In recent years, changing financial and political conditions have prompted many colleges and universities to revise their internal management processes. Especially notable is the increased implementation of incentives-based budget systems (IBBS), which place greater authority but also greater accountability at the level of individual academic units (Lang, 2001; Massy, 1996a; Priest, Becker, Hossler, & St. John, 2002). Although the terminology varies across campuses (other popular titles include Responsibility Center Management [RCM] and Value Centered Management [VCM]), the general aim of all such approaches is to integrate budgeting and management decision-making more fully at the level of individual cost centers within institutions. The move to IBBS reflects the higher-education community’s interest in more decentralized management approaches. Unfortunately, little empirical research has been conducted on the benefits and challenges of the IBBS approach.

This article uses a variety of data sources and lenses to examine the strengths and challenges of the recent IBBS implementation at the University of Minnesota, an institution with one of the largest enrollments in the nation and the largest thus far to implement the IBBS approach.
institution has elected to integrate its version of IBBS into its planning efforts. It terms this process “Incentives for Managed Growth,” or IMG for short. Using financial data covering 8 years, this study presents revenue flows (both pre- and post-implementation), the correlation of revenues to performance, and patterns in interdisciplinary activity and student enrollment behavior among institutional units. Raw data are supplemented with findings from targeted interviews with deans of three colleges at the university. Although the analysis is limited to the early years of the implementation, the findings do provide a glimpse of how business has changed—or not changed—in the IBBS environment at this particular university. We close the article with a discussion of the study’s implications for research and practice.

Overview of Incentives-Based Budgeting Systems

Pursuing improved organizational flexibility, adaptability, and efficiency in the face of difficult fiscal conditions, many colleges and universities have begun to rethink their planning and management practices (Lewis & Dundar, 1999; Priest et al., 2002; Yudof, 2002). To that end, they are increasingly using tools borrowed from other kinds of organizations. While some of these efforts have proven beneficial, others are best characterized as passing “management fads”—approaches that enjoy brief popularity but are not diffused widely or deeply (Birnbaum, 2000). In this context, one may question whether IBBS, academe’s own version of corporate “profit centers,” will endure or simply join the graveyard of failed imports from the for-profit sector. To explore that question, it is particularly important to focus on the research university, arguably the most logical and frequent site of IBBS reform (see Whalen, 1991).

The idea of academic units being responsible for revenue production as well as certain associated costs has been around since tuition was first charged to students. In recent decades, institutions have increasingly come to see the advantages of highlighting this connection. Early versions of IBBS emerged in the 1970s and 1980s, mainly in private institutions, including Cornell, Harvard, Southern California, Vanderbilt, and Pennsylvania (Lasher & Greene, 1993; Rodas, 2001). Public institutions were slower to experiment with the approach, preferring instead their well-established “general-fund” approach—that is, a budgeting model directing revenue streams to central administrators who then redistribute funds to academic and support units according to institutional priorities. Now, however, increasing numbers of public institutions are adopting the IBBS approach, most of them in a form integrated with traditional centralized systems (West, Seidita, DiMattia, & Whalen, 1997; Priest et al., 2002).
Leslie and Slaughter note that this trend should surprise no one:

Within universities, during periods of fiscal stress, the press for decentralization of power to the operating units is relentless. Incentives and disincentives must be structured properly to ensure revenue maximization, and it is the operating units in the end that are responsible for achieving most revenue growth. . . . [G]etting the incentives and disincentives right will mean devolution of budgets, so that units are stimulated to increase competitive revenues and to control their expenditures. . . . Budget devolution may . . . be inevitable under conditions of resource scarcity and competition. (1997, p. 249)

In contrast to the general-fund approach, IBBS approaches attribute costs and revenues on a unit-by-unit basis, allowing colleges to benefit directly and immediately from their own revenue increases and cost savings. The goal is to grant each unit a degree of fiscal autonomy for deciding how revenues will be acquired and spent and how expenditures will be chosen and managed (Lang, 2001; Leslie, 1984; Massy, 1989–1990; Priest et al., 2002; Whalen, 1991, 2002). This approach marks a distinct shift away from centralized, incremental budgeting methods toward a program-performance emphasis in which local units’ academic decisions have direct financial consequences for the unit (Meisinger, 1994). Ideally, decision quality is improved because better information is available at the unit level and because there is a direct, consequential link between decisions and unit outcomes (Massy, 1989–1990). 2

Whalen (1991, pp. 10–17) characterized the primary emphases of the IBBS approach as (a) proximity—the closer the decision maker is to the implementation point, the better the decision will be; (b) proportionality—the larger an organization, the more it can benefit from decentralization of authority and accountability; and (c) knowledge—decisions will be better in an environment that has accurate and timely information. Whalen notes that, to succeed, incentive-based approaches require clear understanding of roles and responsibilities, a stable environment, and clear rewards and sanctions for performance at the unit level.

Academic units generate revenue from enrollments in the form of tuition, fees, and, in public institutions, state appropriations. They generate additional revenue from grants, contracts, and endowments. In the pure form of IBBS, all units that generate their own revenue also manage their own expenses. The growth and development of an academic unit depends upon its ability to control its costs while delivering value and quality to its stakeholders. An important focus in IBBS is on finding the appropriate cost center within the institution, which may be defined as the school, college, or department. Although some implementations
on university campuses allow funds to flow back to individual departments, most systems send money back to the colleges housing the generating departments. This latter approach enables deans to move funds within their colleges from one academic or non-academic unit’s budget to another, depending on the unit’s needs and goals (Stocum & Rooney, 1997).

The decisions made by the leaders of each cost center under IBBS clearly affect not only the local unit but also the larger organization. Organizational relationships become more complex as local academic units come to understand the need to assess and evaluate how they are connected to other units and to various support centers (Whalen, 1991). When costs seem to outweigh returns, units may decide to sever ties with certain other units. In this environment, good coordination is essential—to succeed, IBBS must not only allow legitimate local-level decisions and responsibilities but also reward cooperation among units and encourage integration between academic and administrative strategies and planning (Whalen, 1991). Ideally, matching costs and revenues with their point of origin in the institution constrains deleterious bureaucratic and political tendencies, but effective central design and oversight are required (Adams, 1997; Johnson & St. John, 2002).

Because they generate fewer revenues, support units and central-administration units require special treatment under an incentives-based system. Usually, institutions impose a “taxation” system in which (a) central overhead costs are recovered from revenues before funds are available to individual units, and (b) transfers are made to support strategically critical but fiscally less self-supporting activities, e.g., larger colleges fund smaller units with a more service-oriented mission (Meisinger, 1994). Without close attention to designing appropriate cost-sharing mechanisms to fund non-revenue-generating units, an IBBS system may not function as intended (Whalen, 1991).

Because of such concerns, no institution has adopted a “pure” IBBS. Striking an appropriate balance is critical to any system’s efficiency and effectiveness. Too much centralization may lead to missed local opportunities. Too much decentralization, however, may bring inefficient duplication of internal activities and externally offered services, as well as inattention to critical institutional goals (Cantor & Courant, 2003).

The Debate over IBBS

IBBS approaches have stimulated controversy. The two sides each merit attention here. Proponents mainly stress that IBBS principles place financial decisions closer to those with local authority and responsibility, and thus help leaders more effectively recognize performance
(both positive and negative) and more efficiently allocate resources (Lasher & Greene, 1993; Whalen, 1991, 2002). Ideally, IBBS practices acknowledge market forces, encourage efficient management of resources, and make program subsidies a matter of choice rather than routine. IBBS proponents reject the view of economist and former college president Howard Bowen (1982) and others that, when a campus is facing difficult fiscal conditions, all units should share equally in the pain. To the contrary, proponents argue, the differential funding produced by interunit competition can preserve and nurture institutional strengths and bring enhanced efficiency in trying times.

