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# Resource allocation for libraries in higher education

Paul Banks  
*Head of Library Services*  
City Law School  
City University London  
[p.banks@city.ac.uk](mailto:p.banks@city.ac.uk)

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Allocating a university library's budget for collections equitably across academic disciplines, departments or schools is a problem most library managers face on a regular basis. The need to manage journal spend across disciplines and support new teaching programmes and new research areas within an already tight budget is an annual occurrence. Add in the complexities of a rapidly changing technological environment with a move to more expensive digital collections and a tougher financial régime as universities cut back on their operating costs, and it becomes a serious challenge.

Even where allocations are pre-determined by established financial models, these may have been agreed some time ago in a more favourable financial climate. This is certainly the case at City University, where an ageing resource distribution model based on student numbers enrolled with each school has remained the same since its introduction in the 1990s, and has led to historic underfunding of library collections; and where schools hold the library's budget and have been reluctant to concede any change to their current allocations for fear of losing out to another school.

Like many higher education (HE) libraries, City University Library Services has 'lived within its means' with a mostly stand-still budget, occasional 'uplifts' to allow for higher than average journal inflation but certainly no inflation-proofing of collections in the face of growing digital collections and significant price increases. A change in the strategic direction of the university towards research endeavour brought with it strategic investment in library resources and an opportunity to reconsider the model by which funds are distributed across subject disciplines.

This article explores current resource distribution models (RDM), a term that will be used throughout to describe a library's allocation method for collections. This distinguishes it from the university's resource allocation model (RAM) used across HE institutions to describe the wider allocation of university budgets to individual schools, departments or academic units.

## THE LIBRARY'S RDM AT CITY UNIVERSITY

Library Services receives an annual block grant from the university to cover the cost of operations, staffing and collections, the last two forming the larger part of expenditure. A small percentage increase for inflation is allocated to the collections budget for each new financial year and business cases are submitted for any additional 'uplift' that may be required in any one year.

A 'top slice' of 8% of the collections budget is then taken to fund the more generic databases and reference materials and the remainder split between schools on the basis of student full-time equivalent (FTE) numbers enrolled with each school. The budgeted allocation and authority to purchase are then devolved to schools, who may choose to divide the sum further between departments or programmes.

The allocation covers all library materials needed by the school, including books, journals and databases, but some schools find their FTE-based allocation insufficient and choose to make additional contributions for library resources. Cass Business School invests heavily in premium business databases, social sciences purchase significantly more printed resources to support extensive reading lists, while City Law School contributes additional funds to accommodate the expense of law materials.

This method of devolved budgeting dates back to the 1990s at City but is not consistent across the schools. The university's assimilation of the School of Nursing and Midwifery in 1995 and the Inns of Court School of Law in 2001 led to a mixed mode of budget handling. Both schools retained their own library budget arrangements whereby a collections budget was allocated to the library by the school, while authority to purchase remained with the school's library staff, who also negotiated the need for any additional investment directly with the school.

This meant that until as recently as summer 2013, there were mixed modes of both budget alloca-

tion and purchase authorisation across schools. This has given rise to differential levels of library resource allocation and service levels, with limited authority to spend delegated to the university's library service.

#### **RISKS IN THE CURRENT MODEL**

This method of distributing library resources is fairly typical of UK university libraries. A comparative study commissioned by the University of Edinburgh in 2008 showed that of the ten sample universities, only two (Imperial and UCL) centrally managed the entire budget, while only Bristol took no top slice at all and allocated the entire budget across academic units (i.e. schools, departments or subject disciplines). Most took a top slice of between 11% (Edinburgh) and 81% (Nottingham) of the library resources budget before allocating the remainder to academic units using some kind of RDM formula to calculate their allocations with student FTE being the key driver.<sup>1</sup>

While clearly no formula is perfect, there are flaws in applying this method of allocating library resource to subject disciplines. At City University, a number of weaknesses in the current model have exposed some fundamental risks to library collections at an institution in the process of transformative change as it seeks to position itself as a research institution in a competitive education market.

- The overall level of funding is based on a 1990s level of funding supplemented by tiny percentage increases. These increases fail to reflect the higher inflation rates for databases, journals and texts. Consequently the library is unable to maintain its purchasing power, and indeed in moving towards the more popular but more expensive electronic format, suffers a substantial year-on-year cut in its budget in real terms. Periodic bids for additional 'uplifts' provide temporary relief but fall short of the 'inflation-proofing' required to maintain purchasing power.
- The 8% top slice for journals is insufficient for 'general' titles used by several schools and pre-dates the move to purchasing electronic journals in bundled deals. In practice most electronic journal subscriptions are now negotiated, purchased and managed as bundles with cheap additional content bundled in with major titles. A heavy top slice takes into account this purchase model and allows

a library to manage centrally most bundled and stand-alone subscriptions. 'Light slicers' are disadvantaged by the need for librarians to spend time sharing the bundled subscription costs between schools; while financially transparent, it is highly inefficient.

