

Managing the Internal Organization of Colleges and Universities

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INTRODUCTION

This chapter attempts to shed some light onto two controversies in the management of US colleges and universities: outsourcing and decentralization. We attempt to provide a comprehensive account of when these managerial changes have been, and are likely to be in the future, effective by describing the costs and benefits of both of these management practices. While the discussion generally pertains to U.S. public universities, most concepts are general enough to apply to all colleges and universities.

Outsourcing and decentralization are often described as “market-like” management processes, or some variant of that term, because they utilize at least some aspect of the market for managing the university. Vastly diverging political options over the market arguably led debates over these two management practices to be so controversial. However, “market-like” and “free-market,” are not the same—thus much of the controversy is unwarranted. Furthermore, though we focus on the extremes for conceptual clarity, in actuality both outsourcing and decentralization exist on a continuum, so the question isn’t whether or not either should be used but rather *how much* should be employed.

Both outsourcing and decentralization come in a variety of forms. A simple example of outsourcing is hiring an outside contractor to repair the bathrooms of a classroom building. At its core, this activity is simply an example of a market transaction. If the management philosophy was to, instead of having them repaired, simply not provide bathroom facilities at all, that would be closer to truly “leaving it to the market.” Thus, outsourcing is only market-like.¹

Decentralization is the more complicated example of a market-like management practice. Here, we have in mind changes to the university’s budget model which give more autonomy to individual units (such as the colleges that make up a university) rather than having a more centralized budgetary process. With a decentralized budgetary process, universities try to capture the power of self-interest by giving colleges and departments control over decisions that are in turn more closely tied to the revenues that

¹ In this article, we distinguish between three terms: in-house provision, contracting (or outsourcing), and service shedding. In the first two cases, the university maintains ultimate responsibility for service provision; in the first case, the university is engaged in both provision and production, in the second it is only engaged in provision, and in the third it is not engaged in either provision nor production.

these units generate. This is accomplished through both informal and formal mechanisms, including transfer pricing, which we will discuss at some length later in the chapter.

The term “market” is a mental shortcut used by economists to reference decentralized individual decision-making among actors. Individual households and firms plan and make choices based on their own knowledge, information, and preferences. The extent to which they bear the consequences of their actions determines the care in which they manage these decisions. For private sector producers, this provides a strong incentive in the form of the profit motive.² Of course decentralization in universities is not complete—for example, Stanford’s chemistry department cannot decide to move to Berkeley—as would be the case among free market participants. Individuals with control over decision rights in a decentralized management system are not exactly like independent producers; hence decentralization, like outsourcing, is a market-like management process, not literally an example of a market operating within the university. Nevertheless, properly functioning decentralized management systems can capture some of these “profit motive” incentives, as well as achieve more individual tailoring of learning formats to learning needs. This is good to the extent that individual tailoring takes advantage of the specialized knowledge within the college and departments.

We all have experiences as consumers from which we can draw from when trying to understand the costs and benefits of outsourcing and decentralization. With many market transactions, the alternative to buying something is to make it at home. For example, we can buy a prepared dinner or prepare it at home. Many people wash and iron their own clothes while others take them to the commercial laundry. Some do their

² Another benefit is a knowledge collocation benefit: those with the best information about some industry tend to produce in that industry, as they stand to make the most money in market economies. See Jensen and Meckling (1995).

own landscaping, while others hire outside help. The concept of outsourcing pertains to all of these decisions, or any other time we consider whether to make something ourselves or buy it through the market. Predictably, economists call this a “make-or-buy” decision. In the buy case, economists distinguish between two different components of the cost consumers actually pay for an item or service: the sticker price and the transaction cost.

Market prices are powerful aggregators of relevant information. If a hurricane were to wipe-out crops of coffee in South America, reducing the available supply to those wishing to drink it, the consequence would be to push prices higher. There is no need for the President to go on television and beg households to sacrifice their consumption because of the diminished supply.³ Consumers do not need to know that coffee is more scarce or why, the new higher price incentivizes them to consume less. Simultaneously, those in a position to grow more coffee can observe that they can now fetch a higher price for it, and have an incentive to start producing.

Transaction costs are expenses that must be incurred to access the market system. Nobel Laureate economist Ronald Coase brought transaction costs to the limelight in his famous paper *The Nature of the Firm* (1937). In the article, Coase articulates the point that firms exist for the purpose of lowering the transaction costs involved with accessing the market. For example, consider a very short portion of the production process for pencils, starting with a block of cedar and ending with the finished pencil for distribution.⁴ The block of cedar must be first cut into slats, which are then stained and have grooves cut into them. Next, prepared graphite is placed in the grooves and a

³ Unlike the case of flu vaccines in recent years, whose prices are capped by the federal government has resulted in former President Bush urging the relatively healthy to not obtain a vaccine.

