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**Centralised or Decentralised?
Strategic Implications of Resource Allocation Models**

Abstract

This paper examines the strategic implications of resource allocation models (RAMs). Four interrelated aspects of resource allocation are discussed; degree of centralisation, locus of strategic direction, cross-subsidy, and locus of control. The paper begins with a theoretical overview of these concepts, locating the study in both the strategic management literature and the university context. The concepts are then examined empirically, drawing upon a longitudinal study of three UK universities, Warwick, London School of Economics and Political Science (LSE), and Oxford Brookes¹. Findings suggest that RAMs are historically and culturally situated within the context of each university and this is associated with different patterns of strategic direction and forms of strategic control. As such, the RAM in use may be less a matter of best practice than one of internal fit. The paper concludes with some implications for theory and practice by discussing the potential trajectories of each type of RAM.

Centralised or Decentralised? Strategic Implications of Resource Allocation Models

Introduction

Resource allocation models are important management tools for implementing strategy (Campbell and Goold, 1988; Hackman, 1985). They may not be considered in isolation, being intrinsically related to the strategic directions an organisation takes and the monitoring and control of such directions (Garvin, 1998; Grant, 1988). Through the allocation of resources, some strategic directions are followed to the detriment of others. Resource allocation also provides an important mechanism for compliance and control in organisations (Hackman, 1985; Hardy, 1996). Such procedurally rational concepts of strategy process may seem incompatible with prevailing views of universities as professional bureaucracies (Mintzberg, 1979), loosely coupled systems (Weick, 1976), or even organised anarchies (Cohen and March, 1974). However, with increasing competition for scarce resources in the public sector at large and universities in particular (Johnes and Cave, 1994; Le Grand, 1991; Curran, 2000), university cultures are in transition from the traditional collegium to more entrepreneurial and corporate forms of organisation (Clark, 1998; Ferlie et al, 1996; McNay, 1995; Sporn, 1999). Increasing accountability through external audit and quality control mechanisms places responsibility upon universities to show transparent and ostensibly rational resource allocation procedures (cf. HUMANE Reports, 2000). Therefore, RAMs are a relevant topic of investigation in universities with implications for theory and practice.

Theoretical Background

Centralised and decentralised are common concepts dealing with the relationship between the corporate centre and the organisational divisions (cf. Prahalad and Hamel, 1990; Campbell et al, 1995; Goold and Campbell, 2000). In universities these concepts focus upon the relationship between senior management and budget centres that are primarily academic departments, since these deliver the core business of teaching and research although some administrative divisions are also maintained as budget centres. The degree of centralisation or decentralisation, particularly in relation to strategic decision-making, is a relevant issue in higher education research (cf. El Khawas, 1995; Goedegebuure and de Boer, 1996; Thys-Clement and Wilkin, 1998). Essentially, more decentralisation may be expected if the university is perceived as pluralistic and loosely coupled with a portfolio of autonomous departments. Greater centralisation is associated with a view of the university as an overarching carapace of core competences and identity, under which a set of synergistic departments are managed (Goold, 1991; Goold and Campbell, 2000; Prahalad and Hamel, 1990).

The increasingly competitive higher education environment holds implications for the degree of centralisation of RAMs. Competitive environments have been shown to increase the use of

management controls, such as resource allocation, as a means of increasing coordination, monitoring quality, and reducing costs (Khandwalla, 1972; 1973). This is particularly the case in decentralised or pluralistic organisations, where management controls improve standardisation and create a unitary image (Khandwalla, 1972; 1973; Mintzberg, 1979). As universities are under increasing competitive pressure, they are exposed to changes in the way they manage internal performance (Curran, 2000; Deem and Johnson, 1999; Shattock, 1999) including the rising use of management controls (Ferlie et al, 1996; McNay, 1995). Such changes may predispose universities to a form of McDonaldisation (Parker and Jary, 1995), in which they undertake more centrally managed and accountable forms of control, even where academic decision-making is still left at the departmental level (McNay, 1995). For example, efficiency gains managed through recharging and progressive reductions in resources across the university are a means of controlling university-wide expenditure. Rather than absolutes of centralisation and decentralisation, it is probable that there will be increasing tensions between these polarities in the management of universities. Furthermore, since universities are not a homogenous type in terms of history, structure or purpose, the management of RAM may be different in different institutions (cf. Deem and Johnson, 1999; Miller, 1995).

The degree of centralisation and decentralisation of resource allocation has specific strategic implications related to strategic direction and locus of control. A centralised RAM is defined in this study as one in which resources are authorised and allocated by the senior management team from a central pool on a zero-sum basis. This method of resource allocation permits senior management to redeploy resources in accordance with strategic priorities at the corporate or overarching university level. Decentralised resource allocation is defined as departmental control over budgets, with responsibility for their own strategic direction, income-generation and financial viability. In such a model, departments are able to be locally responsive to strategic initiatives within their discipline and to generate, deploy and allocate their own income streams. These two models are theoretical polarities and it is likely that most universities, similar to other businesses, will operate in between the extremes.

Indicators	Centralised	Decentralised
Strategic Directions	<ul style="list-style-type: none"> • Longer-term strategies • Higher overarching strategic direction 	<ul style="list-style-type: none"> • Existing strengths • Higher departmental strategic responsiveness
Cross-Subsidy	<ul style="list-style-type: none"> • Greater cross-subsidy 	<ul style="list-style-type: none"> • Lower cross-subsidy
Locus of Control	<ul style="list-style-type: none"> • At the centre • Bids for central resources 	<ul style="list-style-type: none"> • Departmental Heads • Budgetary performance indicators

Table 1: Strategic implications of centralised or decentralised RAM

Table 1 is a comparison of the potential implications of centralised or decentralised RAMs in terms of strategic direction, cross-subsidy, and locus of control. Centralised RAMs may be associated with

longer-term strategic goal setting because resources may be deployed to invest in potential growth opportunities, with risk hedged by the resources generated through the other components of the business (Campbell and Goold, 1988; Hedley, 1988; Prahalad and Hamel, 1990). For example a university may choose to invest in a new discipline such as a medical school on the premise that it will be self-supporting or generate surplus in the long term. A significant and new resource intensive exercise of this nature would be less likely to emerge in a totally decentralised model. Cross-subsidisation of less viable activities is also possible in a centralised model if these are perceived as important to the reputation or overall composition of the university. For example, while some humanities and social science disciplines may be currently less financially viable than their business and natural science counterparts, they may be considered to serve a longer-term social benefit that is important to the reputation of a university. Centralised RAMs are, however, also associated with lower departmental autonomy and potentially less departmental responsiveness to strategic initiatives within their disciplinary environment. This is because the locus of control is at the centre, with departmental bidding for resources used as a means of strategic control over performance (Campbell and Goold, 1988). While consistent with the notion of a synergistic organisation with overarching strategies, such a model is potentially conflictual with traditional notions of collegiality that prize autonomy (cf. Johnson, 2000; McNay, 1995; Miller, 1995).

