. Institutional research at the strategic level places heavy emphasis on organisational policy analysis as opposed to data collection and reporting.
- b. *Level 2 or managerial level.* At this level, IR places greater emphasis on internal policies and procedures which enable the organisation to function effectively and efficiently in achieving its goals. This requires sound knowledge of the educational process and the financial management process of the particular institution. A prime example of the control function is the area of data administration, where the quality and integrity of the data being used in reporting must be closely monitored and managed in order for their users to have confidence in them.

One poorly supervised data entry clerk, or one low-level supervisor working without the aid of data guidelines, can do substantial harm to the level of confidence that decision makers place on the data being presented by the institutional researcher. In Australia, the registry is generally responsible for data quality while another area such as IR or planning uses that data. Often this causes problems of misinterpretation due to a lack of understanding of how the data have been collected.

- c. *Level 3 or operational level.* Many IR practitioners spend much of their time in their day-to-day activities at this level. This is where the analytical tools of the trade, such as methodologies, technologies, and databases are developed and refined. Hence the monitoring of institutional and unit performance is paramount at the operational level.

One method used at the operating level deserves special mention here, since it has not been widely discussed elsewhere in the literature, that is, the development of user groups.

The user group in institutional research is basically a group of individuals brought together with a common interest in working with a specific data file in a specific functional area or with a specific software product. For instance, a user group might grow up among unit level administrators who are given access to data on their students (or faculty or funds) maintained on a central database. They share a common interest in data integrity and common ways in which data might be extracted and used, as well as possible changes in collection procedures. In short, they form a constituent group around a common concern, but may themselves be drawn from far different academic and administrative units. Given the decentralised traditions in most colleges and universities, as well as the advent of microcomputers and networking, the development of user groups will undoubtedly expand over time.

The concept of the user group in IR has grown out of the recognition that most tertiary education institutions have flat organisational structures as opposed to hierarchical ones. To quote a faculty member, "We in our college feel that the dean works for us, rather than the other way around." User groups are also a reaction to distributed computing and the decentralisation of data usage and manipulation.

Within this conceptual framework, the role of IR is to add value to facts by finding them, interpreting them, and translating them into the context of institutional needs. Given that each institution has its own mandate, variation in how IR can be conducted is inevitable. The next section examines this variation in terms of organisational differences.

Organisational Differences

The different types of IR programs that have emerged in North America, Australasia, Europe and elsewhere vary significantly due to a number of factors. Institutional histories and cultures, not to mention state or provincial, regional, and national histories and cultures, have brought forth the need for different kinds of management information. Large organisations have generally required more data than smaller ones. Institutional maturity, which is a major aspect of its history, has affected the amount and kinds of data needed for planning and management.

Institutional control has been an important factor in promoting IR. State-supported colleges and universities in the US, for example, are required to develop certain kinds of reporting capabilities because of their dependence on the state government for funding. With the implementation of the UNS in Australia, the structure of institutional profile becomes the basis for funding. Hence, it can be anticipated that IR will play a significant role in senior management decision making in Australian higher education institutions.

Private institutions in the US, on the other hand, do not receive much if any in the way of state funds and are less likely therefore to invest substantial time and energy on meeting reporting requirements. However, in recent years external pressures from the accrediting agencies, which determine whether one's academic programs are generally recognised by both governmental entities and the public at large, have caused public and private institutions alike to invest more heavily in evaluation programs which are frequently housed in or which work closely with IR offices.

Another powerful factor determining the demand for IR and the way the activity is undertaken at a college or university is the managerial philosophy that is predominant in the organisation and preferred by its leaders. In some places an informal, personal, non-data-oriented administrative style predominates. IR in such organisations tends towards meeting reporting requirements and data needs which drive the budgetary process.

Other institutions tend to operate in a more organised fashion. They seek out the appropriate data before major decisions are made, weighing the results against other considerations. Such places use IR more in an environmental scanning mode, trying to determine the status of various situations and alternative approaches to solving problems.

A final major factor which is widespread but seldom discussed is the personality and background of the person or persons charged with responsibility for institutional research. In many respects the job evolves towards the interests of the individual, as much as the individual develops the skills and interests required to do the job. While this tendency exists in other kinds of positions, it is amplified in IR, particularly in those instances where top administrators have unclear expectations of their information requirements.

Conclusion

There is no single, ideal conceptual framework for IR which transcends all cultures, educational systems, and types of organisations. One should carefully evaluate the organisational culture and climate of a college or university, then develop an IR program which meets its needs and priorities at the time. Ideas from other places can and should be examined carefully, but only those with merit in the immediate environment should be adapted and adopted.

IR is an evolving profession. In many ways it is a process rather than a fixed set of products, a process of information and decision support for the purpose of enhancing institutional operation. As a process, it can take many forms, as indicated by the topical areas corresponding to the tracks at the annual AIR Forum. While the specific products of IR will vary, the activity can only be undertaken successfully if it provides a service in support of institutional information needs. It can best be sustained by a network of professionals who remain cognisant of the needs of their institutions and their own needs for continued professional development.

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