⁴ <http://www.pencilpages.com/articles/make.htm>

symmetrical grooved slab is bound over it. Finally, the milling process slices individual pencils off the bounded slats before they each are finished with paint and have both a ferrule and an eraser crimped to their tops. Should one single producer undertake all these processes? The alternative would perhaps be inserting an auction system between each step. So the slab of cedar would be cut into slats, which then would be auctioned off at the market price to another producer who would cut the grooves. This producer could then turn around and auction it off to yet another producer who would insert the graphite.

Unfortunately, the mere act of setting up or participating in the auction is a cost in and of itself. Firms wind up playing the role of combining producers under a single entity that allows each input to flow to the next sub-producer without the auction system. When they do this, they lose information and take on some inefficiency, but they gain the savings from not participating in the market process. Any activity in which the transaction costs of participating in the auction outweigh the cost of being slightly more inefficient wind up being in-sourced, and the rest out-sourced. This is why a pencil company might pass slabs of cedar freely among its sub-producers (employees), but refrain from molding their own graphite and instead simply purchase it from an outside vendor.

This story is analogous to the universities' decisions of whether to produce student housing, athletic facilities, and teaching services. Universities organize around activities in which they can lower transaction costs, like developing a curriculum for an engineering degree. Professors specialize themselves into people who can fluently learn complicated or technical changes within a particular discipline. As technology evolves that may make specific material out-dated or to be required for new graduates by firms,

professors can recognize, and possibly implement these changes. This saves universities the cost of hiring in outside advisors or market surveyors, or searching out a new professor with those particular skill sets. It is impossible for a university to write a contract in advance that could cover all possible contingencies that might arise. To try would likely reduce their ability to provide their service effectively, and continuously outsourcing these unforeseeable circumstances would incur significant transaction costs in the process. By putting professors on salary, they reduce these transaction costs at the expense of some efficiency that might accompany paying by contract. In an almost paradoxical manner, actors in a market begin expanding the scope of their activities to remove it from the market process when the transaction costs associated with outsourcing becomes too high.

Decentralization as a management technique follows a similar treatment of trade-offs. Monitoring and coordinating in a bottom-up manner entails greater costs, but can carry the advantage of allowing greater response, flexibility, and use of pertinent information. Wal-Mart serves as a nice example of a system that in-sources a lot of its activities but allows for decentralized management practices. For instances, their “store within a store” policy gives Wal-Mart’s departments some authority to operate like independent stores and allows for departmental managers to act on their knowledge of local consumer tastes. Even the famed Wal-Mart greeter’s were not a top-down policy, but rather originated as an innovative way for employees to stem a spree of shoplifting at the Crowley, Louisiana location in 1980 (French, 2004). Reportedly, Wal-Mart’s headquarters rejected the idea of instituting the greeter program, but after it proved to be successful in Crowley it became a nationwide program. On larger issues, Steve Horowitz

(2009) has documented the superior performance of Wal-Mart's store managers over FEMA that was a direct result of Wal-Mart's more decentralized approach to the aftermath of Hurricane Katrina in New Orleans.

The decentralized approach has drawbacks that might limit its scale. The incentives must be in place that will allow more autonomous agents to behave in a manner that is consistent with the objectives of the larger group. These *coordination costs* tend to be larger in decentralized hierarchies. For instance, in banking, individual branches are expected to draw in new accounts. However, they frequently have issues of cannibalization, where a new account that is poached from a sister branch represents a loss overall for the bank. It can also result in *duplication costs* that can sometimes be inefficient. Sticking with the banking example, an individual bank is often granted autonomy to engage in marketing, but each advertisement tends to support all branches in addition to the individual bank. The result can be inefficiently high advertising for the overall firm. Some duplication within a firm can be beneficial, but it is a question of getting the correct amount of it. For example, tortilla shells can be found in many different departments of Wal-Mart (bakery department, ethnic foods section, and the bread aisle) and allows for customers looking for tortilla shells to find them on their first guess.

The rest of this chapter will explain how greater outsourcing of university services and decentralized management practices reflect choices among trade-offs between different benefits and costs. The benefits of these programs are that universities can potentially focus on their core competencies, reduce production costs and improve service quality. However, certain conditions must hold for net benefits to be realized.

Most importantly, transaction costs must not be too high for outsourcing to be effective, and coordination costs must not be too high for decentralization to be successful. As a prelude, we will now provide some background and history on the subjects of outsourcing and decentralization.