By contrast, decentralised RAM has the potential to favour the current areas of strength since these areas are self-sustaining and attract resources. In this way an institution may build centres of excellence based upon meritocratic performance. Those departments that perform well attract the resources to continue to grow whereas less viable departments have insufficient resources to reinvest, either performing at a sub-optimal level or being forced to close, similar to failure and divestment in a strategic business unit (cf. Goold, 1991; Campbell and Goold, 1988; Hedley, 1988). As such, overarching university strategy and cross-subsidisation are lower in this form of RAM. However, departmental responsiveness, autonomy and responsibility are higher since there is a direct correlation between departmental performance and resources. In such systems, the locus of control over budgets is with departmental heads. However, the centre still has a need to maintain financial control and this is usually reliant upon budgetary performance indicators (Campbell and Goold, 1988; Khandwalla, 1972; 1973). In terms of autonomy, a decentralised RAM may be more congruent with traditional expressions of collegiality and university management (cf. Johnson, 2000; Miller, 1995).

This paper examines the identified strategic implications of RAMs, degree of centralisation, strategic direction, cross-subsidy, and locus of control within the context of wider university strategy processes. The paper is based upon an empirical study of senior management in action at three UK universities; Warwick, Oxford Brookes and LSE. While not the only strategic actors, senior management for reasons of formal position and access to power and resources may be identified as

important to strategic action (Child, 1997; Finkelstein and Hambrick, 1996; Hambrick and Mason, 1984; Pettigrew, 1992; Whittington, 1989; 1992). This paper thus takes a senior management perspective, gathering data at that level. Senior management are identified as Vice-Chancellor, Pro-Vice-Chancellors, Registrar and Finance Officer or their institutional equivalents, as well as other senior academics or administrators that are pertinent to the individual context.

Research Design

Theoretical sampling criteria guided the selection of individual cases on the basis of apparent contextual difference in history, origin and market position (cf. Yin, 1994). While not constituting in all respects "polar types" (Pettigrew, 1990), the three contextually distinctive cases, Warwick, LSE, and Oxford Brookes were seen as appropriate to addressing the topic (see Table 2).

Characteristics	Warwick	LSE	Oxford Brookes
Date established	1960s	Late 1800s	Polytechnic: 1970s University: 1992
Type ¹	Campus	Civics, Redbricks, Federal	New
Market position/ Academic reputation	Top 10 University Research-led institution	Top 10 University Research-led institution	Top new University Teaching-led institution
Total income, 1996/97, £,000 ²	138,706	73,783	65,208
Student numbers 1997/98 ³	11,947	8,311	10,181

Table 2: Demographic characteristics of sites

Longitudinal in-depth case studies were conducted at each site over a seven-year period, 1992 to 1998 inclusive, six years of retrospective and one year of real-time data collection. Data were collected from five main sources; interviews, observation, ethnographic data, documents, and archival data (see Appendix A). These sources were designed to counteract the bias potentially resulting from relying upon a single data source (Denzin, 1989; Eisenhardt, 1989), particularly where retrospective analysis is involved (Golden, 1992). Multiple sources also furnish the breadth of information needed to develop a relatively holistic picture of strategy processes within context (Jick, 1979; Pettigrew, 1990).

A total of 49 open-ended interviews were held with all current senior management and, where they were identified as pertinent to specific strategic actions studied, some former senior management and other academic and administrative staff. Interviews lasted, typically, 90 minutes, of which 44 were audio-taped, the remaining five being reconstructed within 24 hours from detailed notes (cf. Eisenhardt, 1989). While uniform prompts were used to ensure consistency, open-ended interviews

¹ Type refers to the 5-category typology used for site selection: 1. Ancients; 2. Civics, Redbricks and Federal; 3. Campus; 4. New; and 5. Technological (O'Leary, 1997).

² Source: HESA statistics, May, 1998.

³ Source: HESA statistics, September, 1999.

were important for the interpretative approach taken. Participants were able to “engage in a stream of consciousness” (Gioia and Thomas, 1996:374), reflecting upon the aspects of strategy process they perceived as important (cf. Langley, 1989; 1990). Interviews investigated both retrospective and current strategic actions and processes.

Serial observations of 51 strategic level meetings across the cases, averaging approximately two hours per meeting, were observed throughout the year of real-time data collection. Sustained observation enabled the identification of ongoing patterns of action and the meanings associated with those patterns (Barley, 1995). Background that enhanced the interpretation of observations was accessible through committee minutes, interviews, and informal discussion with participants.

Data of an ethnographic nature were collected to achieve greater familiarity with locally meaningful informal processes and routines (Van Maanen, 1979). Pre- and post-meeting observations provided an opportunity for observation, as did other general on-site interactions. Additionally, the senior Pro-Vice-Chancellor (PVC) at Warwick and the senior Deputy-Vice-Chancellor (DVC) at Oxford Brookes were shadowed for one week each. Given the time constraints of the research, a week enabled greater familiarity with practices and informal interactions at the top team level (cf. Mintzberg, 1973). At LSE shadowing was not undertaken as the fieldwork on that site involved whole day visits to the Planning Office in the senior management wing, next to the communal coffee machine visited by all senior management and their support staff. As trust grew, ethnographic data became available through informal discussion, eavesdropping and observation.