- Journal title download statistics also show a high degree of interdisciplinary use; if one school chooses to cancel a journal it pays for, it deprives other disciplines of the use of that title, with knock-on effects for interdisciplinary research. One title cancelled will invariably need to be replaced by another so as to sustain the minimum spend required to obtain a discounted bundled deal. Again, this is time-consuming and inefficient for the library to administer.
- A simple, un-weighted FTE-based allocation fails to account for differential costs of materials, predominant type of resource used by each school (business databases or print texts), depth of required reading on reading lists (more substantial for social sciences), variable student use of resources (measured through number of loans), full- and part-time modes of study, undergraduate or postgraduate level of study, research endeavour at each school, level of fees paid, and so on. The FTE-based allocation is clearly insufficient for some schools who choose to top up their allocation.
- A resource distribution model focused on a top slice and a fixed allocation is inflexible in the face of market factors (the rising costs of journals, currency fluctuations, VAT increases, publishers' prices, technological change, etc), changes to university metrics (critical comment in the National Student Survey, significant growth in student numbers, changes to student profile, the balance between undergraduate and research needs) and changes to both university- and school-level strategic priorities (the need to finance additional resources for new research staff, for existing research activity and for interdisciplinary research).

The multiple methods by which library funds are allocated – top slice, FTE allocation with school authorisation of purchase and separate one-off bids for 'uplifts' or additional funding – lend themselves to inefficiencies, poor budget planning and a lack of transparency. At City University, the need for a larger block grant for inflation-proofing,

a significant 'top slice' for better management of journal subscriptions and a fairer method of allocating sums between schools is self-apparent, but there is also a clear need for a single transparent model for the distribution of library funds across schools and disciplines.

#### **OPPORTUNITIES FOR CHANGE**

This model of allocating library funds between schools was reviewed when City University undertook a RAM exercise in 2008 to look at the overhead that schools pay for the library. Several factors were used to determine how costs should be attributed, including footfall, number of loans, the cost of acquiring materials and so on. The information was used to charge the schools for their use of library services, but the data collected had no bearing on the amount the library received and did not influence the way in which the collections budget was distributed.

Two significant developments in the last year have presented the opportunity for a more substantial change, however. In December 2012, the university released additional investment of £7.5 million in library resources over four years – c. £1.8 million per year – much of it recurrent spend on new database packages and subscriptions. This cash injection will bring library resourcing to a level equivalent to that of a Russell Group university – a level that reflects both City University's aspirations as a research institution and its desire to be in the top 2% of world universities. The stated intention is to amalgamate this strategic investment recurrent spending into existing library operational budgets from 2014–15.

In addition, from 1 August 2013 all library resource budgets were centralised for the first time. This brought library operating budgets previously allocated by schools into the university library's operating budget alongside the additional annual 'top-up' contributions made by schools. While this has simplified the budgets into one centralised model, purchase authorisation remains with the schools, and the FTE-based allocation to each school remains in place. As yet there are no arrangements in place with the schools on the annual budget planning and review process and handling 'overspends' or contingencies.

With significant new funds easing the pressure on allocations to schools, and centralised budget arrangements in a state of change, there is an opportunity for the university library to introduce

a different approach to financing collections for disciplines that might be agreeable to all of the schools.

#### **ALTERNATIVE MODELS**

There are a number of alternative models for distributing library funds in use in UK universities. These broadly fall into one of the categories below, though some university libraries have adopted a hybrid model combining two or more methods.

##### *Formula-based model*

The resource distribution model used at City University falls into the formula-based category, with a top slice that can vary from as little as 8% (City) to as much as 85% (Kings) of the total information resources budget.<sup>2</sup> The remaining sum is distributed to schools by a simple student FTE-based formula. Variations of the model might include the setting aside of a 'discretionary fund' for targeted book purchasing (Liverpool) or a base allocation for 'minimum necessary provision' designed to protect smaller schools (Leeds). A simple approach, but, as we have seen, highly inflexible in the face of rapidly changing student profiles, difficult financial situations, research ambitions and changing university strategies.