Cogan (1980) warned that traditional budget processes “underestimate the resistance to change inherent in the tenure and seniority systems,” and noted that institutions can best create change by implementing a decentralized resource policy reliant on internal market systems. That is, institutions can use budgeting policy to drive home the inherent connection between tuition, fees, and unit allocations, on the one hand, and educational services delivered, on the other. Put more bluntly, incentives-based systems encourage attention to students and other revenue providers as customers to be served (Gros Louis & Thompson, 2002).

By creating more autonomy at the unit level but pairing that autonomy with accountability for results, incentives-based systems can bring the push for efficiency and effectiveness to those most involved in academic productivity. The budget processes used in universities typically feature “repeated back-and-forth communication between the central administration” and other units within the organization (Cogan, 1980, p. 557). Central administrations provide the budget instructions, guidelines, and deadlines while academic units complete the requirements and submit their budget requests for the upcoming year. Ultimate responsibility for efficient and effective use of university resources rests with central management. Academic units compete for centrally administered funds but have limited flexibility in the way they use these funds (Stocum & Rooney, 1997). In contrast, decentralized budgeting can create “street-level” incentives to operate efficiently, respond to market pressures, and plan effectively.

Academic productivity is not always a straightforward concept, but it is central to the IBBS approach and its putative advantages. Universities are reluctant to cut underperforming or less productive programs, and Levin (1991) has proposed that productivity would increase if universities would establish clear organizational goals and priorities, along with measurable performance indicators, to communicate which activities central administrators value. From this perspective, IBBS proponents
argue, central administration should employ incentive structures (e.g., cost- and revenue-sharing protocols) that reward unit performance in activities supporting the institutional mission.

As appreciation of the institution’s overall costs and revenues grows, local cost centers may increasingly recognize the short- and long-term revenue and cost implications of their actions (Stocum & Rooney, 1997). Under systems in which central administrators “tax” for space-related costs, for example, the necessity of efficient space management may become more evident (Meisinger, 1994). A similar point applies to decisions on course offerings (Gros Louis & Thompson, 2002). Whalen (1991) provides an example: Under a traditional budgeting system, the local units of the organization may not even be aware of, or concerned about, the consequences of deleting a summer-session course from their program because of a faculty member’s leave. Under an IBBS system, however, a local unit must decide whether and how to make up the lost revenue associated with dropping a course.

Proponents also note the clarity and adaptability an IBBS approach can bring. Under decentralized approaches, fund flows may be easier to track and redirect in the face of organizational change (Whalen, 1991). Traditional modes of budgeting do not easily accommodate the development of a new function within an organizational unit or the transfer of a function between units. Flexibility at the local level may be enhanced under IBBS as units have the “ability to autonomously shift funds between spending categories to meet unanticipated shortfalls or needs in one area or to take advantage of immediate opportunities in another.” Units are also able to move funds from revenue-generating programs or carry-forward accounts into new initiatives (Stocum & Rooney, 1997, p. 57).

Interestingly, proponents argue that IBBS, although decentralized in orientation, may provide superior support for central-administration efforts to shape institutional objectives, establish priorities and policies, pursue long-term planning and strategy, and coordinate activities among organizational units (Gros Louis & Thompson, 2002; Massy, 1989–1990; Whalen, 1991). In other words, IBBS can allow for local decision-making and participation in the allocation of funds, yet it can also provide an opportunity for central leaders to direct the organization’s overall efforts, via incentives and encouragement for each unit to perform effectively and efficiently.

Critics of IBBS proffer a variety of counterpoints. At its worst, they suggest, the “every tub on its own bottom” approach can be ruinous to the academic fabric of an institution. A local unit may create and offer academic programs and courses that generate revenue but compromise
the unit’s mission or purpose (Gros Louis & Thompson, 2002; Kirp & Roberts, 2002; Lasher & Greene, 1993; Whalen, 1991, 2002). Similarly, IBBS can lower incentives for collaborations across units (Cantor & Courant, 1997). Most dramatically, the quest for students and resources under IBBS can pit academic units against one another and encourage inefficient service delivery (Massy, 1989–1990; Meisinger, 1994). For example, duplication can arise when a course typically offered in one unit to robust and efficient class sizes is subsequently developed and offered simultaneously by other units. Units may be tempted by the incentive system to develop program requirements and advise students in such a way that students remain in that unit’s courses and programs rather than venturing elsewhere for specific courses or minor program (Adams, 1997). Such self-protective logic may not only waste institutional resources but also slight the educational benefits of students taking courses in other units (Meisinger, 1994). Concern for the bottom line may thus mean sacrificing academic quality as well as efficiency.

Several angles of critique of IBBS involve academic culture. Some critics argue that such systems favor corporate over academic values. Adams, for example, says “the university has the responsibility to preserve, to correct, to integrate, and to advance the culture on all fronts,” but the responsibility-centered approach “places at the heart of the university a mode of rationality in decision-making that subverts educational policy and weakens still more the university’s ability for corrective cultural criticism” (1997, p. 59). All else equal, certain programs in the arts and humanities in universities can be disadvantaged by IBBS’s focus on generating revenues via enrollments (Hearn & Gorbunov, in press). From this perspective, IBBS propels universities toward production-oriented logic, favoring such outcomes as reducing the number of professors, increasing professors’ teaching loads, and eliminating majors and programs with low enrollment numbers (Adams, 1997; Wilms, Teruya, & Walpole, 1997).

What is more, incentives-based thinking, once implemented and embedded in the organizational culture, may grow beyond healthy bounds. A “perversion of principles” may occur in which unit leaders overestimate their autonomy (Whalen, 1991, p. 150). Once interunit competition is established, it can become difficult for units to see beyond their immediate local goals and extend their focus to larger organizational goals (Stocum & Rooney, 1997). A central administration may find it hard to redirect a local unit optimizing at the cost of larger organizational goals (Massy, 1989–1990).

Critics have also complained that units without instructional missions can find themselves disadvantaged under certain IBBS formulas; units
with instructional missions may find themselves paying for non-instructional services without substantial influence over the quality and direction of those services; management and financial information systems may require substantially increased attention; temptations may rise to impose new service fees on students; grade inflation may be encouraged as units struggle for enrollment; central administrations may be pressed to find ways to preserve mission-critical resources in the face of unit resistance to taxation; and pressures may build to lower admission standards and program quality to facilitate enrollment-driven revenue-generation (see especially Gros Louis & Thompson, 2002, and Lang, 2002).

Much of the debate about IBBS concerns language and its implications. IBBS can stimulate a cultural clash between the use of management concepts and terms (customers, products, outputs) and academic concepts and terms (students, courses, completion rates). Reflecting on their experiences as high-level leaders under responsibility-centered management at the University of Michigan, Cantor and Courant (1997) argue that language can be the real culprit when faculty, staff, and students criticize incentives-based budget systems. They suggest that critics often infer that the language implies that central administrators see faculty as employees of a firm engaged in profit maximization. In reality, Cantor and Courant argue, “bottom-line” behavior would be a disaster for the university. Thus, what seems a fundamental problem to critics may in fact be a misunderstanding. Critics, however, are reluctant to cede the point.

