

A Potpourri of Institutional Research Issues in a Planning Environment

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Introduction

The need for institutional research in Australian tertiary institutions appears to be expanding. It is spurred on by the increased demands for institutional accountability and assessment, coupled with developments in planning and policy analysis, in a climate of diminishing resources.

It is in this context that we thought it might be interesting, and timely, to prepare a paper to consider some of the practical issues confronted by an institutional research unit which is centrally involved in a university's integrated strategic planning and budgeting processes. In this presentation we will discuss issues such as role identity and the plight of institutional researchers, location in the organisational hierarchy, proliferation of functions and tasks and communication of results (this is closely linked with having an impact). Examples taken from specific projects currently being undertaken by the Institutional Research Unit will be used to illustrate the issues and, where applicable, we will discuss a number of the strategies we have used in an attempt to address them.

I would hope that members of the audience can relate to the types of issues discussed and perhaps the question session could be one in which we can compare experiences and share possible solutions.

Before launching into the issues section of the paper it would seem appropriate to give some background to the Institutional Research Unit (IRU) of The University of Western Australia.

The Institutional Research Unit

The Institutional Research Unit (IRU) evolved from the Research Unit in University Education (RUUE) during 1989. The latter Unit was an academic unit responsible to the Deputy Vice Chancellor (Academic) for conducting research into academic issues of interest to the University. For example, RUUE produced numerous reports dealing with the predictive validity of Tertiary Entrance Examinations (TEE), the characteristics of entry cohorts and the academic progress of undergraduate students. In addition, the Unit conducted course experience evaluations and was responsible for co-ordinating and analysing the student evaluation questionnaires.

The Institutional Research Unit (IRU) was created in 1989 and located in the Planning Services Section of the Registrar's Office. In addition to IRU, Planning Services includes the Statistics Office and the Equity Office and it is functionally responsible to the Registrar. It has a close working relationship with the Academic Secretariat, the Section that services the major committees of the University.

The primary function of Planning Services is to provide management information to the major decision makers within the University. The Statistics Office is primarily responsible for the preparation of statistical data (including DEET collection), projections (including the Educational Profile tables and budget projections), the preparation of statistics for regular publications and ad hoc information requests. Correcting data, as well as, creating data in a format that is suitable for the analyses undertaken is another responsibility. The IRU is responsible for providing research-based management information to its clients who include the University's executive (Vice-Chancellor, Divisional Heads, Deans, Registrar and the Vice-Principal) and its major decision-making Committees, particularly the Planning and Resources

Committee. The Statistics Office frequently provides the data for the research projects undertaken by IRU, and there is a close working relationship between the two Units.

It can be seen that IRU has a much more service-oriented role than its predecessor. This is reflected in the types of projects it has been involved in over the last few years. For example, the Unit has

- played a major part in developing, refining and implementing a formula-based resource allocation model for use within the University;
- co-ordinated the development of a strategic plan for the Central Administration, and has been heavily involved in the preparation of the University's strategic plan;
- been responsible for the development of performance indicators (e.g. completion rates, indicators of research attainment, indicators of teaching quality);
- co-ordinated and prepared University submissions to DEET discipline reviews, the Higher Education Council's quality initiatives, the competency thrusts of Finn, Mayer and Carmichael and, the credit transfer developments initiated by DEET and the Australian Vice-Chancellor's Committee (AVCC); and,
- conducted research projects on areas of interest to the University e.g. developing a workload index for Faculty Administrative Officers, evaluating the University's A-index exercise for measuring the research attainment of departments and, developing an index for socio-economic disadvantage.

This change in orientation is understandable given the contextual changes that have taken place in the tertiary sector over the past decade. Not long ago the major issues confronting universities were primarily academic in nature. In those days resources were adequate. Some may even say plentiful, and there was minimal pressure on the tertiary selection system, as the unmet demand was supplemented by a responsive employment market. The main issues were primarily educationally motivated and debate at committee meetings would have centred upon types of courses, the nature of objectives and specific objectives, and students may even have been mentioned on occasion. The focus has changed. The terms that have the most currency these days would include performance indicators, outcome statements, resources, quality, benchmarks, resources, competencies, assessment, resources, management, strategic planning, resources, clients, products, resources.