Minute books from key strategic committees for the period 1992 to 1997 inclusive were the principal source of archival data. These were supported by other documents such as annual reports, annual accounts, academic databases, strategic plans, audit documents, and university calendars. Such data were used to anchor and inform the data collection process, developing extensive processual analyses of strategic activities, both for reconstructed events and to complement real-time data with antecedent material (Golden, 1992).

The above data sources resulted in a rich qualitative data set which was subjected to a thematic analysis, progressively moving from very broad categories to key themes and constructs (Miles and Hubermann, 1994). Data were coded using Nud*ist, a software package that enables complex, multiple coding of mass qualitative data (Richards and Richards, 1994). As themes emerged, preliminary findings were examined in light of the existing literature in order to guide further analysis (Orton, 1997; Pettigrew, 1997). This resulted in some changes to the coding trees or the re-coding of some data. Through this iterative process, the 4,521 coded data items were arranged on a coding tree

with four main branches related to senior management, organisational context, strategy processes such as RAM, and the strategic actions of the institutions.

The possibility of both researcher and informant bias was recognised. Therefore, three techniques were used; triangulation, inter-coder reliability checks, and validation from participants. Triangulation avoids the potential bias of a single data source and assists in constructing more complete and accurate analyses through converging sources of evidence (Eisenhardt, 1989; Jick, 1979; Yin, 1994). Inter-coder reliability checks were performed to confirm the consistency of the coding schema (Fox-Wolfgramm, 1997). The coding tree and construct definitions were explained to two doctoral students who were unfamiliar with the data. A data sample retrieved directly from the Nud*ist files and in no way altered from that used by the investigator was then given to the two co-analysts. The sample comprised 10% of the complete data set and covered constructs and issues from each branch of the coding tree and each data source. Upon evaluation, coding in the sample was found to be between 97% and 100% reliable from both co-analysts. The high consistency of this evaluation and the typical nature of the data examined helped to verify the reliability and robustness of the analysis. Finally, results of the analysis were fed back to senior management participants in order to help validate the findings. The progressive nature of this reporting enabled informants to contribute to the process of refining coding into key themes. A combination of strongly triangulated data, inter-coder reliability checks, and validation from participants significantly limited the possibility of researcher bias.

Data and Preliminary Analysis

Case 1: Warwick University

Warwick is a research-led university that has a reputation for entrepreneurial activity because of its capacity to generate up to 65% of gross income from commercial sources (Clark, 1998). This perception is widely reflected in the senior management; "There is a lot of shared understanding between members of the team in terms of the entrepreneurial culture and the innovative culture" (PVC).

Strategic directions

An analysis of strategic actions from 1992 to 1998 show that Warwick has consistently pursued goal-oriented actions related to research excellence, income-generation, capital expansion and growth of the Science Faculty. Research actions undertaken were: responses to the 1992 and 1996 Research Assessment Exercises (RAE); the 1994 Warwick Research Fellows' initiative to grow the research community; and action from 1994/95 onwards to stimulate greater performance in research grant and contract income. There was rapid expansion of capital works in the earlier phase of this study, stabilising from 1996 onwards as the operating surplus became more constrained. At this time the

focus on income-generating activities, always strong, increased. Growth of the Science Faculty was incorporated into the other strategic directions through attraction of key research staff, capital infrastructure, and targeted student growth in the relevant disciplines. This is further complemented by the recent decision to develop a medical school. Thus, while a number of exogenous and endogenous factors have been influential, strategic directions have remained consistent throughout the period of analysis.

Resource allocation procedures

There are three main strategic committees, the Strategy Committee, Estimates and Grants Committee (E&G), and Earned Income Group (EIG) that are responsible for strategic planning, financial decision-making, income generation, resource allocation, and monitoring and control (see Table 3). As they have overlapping senior management membership and are chaired by the VC, the Senior PVC, and the Registrar respectively, they enable strong central control and coordination of strategic actions.

Committee	Function
Strategy Committee	<ul style="list-style-type: none"> • Develops the financial plan • Makes strategic decisions relating to growth, development, and resource allocation • Considers action plans • Monitors implementation and performance in the main areas of University strategic action
Earned Income Group (EIG)	<ul style="list-style-type: none"> • Manages and monitors all non-state grant sources of income, known as earned income activities comprising some 65% of gross income. • EIG conducts quarterly monitoring of the four categories of activity: academic-driven; spin-off; stand-alone; and self-financing and conducts an annual 'Challenge' review.
Estimates and Grants (E&G)	<ul style="list-style-type: none"> • A centralised system of resource allocation interacting directly with academic departments using a 'zero-based' model whereby departments must apply for the filling of vacant posts with resources transferable according to central priorities. • Traditionally, where posts are granted, the position reverts to a junior post, acting as a savings device and, indirectly, a source of embedding cultural values. • Shapes the University by implementing growth, retrenchment and efficiency gains.

Table 3: Function of strategic committees at Warwick University

Resources are maintained in a central pool that is distributed through Strategy Committee as part of the annual financial planning process. During the financial planning process, resources are allocated in accordance with overarching University priorities. For example, developments in capital infrastructure are allocated to some departments and activities over others because they favour the growth strategies of the University. Strategy Committee is supported by E&G for academic resource allocation and EIG for income generation. Resource allocation through E&G is, in principle, zero-sum based, being used to shape organisational growth and retrenchment according to senior management prioritisation of departmental needs (see Table 3). When a post falls vacant the relevant Head of Department makes a written application to E&G for resources to refill the post, followed by an interview with the committee, in which the validity of the bid against departmental performance and

University priorities are considered. If a replacement post is granted, there is no expectation that this will be at the same level. It is customary that a new post will be at a junior level, entailing a lower resource commitment, unless the Department can make a convincing case for a higher position.

While not a resource allocation committee, EIG is relevant because it manages all income generating activities including academic areas of revenue such as full fee paying courses and research grant and contract income (see Table 3). Profits generated through EIG activities contribute to a central resource pool that is allocated in accordance with top team priorities. EIG reviews quarterly accounts of activities and conducts annual 'Challenge' meetings to monitor the performance of activities against trends and forecasts (see Table 3); "The business just has to be able to bulk up the better income streams and minimise or curtail less productive ones" (Finance Officer). Profit-sharing mechanisms between the centre and departments, including a "super surplus" retained by high income generating departments are an incentive that reinforces a culture of entrepreneurialism. Top slicing of profits enables senior management to finance strategic initiatives and cross-subsidise departments with lower income-generating capacity.

