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Strategy-Centered Leadership and Financial Management Is Needed in Research Universities (1)

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Bowen's Law and University Finances and Budget

Most not-for-profit universities are guided by the prophetic statement of economist Howard Bowen that "each institution endeavors to fulfill its own purpose within the constraints set by the social milieu and the competition of other colleges and universities" (2). Bowen described in his 1980 book on financing higher education that universities spend all the funds available on their mission, creating the simple axiom of university budgets known as the Revenue Theory of Cost or Bowen's Law. Simply, these universities use measures of success other than the bottom line, compelling them to spend all available funds. And there is almost never enough money to satisfy demand, especially when everyone measures success differently.

University push for excellence driven by Bowen's law has been interpreted by many as uncontrolled spending. This hypothesis is not supported by analysis (3) but is made worse by the inability of most of higher education, especially in residential settings, to see cost reductions from deploying technology; universities suffer *cost disease,* a term coined by Baumol and Bowen to describe the inability of an industry to increase productivity with scale or automation (4). Unless the university has so large an endowment that it alone can support the demand for funding, increasing tuition becomes an inevitable source.

No place is the tension between resources and expenditures more acute than in our research universities, the less than 100 institutions out of the more than 2,600 four-year colleges and universities in the United States that emphasize scholarship, research, and new inventions as well as undergraduate and graduate education. In terms of quality and productivity, our system of research universities is the envy of the world and is uniquely composed of both state-supported and private universities. As an example of their shared importance, in 2022 the academic research enterprise totaled almost $ 100 billion supported by government, foundations and the universities themselves with 57 universities — 38 state supported and 19 privates — each spending more than half a billion dollars annually.

This research enterprise was created three quarters of a century ago at the end of World War II by a covenant between universities and the federal government (6). From the beginning, both the government and institutions shared in funding the endeavor. However, today the agreement is showing wear and tear, as the balance has shifted toward the universities. As I documented in a recent Op-Ed, the university contribution to the total expenditure has increased to 25 percent of the total, up from 20 percent only 12 years ago (7). The increasing investments in research put most private universities in the unenviable position of having to subsidize research from tuition revenue, trading off student access and the quality of undergraduate and professional education with the cost of establishing the academic environment that attracts the most talented and sought after research faculty.

Why Leadership and the Financial Management System Matter

Here is where the connection between leadership and financing and budgeting matters most. In a world of pressures on tuition and access, the cost demands for quality education and the competition for faculty talent, it is not enough for a university to either attempt to create competitive quality organically or to delegate the strategy to the schools and their deans. I contend that research universities (as well as others) must have a university-wide strategic vision for their institution and connect this vision with financial planning and budgeting. The ability to accomplish this depends on the leadership model and the financial management system. The president must own the strategy and work with the board and academic and administrative leadership to develop, implement and measure progress against the plan, and make course corrections as circumstances change.

This is where there has been a divergence in university leadership models over the last fifty years. With the development of Responsibility Centered Management (referred to as RCM) in the 1970's, universities began moving away from centralized budgeting systems, devolving financial management from the central leadership to a decentralized model giving authority to the deans—moving Bowen's law down in the organization (8). The development of RCM, apparently spearheaded by budget offices, relieved the provost and the president of making the myriad of negative budget decisions that occur in a centralized system, and promised to drive fiscal accountability and entrepreneurship into academic units at a time of budget austerity.

RCM also resolved another growing problem, managing the increasing revenues and expenses associated with medical schools and their clinical enterprises, which could dwarf the budget of the rest of the university. RCM essentially cut them loose from the university's budget, tethering them to their clinical and research revenues.

But RCM profoundly changed the university's leadership structure, reducing it to a loosely federated set of academic schools—a holding company. Leadership of these universities has been described by many fine presidents. James Duderstadt, the long-time president of the University of Michigan, an RCM institution, wrote:

> Today the comprehensive university is managed effectively as a federation. The university administration sets some general rules and regulations, acts as an arbiter, raises money for the enterprise and tries—with limited success—to keep activities roughly coordinated. But rarely does the university find strong vision or leadership from the top (9).

I do not think this style of university financial organization and leadership is well suited to the challenges facing research universities today. Consider the following five questions:

1. Undergraduate education today is more interconnected between traditional disciplines than ever, with new interdisciplinary degrees and minors increasingly important. Does our financial management system make it seamless for our students to take advantage of such opportunities?
2. Most of the grand research challenges facing society that must be the focus of our research and scholarship do not fit neatly in traditional disciplines. What system is best for supporting these initiatives?
3. Given resource constraints, it will be difficult for a research university to compete effectively in every area. How will decisions be made about where to put resources? Which system supports such a process most effectively?
4. Just as students are interested in moving between disciplines, many of the most interesting new faculty members defy simple classification. I have argued that new hiring and appointments processes are required to attract and retain this talent (10). Which system best supports these changes?

5. Universities must develop campus-wide strategies for online education. University-wide organizations will reduce redundancy and lead to a more coherent brand. Can this be accomplished in a decentralized system?

These challenges were not considered when RCM was developed in the 1970's. For example, interdisciplinary research and teaching were not then the norm. In fact, the extensive scholarship on interdisciplinarity barely mentions the influence of the budgeting system and leadership model on the success of such efforts. In my experience these systems matter dramatically. The writing on RCM by financial administrators assumes that these efforts can be funded by taxing schools using the same approach used for core efforts, such as student health services or central IT services. I have yet to meet a dean who thinks taxes are good business, especially to fund academic initiatives that they don't sponsor. RCM was simply not designed to promote all-university strategies. This is a major shortcoming at a time when research universities need to have individualized strategies to thrive.