Most fundamentally, opponents of IBBS have noted that there is little evidence of the benefits of the approach for learning and educational performance on campuses. Empirical research thus far has not provided clear evidence on the effects of incentivized budgeting systems on educational quality. Beyond purely instructional outcomes, IBBS may raise the broader threat of “underproduction of public goods” (Cantor & Courant, 1997). The measurement of such goods is a dicey enterprise at best, but the growth of incentives-based systems should spur parallel growth in analyses of their implications for universities serving their larger social responsibilities.

Some contrarian opponents have even argued that IBBS approaches fail on the very grounds for which they have been designed and lauded. For example, Adams (1997) suggests that IBBS is yet another way for central administrators to ensure control of the budget, via the value-laden process of setting distributive formulas for resource allocations among programs (e.g., setting the central “taxation” rate, and units’ local “return” rate, for various kinds of unit-generated instructional and research revenues). Thus, the idea of decentralized responsibility may
itself be illusory, in that the value premises and incentive contexts of decisions remain under the control of high-level leaders. Along these lines, Leslie, Oaxaca, and Rhoades (2002) report that some academic department leaders are hostile to IBBS approaches on grounds of lost local control as well as high hidden costs. These striking findings (especially the perceived loss of unit power under IBBS) merit serious research attention.

Some proponents of incentivized approaches have acknowledged these and other concerns. For example, Zemsky, Porter, and Oedel note:

The vulnerability of the subvention pool, the rivalries and jealousies fed by the sudden release of detailed budget data, the damage a weak dean might do, and the difficulty of translating income incentives into new programs and strategies mark the limits of responsibility center management. (1978, p. 252)

Another proponent, Whalen (1991, p. 149), suggests that responsibility-oriented approaches be carefully monitored to ensure that information produced will be as timely and accurate as needed for decision-makers to be efficient and effective; to achieve organizational balance among small and large units and units with varying missions; to defeat attempts by units to beat the system; and to avoid external interference. In a similar vein, more recent analyses by Gros Louis & Thompson (2002) and Lang (2002) suggest that IBBS approaches require sensitivity to interconnections between public funding formulas and IBBS; awareness of the approaches’ limitations; awareness of the impossibility of “quick fixes” via the approach; sensitivity to the varying appropriateness of IBBS across units; awareness of the difficulties of the approach for some administrators; and awareness of the need for attention to ongoing mechanical improvements.

Despite efforts on both sides to reconcile differences, disagreements over the merits of IBBS on campuses are often heated. Too often, these arguments are not grounded in empirical institutional data (Kallsen, Oju, Baylor, & Bruininks, 2001). For example, although the hortatory, critical, and conceptual literature is ripe with cautions about the potential dangers of IBBS approaches to cooperation and collegiality on campus, two recent analyses (Gros Louis & Thompson, 2002; Lang, 2002) present data suggesting that intraunit efforts may actually be facilitated by IBBS approaches, at least under certain conditions. Clearly, this arena is in need of more such evidence, and more of the “Aha!” moments that only empirical research can deliver. The ratio of rhetoric to actual findings on the performance of IBBS is too high. This article represents a modest attempt to address this problem in the literature. It
provides results from the implementation of IBBS at the University of Minnesota in the late 1990s.

Initiating IBBS at the University of Minnesota: The IMG Story

The University of Minnesota is a large, public, research, land-grant university. Its four campuses combined enroll approximately 50,000 students in 370 degree programs within 21 colleges. The university’s total non-sponsored operating budget, including all expenditures, exceeds two billion dollars annually, making it the third largest of any public American university (University of Minnesota, 2000). Several characteristics of the university, including its relative autonomy derived through the state’s constitution, its administrative culture, and its organizational structure, create a climate conducive for implementing a version of IBBS. The university’s constitutionally granted autonomy allows the institution to maintain greater control of its internal budget compared to many other public institutions. The university was an early leader in market-driven reforms in tuitions and enrollment (Berg & Hoenack, 1987). The university invested in a data-warehouse strategy in the early 1990s, providing access to the types of management information needed to implement IBBS principles. Finally, the university has a long history of rather decentralized planning and decision-making, albeit within a context of centralized allocations.6

Development of IMG

Like many public institutions around the country, since the early 1990s, the University of Minnesota has experienced declining state funding as a percent of total state spending, a growing reliance on tuition revenues, and stagnation in public financial support (Hovey, 1999; Sundquist, 1997; University of Minnesota, 1999; Yudof, 2002). In the late 1990s, this fiscal and political climate forced the university to “shift from temporary budget-balancing measures to agonizing reappraisals of institutional missions and of the units that carry them out” (University of Minnesota, 1999, p. 2). The university restructured itself and revamped accounting, purchasing, and budgeting systems. In addition, stressing the desirability of unit subsidies becoming “a matter of conscious choice rather than of inadvertent outcomes or historical accidents,” the university began to develop its own IBBS principles in 1995 (Bruininks & Kvavik, 1999; Kallsen et al., 2001; University of Minnesota, 1997).

The result was “Incentives for Managed Growth” (IMG), the University’s distinctive version of IBBS. The underlying assumption was that IMG would support and stimulate institutional growth by aligning
performance with resources, allowing academic units to ensure their own financial health, holding units more accountable for their activities, linking planning with budgeting, and, most generally, “creating incentives to enhance revenues and control costs” (Bruininks & Kvavik, 1999, p. 1). Structurally, the desired result was a flattened management structure with decentralized decision making its central feature.

IMG was a new initiative, but it was designed from the beginning to fit directly into the university’s longstanding commitment to strategic planning. The university had long been noted nationally for its innovative strategic planning efforts (Hearn & Heydinger, 1985; Heydinger, 1982; Keller, 1983), but by the mid-1990s, those efforts had encountered strong external and internal challenges (Simsek & Louis, 1994). IMG represented an effort to update and advance the university’s aggressive pursuit of long-term efficiency and effectiveness.

Implementation of IMG

IMG has three elements. The first involves the development of performance indicators for each of its constituent colleges. In some colleges, performance indicators are developed for individual departments and centers as well. The second part involves the formulaic remission of all tuition generated in the university, along with several other sources of external revenue flows, back to the generating colleges. The third part is the development of agreements (termed “compacts”) between the provost and each of the constituent colleges on strategic plans and goals, programs, all-funds budgets, and evaluation procedures. In the development of these compacts, each of the deans meet on several occasions with the provost and his staff both to review current performance against previous compacts and to develop new understandings about the forthcoming year. All of these mutual understandings are transmitted through signed “compact” agreements. Several colleges develop similar compacts with their constituent departments, centers, and institutes. Following the periodic review of these agreements, rewards and sanctions are implemented.

The university formally implemented IMG during fiscal year 1997–1998, applying it to specific revenues generated by academic units’ tuition, indirect cost recovery (ICR), and certain fees. State support remains managed and allocated by central administration, but tuition, ICR, and fee revenues are returned to the academic units generating them. The university employs an allocation approach, dividing student tuition between the college teaching the course (75%) and the college in which the student is majoring (25%). ICR revenue is allocated in proportion to how it is collected through the institution’s negotiated
ICR rate. State support was used to fund units to their “revenue neutral” starting point. Instead of receiving allocations from one general, central fund, colleges at the university receive under IMG a combination of state support, tuition revenue, and ICR. Typically, an administrative unit that generates no tuition or ICR operates only on state support (Kallsen et al., 2001).