Locus of control

The centralised nature of these key committees provides the centre with a mechanism for acting strategically at the overarching University level in matters of resource allocation. This is complemented by a localised routine of interaction involving direct communication between the centre and the departments;

I have talked with the Chair of [a department] about the way we arrange their package of resources. It is a central group striking an agreement with the Department as to how things will operate. (PVC, Chair of E&G).

This pattern is referred to by the top team as the "strong centre, strong department" model of acting. The top team or centre is 'strong' because of its hold over resources, income-generation, and overall strategic positioning of the University. Departments gain 'strength' through strong leadership combined with excellent performance in research ranking and income-generation. Such departments maintain power in their relationships with the centre because of their capacity to command scarce resources (Pfeffer and Salancik, 1978), whereas lesser performers are more subject to central control (Hackman, 1985; Hickson et al, 1971).

Case 2: London School of Economics and Political Science (LSE)

LSE is a research-led social science institution with a reputation for anomie (Newby, 1997) that members refer to with pride, implying that there is a symbiotic relationship between academic autonomy and research excellence; "We recruit very good people because it is a free, non-coercive atmosphere which is highly conducive to research" (Pro-Director).

Strategic directions

The strategic plan documents goals related to research excellence, maintaining the full range of social sciences, income generation, and development of capital infrastructure. However, analysis provides evidence of strategic drift and dissonance between espoused intent and action, particularly during the earlier period of this study. For example, despite a policy of zero growth, student numbers were over target by between 200 and 400 each year from 1994 to 1998/99, particularly in high fee-paying subject areas. Such drift is counter to policy, distorting the ethnic balance and social science composition of the School and overtaxing the capital infrastructure; "Every year we say we won't let the numbers change and we do and it's changing the student experiences" (Senior Academic).

The collegial culture of the School is resistant to commercial activities as these are considered to dilute academic endeavour: "The old LSE types [are] not given to commercially induced whims or undermining of academic standards" (Senior Academic). It has thus been difficult to implement income-generating activities. However, coincident with the appointment of a new Director in 1997 a number of overarching strategic initiatives, documented as 'Director's Initiatives', are being implemented; "There is no doubt that he is embarked upon a radical programme of change here" (Senior Administrator). For example, four School Professors have been appointed to stimulate overall research performance and the School has undergone a professional marketing campaign designed to increase visibility and enhance income generating capacity.

Committees	Function
Standing Committee	<ul style="list-style-type: none"> • Acts as a governance body, authorising, and legitimating strategic actions relayed to it by the top team and APRC.
Academic Board	<ul style="list-style-type: none"> • Collegial committee that is influential in either authorising or vetoing strategic actions recommended by APRC.
Academic Planning and Resource Committee (APRC)	Collegial body which makes recommendations to Academic Board regarding: <ul style="list-style-type: none"> • 5 yearly departmental reviews, to determine their resource allocation; • develops and refines non-cash resource allocation formulae (MSLs and OPPP); • student number and fee-level planning; • annual resource distribution exercise for recurrent and non-recurrent resources; • interfacing with other strategic committees such as the Finance Committee, reporting to Standing Committee and receiving reports from other committees; • medium-term future planning of the shape and size of the University.
Finance Committee	<ul style="list-style-type: none"> • Determines the resources available for academic or other strategic endeavour, after running and maintenance costs but does not allocate these resources.

Table 4: Function of major strategic committees at LSE

Resource allocation procedures

There are four main strategic committees; Standing Committee, Finance Committee, Academic Planning and Resource Committee (APRC), and Academic Board (see Table 4). While the Director chairs the latter two, there is no main strategic and financial planning committee at which the top team act together as the primary players. Indeed, senior management do not formally manage resource

allocation. Resources are authorised by the Finance Committee and allocated by APRC, a collegial body comprised of professorial and non-professorial staff. Recurrent resources are set for a five-yearly term based upon APRC reviews but annual surplus may be allocated at the discretion of APRC, dependent upon bids for such essentially non-recurrent activities. However as it lacks any clear system of authority, APRC relies upon non-cash formulae to allocate resources, adopting a points system known as Minimum Staffing Levels (MSLs). This formula was introduced in 1992/93 in an attempt to shape the School's growth but proved inflationary in terms of staff and student numbers. It has been refined in 1998 into a system of Operational Pounds Per Point (OPPP) that awards points for income and expenditure. The OPPP is intended to better monitor resource utilisation.

Cross subsidisation occurs because strong performers in research, student recruitment, and income-generation do not receive greater tangible rewards and lesser performers are not penalised, as this does not accord with the notion of collegiality. However, the 1998 development and transparent dissemination of departments' performance in the OPPP are an attempt to bring accountability to the departmental level; "APRC feels that the more responsibility you give departments, the more responsible they will be in terms of how they spend" (Finance Officer). Transparency of departmental performance constitutes a form of "re-integrative shaming" (Senior Academic) designed to encourage departments, particularly lesser performers, to self-monitor their income generation and resource utilisation performance (cf. Johnson, 2000). This indirect method of monitoring resource allocation constitutes a form of controlled collegiality (Langley, 1989; 1990) that reflects the central paradox of power; "the power of an agency is increased in principle by that agency delegating authority" (Hardy and Clegg, 1996:634).

Locus of control

The RAM is indicative of a localised routine of checks and balances designed to preserve the collegial culture and prevent an ascendance of power in any single body of the University. However, senior management has greater influence over resource allocation and strategic direction than the formal structures indicate. Through iterative methods of interaction between committees and opinion leaders, senior management are able to influence resource allocation; "One has the opportunity to command resources but only in a way that you persuade people" (Pro-Director). Hence, during the period of observation, the top team managed to generate financial support for strategic actions by convincing interested parties of the desirability of these actions, so gradually building momentum. "You don't move things in this place by being managerial. You find champions for things and work with the grain of the School to secure change" (Secretary). Thus skilled management of meaning is required for the centre to allocate resources to overarching School objectives (cf. Hardy, 1996). "We get other people to think that they want what we want" (Director). This has been particularly evident in the latter part

of the study, where the Director appointed in 1997 has the academic credibility and networking skills necessary to influence resource allocation within the collegial context of LSE.

