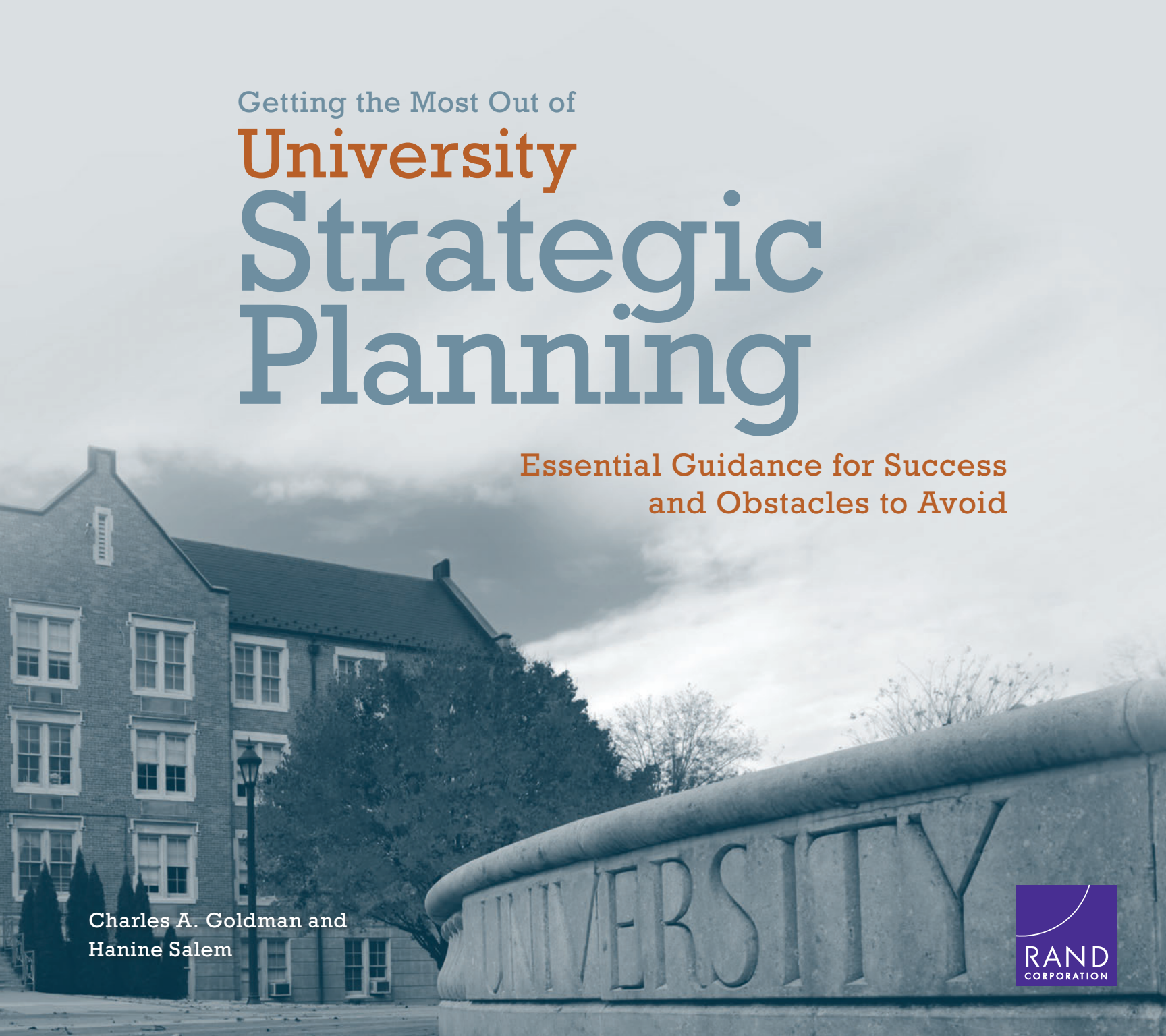
Getting the Most Out of

University Strategic Planning

Essential Guidance for Success and Obstacles to Avoid



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Higher education institutions often find themselves in a competitive marketplace, looking to attract highly respected scholars, top-tier students, and donors, as well as increase their visibility and reputation. In such an environment, strategic planning—which Crittenden defines as "attempt to systematize the processes that enable an organization to achieve goals and objectives" (2000)—can help universities maintain stability in a changing environment and respond constructively to increasing competition or external threats. Our experiences supporting universities in their strategic planning efforts, and literature that has influenced our practices, have identified factors that drive success—and create obstacles—in the planning process.

Introduction

Colleges and universities have diverse, and often lofty, goals—for example, they may aim to raise their institutional prestige or to engage more thoroughly with society. However, higher education institutions often face significant challenges in achieving those goals. There is wide consensus that strategic planning, if implemented properly, offers universities a solid approach to achieve goals like these. Specifically, strategic planning methods can help guide senior management, as well as empower middle managers, while aligning their everyday activities to the institution's broad aims. Strategic planning can also encourage data-based decisionmaking and lay the foundation for performance measurement, which allows leaders to monitor progress, detect deviations from the plan and correct them, and make resource allocation decisions in accordance with clearly defined goals.