HISTORY AND BACKGROUND

The aim in this chapter is not to provide a detailed history of outsourcing and decentralization, but a brief overview of several trends, starting with outsourcing. The act of outsourcing of some functions that were previously undertaken by universities has been around for decades, though it seems to have picked up in recent years. The economist Victor Goldberg in 1977, (p. 252, note 9) mentioned that food service was already outsourced to a large extent in universities. Compared to the 1970s, however, it would seem that a wider array of services is now produced by private companies, though good historical data is hard to come by. Good data on the size of the present scope of outsourcing can be assessed fairly accurately. A 2002 survey by NACUBO, summarized in Table 1, indicates the percent of universities that outsource various functions.

For instance, San Jose State University in California contracts with the Aramark Corporation for some janitorial services. Aramark provides this and other services to universities from Harvard to Chicago. UGL Unicco and AMB Industries are two other large corporations that provide these services to colleges and universities. According to Wertz (1997), many universities outsource services when they are unrelated to teaching, research, or service and his statistics are generally in line with the findings of the UNICCO survey cited above; we report these below in Table 2.

Table 1: Percent of Universities that Outsource Various Functions

Service	Percent of Universities
Food Service	61
Bookstore	52
Endowment Fund	41
Housekeeping/Janitorial	25
Laundry	20
Copy Center/Rep.	17
Security	17
Payroll	15
Energy Management	9
Mechanical Maint.	9
Grounds	8
Information Technology/MIS	4
Sports Venues	4
Electrical	4
Residence Management	4
Mailroom	3
Overall Fac. Mgt.	2

Source: UNICCO (2002)

Table 2: Percent of Universities that Outsource Various Functions

Service	Percent of Universities
Vending machines	81
Waste removal	81
Institutional food service	71
Laundry machines	62
Student Loan Collections	46
Bookstores	36
Housing Facility Building	25
Housekeeping	23
Security	16
Payroll services	15
Student Health Centers	13
Grounds	12
Maintenance	9
Benefits Administration/Operations	8

Source: Wertz (1997)

Comparing the results from the two surveys sheds some suggestive light onto trends in outsourcing over the five year interval between the survey conducted by Wertz (1997) and UNICCO (2002). We hasten to emphasize that this evidence should only be taken as suggestive, due to the different survey methodologies, different definitions of service categories (for example, are laundry services the same as laundry machines?) and other complications. However, looking at seven services that seem to be equivalent across surveys--food service, bookstores, janitorial, security, payroll, maintenance and grounds—the following trends emerge. In the case of food service and grounds, it appears that there has been a slight decrease in outsourcing from 1997 to 2002, whereas it appears there has been a slight increase in bookstore outsourcing over this time. For the rest of the services, both surveys find remarkable similarities in the extent of outsourcing.

When asked why their college or university decided to outsource these particular services, many respond with answers like reducing costs, improving service, or to generate a greater focus on their core competencies. Data from Corbett (1998), cited in Pittman (2003), sheds light on the motivations for outsourcing; we present this in Table 3 below. In the technology section later in this chapter, we will see some similar reasons for outsourcing, namely for better service, and reduced costs. These two categories are among the main reasons often cited as reasons universities and other organizations outsource.

Table 3: Reasons why organizations outsource

Reduce and control operating costs	64%
Improve company focus	48%
Access to world-class capabilities	43%
Free resources for other purposes	43%
Resources not available internally	34%
Accelerate reengineering benefits	21%
Function difficult to manage	13%
Make capital funds available	9%
Share risks	7%
Cash infusion	3%

Source: Corbett (1998)

The top responses given to Pittman (2003) in his original survey/focus group of ten universities were:

Table 4: Issues Leading to the Initiation of the Outsourcing Decision Process

Issues	% of subjects citing
Institutional Finances	70
Service levels/student demands	50
Need for professional management	40
Facility needs or renovations	30
Campus politics	30
Cost of carrying Inventory	20
Staff Training	10
Institutional Culture/Image	10

Source: Pittman (2003)

Notice that the fifth most common response on the list is campus politics, a subject we return to later. For now, note some similarities and some differences from those mentioned by Corbett (1998).

At a broader level, other forces have also pushed colleges to greater outsourcing. Cornell University Professor Arthur Levine's take on why we have seen greater use of market-like management techniques in the university, which he (and others) term privatization,⁵ is that six forces explain greater use of market-like management practices (such as outsourcing, decentralization and privatization):

the rise of an information economy...which...is global and puts a premium on intellectual capital...changing students... higher education is not as central to the lives of many of today's undergraduates as it was to previous generations...the cost of higher education. Between 1980 and 1997 the average price of college tuition, room, and board rose by well over 300 percent...new technologies...like Blackboard...changing public attitudes...They criticized higher education for rising costs, diminishing quality, low productivity, inefficiency, and ineffectiveness...changing attitudes and demands of higher education patrons. During the late 1980s and 1990s, government support for higher education declined, both financially and politically.