The environment in which universities operate has changed and universities have had to adapt their management systems to cope with the change. The IRU of The University of Western Australia (UWA) is a product of this change.

With that as background, I now intend to identify what I see as some of the key issues confronted by the IRU since its inception. I will also indicate how the Unit has addressed the issues and I hope that members of the audience who have faced similar issues/problems might contribute suggestions as to how they have confronted these in their own institutions.

Institutional Research and Planning Issues

For the purposes of this paper, I have grouped the issues under four main headings, role identity and the plight of institutional researchers, location in the organisational hierarchy, proliferation of functions and tasks, and communication of results.

(a) Role Identity and the Plight of Institutional Researchers

What exactly is institutional research and why do we do it? Middaugh (1990), in a paper in which he examines the scope and nature of institutional research, offers the following definition.

Institutional research is the sum total of all activities directed at empirically describing the full spectrum of functions (educational, administrative, and support) at a college or university. Institutional research activities examine those of both internal and external environments, embrace data collection and analytical strategies in support of decision making at the institution. (Middaugh, 1990, page 36).

The breadth of the role as described in the definition creates a personal dilemma for most institutional researchers because of dichotomy between the routine tasks that most institutions require of them and the kinds of analyses they find stimulating and personally rewarding. For example, the heavy demands made on IRU for routine reporting to internal and external audiences (the institutional role), means that there is little, if any, time to conduct the challenging, problem-focussed analyses that attracted members of the Unit to the area in the first place. IRU, like most institutional research units, is relatively small (4.5 FTE staff) and, as the demands for good quality management information escalate, so the problem is exacerbated.

One way that the Unit has tried to redress this problem is by establishing working teams drawn from across the University. For example, one of the research questions the Unit is currently addressing is, "Do students from rural schools perform better or worse than students of commensurate ability from metropolitan schools after entering The University of Western Australia?". The question is motivated by the hypothesis that if students from rural schools are disadvantaged with regard to their TE Score (as suggested by an exploratory analysis), then they might be expected to perform appreciably better, once they have entered the University, than metropolitan students with equivalent TE Scores. If the hypothesis is confirmed then there might be grounds for including some compensation mechanism into the tertiary entrance procedures, for students from rural schools (this illustrates the political and institutional perspective).

While the results from this study are particularly interesting, I do not intend to dwell on the project at this time. The important point with regard to the issue that has been identified, is that the Unit has established a project team to conduct the research. The team consists of the Director of the IRU, a Professor of Education (interested in the measurement and educational dimensions of the problem), a Professor of Mathematics (interested in the modelling dimensions), and the Chairman of the Academic Board (the political dimension). The staff of IRU complement the project team with a mix of quantitative and qualitative skills. This team provides a pool of expertise and resource that allows the challenging and 'pure research' components of a politically motivated question to be developed much further than would be the case if IRU had to tackle the question within the confines of its own resources. The IRU provides the data for the study, and prepares the reports that will be of interest to the institution. At the same time the members of the Unit are getting the chance to address some of the more challenging research questions and, just as importantly, they get the opportunity to publish (as co-authors) in research journals.

This latter point is very important because institutional researchers require career paths. As indicated earlier, institutional research units are generally small organisational units and, at least in the UWA case, the staff are located in a non-academic area and employed under the general staff award. There is no direct career path for such staff as they generally have an academic background and do not have the background of the 'typical' administrator. A large component of an institutional researcher's time is spent in meetings and responding to the problem-oriented requests of decision makers. This means that their research productivity decreases and the promotional prospects within the academic hierarchy are consequently limited. Institutional research has the potential to be a backwater within tertiary institutions and career-oriented staff cannot afford to spend lengthy periods of time within the area.

(b) Location in the Organisational Hierarchy

A second, but closely related set of issues pertains to the appropriate location of the institutional research unit within the organisational structure. The workload of an institutional research unit is largely influenced by its location in the organisational hierarchy as well as by the expertise of its staff. IRU's research agenda is largely shaped by its position within Planning Services. For example, it commits significant resources to supporting the strategic planning initiatives of the University.