Case 3: Oxford Brookes University

A former polytechnic, Oxford Brookes is one of the leading 'new' universities in the UK. The University has a reputation for teaching excellence, having pioneered modular programmes in the 1970s, and this is reflected in a student-centred ethos; "Commitment to the students was tangible" (Former Senior DVC).

Strategic directions

Strategic intent and actions in the earlier part of this study were largely focussed upon financial viability and building capital infrastructure, whilst maintaining the teaching reputation. During this period the University consolidated its student funding levels at 17.5% above the sectoral average and purchased a new campus site. Since 1998 strategic actions have been strongly influenced by the HEFCE migration policy; a funding formula that resulted in a 12.5% decrease in state funding per student unit of resource for Oxford Brookes. This equates with a growth of 800 un-funded student places. In order to meet this objective, a range of strategies has been implemented involving partnerships with higher education colleges and industry in order to deliver education without increasing on-campus student numbers. These actions are broadly consistent with the history of innovation in teaching and learning and maintaining financial viability. They are being rapidly implemented to the extent that the University has met its growth targets in half the time agreed with HEFCE. However a new area of intent, building the research profile, is slower to progress as it contradicts former strategic intent; "I took the view strategically that we couldn't be a research University" (Former VC).

Resource allocation procedures

Of the four main strategic committees, Board of Governors, Vice-Chancellor's Advisory Group (VAG), Academic Board, and Strategy and Planning Committee (SPC), VAG is the most influential. It comprises the six-person senior management team; "It's really where we set the agenda. That's the core executive team and that's where we decide what sort of policies we are taking through; what we want to do" (VC). Senior Management interacts with the Board of Governors, particularly to approve strategic decisions, and Academic Board and its sub-committee, Strategy and Planning Committee (SPC) to disseminate information and comply with University governance regulations (see Table 5).

As part of a progressive movement towards more formally accountable strategic and financial planning practices, senior management adopted a new procedure in 1995/96, the strategic planning cycle. This annual cycle integrates strategic direction, resource allocation, and monitoring and control

within a single process that is monitored by senior management at every stage. The financial and physical parameters of the plan are developed annually by senior management in order to prioritise strategic actions and set performance targets. These parameters and priorities are then disseminated to departments as guidelines for developing their budgets and operating plans. Once in the plan, actions tend to be repeated over successive years providing that they meet performance goals.

Committee	Function
Board of Governors	<ul style="list-style-type: none"> Responsible for the administrative and management accountability of the institution, particularly in terms of financial audit.
VCs Advisory Group (VAG)	<ul style="list-style-type: none"> Core executive body that deals with strategic and operational decisions and actions, including setting the parameters of the strategic plan and managing and monitoring the planning cycle.
Academic Board	<ul style="list-style-type: none"> Formally responsible for approving the strategic plan. However, in practice, is mainly a forum for canvassing opinion and input on areas of 'academic territory'.
Strategy and Planning (SPC)	<ul style="list-style-type: none"> A sub-committee of the Academic Board that is responsible for considering the strategic plan and making recommendations to Academic Board.
Strategic planning cycle	<ul style="list-style-type: none"> The major coordinating mechanism, integrating strategic directions, implementation, resource allocation, monitoring and control in a single, annually cyclical procedure.

Table 5: Function of major strategic committees at Oxford Brookes University

Resources are allocated through the strategic planning cycle to the 31 schools and departments termed 'budget centres'. While budget centres have control of spending within their allocation, at the corporate level the resource allocation model emphasises financial viability, providing power over organisational shape and direction (cf. Campbell and Goold, 1988). "The budget model penalises schools because, if they don't recruit to target, then their budget is reduced" (DVC). For example, in 1995/96 the planning cycle identified problems of student recruitment in a department. This was monitored over successive years resulting in closure in 1998/99 because of failure to meet targets. Each year since its inception the planning cycle implements increasingly stringent financial and human resource efficiency gains in order to meet the University's response to declining state funding. This is indicated in the 1998/99 planning cycle that incorporates 13 new statistical performance indicators in six priority areas. "The indicators drawn up emphasise those key indicators which Senior Management Team currently consider the most important for benchmarking performance internally and externally" (Planning Cycle, 1998/99). As transparency of the RAM increases, the budget centres seek sanctions and rewards that are tied to performance indicators. For example in the 1996/97 planning meetings, a budget centre Head "sought University support in handling the problem of under-performing staff within the context of clear disciplinary procedures" (Planning cycle minutes, 1996/97). These changes are indicative of changes in the activity system, sometimes termed "The Winning Approach [which] is about a whole range of activities that a school has to score well on" (Senior DVC).

As the RAM does not incorporate top-slicing, it is difficult for senior management to resource new initiatives from the centre. For example, it is difficult to put resources into establishing greater research activity; "Unless research pays, you're not going to get some Schools giving it enough attention" (PVC). Additionally, it is problematic to cross-subsidise lesser performers since resources are tied to current performance, particularly sound recruitment at undergraduate level. Thus resources are tied to strategic directions that are consistent with the historical areas of strength and grounded in the student-centred ethos. As cultural change becomes more established through the strategic planning cycle, issues of top-slicing and development of new goals are becoming a source of senior management discussion because the existing RAM was not delivering the full range of strategic aspirations.

Further Analysis and Discussion

This discussion will compare the case study institutions against four indicators identified in the theoretical framing of the paper; relative centralisation of the RAM, primary locus of strategic direction; cross-subsidisation of departments; and locus of control. These comparisons will then be located within the specific context of each case study to interpret the findings.