Thus one can look at the outsourcing and decentralization trends in the broader light of technological and social change, or in the more specific context of immediate ends.

Many of the reasons given above to explain outsourcing no doubt exist for the move towards decentralized management as well. Cost cutting pressures, for example, might drive a university to reorganize its budget model for greater efficiency and effectiveness. These budget models go by a variety of names. Lang (2002, p. 175) documents the following nationwide trend:

⁵ Privatization is a word that is used in a variety of different meanings; see Poole (2009) for a general discussion. Due to this multiplicity of meanings, we prefer not to use privatization. Instead, we use outsourcing to mean private production of a publicly funded service, and service shedding to mean end of public funding in addition to public production. Service shedding may or may not involve the sale of the college's assets to a private company, and may or may not result in termination of at least some service production, as consumers turn to other entities to purchase the service.

Within the last decade several major universities in the United States and Canada have adopted Responsibility Center Budgeting (RCB). RCB is also called Responsibility Center Management (Toronto, UCLA, and Indiana), Value Centered Management (Michigan), Incentive Based Budgeting (Ohio State), Mission Focused Budgeting (Illinois), and Revenue Centered Management (USC).

In this chapter, we adopt USC's name, Revenue Centered Management (RCM), as a short-hand to describe decentralized management. The USC case study has been discussed by some of the leading thinkers on this topic in higher education. RCM pertains to the structure of the university's budget model, and often the introduction of an internal price system to facilitate decentralized management. The extent to which this form of decentralization has taken place in colleges has not been as heavily documented. Outsourcing, however, is relevant to all types of institutions, and we return to that topic.

OUTSOURCING OF CORE AND NON-CORE SERVICES

We view the question of when to outsource as when universities should buy something through the market, versus producing it within the institution. By this standard, universities outsource the large majority of their goods and services production. For example, universities buy their pens from Bic, their computers from Apple or Dell, their light bulbs from GE, etc. There are great benefits from this, but there is a limit to what universities should procure from the market. Rather than contract with a staffing company to provide teaching services, universities usually hire and manage their own employees, in the form of tenured and tenure-track professors, and part-time and full-time lecturers.

The starting place for any discussion of outsourcing must be to describe the university's mission. One important component of this is separating out those services that are considered "core" to mission, and those that are "non-core." Delineating the boundary between core and non-core services is a thorny issue, as this is where disagreements often arise. In defining this boundary, we follow David Kirp, professor at the Goldman School of Public Policy at UC Berkeley, who argues that, "...teaching, learning, and research—the core of the institution—must remain the responsibility of its members...Surely there is no compelling reason for most campuses to operate their own print shops, laundries, or post offices..." (2001, p. 59).

Why these areas, and perhaps others, constitute the core of the institution can be traced back to the role of transaction costs. In developing a curriculum, new classes may emerge on the fly or require subtle changes in instruction techniques. For students who need mentoring under constantly changing conditions, it is impossible to plan for every contingency in advance when writing a contract with an outside party. Similarly in research, since advancements in the knowledge frontier requires highly specialized knowledge it would be extremely difficult to continuously outsource part of your research in any formalized and cost-effective manner. These points perhaps seem self-evident, but they demonstrate why the university model would have evolved around these three components as their core -- they offered an environment of greater productivity and success with lower transaction costs.

It is not always clear what other areas might be conducive to the university model, and as result there can be a great deal of disagreement over to the extent of outsourcing. Functions that might be considered peripheral to the core might even vary by institution.

Actions like billing, admissions and student aid might fit in this category of peripheral functions. Kirp (2002, p. 59), for example, worries that “In an environment where the highest priorities are saving money and boosting SAT scores, the very real concern is that first-generation and minority students cannot compete with the children of the suburbs, who generate more money and better scores for the institution.” However, these issues should be separated in a focused appraisal of outsourcing. If a college is willing to outsource to a company that discriminates, then who is to say it wouldn’t also discriminate when it evaluated students for admission in-house? Outsourcing is just a method of production and there is no reason per se that outsourcing would lead to lower quality.

In principle, a university can instruct a billing company to focus on issues like minority representation, if that were a goal of the university. Even when outsourcing, the university still retains ultimate responsibility for providing the service. It may even be the case that outsourcing, because it forces universities to focus on how each policy contributes towards its overall mission. This might enable universities to improve its minority representation practices and take full advantage of diversity effects in the learning environment and overall university experience. In short, Kirp (2002) seems to equate outsourcing with pursuing the goal of boosting SAT scores solely, when it is entirely possible to have many things considered.

