

The Theory, History and Practice of Resource Allocation Models in UK Universities

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1 . Introduction

Over two decades ago, in 1984, the National Advisory Body for Public Sector Higher Education was asked by the UK's Secretary of State for Education and Science to formulate guidance on good management practice for the sector. The following year the Jarratt Committee's report (1985) on the management of universities noted that "it is in planning and the use of resources that universities have the greatest opportunity to improve their efficiency and effectiveness." These two events marked a shift in the relationship between higher education and central government and as Dearlove (1998: p.68) described it, they caused the sector to "tumble into a clumsy kind of managerialism."

It has been suggested that managerialism is the private sector "solution" to the public sector "problem" (Milliken and Colohan,2004), because it reflects central government's view that private sector corporate practices can be used to drive change. Managerialists believe that public sector efficiency can be increased through the introduction of performance management into organisations that are traditionally characterised by inefficient bureaucratic systems. Inevitably, therefore, UK universities were expected to develop new or improved management control systems in response to central government's managerialist agenda. The aim of this paper is to review the progress of universities in respect of one specific dimension of management control - that of resource planning and allocation.

Resource planning and allocation is closely linked to budgeting, which is a concept built around the premise that the first step to achieving objectives is an understanding of the mix of operational and financial resources necessary to achieve them. In financial terms, income represents incoming resources that add to the organisational asset base, whilst direct and indirect costs serve to absorb

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resources. More specifically, information on current and future resources serves as both an input to, and an output from the budgeting process.

In large and complex organisations, the available resources have to be allocated across potentially diverse areas of operation, and a system defined for the simultaneous apportionment or allocation of common costs. In this way, it becomes possible for a finance director to compare profits and losses (or relative contributions) across different areas of a business. The term Resource Allocation Model (RAM) is used to describe the formulae or method(s) used by both commercial and public sector organisations for these income/asset and also cost allocations (Campbell and Goold, 1988).

In a university context, the RAM provides a framework for determining the distribution of income and other resources between academic and administrative departments, as well as the rules used to charge those departments for the cost of common, centrally provided services. As such, the RAM is nothing more than an allocation mechanism which helps to ensure that resources are in the right place to aid the achievement of organisational objectives. It is not surprising therefore, that a survey undertaken by the Heads of University Management and Administration in Europe (HUMANE) in 2000 revealed that RAMs are in use in 80% of the respondents' institutions. The rather worrying thing here is what is (or is not) happening in the remaining 20% of universities! It seems difficult to imagine how an institution could function without some basic model for resource allocation.

(Uhr, 1990, p. 22) defines managerialism as incorporating "streamlined processes of decision making, designed to allow greater autonomy." This description emphasises the accountability implications of managerialism by highlighting the responsibility of local management for decision making. In terms of resource allocation, this means that, subject to practical and political limitations, a university's senior management may allocate resources and charge for central services in whatever way they choose, (Jarzabkowski, 2002). As this paper will demonstrate, one consequence of this is that there is no single "ideal" resource allocation model. Instead, RAMs tend to reflect each institution's own educational and strategic priorities, and the allocation process is modified over time in response to changes in these priorities.

This paper contains three further sections. The first of these looks at the history of RAMs in the UK in terms of their development as tools of accountability and financial reporting and this is followed by a brief review of the alternative theoretical approaches to resource allocation for internal management purposes. A summary of survey evidence on RAMs is then followed by two

short case studies which provide detailed insights into current resource allocation practice in individual universities. The paper concludes with a commentary on the main issues raised within the paper and suggestions for future areas of research.

The findings highlight the way in which resource allocation practice is a consequence of the political history of higher education in the UK, in respect of both central government policies and also individual institutional histories. The paper also demonstrates the extent to which resource allocation models are institutionally specific, and variable in their levels of transparency, reflecting both the internal organisational arrangements and power groups as well as strategic priorities. In this respect the findings add to the literature on managerialism and new public management by demonstrating that the granting of institutional autonomy can increase political accountability by the devolving of power to university senior management. Such devolution does not necessarily, however, lead to greater managerial or professional accountability within the institutions themselves. As a result, even those institutions that boast highly sophisticated RAMs may be blighted by internal discontent.