There are a number of advantages in having IRU so closely aligned with planning and having the Unit placed high enough in the organisational structure for the staff to be aware of the major issues facing the decision makers. Firstly, the Unit has direct access to the University's major decision-making committees. This means that it can monitor issues of potential interest to the committees and be proactive in providing information that might be used in formulating a University position.

A disadvantage of being so closely involved in the planning process is that the Unit has had to relinquish some of the academic initiatives that used to be performed by its predecessor, the Research Unit in University Education (RUUE). The Unit is no longer involved in academic staff development (other than the Director being on the Academic Staff Development Committee), nor does it conduct the student evaluation of teaching exercise. These tasks have now been assumed by Personnel Services through its Professional and Career Development Unit. The nature of IRU projects have changed quite appreciably.

A second advantage of being located in the Registrar's Office is that the Unit is afforded the protection of being a member of a large resourcing unit. This is particularly important in times of financial constraint. Prior being located in the Registrar's Office, IRU was attached to the Vice-Chancellory as a small independent academic unit. It would be accurate to say that with the budget cuts that are now being imposed on the University, IRU would have been one of the first casualties. It isn't that the work produced by the Unit was not valued. Rather, it was that its functions were not perceived as essential because of the tenuous link to the University's primary functions of teaching and research.

A third advantage is that the Unit now has direct access to the University's data and information sharing networks. A few years ago if the Unit requested data for some particular study, the turn-around time was something like 3-6 months. Now, with the Unit firmly imbedded within the Central Administration, working relationships with other Sections have been strengthened to such an extent that the turn-around time for similar requests is at most 2-3 days. For example, the IRU has gained better access to the considerable expertise of the Statistics Office staff as well as access to existing programs and data sets. This has reduced the amount of duplicated effort that previously took place. In addition, staff from the other Sections within Central Administration participate on working parties. This not only improves access to data, but also helps to break down some of the insularity that is sometimes evident within fixed organisational structures.

One disadvantage of the location has been referred to earlier. That is, there is no logical career path for institutional research staff. A second disadvantage is that the Unit is viewed as being part of the Central Administration by the wider university community. If an 'us versus them' mentality exists (between the academic organisational units and the Central Administration), as it does in most universities, then the relationship between the institutional research unit and the academic community might be adversely affected.

When IRU was first established the Director resisted the temptation to immediately relocate the Unit from its home in office space contiguous with an academic department, to the Central Administration. It was felt that the Unit needed time to establish its bona fides (credibility) and this was better done away from the Central Administration.

The Institutional Research Unit is now firmly located in the Central Administration building and has a degree of credibility within the academic community that is fairly impervious to its location.

(c) Proliferation of Functions and Tasks

One of the most difficult issues facing the IRU and I would suggest most small institutional research units is the issue associated with increasing work load. Just about every task undertaken by institutional research units leads to further work, either by replication for time series type analyses or by involvement in the implementation of more sophisticated (and politically oriented) types of projects. In addition, if a unit shows that it is capable of producing top quality products then this produces a market of its own and the demands for new projects will undoubtedly increase, probably exponentially. I would like to demonstrate this particular issue by reference to two projects undertaken by the IRU. The first involves the

formulation of a resource allocation model for the University. In 1990, the IRU was asked to develop a formula funding model, along the lines of DEET's 'Relative Funding Model', which could be used to distribute funds to the University's divisions (the major resourcing units within the University). The IRU responded by constructing a model

- the underlying philosophy of which was that it was consistent with the University's mission and driven by the University's strategic plans;
- which distributed the major portion of DEET income by a formula and a lesser proportion (a discretionary proportion) by competitive allocation, in accordance with the University's strategic plan;
- which comprised a teaching-related component based on student load, and a research-related component calculated predominantly on a competitive index, which rewarded research effort and attainment;
- based on planned student load for the year, with a mechanism built in for some marginal adjustments if there were significant differences between planned and actual load;
- which allocated resources at the level of the divisions, with divisions being able to distribute resources internally between departments according to their own requirements; and,
- which phased in the transition to new funding levels over a triennial period via adjustments negotiated with divisions.