Even if we all agree that teaching, learning, and research must remain the responsibility of the university, there could still be room for outsourcing of some services that, on the surface, seem to be core. Each of teaching, learning, and research are themselves broad categories. Next we consider the outsourcing of non-core teaching, and

two other areas of great disagreement over core status: provision of housing and information technology. There are many other areas to consider outsourcing; we limit ourselves to non-core teaching functions, housing and information technology.

In some sense, universities already undertake a real type of outsourcing teaching, as their acceptance of transfer credit allows students to have part of their education produced by a different institution. One interesting observation is that undergraduate institutions will typically accept the first two years of education from another institution, either another four-year institution, a community college, and sometimes foreign institutions. Whereas certain groups on campus protest loudly against seemingly mundane functions, such as janitorial services, on the grounds that the university will lose oversight, universities are willing to give up oversight over a large portion of their students' instruction—and instruction is a core function of colleges and universities.

With respect to what may be called more visible forms of outsourcing, in 2004 Ohio University Professor Richard Vedder (2004) predicted that we might see companies like Sylvan Learning Centers provide remedial education, and companies like Berlitz provide foreign language instruction. To what extent is this true? There is no data to report, but a casual Internet search reveals that, at least some, institutions grant credit for passing Berlitz Language Evaluation (Ashford University provides a concrete example). The point is there are many aspects of teaching that are arguably non-core, and these could be produced (or fulfilled) in a variety of ways.

One final point on teaching. The trend of moving from tenure-track to part-time teaching is surely a related, but separate subject from outsourcing. It is often lumped with outsourcing as another example of the “corporatization” of American higher education.

However, lecturers are still hired and managed by departments, just like tenured professors. Functionally it is only a difference in the terms of their contract. Many schools have great success relying on untenured lecturers. Whatever the relative merits and demerits, this employment classification is analytically distinct from outsourcing.⁶ To make hiring lectures equivalent to outsourcing, rather than the department chair hiring and managing lecturers, she would instead contract with a staffing service that would have considerable autonomy over who lectured the particular topics.

Another contentious example of a non-core service is university housing. Some would argue that we cannot rely on outside parties to provide housing, because housing is integral to the “university feel,” the cultivating of which is core to the mission of learning. In reality, any student who chooses to live-off campus has made the outsourcing decision on behalf of the university. That a large proportion of students, when given the choice, do decide to live off-campus suggests that there is no natural advantage to the university in the provision of a living area. While many would be willing to pay for such an experience, the extent to which it falls under the university domain is limited to what it can provide that is unique from the market. It does not appear that it is something a university might naturally have an advantage in via lower transaction costs that would make it a core part of their mission the way teaching, research, and learning have. Of course, one can point to some relationship between them—for example, students who live in the same building might form a study group—

⁶ A policy report from the Institute for Higher Education (Phipps and Merisotis, 2005) argues that employing part-time faculty should not be considered an outsourced function. “This is because the institution does not contract with an external organization, standards of work are not determined by a contractor, and the individual faculty members are under the direct supervision of the department chair.” We concur; in our view, the discussion of tenured versus non-tenured instructors is a debate best separated from the outsourcing discussion.

but there is no reason to believe this could not also go on in a privately owned or managed housing development. For example, when Wright State University in Dayton, Ohio had far more requests for dorms than they had available in supply, they rented out entire apartment buildings from a private complex and sublet them to their incoming students.

Richard Vedder (2004) has suggested that cash-strapped universities could sell off their dormitories (making provisions for continued respect for the architectural integrity of the campus) and allow outside parties to manage them. This would be an example of service shedding. In addition to freeing the administration's attention from providing housing services, selling off dormitory buildings can provide an injection of cash into the university's budget. There is also the possibility of outsourcing, which does not involve the shedding of assets. This in fact seems to have occurred to a large degree, and it might be argued that a quiet revolution in student housing has been going on related to provision by universities over the last few decades. For example, in 2004 American Campus Communities became the first student housing real estate investment trust to become publicly traded. It owns, manages, and develops both on-campus and off-campus facilities in most American states and in several Canadian provinces.

When universities outsource, they are still providing the service, just not producing it themselves. This again brings up the issue of provision versus production, which we dealt with above with respect to SAT scores and admissions departments. It is true the university will lose some control over housing quality, but outsourced provision with less control could easily be imagined to be better than in-house with exorbitant

costs. The profit motive provides incentives for private management companies in both cases, but perhaps especially in the case of service shedding.

The final type of service we discuss is technology. Universities that pride themselves on technology might want to do much in-house, as a complement to their research and learning programs, and also because there is simply more proficiency on campus. As Guess reminds us: “Of course, it was universities that developed, refined and incubated the predecessor of the Internet, and they were some of the first institutions to adopt e-mail capability” (2007, p.3).