2 . The history of RAMs in the UK

Cropper and Cook (2000) comment that the calls for improvements in resource planning and allocation that emerged from the Jarratt report (1985) necessitated the introduction of more sophisticated costing and accounting systems within UK universities. As an aid to this process, the Chartered Institute of Public Finance and Accountancy (CIPFA) produced a guidebook on financial systems in higher education that included advice on how to allocate costs between faculties, academic departments and educational programmes.

The CIPFA guidance, with its emphasis upon cost allocation, needs to be viewed in the context of growing government pressure for accountability amongst higher education institutes. It would seem that the primary aim behind the development of new accounting systems was for stewardship and financial reporting purposes, rather than for management accounting use (Pendlebury and Algaber, 1997). The requirement for greater accountability reflected both central government's adoption of new public management techniques, and also a clear recognition of the scale of dependence of UK universities upon income from public funds, largely provided through the Higher Education Funding Councils. HESA statistics indicate that funding council income consistently represents around 38% of the income of higher education institutes (HEIs) over the period 1997-2006, but these grants only represent one component of the public funding going to HEIs. Income is also received from the Student Loans Company and local authorities in respect of

tuition fees, research council grants and postgraduate fees, and other government grants for a range of purposes. In 2005-6 (the most recent year for which statistics are currently available) £9,616 million, or just under 60% of the sector's total income of £16,095 million was funded from the public purse. It is not surprising, therefore that the government began to require institutions to explain how this money was being spent.

The key problem for universities in developing a system for cost allocation was how to establish a mechanism for the collection of information on the respective costs of their main areas of activity, namely teaching, research and 'other'. In a private sector context, staff and other costs will tend to be clearly linked to a specific organisational division or product area, but in education the financial landscapes are rather muddier. Academic staff devote their working time to a mix of activities that potentially includes undergraduate, postgraduate and executive based teaching, externally funded research, private research, consultancy, and general administrative duties such as student support. Not surprisingly, it becomes difficult to disentangle exactly how much time is spent doing which activity, and use this information for costing purposes. As a result, progress in developing costing systems was quite slow (Cropper and Cook, 2000).

The impetus for more rapid change came in the 1998 Comprehensive Spending Review, which linked increases in government funding for higher education to the provision of transparent cost information at an institutional level. A group known as the Transparency Review Steering Group was established, which in turn passed responsibility for devising the mechanisms for the measurement and reporting of costs to another sub group - the Joint Costing and Pricing Sub Group (JCPSG) chaired by the Vice Principal of the University of Birmingham and aided by a private consultancy firm (J M Consulting). The resulting Transparency Review Report, published in 1999, required all higher education institutions to develop over the next few years, costing systems for each of their main activities of Teaching, Research and Other (T, R and O) primary activities.

A core element of the transparency review costing system is the collection of data on the use of staff time, because staff are a key institutional resource. The review probably sought to tackle this thorny problem head on because, as Table 1 shows, staff costs make up a very significant proportion of the total income of most higher education institutions.

Table 1 : Staff Costs and Total Income in a sample of UK HEIs

Institution	Year	Total Income £ 000's	% Ratio of total staff costs to total income	Total Academic Staff
The University of Warwick	2004-5	283587	51.43	1,697
	2005-6	310601	50.84	
The University of Sheffield	2004-5	301341	60.94	2,448
	2005-6	321837	61.10	
The University of Nottingham	2004-5	320286	58.11	2,518
	2005-6	345897	57.80	
Loughborough University	2004-5	153039	57.03	1,090
	2005-6	166105	55.23	
The University of Liverpool	2004-5	244742	58.70	1,749
	2005-6	272616	59.16	
Imperial College of Science, Technology & Medicine	2004-5	458522	58.54	2,963
	2005-6	503431	56.62	
The University of Huddersfield	2004-5	81475	56.94	752.00
	2005-6	92543	58.14	
The University of Birmingham	2004-5	334413	54.24	2,236
	2005-6	354943	54.72	

Table 1 covers a random selection of different institutional types, including both pre and post 1992 universities, but in all eight cases the staff costs account for more than half of their total income. Expressed another way, JCPSG estimates suggest that staff costs across the sector account for 60% to 70% of total costs. Understanding the reasons for variations in staff cost ratios between different HEIs is difficult because no research has been published on this issue, although university bursars and finance directors operate a benchmarking scheme which may help their understanding of the underlying cost drivers.