Ideally once the model has been developed the IRU should be able to pass over the implementation of the resourcing model to the Accounting Section, which is responsible for the budget, and then take on another project. However, in practice, for one reason or another, this has not happened. One of the reasons is that the model is quite sophisticated (it has, for example, an iterative procedure for adjusting weights, and includes a recursive filter for ensuring that the differences incurred by any division in moving to the funding levels, are dampened, and requires a conceptual understanding of the modelling process. This means that there are a myriad of detailed questions being asked by the resourcing units as they come to terms with the outcomes of the model. The perception is that these questions are best handled by the developers of the model. Currently, a significant (approximately 35%) proportion of the Director of IRU's time is spent either answering specific questions regarding the model, refining or extending the model, or assisting divisions in developing their own allocation procedures for distributing the funding model to departments.

The second example used to demonstrate how specific research projects can lead to a proliferation of functions and tasks is taken from the area of strategic planning. As universities become more adept at planning within a financially constrained environment, so the need for good quality information on which to base decisions becomes paramount, and the demands on the management information sections increase. This has already been felt at one level where DEET have required more and more management information of universities. However, it has now permeated down to sub-units within the university, as decision-makers are having to make difficult planning decisions. For instance, questions are being asked, such as

- is the mix of non-academic to academic staff (at the overall university, divisional and departmental levels) appropriate?;
- are the student/staff ratios for the different disciplines (departments) comparable with similar disciplines from like universities?;
- how do students from rural schools (or TAFE or socioeconomically disadvantaged backgrounds) perform once they enter university?;

- how has the University (division/department) performed relative to its nominated strategic objectives for the current year?

These and a multitude of other questions form the basis for IRU's research agenda. One of the critical problems associated with a proliferation of tasks, without a related increase in resources, is that the quality of output is likely to suffer, or the turnaround time may be extended to such an extent that the information will arrive too late to impact on the decision.

A second problem is related to the quality of the data. While there is a large volume of data stored on the University's mainframe computing system, the focus of these systems is to meet the day-to-day operational needs of the administrative sections that use them; e.g. the Human Resource System is primarily a payroll system. As such it is often difficult to obtain data suitable for research projects. A substantial proportion of staff time in the Statistics Office and IRU is expended on validating and correcting data.

In order for IRU to maintain its credibility it must commit the majority of its resources to the bread-and-butter activities of institutional research — data collection, preparation, analysis and reporting. These activities then must form the base upon which the second-order studies — policy analysis, assessment and planning are built.

In an attempt to meet the demands for management information, IRU has embarked on a project aimed at creating and formatively evaluating an Executive Information System (EIS, linked to a database of performance measures or indicators of quality which can be used to maintain and enhance quality management in the University. In essence the purpose of the system is to take relevant data, as defined by the performance indicators imbedded within the University's strategic plan, and integrate them into a secondary data base that is for query purposes only. The user interface to this proposed system will be simple to use and yet provide the detailed information required by different levels of users; i.e. it should meet the needs of the vice-chancellor as well as heads of departments. It is anticipated that once this system has been developed and implemented it will help minimise demand on IRU's resources. It is recognised that such a management system has the potential to be the key to the future of quality management in the University, its eventual success hinges upon the commitment from the leaders in the institution.

It is worthwhile stressing at this stage that most of the questions identified above require both cross-temporal and cross-institutional analyses to be useful use in a planning context. My guess is that most institutions are probably like UWA in that they can generate time series studies with reasonable ease. However, obtaining comparable data at a disaggregated level (say the level of department) is practically impossible to obtain. Most of the data available from DEET and the AVCC are at too broad a level (e.g. AOU-group) to be of use for planning within an institution. Recently in response to a question on the appropriateness ratio of non-academic to academic staff within departments, we sought comparable information from seven other institutions. The response (which just required the transfer of 4 files already prepared for DEET) was less than satisfactory. Only 3 of the 7 institutions forwarded the data. While recognising the limitations of the DEET data collections, access to the DEET files via AARNET, as well as data aggregated to AOU (Dept) level would facilitate cross-institutional analyses. Furthermore, I would hope that in the near future databases of the type envisaged in the EIS will be networked nationally so that cross-institutional comparisons, where appropriate, will be able to be conducted. In the interim we would be very happy to negotiate with institutions with like missions who might be interested in establishing a data-exchange network. The final set of issues we have grouped under the heading 'communication of results'. We can openly admit that most of our time is spent worrying over how to ensure that the recommendations and suggestions contained in our reports at least get due consideration by the appropriate audiences.