The existence of in-house IT departments is a very nice demonstration of the role of transaction costs in determining the extent of outsourcing. Campus technological networks are vast and complex entities with virtually unlimited and unforeseeable complications. If a network server or a professor’s computer crashes, it is often imperative that it be resolved quickly. Having a technology staff on retainer, who might be idle part of the time but are available at a moment’s notice, is probably the more efficient route to take. An outside contractor who might not be able to get to campus to start work on a problem until next week is probably insufficient, especially when there will likely be a learning curve involved.

However, developing technology in the form of final products is not the core focus of most universities. The Google and Microsoft (and Zimbra, owned by Yahoo as of 2007) corporations provide e-mail services to colleges and universities for free. These services allow the schools to keep their “.edu” e-mail address. E-mail service comes with a wide array of other programs that rarely come with university-produced e-mail. Consider the case of Google, whose online software includes document, spreadsheet and

presentation packages. These applications allow students to collaborate and save files online in a variety of formats. Therefore, many schools will want to outsource to get higher quality, in addition to the dramatic cost savings. After developing the technology, universities are finding that the commercial market has far outpaced the ability of universities to deliver the technology products that students need.

The primary concern with outsourcing email is that the university loses control over security. This is a real concern, but it is not clear whether hackers are a bigger threat to universities or contractors. Breaches of security have been an issue at a number of universities in the last few years (Kawamoto, 2005).

While there is a case to be made for keeping e-mail services in-house, we will increasingly see universities turning to the market—to such companies like Google, Microsoft or Yahoo—to provide e-mail and other services as university IT departments struggle to keep up. The options facing a college or university are either to service shed, or outsource. The fact that we want to keep the “.edu” address rules out service shedding, so outsourcing or in-house seem to be the only options. However, universities unintentionally shed a variety of service whenever students voluntarily decide to use commercial applications. For example, students may decide to use Google Docs to do their group work, or decide to use their Yahoo rather than university e-mail address. Guess (2007, p 4) echoes this point: “When a university adopts the new e-mail paradigm...[it goes] from playing catch-up and offering the basic technological backbone to integrating externally managed services and marshaling newly available resources for the main functions of academia and research.”

For the majority of institutions, the core of the mission is effectively going to be creatively *using* and *teaching* technology, rather than developing it. So the argument that technology itself is a core mission will be weak for most, with the exceptions perhaps being the top engineering schools.

It is usually not advisable for universities to shed the provision of those services that are core to their mission. Indeed, this will cause them to cease to be universities. However, institutions should take particular caution in how they define the core activities, and this means universities should be open to exploring their comparative advantages, as they may change over time.

DECENTRALIZED MANAGEMENT

Like outsourcing, decentralization of the university's budget model has been generalized as a way of introducing market forces into systems of higher education. Sometimes this is meant as introducing market forces to the university system within a given state, an issue discussed in Chapter REFERENCE ROSS CHAPTER HERE. This chapter discusses the aspect of decentralization of a university's internal systems, specifically through decentralized budget models.

Schools with decentralized budget models also include U Penn (where it is called responsibility centered budgeting), Harvard (Every Tub on its Own Bottom, or ETOB), Minnesota (Incentives for Managed Growth), and Michigan (Value Centered Management). One thing all of these systems have in common is that they try to bring funding in line with revenue, and the central administration may use transfer pricing to coordinate activities across the university.

A common example of such a budget model is Revenue Centered Management (RCM), to adopt the term used by the University of Southern California. There are many similar systems that share the same principles as RCM while each school tailors their individual budget model to their unique circumstance. Nevertheless, the main characteristics of RCM-type budget models are that each college or departmental unit is, to a greater degree than with traditional budget models, financially responsible for attracting students and other sources or revenue, and are held accountable for their costs. To the extent possible, units are entitled to all the revenues they generate. Many universities use transfer pricing to ensure that each unit pays for all common resources.

The benefits of the RCM-type approach can be described as follows. Benefits include local knowledge, which means colleges, who have the best information about their unique needs can spend money on their own activities, and improved incentives; when colleges keep more of the money they bring in, there are incentives for entrepreneurship in both revenue raising and cost cutting. The costs of RCM are a failure to realize economies of scale through a duplication of classes (we illustrated this at the beginning with a discussion of bank advertising) and another form of unhealthy self-interest pursuit by individual units, where the university fails to capture synergies from cross-unit cooperation.

Properly designed RCM-type programs link decisions with consequences, while still allowing for subsidization of individually unprofitable units through transfer prices. In general, there is a greater awareness of costs, and this allows for better informed budget decisions. However, the tradeoffs must be correctly weighed in implementing the optimal budget model.