Universities face an additional problem in that total staff costs primarily relate to academic staff. HESA statistics for 2005-6 show that for the eight HEI's shown in Table 1, academic costs as a proportion of total staff costs ranged from a low of 70% at the University of Nottingham, to a high of 82.6% at the University of Sheffield. The mean ratio was 75.36%. Whilst this snapshot sample cannot be assumed to be representative of the sector as a whole, it nonetheless highlights the need for good information on academic staff activity as an input to the costing process.

As already indicated, the transparency reviewed required HEIs to introduce systems for the collection of information on how academics spent their time, so that staff costs could then be allocated to the respective areas of activity – teaching, research and ‘other’. From 2000/01 onwards all UK HEIs then reported these institutional level cost allocations in their audited financial statements, thus fulfilling the accountability requirement in respect of costing. The extent to which transparency review data is being used to support internal management decisions such as costs per degree programme or per student category is not yet known, and would provide a rich area for future research, although it seems likely that there will be significant variations across different institutions.

In an overview of the transparent approach to costing (TRAC) system, the JCPSG declares that one of TRAC’s objectives is “to provide consistent and robust information about the cost of activities to assist institutional planning and management.” (JCPSG, 2005: p.4), but there are many who would question the robustness of the staff cost data. The most common time recording methods are for all academics to maintain a one- or-two week diary, or complete three-to-six in-year time allocation schedules, covering a whole year. Regardless of the methodology, however, the information in TRAC time returns is often based on memory and combined with an incomplete understanding of how to classify time under the different activity groups. The reliability is thus open to question, even in the eyes of HEFCE who state: “we have been concerned about the reliability of some of the TRAC returns and have pressed institutions to improve quality control” (HEFCE,2007:p.6). Direct audit of HEIs provides some additional assurance, but given that the recommendation is now for a low key one day assurance review once every five years, the robustness of TRAC data remains open to question, although any further consideration of the issue is deemed beyond the scope of this paper.

For financial reporting purposes, the costs collected through TRAC are allocated to five core categories: teaching (split into publicly funded and non-publicly funded); research (similarly split) and other core institutional activity. In addition, since 2005, HEIs have been required to used a prescribed methodology to calculate the full economic cost of each research project. Full economic cost is defined as directly incurred, plus directly allocated, plus indirect costs.

In January 2006, the basic structure for cost allocation was extended to cover income so that institutions now report their surpluses or deficits within each of the five activities identified above. The way in which resources are allocated for the purposes of financial reporting (as described above) may not, however, reflect the allocation methods used for internal management purposes. As noted in the introduction, RAMs will tend to reflect strategies and educational priorities at an

institutional rather than a national level. This point is made incisively by Shattock (2003) who questions the sense of institutions adhering to allocation formulae designed for the national allocation of funds, rather than designing one which reflects their own internal priorities.

3 . The theory of resource allocation

Prowle and Morgan (2005: p.49) define a perfect resource allocation model as one which “provides the greatest overall satisfaction in meeting objectives whilst simultaneously constraining the use of resources to exactly those which are available.” The description neatly pinpoints the two issues that result in this perfect scenario never being attained. The first of these is the need for internal agreement over organisational objectives and the second is that resources are always limited, so that the demand for them normally exceeds supply.

As indicated in the preceding section, public funding provides the bulk of the resourcing for HEIs and such funding is allocated to institutions in a manner which directly reflects government educational policies. Formula based systems are used for both teaching and research allocations, and the formulae incorporate aspects of volume eg student numbers as well as quality eg Research Assessment Exercise. In line with very specific government policies, other funding streams may also be available, such as the special initiatives money offered for widening participation rates amongst certain student groups or for developing and rewarding staff.