##### *Weighted model*

As per the formula-based model above but after the top slice, the FTE-based allocation to disciplines is weighted for a variety of factors such as fees level and income, student profile, average costs of materials or book price, research output, the collection's strategic needs, pump-priming of new programmes and so on. The number of key drivers incorporated as 'weightings' varies substantially across institutions. Of the five formulae considered in Edinburgh's 2008 study, all used student population and cost drivers and were derived from both university metrics and market-related data. Material usage data was used in three RDMs (though not always successfully) but research in only two.<sup>3</sup>

##### *Percentage-based allocation (PBA) model*

The percentage of the library's budget allocated to each school or academic discipline equals the percentage of the total university teaching and research income received by each school or allocated by the university to each school. This approach aligns library spend with university income. Key drivers such as student FTEs and other weightings have already been taken into account when the university makes its resource

allocation to the school; this model simply adopts the same measure for library resource. PBA is used by a number of US universities and the principles are used by some UK universities (Open University, York, Leicester, Cambridge), but often in line with a 'weighted model'.<sup>4</sup>

#### *Income-based model*

The university's allocation to the library is divided amongst academic schools and subject disciplines according to a formula that recognises teaching need and research value. For example, at Leicester, after a top slice for e-resources, the remaining funds are allocated between teaching and research to the ratio of 65:35, reflecting the teaching and research contributions to university income.<sup>5</sup>

#### *Activity-based model*

This model was used to incorporate the costs of library services across 30+ libraries at the University of Oxford and then charge the costs back to the schools. This model is less relevant here as we are allocating resources for collections rather than costing activities or staffing costs.<sup>6</sup>

### **SECTOR COMPARISONS**

Many libraries within the HE sector provide information concerning RDMs on their websites; internet research gathered details of allocation models from twelve such institutions in November 2013.<sup>7</sup> An email query to SCONUL members elicited details from a further seven; the responses also provided useful commentary on the RDM in use, their utility and any recent or pending changes.<sup>8</sup> It is also useful to cross-reference the 2008 Edinburgh study referred to above, which details the RDMs of five institutions using allocation models.

The 2009 Détraz study showed that of the eight out of ten institutions that allocated sums to academic units, only two used a simple formula model, the remaining six favouring a weighted model with student FTEs and material costs as the key drivers.

Of the nineteen institutions sampled in 2013, seven used a formula model, with a further nine libraries choosing the weighted model, again with student population and costs as the key drivers but supplemented by loan figures, research activity and other variables. The range of variables chosen reflected the disciplines and interests inherent to the institution and highlighted the complexity of a weighted model. Indeed one library reported that it had decided to move away from an 'overly complex' weighted allocation

model towards a simpler method that responds to book requests as and when they come in.

Only three institutions used an income-based model; one had varied it with weighted allocations while another had chosen to discard it in favour of a 'heavy top slice' and a more centrally managed journal spend, dispensing with an allocation to schools altogether. The top slice was the most widely used tool in distributing library resource and is clearly seen as an effective way of centrally managing journal spend within a complex digital publishing environment.

### **TOWARDS A NEW RESOURCE DISTRIBUTION MODEL**

It is reassuring to find that City University library is not the only library with a formula-based RDM that no longer suits a rapidly changing HE environment. Sector comparisons are also useful and there are sufficient data available to hint at a future scenario for City; a hefty top slice to allow for improved management of journal spend and a more weighted model in the allocation of resource to schools. Like all institutions, however, City has its own complexities; the need to provide sums for disparate and expensive 'professional' law and business disciplines ranging from undergraduate to prestigious postgraduate programmes, in addition to resourcing emerging research activities, all add to a potentially complex model for the distribution of library resource.

The university's decision to release £1.8 million of additional investment each year for the next four years is a key step forward, however. Amongst many HE institutions, there is now recognition that ignoring historic levels of underfunding has 'serious implications as to the status of the institution as a leading research-intensive university'. Today HE institutions 'see the access they provide to collections as a crucial intellectual asset and a key factor in the university's ability to retain its competitive edge both nationally and internationally'.<sup>9</sup> City University is today starting along that same road towards an improved level of funding and a more equitable resource allocation amongst its schools and disciplines.

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  - 4 For discussion of the PBA method and practice in the US, see Wanda Dole, 'PBA: a statistics-based method to allocate academic library materials budgets', *Statistics in practice – measuring & managing*, 2002. Available at <http://www.lboro.ac.uk/microsites/infosci/lisu/downloads/statsinpractice-pdfs/dole.pdf>  
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  - 6 Heaney, Michael, 'Easy as ABC? Activity-based costing in Oxford University Library Services', *Bottom Line: Managing Library Finances* 17:3 (2004), pp. 93–97
  - 7 The twelve sampled HE institutions are Aberdeen, Bath, Birmingham, Bristol, Huddersfield, Kings, Leeds, Leicester, Open University, Reading, Surrey and York.
  - 8 With thanks to Pete Ryan, Head of Library Services at Canterbury Christ Church University, who kindly shared the results of his email query to the SCONUL members list. The responding libraries were: Bath; Liverpool; Arts University Bournemouth, Sussex; Royal Holloway University of London; Birkbeck, University of London; St Mary's University College; and Chichester.
  - 9 Détraz, *op.cit.*, p. 24