Although units may keep newly generated revenue from tuition or ICR, units are responsible for revenue shortfalls, and the central administration’s allocation of state support is discretionary. The use of discretionary funds must be for purposes that not only fulfill collegiate units’ strategic investments but also fund any increases in academic support and administrative units. Thus, the university has created and implemented a system that is concerned primarily with incentives for the production of enrollment, instruction, and sponsored research. IMG is a hybrid system that decentralizes decision making to collegiate units, yet maintains central-administration control over the allocation of some funds.

This hybrid model was chosen in part to balance the university’s long-standing, broad, and sometimes conflicting program-evaluation criteria: quality, demand, centrality to mission, comparative advantage, and efficiency/effectiveness (see Heydinger, 1982). For example, while there were arguments that, for efficiency’s sake, funds should flow quickly to high-demand programs, concerns were expressed that maintaining some budgetary control in the hands of leadership was essential to conserving quality and respecting centrality to mission. The creation of the hybrid system was an attempt to address such trade-offs.7

IMG’s design and implementation were explicitly aimed at linking budgeting to planning. Many of the performance indicators used in the compact agreements were related directly to the incentives for performance created under IMG. Table 1 provides examples of the general domains considered and some specific associated performance indicators.

**Early Evaluation of IMG’s Performance**

In 1999, an internal oversight committee provided the first evaluation of the IMG system (as reported in Kallsen et al., 2001). The report summarized comments by deans and department heads and made several recommendations: (a) the compact-planning process should be used to address historical patterns of funding inequities; (b) the compact-planning process should occur during alternate years; (c) the institution should establish an effective mechanism to soften the effects of tuition and ICR revenue variations; (d) central administration should provide collegiate units with the resources to perform better tracking, budgeting,
and planning procedures; and (e) central administration should be more forthcoming and public about how centralized revenues are spent under IMG.

In 2001, Kallsen et al. evaluated IMG by examining evidence on some central IBBS principles. In the period after IMG was implemented, where were incremental new resources flowing? Specifically, were new resources indeed flowing toward units that increased research and teaching activity? Also, had IMG created a disincentive for interdisciplinary study and an incentive to “hoard” students to raise revenue?

This formal, quantitative, and systematic evaluation revealed that slightly less than 20% of the institution’s budget was allocated in a new way under IMG. Although this may seem small, institutional planning initiatives seldom result in changes of such magnitude. The evaluation noted that professional colleges such as Agriculture, Public Affairs, Management, and Education were relative “winners” (i.e., experienced substantially increased revenues) under IMG, while academic units associated with the academic health center fared less well. Interestingly, non-revenue-generating units experienced a growth in funding despite their initial fear that their budgets would stagnate under IMG. The authors concluded that, with the exception of the continuing-education unit, academic or academic support units experienced no discernible negative financial effect under IMG.

Kallsen et al. (2001) examined whether there was a discernible rise in correlations, at the unit level, between enrollment and general operating/maintenance revenues and between sponsored awards and revenues from indirect-cost recovery. If so, the principles of IBBS would have been successfully followed, in that units would be receiving direct rewards for their successes in generating enrollments and research

<table>
<thead>
<tr>
<th>General Category</th>
<th>Specific Performance Indicators</th>
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<tbody>
<tr>
<td>Tuition Revenue Management</td>
<td>Cross-College Student and Course Activity</td>
</tr>
<tr>
<td>Instructional Cost Management</td>
<td>Marginal Cost/Revenue by Course and Instructor</td>
</tr>
<tr>
<td>Curricular Management</td>
<td>Course Control Size vs. Average Section Size</td>
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<tr>
<td>Enrollment and Tuition Management</td>
<td>Net Tuition Yield by Admission Score</td>
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<tr>
<td>Faculty Course Management</td>
<td>Courses and SCH by Instructor</td>
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<td></td>
<td>FTE/Demographics</td>
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<tr>
<td></td>
<td>Tuition Revenue Cost by Course Release</td>
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Source: Kallsen et al., 2001; adapted from Moloney & Grotevant, 1997
revenues. Over the period 1993–1994 to 1996–1997, the bivariate correlation between FYE students and operating/maintenance revenue averaged .92 for academic units at the University of Minnesota. Over the period 1997–1998 to 1999–2000, after the initiation of IMG, that correlation averaged .95, suggesting that units were indeed more directly rewarded for their efforts in enrollment management. Similarly, over the period 1993–1994 to 1996–1997, the bivariate correlation between sponsored awards and indirect-cost recovery averaged .90 for academic units. Over the period 1997–1998 to 1999–2000, after the initiation of IMG, that correlation averaged .99. It clearly appears that the initiation of an IBBS approach at the University of Minnesota meant units’ enrollment and research performance more directly affected their financial status than they did in earlier years.

The initial evaluation by Kallsen et al. (2001) also addressed the hypothesis that colleges would purposefully hoard students and manipulate their course-taking behavior through curricular requirements, to maximize revenues for their units. Analyzing course-taking behavior of students university-wide, Kallsen et al. (2001) compared the percentage of student credit hours (SCH) taken by students within their home college in 1997–1998 (before IMG was implemented) with similar data collected in 2000–2001. The results, presented in Table 2, suggest that even with the financial incentives associated with IMG, the increase in the number of students concentrated in courses within their home colleges was only 0.5%. As noted by the researchers, this “represents a movement of 5000 student credit hours—less than 200 full-year equivalent undergraduate students” (Kallsen et al., 2001, p. 10).

An intriguing finding from Kallsen et al.’s evaluation involved units’ credit-hour generation (see Table 3). The two units with the largest growth in credit-hour generation, Biological Sciences and Architecture, were also the units that allowed their students to take the most courses outside their home unit. Kallsen et al. note:

In both cases these colleges chose to admit more undergraduate students, liberalized the curriculum for majors, and began offering unique (as opposed to duplicative) service courses available to the entire university community. These colleges have attempted to grow the enrollment pie, instead of dividing it, and have been two of the most financially successful colleges under RCM practices. (2001, p. 11)

Of course, the data presented here are on the course-taking patterns of students, rather than on changes in requirements for the hundreds of majors at the university, but the data do suggest that conventional hypotheses about which behaviors will be “winners” under IMG were not always upheld by post-implementation findings.
The overall impacts of IMG have been mixed across the individual units of the university, but it is possible to generalize about the kinds of units gaining and losing under the system. Tuition-generating units were faring poorly relative to administrative units in the years before and immediately after implementation of IMG. Three years after implementation, however, those units had substantially closed the gap. It is impossible to state with certainty what would have happened had the university not elected to implement an IBBS approach, but it seems that the direct attribution of tuition neither advantaged nor disadvantaged specific kinds of units.