At the institutional level, income from all sources is allocated in a manner which satisfies the organisational objectives, and meets the funding requirements of both the central support services and the academic departments. The rules that underpin the allocation process are commonly determined by a senior management team which usually includes the Vice Chancellor, Bursar (Senior Financial Officer), Registrar and a number of Pro Vice Chancellors.

Subject to practical and political limitations, the senior management may allocate resources and charge for central services in whatever way they choose, and, because institutional circumstances can change, RAMs tend to change and evolve over time. The formulae and detail of the RAM models may thus be expected to vary from institution to institution, and evidence from Jarzabkowski (2002) confirms that this is the case.

One key decision in relation to resource allocation is the option for senior management to allocate income on either a gross or a net basis. In the former case, income is allocated in full for the purpose for which it is received. The alternative approach of allocating only ‘net’ income, applies

when senior management deduct a set charge for central operating costs before transferring income to academic departments. Ultimately, the two approaches may yield the same net result in terms of the money available for academic use, but they reflect differences in attitudes towards centralised control, budgeting and also internal transparency. As Harper (1997: p.69) observes: “the approach to budgets is a political and organisational issue rather than a financial one.”

Prowle and Morgan identify a number of different approaches the internal allocation process, ranging from the very basic through to relatively sophisticated Activity Based Costing (ABC) based models, and the relative merits of each approach will be considered in turn. The different models reflect variations in the approaches to cost rather than income allocation, because this is the more contentious area. In a survey of member universities by the Heads of University Managers and Administrators in Europe about the use of resource allocation models, “everyone seemed to have trouble with central charges or overhead contribution” (Field & Klingert, 2001, p.86).

The first and most basic RAM, classified as “Type A” by Prowle and Morgan, is one in which the budgets for support departments and specific strategic projects are determined centrally, and aggregate university income is then top-sliced to cover these costs. Net income is then allocated to the academic units although the form of presentation of their budgets may vary. In some cases the central support costs will not be itemised at all, and the academic budget holder will simply be required to break even or earn a target rate of surplus on the allocated income. Alternatively, all income may be credited to the academic unit, and the expenditure side shows the figure for the top slice. The approach will vary between institutions, and the definition of academic unit may also vary. Budgets may be devolved down to faculty, departmental or even programme level.

Top slicing is very simple - budget holders never see the money and so are never tempted to spend it, and if forecasting of overhead costs is accurate, then the top slice can be set at a level that always ensures full overhead recovery. The disadvantages of top slicing lie in its simplicity and the fact that the fixed percentage charge assumes equal proportionate usage of the communal services, which is unlikely to be the case in practice. Furthermore, it is common for the central support budgets to be set on an incremental basis. This leaves budget targets unchallenged and so creates scope for the maintenance of operational inefficiencies where the budget does not accurately reflect workloads.

A slightly more sophisticated approach to the allocation of indirect costs involves the use of just two or three main cost drivers, the most common of which are staff and student numbers, and space occupied. For example, library and computing costs may use staff and student numbers as

the cost driver, on the basis that increased student numbers will require extra central resources in these areas. The resulting allocation, however, is just an approximation because the reality of costs is inevitably more complex. For example, both the cost of books and levels of student use of such facilities may vary between subject areas. Consequently, as with top-slicing, the use of a system that charges for central services on the basis of staff and student numbers and space is attractively simple, but the resulting cost data would be difficult to defend (Pendlebury & Algaber, 1997).

An alternative, but similar approach is to split the HEIs costs into three core categories – academic services, estates and central administration. Academic costs can then be allocated using formulae that reflect both staff and student numbers and other academic priorities, including the potential need to cross subsidise 'loss' making units. Estates services can be charged according to a similar small number of cost drivers such as space occupied, age of buildings, security requirements etc. Central services may then use a common driver that combines both staff and student numbers to define a percentage rate at which central costs are charged. At its simplest, this type of RAM could utilise as few as three cost drivers, but more complex versions could extend to six or seven.