While strategic planning offers important benefits, there are many concerns that strategic planning processes can be inefficient and ineffective. Some authors worry that, by creating too many rules or protocols, organizations could become too bogged down in paperwork and rely too heavily on data that might not address key problems (Mintzberg, 1994; Dooris, 2003). Other critics argue that increased bureaucracy associated with strategic planning could strangle organizational creativity (Taylor and de Lourdes Machado, 2006).

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Mintzberg (1994) suggested mechanized approaches to problems would limit strategic thinking, decreasing an organization's ability to take advantage of unplanned opportunities and avoid problems.

Critiques notwithstanding, strategic planning has increasingly influenced organizational management over the last 50 years. Modern strategic planning systems started in the 1960s in the U.S. military, with significant contributions from RAND researchers to the Planning, Programming, and Budgeting System (Petruschell, 1968; DonVito, 1969). During the 1960s and early 1970s, the for-profit sector began to adopt similar methods. And while some universities had already begun to use strategic planning methods in the 1950s, such efforts often focused on immediate budget and planning needs—including those related to student recruitment, enrollment and resource growth, academic program offerings, and facilities—with few such efforts focused on long-range planning (Kotler and Murphy, 1981). By the mid-1970s, rapid economic, demographic, and technological changes prompted U.S. public and nonprofit organizations, including those in higher education, to adopt the strategic planning models used in business (Bryson, 1995; Dooris, 2003). Trends in countries around the world toward a greater influence of market forces on higher education institutions are also spurring the adoption of strategic planning processes derived from the business sector (see, e.g., the review in Taylor, de Lourdes Machado, and Peterson, 2008).

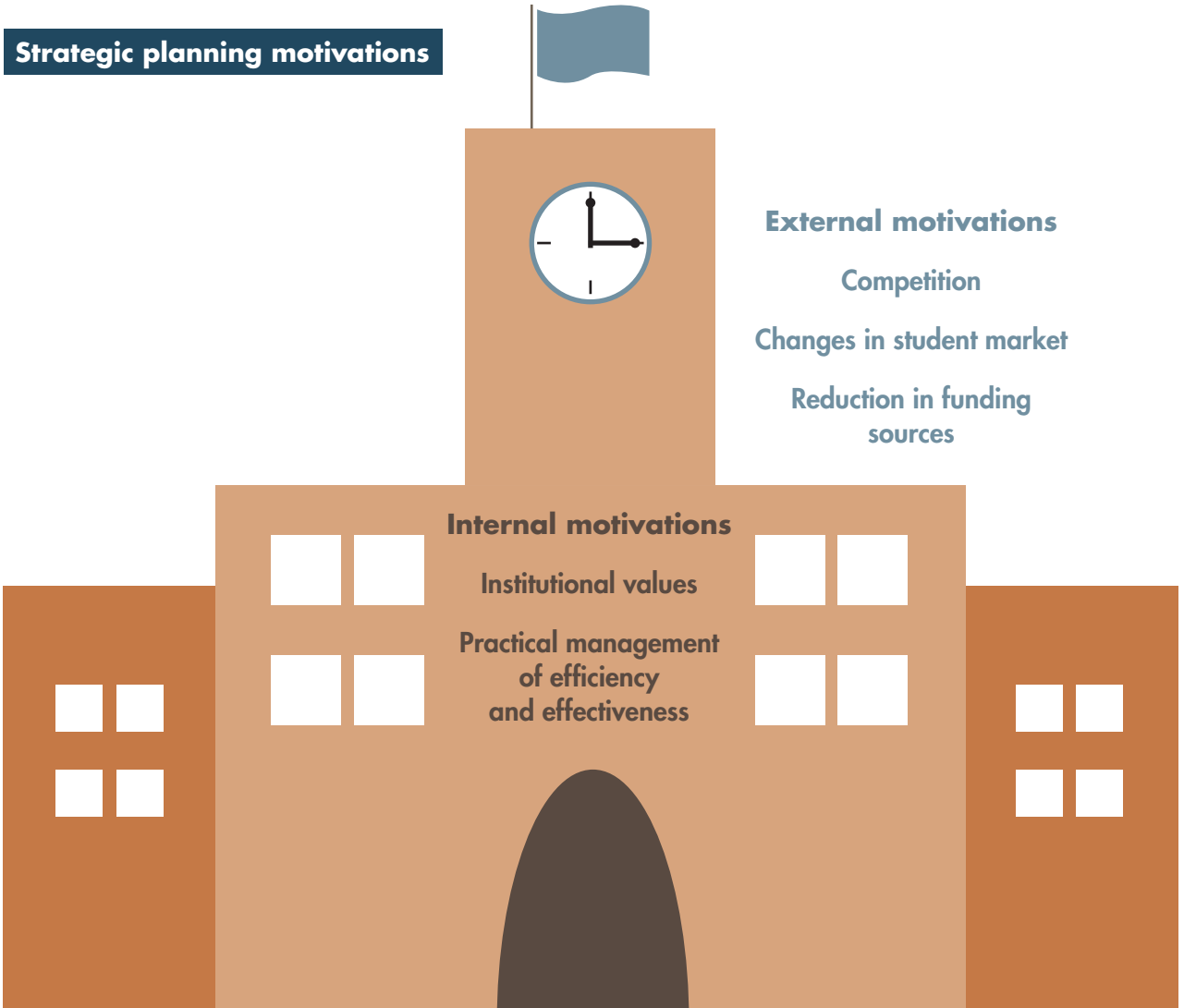
Yet universities differ from businesses in important ways. Unlike many traditional for-profit enterprises, universities tend to have loosely linked, autonomous departments that emphasize independence and flexibility, as well as more intangible, long-term goals that are difficult to measure (Gumport and Sporn, 1999; Bayenet, Feola, and Tavernier, 2000; Taylor and de Lourdes Machado, 2006; Taylor, de Lourdes Machado, and Peterson, 2008). Crisp (1991) defines strategic planning in higher education as "the set of activities designed to identify the appropriate future direction of a college and includes specifying the steps to move in that direction" (p. 3).