Kallsen et al. (2001) drew the following conclusions from the data. First, there is no evidence that academic or academic-support units at the University of Minnesota have been harmed financially by IBBS principles. Second, indirect-cost-recovery revenue, while proportionally a

<table>
<thead>
<tr>
<th>TABLE 2</th>
<th>Percent of Student Credit Hours Taken within the Student’s Home College, 1997–1998 and 2000–2001</th>
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<tbody>
<tr>
<td>97–98</td>
<td>00–01</td>
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<tr>
<td>Freshman Admitting/Undergraduate Colleges:</td>
<td></td>
</tr>
<tr>
<td>College of Agric., Food, and Envir. Science</td>
<td>51.8%</td>
</tr>
<tr>
<td>College of Biological Sciences</td>
<td>41.3%</td>
</tr>
<tr>
<td>General College</td>
<td>61.2%</td>
</tr>
<tr>
<td>College of Human Ecology</td>
<td>51.6%</td>
</tr>
<tr>
<td>College of Liberal Arts</td>
<td>70.3%</td>
</tr>
<tr>
<td>College of Natural Resources</td>
<td>37.2%</td>
</tr>
<tr>
<td>Institute of Technology</td>
<td>76.7%</td>
</tr>
<tr>
<td>Professional Schools:</td>
<td></td>
</tr>
<tr>
<td>College of Architecture/Landscape Arch.</td>
<td>93.8%</td>
</tr>
<tr>
<td>School of Management</td>
<td>71.2%</td>
</tr>
<tr>
<td>College of Education</td>
<td>79.8%</td>
</tr>
<tr>
<td>Institute of Public Affairs</td>
<td>76.0%</td>
</tr>
<tr>
<td>Law School</td>
<td>97.8%</td>
</tr>
<tr>
<td>Health Sciences:</td>
<td></td>
</tr>
<tr>
<td>Medical School</td>
<td>95.0%</td>
</tr>
<tr>
<td>School of Nursing</td>
<td>83.7%</td>
</tr>
<tr>
<td>School of Pharmacy</td>
<td>86.7%</td>
</tr>
<tr>
<td>School of Public Health</td>
<td>83.7%</td>
</tr>
<tr>
<td>School of Dentistry</td>
<td>85.9%</td>
</tr>
<tr>
<td>College of Veterinary Medicine</td>
<td>98.1%</td>
</tr>
<tr>
<td>Other:</td>
<td></td>
</tr>
<tr>
<td>College of Continuing Education</td>
<td>3.0%</td>
</tr>
<tr>
<td>Institutional TOTAL</td>
<td>70.8%</td>
</tr>
</tbody>
</table>
small amount of the total budget, has become more closely aligned with actual sponsored activity under IMG. Third, there is little empirical evidence that colleges have attempted to shape student enrollment patterns (e.g., via credit and prerequisite requirements for majors) to maximize their revenues under IMG. Fourth, although IMG does provide winners and losers, its rules have become well known to all parties, a clearly positive aspect of the new system. Fifth, continuing education as an organized unit has been the most negatively affected unit in the transition to IBBS principles, a finding perhaps indicative of larger trends for such units.

**Interviews with Deans Working under the New IMG System**

To supplement the largely quantitative data collected by Kallsen et al. (2001), we interviewed three collegiate deans on the university’s Twin

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**TABLE 3**

Student credit hours generated by unit, 1997–1998 and 2000–2001

<table>
<thead>
<tr>
<th></th>
<th>97–98</th>
<th>00–01</th>
<th>Difference</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman Admitting/Undergraduate Colleges:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College of Agric., Food, and Envir. Science</td>
<td>29,682</td>
<td>33,252</td>
<td>3,569</td>
<td>12.0%</td>
</tr>
<tr>
<td>College of Biological Sciences</td>
<td>21,760</td>
<td>32,103</td>
<td>10,343</td>
<td>47.5%</td>
</tr>
<tr>
<td>General College</td>
<td>33,387</td>
<td>40,561</td>
<td>7,174</td>
<td>21.5%</td>
</tr>
<tr>
<td>College of Human Ecology</td>
<td>28,139</td>
<td>30,430</td>
<td>2,291</td>
<td>8.1%</td>
</tr>
<tr>
<td>College of Liberal Arts</td>
<td>377,732</td>
<td>379,741</td>
<td>2,009</td>
<td>0.5%</td>
</tr>
<tr>
<td>College of Natural Resources</td>
<td>15,718</td>
<td>15,261</td>
<td>-457</td>
<td>-2.9%</td>
</tr>
<tr>
<td>Institute of Technology</td>
<td>138,756</td>
<td>139,989</td>
<td>1,233</td>
<td>0.9%</td>
</tr>
<tr>
<td><strong>Professional Schools:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College of Architecture/Landscape Arch</td>
<td>5,039</td>
<td>9,963</td>
<td>4,923</td>
<td>97.7%</td>
</tr>
<tr>
<td>School of Management</td>
<td>64,583</td>
<td>74,655</td>
<td>10,072</td>
<td>15.6%</td>
</tr>
<tr>
<td>College of Education and Human Dev.</td>
<td>48,831</td>
<td>51,770</td>
<td>2,939</td>
<td>6.0%</td>
</tr>
<tr>
<td>Institute of Public Affairs</td>
<td>4,030</td>
<td>4,022</td>
<td>-9</td>
<td>-0.2%</td>
</tr>
<tr>
<td>Law School</td>
<td>15,293</td>
<td>20,724</td>
<td>5,431</td>
<td>35.5%</td>
</tr>
<tr>
<td><strong>Health Sciences:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical School</td>
<td>67,548</td>
<td>55,636</td>
<td>-11,913</td>
<td>-17.6%</td>
</tr>
<tr>
<td>School of Nursing</td>
<td>9,822</td>
<td>10,045</td>
<td>223</td>
<td>2.3%</td>
</tr>
<tr>
<td>School of Pharmacy</td>
<td>10,989</td>
<td>14,583</td>
<td>3,594</td>
<td>32.7%</td>
</tr>
<tr>
<td>School of Public Health</td>
<td>6,419</td>
<td>6,977</td>
<td>558</td>
<td>8.7%</td>
</tr>
<tr>
<td>School of Dentistry</td>
<td>20,797</td>
<td>22,160</td>
<td>1,363</td>
<td>6.6%</td>
</tr>
<tr>
<td>College of Veterinary Medicine</td>
<td>14,583</td>
<td>18,132</td>
<td>3,549</td>
<td>24.3%</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College of Continuing Education</td>
<td>93,232</td>
<td>63,734</td>
<td>-29,498</td>
<td>-31.6%</td>
</tr>
<tr>
<td><strong>Institutional TOTAL</strong></td>
<td>1,006,339</td>
<td>1,023,735</td>
<td>17,396</td>
<td>1.7%</td>
</tr>
</tbody>
</table>
Cities campus in late 2001 and early 2002. We asked them to discuss their experiences as administrative leaders under the IMG system, with particular attention to the benefits and challenges associated with the new approach.

Before covering benefits and challenges, the deans emphasized what IMG was not as well as what it is. For them, IMG did not mean an abandonment of politics and power struggles on campus, or a foregoing of the need for strategic thinking and planning. As one dean noted,

What IMG does is it simply controls in round numbers 270 million of a two billion dollar budget. It controls nothing about where state support is going to go. It controls nothing about what new academic initiatives involving central resources are going to do. It does nothing about [what] university priorities are going to be on the academic side.

The fact that the massive base state allocations to individual colleges on campus are still determined \textit{a priori} at the central-administration level, as they were for many years before the implementation of IMG, is a particularly telling example of the independence of IMG from some fundamental and ongoing strategic and budget issues on this campus.\textsuperscript{8}

Among the benefits of IMG suggested by the deans were: (a) providing a clear accounting of tuition and budget issues—“changing the way we do business”; (b) “fostering innovations”; (c) facilitating the implementation of needed academic reforms; (d) provoking an examination of student enrollments; and (e) creating an awareness of cost implications of actions—helping everyone to “recognize the finances of the place.” One dean stressed this last point in particular: “The thing that IMG does is it allows you to put on the table what the accounting is so I know well what I am getting back from my investment.”