As the number of cost drivers and cost pools increases, the allocation system shifts towards an Activity Based Costing (ABC) methodology. The use of ABC has the benefit of highlighting the cause and effect relationship between the service being provided and the charges being imposed. This is less arbitrary than an allocation system such as top slicing and can therefore facilitate easier justification of the resulting charges. In addition, it has been noted that attaching costs to activities in universities serves to raise cost awareness amongst academics (Port and Burke, 1989). Nonetheless, Cropper and Crook (2000) found only limited support for the use of ABC costing in higher education. In 1998 75% of institutions rejected the use of ABC either currently, or its introduction over the next five years. The reasons for rejection included the criticism that it is merely another arbitrary allocation method, as well as comment on the lack of evidence from the private sector that ABC offers tangible benefits. Another potential problem with ABC is that the cost and complexity of establishing such a costing system may exceed the benefits generated by the additional information.

In considering the relative merits of the alternative methods of cost allocation outlined above, it is useful to consider the way in which they reflect differing approaches to budgetary control. Top slicing retains all of the power at the centre, and also severely restricts institutional transparency because the basis for the top slice calculation can be withheld by senior management. An unwillingness to devolve budgetary power may simply reflect institutional politics and a desire to retain the existing power base, but it can also have the effect of failing to harness the potential

motivational benefits that can accompany budgetary devolution. It is good practice to ensure that managers see the consequences of their decisions and learn from them.

There is no academic consensus regarding the extent to which devolution should extend but there does appear to be a consensus that centralised budgeting is now outdated and inappropriate. Bourn and Ezzamel (1987) suggest budgets should be managed at school or faculty level, but Howson and Mitchell (1995) suggest that a split approach should be used in which academic departments manage only their direct costs, whilst senior operational management takes responsibility for controlling the budgets of central service departments. Lewis and Pendlebury (2002) go one stage further in recommending the use of a cumulative approach to budgets in which information is available at course, departmental (or subject grouping) and faculty level (Mchlerly et al, 2007).

The resource allocation method also has implications for cross subsidisation, and the related issue of transparency regarding such subsidies. Organisational objectives are unlikely to be purely financially oriented in the higher education sector, but decisions need to be taken when costing systems reveal individual academic departments or faculties to be in deficit. Short term deficits can be managed, but systemic deficits caused by subjects becoming less popular or intrinsically expensive to fund require a "close or subsidise" decision to be made. The senior management of a university may choose simply not to tell cash generating departments that they are using their income to fund their poorer colleagues. Alternatively, the process can be made transparent and be the subject of a peer based vote and decision. Once again the approach adopted is likely to be determined as much by organisational politics as by financial criteria, although resource rich institutions can arguably afford more cross subsidisation than HEIs struggling to make ends meet at the institutional level.

4 . RAMs in Practice

Survey Evidence

The Jarratt Report (Jarratt Committee,1985) noted an "absence of available information " in the public domain in respect of how resource allocations were made within UK universities, and fifteen years later this view was re-affirmed by Angluin & Scapens (2000) in their comment that "there are few published studies" of the practice, as opposed to the policy of resource allocation (see for example Mitchell,1996; Pendlebury & Algaber,1997; Angluin & Scapens,2000;Cropper & Cook,2000).

Pendlebury and Algaber (1997) found that 50% of their sample of 86 universities used top slicing as the system for charging for central services. Three years later Angluin and Scapens (2000) reported an even higher figure of over 65% of the universities in their survey applying either a simple top-slicing approach, or a flat rate charge for the recovery of overheads. Neither of these pieces of research, however, identified more subtle forms of top slice through which a portion of income is taken for limited but specific strategic purposes, whilst the bulk of central services are subject to a more detailed system of allocated charges.

Amongst the half of Pendlebury and Algaber's sample that used a charging system rather than top-slicing, the majority favoured the use of just two core cost drivers for determining the allocations. Staff and student numbers, or a combination of both, were used by most universities for all central services except computing and finance, the costs of which were recovered via the use of other, non-specified drivers. These findings were very similar to those of Mitchell (1996) who observed that 25% of the sixty four universities that had undertaken an ABC exercise continued to use the basic cost drivers of student/staff numbers and space. In such situations the term ABC appears to be something of a misnomer.