An example of the costs of RCM from Kirp (2002) helps to clarify. At USC, a variety of perverse situations occurred when USC first instituted RCM budgeting. Most notably there was duplication of general education courses. Since colleges kept the tuition revenue they brought in, colleges had an incentive to create classes that previously would have been provided other colleges at USC. In addition, Kirp (2002, p. 57) alleges that there was grade inflation and pandering, for instance:

Full-page ads in the Daily Trojan touted courses such as the drama class that required no reading: “Tired of reading Shakespeare? Kill off your [general education] requirement, sit back and eat popcorn, and watch it being performed.

The University of Michigan ran into some similar, though less egregious, problems when it first implemented its version of RCM. There was pandering to attract students, and the new budget model also made it more difficult for academic units to form partnerships as there were new concerns over dividing revenues and cost responsibilities. However, Kirp (2002) reports that both Michigan and USC were eventually able to solve these problems by making adjustments to their respective budget models. The lesson here is that bad outcomes are possible with decentralization, as with centralization, and so the budget model needs to be carefully crafted. However, at the end of the somewhat painful adjustment process, these schools have been performing very well by most objective standards, due in part to the beneficial aspects of the decentralized management practices they instituted.

Horton and Faught (2008, p. 232) lay out some of the desirable characteristics of RCM type processes:

Above all, the process demands internal transparency of finances. It is better to have short-run disagreements about relative funding of programs or even

individuals that can be arbitrated than to have a painful downsizing a few years later because such conversations never took place (à la Antioch College).

Horton and Faught are referring to the situation at Antioch College, which at one time was one of America's most prestigious liberal-arts colleges, and which had expanded from its home campus to several branch campuses located around the U.S. As Fain (2007) describes it:

Grim financial reality had finally caught up to the 155-year-old college... After years of covering deficits with support from the five nonresidential campuses that make up the rest of Antioch University, that institution's Board of Trustees voted to shutter the home campus.

Although large, state universities may not feel threatened by having to close in the same ways that small colleges do, given their large and steady budget allocations from state legislatures, having transparent finances is nonetheless key to continued progress. While RCM is not as common at colleges as large research-oriented universities, the Antioch story highlights the importance and possible benefits of a similar type budgeting process for small, liberal arts colleges as well.

Transfer Pricing

To get a better sense of how RCM-type (that is, decentralized) management practices work, consider that when tuition is paid to the University, and then channeled to the college of the students' enrollment, rigid price systems create the necessity of internal transfer pricing. In short, when a student pays tuition to the university, a portion of it is retained and the rest distributed to their college of admission. Since the student will take some courses outside their college of admission, like when a business student takes a

course on art history, some of that tuition is redirected to the college that actually provided that course. The amount of tuition revenue reallocation among colleges is known as a transfer price, and it is usually based as a function of either the average or marginal cost of the student.⁷ These transfer pricing schemes are necessary when tuition is based on the student's primary source of college credit, not the actual composition of their coursework.

Table 5 is a demonstration of a hypothetical university with three colleges in which a student can be enrolled, and the amount of credit hours actually provided to those students. For instance, students enrolled in the College of Arts collectively took 75,000 credit hours from the College of Arts and 2,000 credit hours from the College of Business. The tuition earned by a college is therefore adjusted by the university according to the net flows of these student transfers, which is provided in Table 6. As can be seen in Table 6, the College of Business would "owe" a share of its tuition revenues to the General Admission College as a net debtor, but would be "owed" a share of the College of Art's revenue as a net creditor.

⁷ Ehrenberg (2000) describes Cornell's experiences in dealing with internal transfer pricing, and in particular the attempt to switch from prices based on average cost to the a more efficient marginal cost based approach.

Table 5: Distribution of credit hours taught by and taken in hypothetical university

Provider of Credits	Credit hours taken by students from the			Total
	General Admission College	College of Arts	College of Business	
General Admission College	100,000	40,000	25,000	165,000
College of Arts	13,000	75,000	1,000	89,000
College of Business	10,000	2,000	50,000	62,000

Table 6: Net flows of credits between colleges based on Table 2

	Creditor (+) or Debtor (-) to the		
	General Admission College	College of Arts	College of Business
General Admission College	0	27,000	15,000
College of Arts	-27,000	0	-1,000
College of Business	-15,000	1,000	0

A college in the situation of the College of Arts in Table 6 would have an incentive to find a means of duplicating a course provided by either the General Admission College or the College of Business if they can provide it to their own students at a cost lower than the transfer price of their net deficit of course credits. The danger to decentralization and transfer pricing is that this can result in an inefficient duplication of programs from the standpoint of the university as a whole, particularly if the transfer prices do not reflect true differences in resource use. For instance, if a university sets the transfer price as a

function of its average cost, rather than the cost of each additional student, then they are likely to create inefficient duplications where none would otherwise exist. Additionally, this information is not passed along to students through tuition differentials and as a result they are not likely to make decisions that are reflective of these resource costs.