In further discussing the benefits of IMG, one dean acknowledged that his unit must “fight harder to get money than we used to,” suggesting that although this competition for funds may not necessarily be “fun,” it is “appropriate” under IBBS principles. Another dean, speaking about the university moving to a new credit-minimum policy, noted:

That’s going to place some real demands on colleges and if we did not have IMG in place, this university would screw up in a major way on the implementation of a 13-credit minimum. Because, what’s the incentive for me to surplus students unless I have the knowledge that if I open more classes to serve those students, [then] I’m going to get the revenue to cover my costs.

The deans also noted several challenges, including the oft-cited dangers of mission creep and duplication. Along these lines, one dean acknowledged the potential abuses of the system, noting its potential to create an unregulated marketplace insensitive to the larger good:
The provost has to be a watchdog under IMG. If the provost isn’t a watchdog for the bad incentives that IMG creates and doesn’t stop that, you’ve got a stock exchange without a Securities and Exchange Commission—it just doesn’t work.

A professional school dean raised the idea that unanticipated costs or unexpected events can create challenges for annual budget planning under IMG. The IMG system was described as one that shifts “under our feet year after year” whether through taxing and assessment (costs) or unanticipated events. In parallel terms, another dean raised doubts about the openness of IMG as conditions change:

There is some sense that all of the costs should be a bit more transparent and they’re not necessarily all put on the table or all managed. Suddenly you need to hire a bunch of additional people in the legal counsel’s office; what did that cost you? Suddenly you decide you’re going to bail out the athletic department and you didn’t know about that; what did that cost you? Suddenly you realize that the costs of some of the new buildings are going online are higher than you expected, so there are some additional costs there. And when you put them all on the table, what are you doing as a university? There is some sensitivity among the deans because of that—because decisions are made in isolation of one another so that we don’t see the whole picture of what is going on.

Another dean made a parallel observation, remarking:

Part of the problem right now is that we have, as I put it, this moving target about what IMG is. . . . [I]f every single year there’s a new way of doing it or a new little clue or a new little adjustment thing we made so that the thing doesn’t collapse, then, what good is the thing that’s undermining the incentives it is supposed to provide? [W]hat makes everybody crazy is that every two years or every year the rules change. How do you perform under that? How do you act responsibly under that? How do you trust the incentives under a system where the world is changing on you?

Deans noted another challenge: the variability among unit heads in their ability to function well within IMG. Faculty who come to serve as administrators are not necessarily savvy about financial management, so “they’re doing it [IMG] intuitively and they’re doing it by leaning a lot on people who do have the skill.” The nature of the system encourages unit administrators to monitor closely all revenues and costs, but one dean cautioned about the inclination of some unit heads to be cautious, stating: “You can’t lose sight of the opportunities that are out there simply because the dollars are staring you in front of the face and you’re even more aware of what you have and what you don’t have.”
The deans to whom we spoke were unresolved on whether IMG had improved efficiency. As to the question of whether IMG increased bureaucracy in units, however, they were more sanguine. One dean noted that any increase in bureaucracy because of IMG implementation would be a relatively small cost compared to the larger benefit of units managing their own money. Another expressed concern over his own inability to assess whether IMG had affected bureaucracy in the college, acknowledging the unit’s inability to date “to make full use of the information systems that the university has.” The third dean interviewed noted that he saw no additional bureaucracy created by the adoption of IMG.

One dean called attention to the diverse IMG implementation styles across the various colleges on campus. Some colleges have decentralized most of the financial management and decision-making to individual departments within the college, while others maintain more centralized control of budgets and allocations in the dean’s office.

The deans had different perspectives on the connection between IMG and the university’s compact-planning process. Initially, one dean spoke of a disconnect between the two systems and processes. Later, though, that dean emphasized the idea that if the institution implemented IMG without the compact process, IMG “might neglect some entities that are of broad value to the place. . . . [there’s] not enough to look out for the whole of the entity.” This dean spoke of the interdisciplinary work and relationships that are created through the compact process that might otherwise be avoided if the university implemented only the IMG system. The compact process enables cooperation among colleges to serve a larger public good (e.g., pooling money to hire a librarian).

The compact process was seen by one dean as a mechanism for maintaining strategic academic priorities and thereby counterbalancing potential problems in a market model’s incentives context:

Incentives for mission creep, incentives for units that never talk about undergraduates before suddenly getting into the business of teaching undergraduates. Incentives for going after liberal education courses because they bring in . . . incentives for holding your own students in your own college rather than letting them flip into another college incentives for advertising. Your courses against other people’s courses and trying to pick off students. . . . What ought to happen in a compact process [is that] a provost ought to blow the whistle and say, “No, you cannot do that. It violates principles about what the university is.”

The deans provided several recommendations for improving the IMG approach at the university. Two deans pointed to a need to examine more closely the base allocation in the IMG formula, noting it remained largely
unchanged after being set when the IMG process began for each college. The deans, while confessing self-interest, expressed concern that not changing the base institutionalized certain across-college inequities.

Thinking about the larger contexts of the IMG system, a dean remarked that there is a need for all involved to understand core costs at the university and a need to have the system reflect those costs. All colleges contribute to the institution’s infrastructure via the “tax” the system imposes from their tuition returns, and this dean stressed that it would be helpful to have a “stable model” of what those infrastructure costs are over time. With this information, college leaders could make better-informed decisions and would better understand areas of concern in the overall IMG system.

One dean stressed that an IBBS system may tend to overlook certain public goods produced by the university. For example, if indirect costs are a critical element in the unit revenues generated under an IBBS approach, and if the unit is one that does substantial “land-grant” work for the state or other public agencies without the promise of indirect-cost returns, that unit may be penalized relative to units that are able to generate substantial indirect-cost revenues but without the returns to the larger public good:

As we’ve been looking at our sponsored profile, we’re doing a lot of charity work. We’re bringing in indirect cost returns on the average of about 14%. You could say, “Well, you’re stupid. Why don’t you go after grants and contracts that actually return more indirect cost dollars?” Well, the answer is, we’re doing an awful lot of work for the state of Minnesota. An argument could be made that because of the large number of students that we have and this large profile of research and contract activity, a lot of which is for the state, that we ought to be getting a larger portion of that state dollar.

Questions of service to the larger community and the public good were a consistent theme among our respondent deans. One said that it was important for units to look beyond the immediate bottom line to discern the costs and returns associated with the larger good. Another raised the same issue, noting, “It [IMG] hurts the ability of the university to fund collective goods. . . . That’s the favorite argument of the libraries.” Our respondents indicated that maintaining and fostering this sense of broader purpose may temper the competition inherent in IMG.

In all, it is striking that the three deans did not differ more in their perspectives on the importance, benefits, challenges, and possible improvements in IMG. Although our sample of deans was not large, it does appear from the limited evidence here that shared views do arise among those with similar leadership positions on a campus, despite their sometimes-competing internal budgetary interests.
Implications

This analysis cannot be considered a thoroughgoing evaluation of the effects of the implementation of an IBBS approach at Minnesota. The data are for only the early years of the new system. More importantly, because the budget reform was implemented across all units of the institution, we have no evidence of what would have happened in the focal period in the absence of the reform. We thus cannot definitively infer that the reform itself caused any outcome or prevented anything from happening. We just do not know. Yet, what evidence we do have is instructive. We can draw several tentative conclusions regarding the IBBS approach to campus budgeting and resource allocation. Each conclusion suggests empirical questions for research as well as directions for institutional leaders interested in pursuing incentive-based budgeting.