Centralisation

Warwick operates the most centralised RAM of the three cases. Resources are prioritised, allocated and monitored directly by senior management through the main strategic committees and the financial planning process. Top-slicing and profit-sharing provide the centre with resources to distribute in accordance with their priorities. By contrast, Oxford Brookes operates a centralised/decentralised RAM inasmuch as strategic priorities and financial parameters are centralised but budgets are devolved to schools and departments. As there is no top-slicing, resources tend to be allocated in accordance with performance to financial viability targets such as recruitment. LSE has the least centralised RAM, with resources allocated by a collegial committee of professorial and non-professorial staff who have limited authority, relying upon a points system to manage resource distribution. Even senior management is required to go through APRC in order to deploy resources for perceived strategic priorities.

Strategic directions

At Warwick the zero-sum model in operation permits resources to be redeployed from areas of strength to finance new initiatives. Strategic initiatives are prioritised, managed, and monitored through the central committees. For example, new areas of income generation are analysed and approved for their financial soundness through EIG Committee and new academic initiatives, such as a Medical School, are decided at Strategy Committee. There is evidence of consistency between strategic intent and action throughout the period of this research. The primary locus for strategic

directions may thus be considered to be at the centre, with a focus upon overarching strategic goals and resources deployed in accordance with central prioritising.

The planning cycle at Oxford Brookes is an effective mechanism for establishing financial parameters in accordance with strategic directions, particularly those related to quantitative targets such as recruitment and staff numbers. Senior management are able to centrally shape organisational growth through allocation of resources to specific student units and retrenchment through the implementation of broad scale efficiency gains. The detailed nature of the planning cycle enables requests from schools and departments for additional resources to be centrally evaluated against strategic priorities. Emergent strategic directions may thus be funded if the shrinking pool of resources permits. However, as there is no top-slicing it is difficult to establish and finance new initiatives from the centre. Resources tend to favour greater commitment to areas of current strategic strength, particularly those related to financial viability, and this is evidenced in the rapid attainment of the HEFCE migration targets. While both long and short-term goals may be pursued, the RAM reinforces existing areas of excellence. Strategic direction is thus located both at the centre and in the RAM itself.

At LSE resources are not specifically tied to strategic directions, being allocated by a collegiate body, the APRC. While resources are tied to student:staff ratios, the five-yearly review of resource allocation is too long to adequately reflect changes in organisational composition. For example, an undergraduate student is customarily a three-year unit of resource and taught postgraduates are one-year units of resource. There is thus initial evidence of strategic drift in student numbers with consequences for capital infrastructure and social science composition of the School. Strategic directions that are able to emerge through the various committees and opinion leaders are liable to have generated sufficient support to be actioned. While directions are not centrally imposed, senior management may be influential if they are able to persuade the constituents of LSE of the desirability of strategic actions. As the current senior management team is skilled in the social processes of generating strategic impetus, the centre has the capacity to influence strategic direction. This is evidenced by the implementation of a range of new strategic initiatives at the overarching University level. However, strategic directions at LSE must be considered the least centrally managed of the three case studies. This was associated with problematic long-term goal setting in the early stages of this study, although this is progressively changing.

Cross-subsidy

Cross-subsidy of lower income performers occurs as a matter of policy at Warwick, with central resources allocated in accordance with strategic priorities. Thus some departments may receive greater central subsidisation in appointing academic posts or in financing new capital infrastructure because they are areas in which the University wishes to grow numbers or maintain and develop

research strength. This type of subsidisation may be associated with performance expectations for departments and capital developments in particular are tied to income-generating activities that are incorporated within the financial plan in order to monitor return on investment. LSE also cross-subsidises departments as a matter of policy. However the degree of cross-subsidisation is loosely linked with performance and resources. As the resource pool has become increasingly constrained, this has become a matter for concern leading to collegiate measures such as transparent resource utilisation profiles in order to stimulate more departmental responsibility for performance. Oxford Brookes has the least capacity for cross-subsidisation, to the extent that a non-performing school was closed down due to its incapacity to remain financially viable. The lack of criteria for supporting less financially viable schools that are important to overall University composition is a source of concern for senior management as the current RAM stimulates growth in big schools while smaller ones have the potential to be progressively starved. However this had not been addressed at the close of the study.

Locus of control

The locus of control at Warwick is with the centre, afforded by the control over resource allocation. Consistent with models of fast growing, entrepreneurial organisations, there is a power culture located around a powerful centre (Handy, 1981; Mintzberg, 1979). Departmental power arises from the ability to command scarce resources through research or income-generating activities, increasing the capacity of such departments to negotiate with the centre while lesser performers lose autonomy (Hackman, 1985; Hickson et al, 1971). The RAM recognises this balance of power and encourages compliance with central directions through the profit sharing models. The locus of control may thus be considered to be primarily at the centre and is facilitated by direct interaction between senior management and departments, which focuses organisational attention on central goals (Simons, 1990; 1994).

At Oxford Brookes control resides in senior management, who establish the strategic and financial parameters under which budget centres perform, and in the resource allocation process itself. That is, once an action is within the strategic planning cycle it has resources allocated to it that will be perpetuated or even increased in accordance with performance indicators. Under such a RAM, it is as difficult to curtail a viable action as to sustain an unviable one. This form of goals/means displacement, in which a procedure intended to aid strategic choice begins to dictate the choices available, is a recognised phenomena in formal operating procedures and may persist across successive cycles of an organisation (Cyert and March, 1963; Nelson and Winter, 1982). The locus of control is thus in the centre and in the planning mechanisms (cf. Campbell and Goold, 1988; Khandwalla, 1972; 1973).

At LSE control is diffuse, residing in powerful departments, opinion leaders, important committees and skilled operators in the senior management team. In such a model control is socially negotiated, depending upon the centre's ability to manage meaning in a manner favourable to its own ends (Hardy, 1996; Hardy and O'Sullivan, 1998; Lukes, 1974). While negotiation and selling are commonly undertaken by senior managers in order to influence the uptake of strategies (Garvin, 1998; Simons, 1990; 1994), the prevalence and reinforcement of the points-based RAM at LSE is evidence of a more diffuse locus of control. Such types of formal analysis are considered to serve the purposes of controlled collegiality in organisations where managers deal with a largely autonomous workforce of professionals (Langley, 1989; 1990). The complex information generated to administer these procedures may be used as a point of negotiation and persuasion, particularly in terms of moral persuasion engendered by the transparent dissemination of departmental allocations. Thus weakly sanctioned formal controls are balanced by strong normative controls that are embedded within the social structure of the LSE (cf. Deem and Johnson, 1999; Giddens, 1984; Johnson, 2000). Control may be centralised in such situations but only through a combination of skilled negotiation at the centre and the consensus or acquiescence of the organisation.