Cropper and Cook (2000) compared the results of surveys of costing methods used in 1993 versus 1998. They found that although a significant proportion of respondents had discussed the introduction of ABC, the percentage actually introducing it remained low at just 9% in 1998 compared to 8% in 1993.

Existing survey evidence therefore suggests that the vast majority of universities prefer to use very simple methods for the allocation of costs. The findings are useful for providing an overview of cost allocation practice, and developing our understanding of the extent of variation in the models adopted but they lack the richness of institutionally specific data. The surveys identified above also fail to provide detailed information on the allocation of income, as opposed to costs.

The two case studies detailed below provide some complementary insights into the RAMs currently used within UK universities. They are particularly interesting because in both cases the information reported was obtained from the university's own website. By implication, they therefore represent institutions that exercise at least some degree of transparency in relation to their financial practices. The significance of this transparency is best understood by trying to seek out this type of data and noting the frequency with which it proves impossible to retrieve anything meaningful! It would seem that at present the concept of accountability for most universities extends to the publication of annual reports and compliance with the HESA reporting requirements,

but very few take this any further.

Case Studies

1 . Imperial College, University of London

Imperial College is classed as a top ranking, research oriented university. In the academic year 2006-7 it received total gross income of £187.3 million, but despite this high level of resourcing, it still uses a resource allocation model that is grounded in the HEFCE formulae, and applies a top slicing approach to recover its central overhead costs, which are described as an “infrastructure” charge. As a result, the net income allocated down to academic departments in 2006-7 amounted to £93.01 million, implying a top slicing rate equal to almost exactly 50%.

The RAM formulae for income allocation appear to closely mirror the HEFCE income rules. Teaching income follows the students, so that the HEFCE subject weightings are respected in making the allocations at departmental level, and all special funding for the high cost sciences is passed down in full. Over-recruitment penalties are also imposed, to reflect the increased resource pressures arising from additional students. In similar vein, departmental research rankings based on the 2001 Research Assessment Exercise results are used to determine departmental research allocations, again refined by subject weightings where required.

Minutes from management meetings also indicate that the RAM is not static, and that the allocation formulae are refined in response to internally generated cost information. For example, staff time data collected through the TRAC system revealed that the average teaching: research split for academic staff is 54:46. In recognition of the additional time being spent teaching, the allocations within the RAM for some laboratory based courses was increased.

The approach to resource allocation in Imperial is interesting because it appears to largely ‘ignore’ the cost problem and mirror the HEFCE formulae in respect of income. In recognition of management control theory, it would seem that the senior management at Imperial have recognised the adage “tell me how you measure me and I’ll tell you how I behave.” Infrastructure charges are largely outside the control of academic heads of department, and so whilst creating a potentially complex ABC type of system to charge for central service costs might appeal to the management accountant, it carries no real motivational weight amongst academic staff. There is, however, scope for academics to increase income for their own department by offering courses that attract high paying students, or being awarded research grants. The top slicing system serves to motivate income generating activity, because it ensures

that once the department has met its overhead charge, additional income is effectively a resource available for discretionary use at the departmental level. In other words, the RAM serves a strategic aim of encouraging academic heads to increase income, and taking the cost management responsibility back to the centre.

In accepting responsibility for the management of infrastructure costs, central service managers are holding the budgets for which they are directly responsible. Similarly, it could be argued that asking academics to focus on income generation in their area of specialism (rather than cost management) offers the opportunity to play to their strengths. If staff support this system, it suggests that the RAM recognises, albeit in a relatively simple way, the complementary skills of the university's administrative and academic staff. When staff are such a key resource, it is likely that using them as effectively as possible is going to contribute to greater organisational success.