Jonathan Cole, the longtime provost of Columbia, an RCM institution, wrote about the need for change by referring to RCM:

> This budgetary system worked reasonably well at many exceptional universities during "the age of disciplinary siloes" or the era of the "multiversity." The open question is whether this form of budgeting has become sufficiently dysfunctional and a drag on the growth of collaboration and the eventual discoveries that comes from them (11).

Strategy-Centered Management

What is the alternative? Another approach to financial management is needed built on the design principle that *the financial management strategy should mirror the strategy of the* *university*. The president and provost should be at the center of the process, pushing the strategy forward with dogged determination, but having the agility to pivot as required to adapt to market forces. This has been Boston University's approach for 18 years leading to both the growth of the institution and our ability to adapt to extreme challenges like the Great Recession and the COVID-19 pandemic.

Our system has central control of revenues and expenses across the university and focuses on generating annual reserves from operations—a margin—that is strategically reinvested according to our plans. The system is a hybrid, with schools, other academic units, and strategically important initiatives having budgets set by the provost. These budgets are *not* based on revenue sharing for what we refer to as core academic programs, although we closely track these numbers. These budgets are augmented by revenue sharing on non-core activities, usually special educational programs. I refer to such a system as Strategy-Centered Management or SCM; a diagram of SCM is shown in the figure.

In SCM all activities associated with undergraduate education are considered core along with the core graduate programs in the professional schools. Everything to do with research also is a core activity; this is key to controlling the increasing university contribution to this part of the enterprise. No budgeting system is purely centralized (or decentralized) and SCM can be modified to account for RCM-like units. Like others with major medical schools where the faculty is funded mostly from clinical revenues and external research, our medical school (as well as the schools of public health and dental medicine) operates on an RCM-like model. Another important distinction at Boston University is that faculty in these three schools are not offered tenure. The combination of the differences in budgeting and faculty appointments make collaboration between the medical school and the rest of the university more difficult than it should be.

Even so, by any number of metrics SCM has been a resounding success here. As a university with a relatively small endowment (contributing 3-4 percent of our annual operating budget), generating reserves for re-investment has been key. As an example, our free cash flow margin for the five years 2017-2021 averaged 8.4 percent, tied for first place among a list of 16 private university peers who averaged only 2.5 percent for the same period. This difference is dramatic, especially since a large portion of these reserves are held centrally in SCM to be deployed strategically. From cash, we built a student center in 2012, constructed an interdisciplinary life science research building that opened in 2018 and funded over a million square feet of renovation.

For a private university our bond rating matters as it controls our access to debt markets. The fiscal controls built into SCM helped strengthen our balance sheet. As a result, the ratio of total cash and investments to adjusted net debt—an important measure of financial stability—increased from a worrisome level of 0.7 in 2004 to 2.3 in 2022. This improvement was a result of net asset growth that has averaged 13 percent for the last five years. These improvements have been reflected in our Moody's bond rating moving up from A3 (negative) in 2004 to AA3 (stable) now. The president and the board sleep better today.

A strong financial position is necessary for a vibrant research university, but the money doesn't matter unless you spend it well. SCM gives the president and the provost, collaborating with the academic leadership and the board, the ability to strategically direct the university in ways that matter. Notably at Boston University we have focused on expanding student access through increased undergraduate need-based financial aid, more than doubling our aid budget over the last decade (an over $ 200 million increase) to the point where we now meet full need of domestic students and have eliminated loans from financial aid packages for Pell Grant students, who now compose over 25 percent of our domestic student body. A similar increase in the number of underrepresented students has followed.

SCM also enables educational flexibility for undergraduates, who can move among the 12 schools and colleges offering undergraduate degrees. There are no “internal transfers” associated with students taking classes across school boundaries. SCM also was key to the implementation of our new general education system, the BUHub, which engages faculty across our campus. Persistent gains and losses in enrollment are handled by the provost through the annual budgeting process.

Perhaps the biggest advantage of SCM over decentralized systems is in faculty hiring where the centralized resources can be allocated for increasing start-up costs needed to compete for excellent faculty in areas of strategic focus. Keeping these resources centrally also is key to driving conversations about research priorities across the schools, which otherwise would not be possible. In our case, the discussion about the importance of data science and artificial intelligence led to the creation of a novel academic unit, the Faculty of Computing & Data Sciences (CDS), composed both of faculty with sole appointments in CDS and others jointly appointed with another school or college. I believe this kind of interconnected hiring will be key to future-proofing faculty hiring.

Postscript

Strongly engaged and transparent leadership is required for SCM to work well. When it does and is combined with a robust fundraising effort you can create the flywheel that Jim Collins refers to in his classic management book, *Good to Great* (12). A system that, year after year, generates the resources needed to implement the strategy of the university. Even the creators of RCM recognized the power of centralized systems; Curry, Laws and Strauss said:

> When base allocations are appropriately managed, the model putatively puts a very large steering wheel in the hands of senior leadership: the sum of all unrestricted funds. The ability to steer the university toward central priorities is apparently maximized and the funding of interdisciplinary activities is relatively simple (13).

These are the tools needed to create a cohesive, strategically directed research university that will endure in the decades ahead.

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Schematic diagram of Strategy-Centered Management (SCM) showing schools encapsulated in all university services with all revenues staying at the university level, except those explicitly designated to either an academic unit (designated endowment income and tuition sharing in non-core programs) or principal investigator for research.