Indicators	Warwick	LSE	Oxford Brookes
Relative centralisation	<ul style="list-style-type: none"> • Most centralised 	<ul style="list-style-type: none"> • Most decentralised 	<ul style="list-style-type: none"> • De/Centralised
Strategic direction	<ul style="list-style-type: none"> • Central prioritising • Overarching university strategy 	<ul style="list-style-type: none"> • Central negotiation and persuasion • Emergent strategy 	<ul style="list-style-type: none"> • Central setting of parameters • Consolidation of current strengths
Cross-subsidy	<ul style="list-style-type: none"> • High 	<ul style="list-style-type: none"> • High 	<ul style="list-style-type: none"> • Lowest
Locus of control	<ul style="list-style-type: none"> • At the centre • Central resource pool • Profit-sharing encourages compliance • Direct interaction with senior management 	<ul style="list-style-type: none"> • Diffuse • Management of meaning by senior management • Normative: transparent resource allocation 	<ul style="list-style-type: none"> • At the centre • In the planning cycle and RAM • Existing strategies and centres of excellence maintain strength

Table 6: Cross-case comparison of strategic implications of RAM

Table 6 summarises this cross case comparison of relative centralisation, locus of strategic direction, capacity for cross-subsidy, and locus of control. The comparisons provide general support for the theoretical framework proposed at the beginning of this paper. Degrees of centralisation in RAM appear to be associated with the suggested strategic implications. Drawing upon this framework, Warwick is the most akin to a synergistic business with core competences that integrate the various departments within an overarching university strategy (Prahalad and Hamel, 1990). Oxford Brookes tends more towards the portfolio of autonomous business units, integrated through budgetary controls

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and performance indicators (Campbell and Goold, 1988). LSE falls somewhere between these cases, being less compatible with business models and more akin to the loosely coupled system (Weick, 1976), collegium (McNay, 1995), or professional bureaucracy (Mintzberg, 1979) in which there is high autonomy but also low control.

While theory deals with polarities, the actual cases display degrees of balance between the various indicators. These distinctions are socially embedded, being situated within the historical and cultural context of each institution. While such a limited sample of cases may not provide generalisations, the differences may be located within wider studies of organisations and other studies of university culture and organisation. At Warwick, a fast-growing institution with a reputation for entrepreneurialism, the RAM support centralised strategic direction and control (cf. Handy, 1981; McNay, 1995), whereas LSE is more collegial, with loosely defined and negotiable strategic direction and control (Cohen and March, 1974; McNay, 1995). Oxford Brookes, on the other hand, may be classified as more bureaucratic, consistent with its history of governance by initially a Local Education Authority and then a National Advisory Board (Bastin, 1990; Eustace, 1994; Robertson, 1993). As such the RAM supports a history and culture of formalised and accountable strategic directions and controls (cf. Handy, 1981; McNay, 1995).

Theoretical and practical implications

Given these contextually located differences, the choice of RAM is less a matter of best practice than one of internal fit. It is doubtful that the RAM applicable in one case study could be transposed to another of the cases due to the specific characteristics of culture and context in each institution. As the cases are consistent with existing typologies of universities and organisations, there may, however, be similarities with other universities of similar background, for example other new universities may have similar characteristics to Oxford Brookes and campus universities to Warwick. The extent to which institutions of similar background are characterised by similar RAM and the strategic implications associated with such RAM, is a topic for further investigation over a wider sample of universities.

Since the cases may be classified in accordance with existing models, it is possible to speculate about the possible trajectories of strategy process arising from each type of RAM. The notion of trajectories may be used to examine how existing structures, strategies, and processes, particularly where they are associated with success, may gain momentum in an organisation to the extent that they become caricatures of the initial components of success, ultimately leading to decline (Miller, 1992). While hypothetical, such theorising serves a useful predictive purpose as it suggests potential problems associated with any particular RAM.

Under the entrepreneurial, Warwick style model, there is a danger that RAM may lead to over-centralisation and excessive reliance upon senior management for strategic direction. While there is a degree of departmental autonomy, the profit-sharing models may stimulate compliance with overarching directions to the detriment of departmental responsiveness and stifling of innovations that do not originate at or comply with central directions. Such trajectories are found in entrepreneurial firms as they reach 'middle age', growing beyond the management capacity of a flat, power-based structure and culture (Hanks, 1990; Miller, 1992; Tashakori, 1980) and becoming predisposed to familiarity and maturity traps that create barriers to innovation (Ahuja and Lampert, 2001). In this essentially centralised style of RAM it is necessary to maintain a high degree of diversity and renewal at the centre in order to guard against the dangers of excessive homogeneity and familiarity in the senior management team (Finkelstein and Hambrick, 1996; Hambrick and Mason, 1984; Iaquinto and Frederickson, 1997; Johnson, 1987). Such characteristics of senior management have been associated with groupthink (Janis, 1972), resistance to change (Wiersema and Bantel, 1992), barriers to learning (Bettis and Prahalad, 1995), and strategic inertia (Hannan and Freeman, 1984; Rumelt, 1995). Therefore, in a centralised RAM attention must be paid to senior management composition and organisational experimentation (Ahuja and Lampert, 2001; March, 1991).

The LSE model of RAM, when carried to the extremes of its trajectory, has the potential to be associated with organised anarchy (Cohen and March, 1974), or even more random forms of strategic decision-making, such as the garbage can model (Cohen et al, 1972). In such circumstances, the university suffers from goal ambiguity and is unable to pursue purposive directions. Rather, action occurs through the random confluence of problems, solutions, participants, and choice opportunities that interact fluidly.. However, in the climate of new managerialism that pervades the public sector, including higher education, universities are required to display ostensibly rational procedures that involve purposive action, accountability, and environmental responsiveness (cf. Ferlie et al, 1996). While there may be a gap between managerial discourses and actual practice (Prichard and Willmott, 1997), the tendencies of a trajectory based upon traditional forms of collegiality may be counteracted by the application of collegially acceptable forms of control (Johnson, 2000; Langley, 1989; 1991; McNay, 1995). These include transparency of resource allocation, and a senior management team with contextual sensitivity, credibility with the academic body, and excellent negotiation skills.