First, practitioners and analysts should question some of the conventional wisdom regarding the likely effects of IBBS in a given setting. At the University of Minnesota, there were several surprises, and some early worries appear to have been unwarranted. These results may not be paralleled elsewhere, but evidence for assumed outcomes should always be pursued.

Second, it is important to bear in mind that an IBBS system, no matter how aggressive, may not radically change budgetary outcomes or knowledgability. At Minnesota, only about 20% of the budget seems to have been redirected as a result of this reform. An IBBS by itself is unlikely to fully correct significant historical inequities in budgets, nor can it somehow ensure that everyone fully understands and agrees to the core budgeting assumptions of the institution.

Third, and somewhat conversely to the second point, IBBS reform can have significant effects at the margin. The 20% shift at Minnesota is significant and “large” compared with changes of less than 10% found in some IBBS implementations in the past. Veteran observers of university budgets tend to doubt the power of individual reforms, based on their past experiences with “zero-based budgeting,” PPBS, and other long since-discarded ideas (Meisinger, 1994). IBBS seems to have somewhat more potential for reshaping allocations. At Minnesota, it appears that IMG is building organized capacity to adapt efficiently and productively to environmental changes. Revenue maximizing and cost minimizing appear to be occurring, and this is largely being done by creating more autonomy at the unit level accompanied by greater degrees of both internal and external accountability.

Fourth, successfully implementing IBBS requires full commitment from top leadership, open communication, and adequate information
flows (Strauss, Curry, & Whalen, 1996). Critics have noted that the implementation of IBBS and the use of language borrowed from the for-profit world may cause faculty to reject the approach before they fully understand the system (Wilms, Teruya, & Walpole, 1997). The faculty may be concerned that market-driven forces and the drive for revenue among local units may obstruct higher educational goals such as quality, reducing the academic organization to a business with different goals (Cantor & Courant, 1997). Honest, open communication seems critical to avoiding faculty distrust and misunderstandings. The evidence from our respondents does not suggest major problems at that level, but deans did stress a need for greater clarity and transparency on how revenue streams are calculated and allocated, and we did not explore perceptions at the faculty level.

Importantly, local units need appropriate data and information for effective decision-making under IBBS. Whalen (1991) argues that, ideally, local units under IBBS will have increasing awareness about the implications of their decisions. At Minnesota, individual units demanded more and better information than planners anticipated when IMG was implemented. Locally specific and centrally dispersed information with format flexibility was needed, and web-based management-information systems became imperative. Even after an institution implements improved information systems, demands can persist. One of our interviewed deans noted that he did not really know enough about the effects of IMG on his college because of a lack of adequate centrally provided information. Those interested in the implementation of IBBS need to ask whether adequate information-management systems are in place to provide local units with data relevant to the decision-making at their level.

Fifth, and related to the above point, effective measurement of results is critical to the success of an IBBS system. Work at Minnesota suggests that it is critical to consider measurement methods for IBBS during development of the new budgeting system, as adjustments may be difficult to make later. There should be goals, rewards, and consequences for academic units as they seek to make decisions meeting institutional expectations, and measuring performance appropriately is critical to that process. IBBS and responsibility-centered management systems have emerged as a way to rationalize planning and budgets in higher education institutions, and institutions need to make sure that there are effective ways of evaluating IBBS’s effects not only on the finances of institutions and their units but also on educational quality (Toutkoushian & Danielsen, 2002). As Massy (1996b) has noted, when institutions design decentralized systems in which the returns to improved performance and
the penalties for poor performance are unclear, incentives are ineffective and investments may inadvertently flow to inappropriate activities.

In this context, it is important not to underestimate the challenges of effectively measuring results. As Toutkoushian and Danielson (2002) argue, it is dauntingly difficult to assess the effectiveness of incentive-based systems because solid measures of performance are rare and because simple correlations between IBBS and specific factors ignore the possible effects of other factors on those same metrics. At the institution these authors studied, the University of New Hampshire, confounding factors could not be dismissed in evaluating the institution’s new responsibility-center management system:

Suppose that UNH observes that the graduation rate declines in the years following the adoption of RCM. Without information on all of the other factors that might also have affected graduation rates, as well as an analysis of their impact, the university will not be able to determine if RCM also contributed the decline. Because the same caveats would apply to . . . other indicators [as well], it is questionable whether the data will be useful for examining the impact of RCM on even these measures. (p. 220)

Toutkoushian and Danielson suggest that effective assessment of any new system requires not only an array of quantitative indicators but also qualitative evidence, such as that to be acquired through reviews of faculty reports and discussions with deans and faculty. In accord with that perspective, the present analysis of the University of Minnesota system employs both quantitative and qualitative data. At the same time, it would be foolhardy to consider the evidence provided by this analysis comprehensive or definitive.

Sixth, our respondents and data suggest that it is critical for all parties to understand that an IBBS approach will inevitably evolve in any institutional context. It is probably impossible to “get it right” from the start. That said, there is a fine line between stakeholders perceiving a climate of incomprehensible instability and their perceiving a climate of ongoing appropriate refinements. Therein lies a major challenge for leaders. Importantly, measurement and evaluation systems must be evolving in harmony with the IBBS system, with the goal of ensuring that the currently implemented approach is well documented and open to empirical examination.

Seventh, the implementation of IBBS should be accompanied by reexamination of the nature of oversight and control of the university. Our interviews at Minnesota showed that base state allocations to colleges within the university have not been reexamined since IMG was implemented. Periodic reexamination and adjustments of state allocations seems imperative. This would strengthen the internal accountability
measures IBBS inherently maintains and, ideally, might lessen pressures for expanded external accountability measures in an institution’s internal budgetary process. As Whalen has observed, “If responsibility center budgeting makes communication and accountability easier, fewer rather than more constraints should result” (1991, p. 151). Of course, this result is likely only when the incentives in the budgeting system are congruent with the outcomes desired by both internal and external stakeholders.

Eighth, the ultimate effects of IBBS on efficiency and effectiveness are thus far unclear. At least, that certainly seems to be the case at the University of Minnesota. Efficiency may or may not increase, depending on how local decision-makers behave in response to the new system and how the central administration balances the need to decentralize fiscal decision-making with centralized direction. IBBS may offer a credible response to historical inefficiencies in college and university budgeting, but an institution implementing an IBBS approach may still face obstacles rooted at the heart of academic organizations. As Massy put it:

> Few in higher education question the need for efficiency; the problem is that other forces constrain our ability to achieve and demonstrate it in the ways that have become familiar in business. The first arises from the intangible nature of academic outputs and the opacity and fragility of the production process, especially for the highest quality education and research. Budget cuts that ravage quality hardly improve efficiency. (1989–1990, p. 54)

It seems essential to define and assess efficiency and effectiveness at both the local and overall organizational level. Obviously, local units cannot survive without a healthy home institution. Efficiency and effectiveness at any specific institution may extend further than narrowly defined productivity (Cameron & Whetton, 1983). Unless a new budgeting approach is widely embraced by all members in the organization, unless all constituencies are involved in its creation and implementation, and unless it becomes an embraced part of the organizational culture top to bottom, success may be illusive.