2 . *University of Cambridge*

Cambridge University is ranked first in the UK for research, and its resource allocation model is remarkably similar to that of Imperial College in some respects, but fundamentally different in others. The concept of resource allocation is relatively new to Cambridge, whereas Imperial College was using a form of TRAC system to monitor staff use of time before it was even suggested by the JCPSG. It is possible that these differences in managerial approaches mirror their respective institutional histories and particularly the organisational complications caused by the Cambridge college system combined with the significant influence exercised by its academics over university policies. There is certainly evidence that the shift towards formalised financial management via a RAM was not accepted without challenge by the academics, as it is reported that the university spent over 8 years debating the introduction of an allocation model

Like Imperial College, the University of Cambridge's resource allocation model top slices the gross income to fund what it calls "residual funds for strategic use." The top slice amounts to 50% of general income, and some of this money is distributed on a discretionary basis to help academic schools suffering from deficits. This reflects a strategic view that there is a need to protect priority academic disciplines where the income raising potential is limited. In other words, as noted by Jarzabkowski (2002), the RAM is used to aid the achievement of specific organisation objectives, as well as simply a financial allocation mechanism. Despite the apparent acceptance that the top slice money should be used to pay for university wide non academic facilities such as the museums or the botanic gardens, the website provides little

further detail on how the money is actually spent.

One interesting feature of the Cambridge model is that it is based upon an over-riding principle that allocations will be activity driven. This approach gives budget holders the responsibility for ‘managing’ the relevant cost drivers, despite the fact that not all of these will necessarily be under their control. The transparency of cost drivers has led to a number of disputes over space charges and teaching weightings. To further complicate things, and adding to the sense of internal disagreement, there have also been many requests for sensitivity analysis in relation to the key variables in the model. The net result is that, to an external observer, it would appear that the RAM is a source of dispute rather than a cohesive force used to support organisational objectives and nurture growth. This is in stark contrast to the scenario at Imperial College, where the emphasis on income rather than cost allocation seems to have diverted attention away from potential areas of inter-departmental dispute.

The remaining income is distributed as “earned” ie on the basis of the HEFCE formulae, but it may be that budget holders’ efforts are concentrated on trying to negotiate their costs down, rather than trying to boost their income. This is evidenced by the fact that there has been major debate over how to impose discipline on academic services, but no satisfactory funding system was identified and internal markets and service level agreements were rejected. Without further internal information on allocation practice at Cambridge, however, it is difficult to fully understand how the allocation system has impacted upon the behaviour of academic managers.

Comment

The RAMs used in Imperial College and Cambridge University are similar in their approach to both income and top slicing, with control over access to funding for non academic and university wide services remaining at the centre. This can be justified on the basis that only central management really understands how much central services cost to run.

The main issue of interest is the way in which the two institutions deal differently with the question of how central costs are allocated – a flat charge versus an activity based approach. Dearlove (1998: p.60) observed that “efficient management can only take us so far in the organisation of teaching and research”, and that there is also a need to take into account the nature of academic work and the power of academics as professionals. It may be that academics are naturally argumentative individuals, intent on defending their own territory, and unwilling to make sacrifices for the good of the institution. If this is true, then ABC based

allocation models will only create varying degrees of mayhem, and the key to success lies in simplicity. Much more extensive research is needed however to test this hypothesis.

5 . Conclusion

This paper began with the Jarratt Committee's observation that improvements in planning and the use of resources could facilitate enhanced efficiency and effectiveness within UK universities. The development of a transparent costing system and the accompanying evolution of RAMs across many HEIs suggest that in the last decade there has been a serious attempt to raise managerial efficiency but these changes also generate a number of interesting questions.

TRAC is an attempt to identify the costs of a university's core activities, but in trying to match costs to activities it needs to be remembered that the nature of academic work can make the identification of separate costs extremely difficult. The dangers of oversimplifying costs in this type of allocation exercise may be just as great as the dangers associated with simply leaving overhead to be managed centrally in a less transparent way. It is also inappropriate to suggest that TRAC costs are robust and accurate, because they are subjective and open to manipulation in the pursuit of self interest. They may be useful, but the figures need to be interpreted with caution.

That said the shift towards managerialism and increased accountability have drawn into the HE sector a new breed of professional managers to work both in central services and also academic departments. It will be interesting to see how the power is shared between professional managers and professional academics, as the result will have huge implications for the future of higher education. In the meantime there remains huge scope for more detailed research on the variety of RAMs used by UK universities as well as their international counterparts.

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