Finally, the trajectory of the Oxford Brookes model may be prone to excessive bureaucratisation, in which formalised and accountable procedures become routinised to the extent that they dictate choice (Cohen and Bacdayan, 1994; Cyert and March, 1963; Nelson and Winter, 1982). In the extremes of this model, the institution has a tendency to adopt recurrent patterns of strategic action becoming trapped in the rules and routines by which the organisation is structured (Cohen et al, 1996). The avoidance of routinised action patterns is complex, since they are embedded within the social

architecture of the organisation (Henderson and Clark, 1990). However, some flexibility in the RAM may be facilitated through the maintenance of a central pool of funds that is not allocated to existing financial and strategic parameters and indicators. This discretionary fund may be used to stimulate innovation by resourcing activities that are on the periphery of existing, routinised action (cf. Ahuja and Lampert, 2001; Wenger and Snyder, 2000).

While each of these trajectories is a hypothetical case, organisations are known to fall into the traps of excessive recourse to existing mechanisms, patterns, and behaviours (Ahuja and Lampert, 2001; Leonard-Barton, 1992; Miller, 1992). Thus, the trajectories have implications for practice and also for theory. Future research may undertake longitudinal investigation of institutions with similar RAM to determine the circumstances under which RAM is associated with desirable outcomes and when it is prone to the negative effects of routine and over-dependence.

Conclusion

This paper has examined the strategic implications of resource allocation models in three UK universities, Warwick, LSE and Oxford Brookes. Comparisons have been based upon four main concepts, the degree of centralisation, locus of strategic direction, cross-subsidisation, and locus of control. The findings suggest four main conclusions. First, universities have different models of resource allocation in accordance with their contextual characteristics of culture, history, and structure. Second, these differences are manifested in a tension between centralisation and decentralisation, and varying degrees of balance between locus of strategic direction, cross-subsidy and control. As such, RAM is less a matter of best practice, neatly transferable between institutions, than one of internal fit. Third, all forms of RAM are inherently problematic when carried to extremes, therefore internal fit is, ideally, flexible to changes in the university and the wider environment. Finally, there appears to be substantial relevance between theory based largely on private sector, commercial organisations and the universities discussed here. This suggests that there is indeed increasing application of business terminology and concepts within the higher education sector, possibly associated with new public management (Ferlie et al, 1996; Parker and Jary, 1995). Further research is needed to understand the degree to which such terminology and concepts have direct correspondence in the higher education sector (cf. Deem and Johnson, 1999; Gioia and Thomas, 1996; Prichard and Willmott, 1997).

¹ The author wishes to thank the three institutions for the opportunity to study them and the excellent access provided. The interpretations presented here are totally those of the investigator and are not intended to make value judgements regarding the merits of the strategy processes of any particular institution. Furthermore, this study was conducted for the time period 1992 to 1998 and the participating institutions may well have changed their personnel and strategy processes since that time.

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APPENDIX A: Summary of data sources across cases

Data Source	Warwick	LSE	Oxford Brookes
Interviews	20 open-ended interviews @ 90 minutes each, with each TMT member, 2 former members and 2 non-TMT members. Repeat interviews with 5 TMT members.	18 open-ended interviews @ 90 minutes each, with each TMT member, 4 APRC members, 4 senior officers, Director's executive assistant, 3 senior academics, repeat with 2 TMT members.	11 open-ended interviews @ 90 minutes each, with each TMT member, 2 former TMT members, Departmental Head, repeat with 2 TMT members.
Meeting observations	<ul style="list-style-type: none"> • Strategy Committee – 7 • Earned Income Group (EIG) - 6 • Estimates and Grants Committee (E&G) – 5 • Other working party for actioning a strategic issue - 1 	<ul style="list-style-type: none"> • Academic Planning and Resource Committee (APRC) – 7 • Standing Committee – 2 • Academic Board – 1 • Convenors meeting – 1 • Other administrative and collegial committees - 6 	<ul style="list-style-type: none"> • Vice-Chancellors's Advisory Group (VAG) - 3 • Board of Governors – 2 • Planning Process meetings with departments – 2 • Academic Board – 1 • Other meetings used by TMT for consultative purposes - 6 • Strategy Day between TMT and Board – 1
Ethnographic	<ul style="list-style-type: none"> • 1 week shadowing Senior PVC • Pre- and post-meeting observation • General on-site data, particularly informal discussion when the opportunity arose – at least 7 times in detail and many brief chats. 	<ul style="list-style-type: none"> • Pre- and post-meeting observation • General on-site data where I sat in the Planning Office, next to the general coffee machine; handy for informal discussion, which occurred on every visit. 	<ul style="list-style-type: none"> • 1 week shadowing Senior DVC • Pre- and post-meeting observation • General on-site data, mostly informal chats pre and post-meetings and also opportunism; being in the right place at the right time.
Documentary – archival and other	<ul style="list-style-type: none"> • Minutes of Strategy Committee, 1992 to 1998 • Minutes of all meetings attended • Annual reports; Audit documents; Strategic plans; Academic databases; University calendars; Briefing papers; Memoranda and minutes of major 1994 strategic initiative; Sectoral documents. 	<ul style="list-style-type: none"> • Minutes of APRC and Academic Board, 1992 to 1998 • Minutes of Standing Committee and Planning Team, 1997 to 1998 • Minutes of all meetings attended • Audit documents; Strategic plans; University calendars; Briefing papers; Handbook for Department Heads; Sectoral documents. 	<ul style="list-style-type: none"> • Planning Cycle documentation since inception in 1995/96 through to 1998/99 • Major strategic issue reports and summaries from 1993 • Coopers and Lybrand report, 1988 • Minutes of all meetings attended and minutes of strategic-planning VAG Meetings not attended. • Supporting planning documentation; Annual reports and accounts; Sectoral documents.