Ninth, the effects of IBBS on innovation appear to depend heavily on the designed infrastructure and on local leadership. Regarding across-unit innovation, a professional-school dean complained about the paperwork and effort that go into just bringing a faculty member from another cost center to teach a course in his unit—something that isn’t even all that “innovative.” That dean commented that, if that takes extra effort, bureaucracy, and maybe even some negotiation to move ahead on cooperative teaching, the effects of IBBS on innovation may be negative. This suggests a researchable question of importance for the understanding
and evaluation of IBBS. Beyond the structural conditions influencing innovation efforts, local units must also have in place the leadership to take advantage of the context for innovation provided by an IBBS approach. Stocum and Rooney (1997) have suggested that, under IBBS, units can move funds around to initiate new programs, but one of our interviewed deans suggested that department heads may not have the administrative capability or knowledge in financial management to take full advantage of incentives to be innovative. Might department heads need financial training to best implement IMG and understand its potential for improved innovation?

Tenth, the parallel adoption of the “compact” process at the University of Minnesota may have helped buffer the institution from retreat from units’ commitments to the institutional community and mission, as well as to the larger public good. In some settings, leaders may need to explore sanctions for units pursuing behavior overtly contrary to broad campus agendas (Adams, 1997; Stocum & Rooney, 1997; Whalen, 1991). Massy (1989–1990) warns that when an IBBS mentality becomes embedded in the organizational culture, it may be difficult for central administrators to intervene when a local unit is optimizing at the cost of larger organizational goals. The recent onset of truly difficult financial circumstances at the University of Minnesota and many other large public institutions only heightens the need for vigilance on this front. It is therefore striking that such untoward behaviors as “hoarding” did not seem to be occurring in the early years of IMG at the University of Minnesota. The “compact process,” tying IMG directly to strategic planning in units and overall, may have provided incentives for cooperative ventures and innovation in the university, countering the potential for excessive “profit” orientation at unit levels there. Implementing a parallel and complementary planning system at the same time as IBBS may represent an effective administrative choice.

Eleventh, while it may seem self-evident, it is important to note that implementations of IBBS must be integrated with the local organizational culture. At Minnesota, there was little appetite for devising complex formulas for attributing central support costs and administrative costs to academic units. At other institutions, such formulas may be financially necessary and culturally acceptable. It seems best to attune budgeting systems to local culture rather than to force local culture to adapt to budgeting systems.10

Finally, the organizational politics of IBBS are a topic little explored thus far in the literature, and this topic is well worth attention. One of our interviewed deans commented that deans and faculty need to understand who is involved in the decision-making process setting the
grounds for the IMG approach at Minnesota, and how those decisions are made. Just because there has been a shift from traditional, central, incremental budgeting to IBBS does not at all mean that the politics of the budgetary process vanish. An administrator noted to us that, at Minnesota, the discourse around annual central-administration budget cycles has shifted somewhat from “who got what” to how to finance common goods like academic technology, or to how dependent individual colleges should be on tuition revenues. This might be taken to mean a decline in political wrangling but, of course, as debates arise concerning such general matters, all colleges offer perspectives that inevitably support their college’s interests. Thus, one might even argue that, with budget rules more clearly understood on campus under the new system, there are more players and more politics in the budget cycle than under previous systems.

In this vein, it seems important to recall that power and politics on campus relate importantly to fields of study. As Volk, Slaughter, and Thomas have astutely pointed out, most past empirical studies of resource allocations among departments treat those units “as generic departments that reacted to institutional and professional incentives rather than as departments organized around concrete kinds of knowledge, peopled by faculty with similar characteristics who trained students for specific careers” (2001, p. 388). Although the putatively neutral workings of internal markets (i.e., the competition for student credit hours) might seem more linked to the “rational/political” rather than to the “critical/political” aspects of institutions, such an assumption downplays the distinctive grounding of each field and department in a variety of preexisting systems of stratification (see Gumpert, 1993; Slaughter, 1993; Volk et al., 2001). The intersection of incentive-based models such as IBBS with critical resource-allocation theory such as that pursued so persuasively by Slaughter and her colleagues is beyond the scope of this article. Clearly, however, the question is of paramount importance for those interested in the equity implications of IBBS implementations.

**Conclusion**

Incentives-based budgeting systems bring to the forefront public institutions’ difficult pursuit of the concurrent goals of access, quality, and efficiency. Deans interviewed for this project repeatedly referred to IMG’s influences on these three domains of their colleges’ operations and of the operations of the university as a whole. Of course, this “iron triangle” is difficult to manage and balance under any budgeting system
It may be that the great strength as well as the major vulnerability of incentives-based systems in the relatively open environments of public institutions is their potential to clarify and make more widely visible institutions’ investment patterns, budgets, cross-subsidies, management strengths and weaknesses, and operational values. To the extent institutions and their leaders at all levels can accept that transparency and deal effectively with it, through appropriately designed and implemented incentives and information systems, IBBS approaches may ultimately contribute to the success of the enterprise.

The evidence reported here suggests that IBBS, when well integrated with a responsive, participatory planning system, can indeed contribute to institutional efficiency and productivity. Of course, there is still much to learn about the outcomes of the IMG reform at the University of Minnesota. More broadly, there is much to learn about the implications of this kind of budgeting system on large public campuses. As Priest, St. John, and Tobin (2002) have noted, incentives-based systems are evolving and are very much a work in progress. Ideally, this analysis of recent developments at one institution will contribute to a growing empirical literature on an increasingly significant topic in higher-education organization and finance.

Epilogue

Since this article was written and accepted for publication, the University of Minnesota has continued to evaluate and reform its IBBS approach. Working throughout 2005 and into 2006, a system-wide committee of faculty and financial staff recommended that the university move further toward allocating revenues and costs directly to academic units. On the basis of these recommendations, the university approach is now evolving toward a “purer” IBBS system. In concert, the university is expanding the cost and productivity information it provides units and is developing new strategies to encourage interdisciplinary research and education, including novel systems for providing multi-unit allocations of tuition and funds from indirect-cost recovery.

Endnotes

1In the 1990s, Indiana University became the first public research university to implement RCB, with the Universities of Michigan, Minnesota, and Virginia, UCLA, and others following (West et al., 1997).

2Geiger has noted that “The widely recognized managerial revolution in higher education has either weakened or narrowed the sphere in which traditional collegial decision-making occurred. . . . [T]he new managerialism is a pervasive fact, and academic stewardship oversees a considerably smaller purview than it did just a generation ago” (2002, p. 46). Interestingly, the movement to incentivized budgeting appears to go in the opposite direction. Both observations are arguably “true,” suggesting a focus for further analysis.

3In fact, this uncertainty characterizes the broader literature on the relationships between educational costs and learning (Levin, 1991).
In early conceptual work, Hoenack (1977) pointed to the potential of incentive-based budgeting systems for increasing, rather than threatening, cooperation. For example, individual colleges have long been allowed to carry forward surpluses from year to year.

For an informative and spirited defense of hybrid models in action, see Cantor and Courant (2003).

This dean commented that, for real change to occur, “[S]tate dollars need to be moved around where they’re needed. Where the best ideas are. Where the best possible return for students and academic excellence lie.”

The barriers to achieving efficiency may be formidable. Boulding warns against an illusion of ever achieving efficiency in higher education and doubts the value of that pursuit, wryly noting that, “However carefully we refine our techniques, we must never desert the great tradition of muddling through” (1978, p. 418).

A similar point is stressed by Johnson and St. John (2002).

Mingle has noted that, “In the past, many institutions were reluctant to make explicit the cross-subsidies out of fear that they would be unpopular with powerful legislators. The question is, which strategy—stealth budgeting or more explicit commitment to unprofitable activities—will most likely sustain and encourage the institution to run counter to market forces?” (2000, p. 11).

References


and German higher education (pp. 33–84). Cambridge, MA: American Academy of Arts and Sciences.