However, decentralization does create an incentive to discover a means of lowering costs, and it can create an opportunity for customization to the student, similar to how the Coca-Cola Company has various flavors of Coke (cherry, vanilla, etc). It also can create some gains if programs are able to build complementary degrees and coursework across schools, but such complementarities do not require the existence of transfer pricing.

AN APPLICATION ON CLASS AND ROOM SIZE

Adding 20 students to a class of 200 will increase the university's costs by a smaller amount than starting a new class of 20 on the same subject. In addition, it is commonly accepted that smaller classes with a lower pupil-teacher ratio provide greater educational benefits to the student allowing for more "face time" with the professor and class involvement. A good produced with more resources and which offers a greater benefit is typically a recipe for a higher price. Proving a negative is difficult, but we have never heard of a university that differentiates the price of a credit hour according to class size. Across schools, it is common to see a liberal arts school advertise their small class sizes as a means of escaping anonymity, suggesting that smaller class sizes are generally seen as "better."

Not only does a student in a large section receive no discount for using fewer resources and receiving a lower quality product, but they are indirectly subsidizing the costs of the students in the smaller classes via the budgeting process. The large and high-margin sections allow departments and colleges to offer other more expensive, costly, and smaller classes. This shielding process again discourages an efficient use of the university's resources and makes it difficult for students to find their most valued style of instruction. A student with a strong background in math taking an introductory algebra course might prefer a cheaper, large section because they will not likely need the additional support of a small class size. However, if there is no price incentive they have every reason to take the smaller class anyway and crowd out other students who do require that additional support. Perhaps a similar design would emerge if universities operated in a competitive market, not unlike the movie theater popcorn that subsidizes the ticket price, but given the existing isolation of cost from price that is so prevalent in the university system it is impossible to know.

Their decision regarding class size is not unlike that of a movie theater in another respect—seating capacity. Price conveys information about how resources should be allocated to provide a good. How much more (or less) do students value a low pupil-teacher ratio relative to a higher ratio? How does this change throughout the day? Time of year? Subject matter? Universities that give up a price signaling mechanism lose this information, and as a result can find themselves with an enormous amount of wasted class space. An empty seat is a cost with no benefit, and movie theater owners understand this, which is why they put great care into determining the mix of large and small screens. Having too many seats is a cost from wasting resources, and having too few seats

surrenders sales to lost customers. A university facing trade-offs between classroom size, laboratory size, and office space surrenders valuable information by dismantling the price system.

THE CAMPUS POLITICS OF OUTSOURCING AND RCM

Stories of campus battles over outsourcing seemingly simple things like janitorial services are legendary at many universities. The University of Chicago's student newspaper, *Chicago Maroon*, reports how a small but vocal group of students have been protesting Aramark's treatment of the workers who staff one of the dining halls. These types of "political" problems can be mitigated by keeping in mind the missions of the university: teaching, learning and research. In addition, administrators can avoid political problems by considering management decisions in an objective framework, such as the one put forth above. Pittman (2003) also advocates the use of a concrete decision-model. He warns that an over-emphasis of costs considerations (versus quality considerations) and political problems will result when a framework is not used.

Whether from a clamorous student body or a forceful president, the campus political environment can create challenging situations. For example, a fervent push for a Ben and Jerry's or Pizza Hut on campus could lead to decisions that meet your current student body's desire but do not meet the long-term best interests of your institution.

In particular, we emphasize the importance of recognizing both the benefits of using market-like management practices—especially superior incentives and local knowledge—and the costs—including transaction and coordination costs—in whichever formalized framework is actually employed.

CONCLUSION

In this chapter, we have tried to paint the economists' view of what has been called the "marketization" of university campuses over the last few decades. We mention which problems are likely to be solved by outsourcing and decentralized management, such as lack of focus on the primary missions, loss of local knowledge, and weak cost cutting and revenue generating incentives, and which problems are likely to be created, such as transaction costs and costs associated with individual optimization that harms the university as a whole, such as inefficient duplication and reduction in synergies. A clear understanding of these costs and benefits should help higher education administrators design better systems—for example, budget models that are neither completely centralized nor completely decentralized, but that strikes a balance somewhere in the middle. Finally, we have tried to provide some uniformity of terminology, so that future conversations may focus on the precise problems at hand.

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