(d) Communication of Results

Ridge (1978) argues that the main role of institutional research officers is to provide top-quality management information to key internal and external decision makers. While this definition, and the one

advanced earlier in this paper, focus on the central purpose of institutional research, Dressel (1972) reminds us that the institutional researcher's "ultimate success depends less on the research findings and more on the promotion of action..." (page 49). The long term success of an institutional research unit depends on its ability to communicate the results of its research to the community and to provide support and encouragement to decision makers to accommodate the recommendations contained in the report.

Most of us can recall occasions when decision makers have ignored volumes of data and pages of text and graphs. As Norris (1983) says the "finest work of analysis imaginable can be rendered ineffective if it is not presented thoughtfully and in a manner congruent with the needs and preferences of decision makers" (page 168).

IRU has produced cohort analyses for each of the courses controlled by the University's 10 faculties. These studies track each student through his/her course and contains a wealth of information that could benefit the quality of the teaching and learning experiences of the students in the program. What tends to happen with these reports is the faculty peruse the document, rationalise the results, say thank you very much and then file the report away in anticipation of next year's update. Very rarely do faculties seek further information regarding some particular statistic or aspect identified in the study e.g. a high withdrawal rate or major fluctuations in yearly pass rates.

The major problem with these studies is that the faculties have not been convinced that they have a problem to which they need to know the answer. The reports that have most impact are those that are either initiated by the faculty or other decision making body (e.g. major committee or senior executive), or are related to structural or resource changes. The report that has been mostly widely read and had the greatest impact is the one giving details of the possible funding models to be adopted by the University. Another report that will undoubtedly be widely examined and engender much debate is the, "Review of Devolution". This report contains some suggested structural changes for the devolved University, including some suggested changes to the nature of faculties.

I must admit that one of the most challenging experiences faced by the Unit is how to integrate the work of IRU into the fabric of the University. Billups and De Lucia (1991) have suggested a number of practical and achievable strategies for improving the communication of results. The importance of each strategy may vary from university to university, but the ones that are most applicable to IRU, and consequently the ones we at The University of Western Australia are trying to develop would be:

- i. know the culture of the university. Politics, group dynamics, staff and faculty relationships and the history and traditions of a university create a unique institutional personality that pervades the actions and interaction of all members of the university community. Institutional researchers must attend to those patterns of communication, the politics and the behaviours and values accepted in the organisation, when considering the kinds of information to produce and how to present the material;
- ii. know the institution's decision-making process. Knowing the decision makers and being aware of how they believe they make decisions is crucial. Another important aspect of this strategy is to work within the institution to establish mechanisms for acting upon recommendations and for providing feedback to key committees and decision-makers. What has become of the recommendations contained in DEET's highly proclaimed discipline reviews?;
- iii. know the question. A most frustrating problem for institutional researchers exists when the decision makers constantly change the formulation of their question. It is critical that the institutional researcher has direct access to the decision maker asking the question, that the question be clarified from the start and that this process continue through the life of the project;
- iv. develop good presentation skills. Effective presentation is a key ingredient to good communication and in having an impact. While there are a number of suggestions for producing a good report, the main one from my experience would be to have a well structured executive summary. Busy executives have minimal time to wade through pages of text and analyses, irrespective of the quality of the final report.

Conclusion

In a climate in which management practice and institutional accountability are the key themes of the 1990's, there is a continually growing demand for more comprehensive, timely and accurate data to support management decision making. Institutions can no longer move, with little self-knowledge, blindly into the future. This leads us to suggest that institutional research is in a development phase. However, most institutional research units are relatively small (and in my opinion they will not grow) and because of the nature of their work, the staff are extremely busy meeting the day-to-day demands of their constituencies. Very rarely do they get the opportunity to consider some of the issues which impinge on their operation and development.

Rather than talk about one or another of the research projects we are undertaking at this time, I have availed myself of the opportunity to articulate some of the issues that perhaps many other institutional researchers are facing. At the same time I would extend an invitation to all members present to feel at liberty to follow-up any of the projects alluded to in the text of the paper, add to the list of issues identified in this paper (my list is far from exhaustive) and suggest solutions to the issues that might make our job easier.

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