Because universities are composed of multiple colleges, departments, and supporting units, often exercising some autonomy over their operations, it is common to develop both an overall university strategic plan as well as linked strategic and action plans at the college, department, and supporting-unit levels. These entities are where the ongoing work of the university is performed, so they must have strategic plans that guide their contribution to the university's mission. In our experience, these strategic plans are commonly formulated on a five-year cycle, although somewhat shorter or longer planning periods are also used. The action plans we have seen are most commonly developed once a year and updated during the year based on the progress made or challenges encountered, although some complex actions may span a period longer than a year.

Over the course of the past 20 years, we have worked with universities and higher education systems in the United States, South Korea, Qatar, and the United Arab Emirates to support their strategic planning efforts. In this survey, we distill what we have found to be the most challenging and important aspects of strategic planning based on our experience and the articles and books that have influenced our practices. We hope this piece will be useful to higher education leaders considering strategic planning and to consultants and practitioners who assist them. While the document is primarily aimed at college and university leaders, it also draws on our experiences working at the higher education system level and may offer useful insights to leaders at those levels.

Orient the Planning Process Toward Specific Motivations

Strategic planning, in our experience, proceeds more smoothly and successfully when the *strategic planning process is oriented toward specific motivations*. The literature generally describes two approaches for understanding university strategic planning motivations. One focuses on *internal* pressures, bases strategic planning on institutional values, and is purely practical, seeking to help the university run as efficiently and effectively as possible (West-Burnham, 1994; Larsen and Langfeldt, 2005). The other focuses on positioning the university in relation to its *external* environment, emphasizes competition as a key motivator for change, and sees planning



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as a political process to satisfy demands of various stakeholders (Jennings and Wattam, 1998).

In practice, this second approach tends to be the most common impetus for creating strategic plans. Universities typically initiate strategic planning in response to financial changes, government regulations, changes in the student market, competition from other universities, emerging technologies, or international pressures (Gumport and Sporn, 1999; Bayenet, Feola, and Tavernier, 2000). For example, losing a source of funding may force a university to reconsider its operations, just as a shift in education policies may force it to change its focus. Universities may also adopt strategic planning to improve their public image, especially if some event results in increased public scrutiny (Taylor and de Lourdes Machado, 2006).

Many universities, of course, develop their strategic plans to manage changes in both the external and internal environments (Chaffee, 1984; Gumport and Sporn, 1999).

Universities may undertake strategic planning for still other purposes. Some countries or states have adopted integrated strategic planning systems covering the entire public sector, or guidance documents like national vision statements. Public universities must undertake strategic planning if they do not already have a plan aligned with these planning systems or guidance documents. Universities may also undertake strategic planning to meet accreditation requirements for integrated, evidence-based planning processes. For instance, the Southern Association of Colleges and Schools requires that "the institution engages in ongoing, integrated, and institution-wide research-based planning and evaluation processes" (SACS, 2011).

The identified motivations for planning should influence the broad goals of the plan, the process used for planning, and the participation of university members. We discuss each of these aspects in the following sections.

Focus on the Strategic Plan's Broad Goals

Once the motivations for strategic planning are clear, the strategic plan's *broad goals should guide the process*. Top-down guidance, including that on vision, mission, and goals, is necessary, especially given the decentralized structure of many universities. Yet bottom-up planning is also vital. Indeed, the structure of universities requires comprehensive participation in strategic plan development. As we noted earlier, an overall university strategic plan will typically be linked to strategic and action plans at the college, department, and supporting-unit levels.

With this in mind, strategic planning methods will typically follow one of two broad approaches:

1. Methods that emphasize linear flow, breaking down higher objectives to departmental and sectional objectives.
2. Methods that coordinate action toward more abstract shared goals but do not emphasize breaking down objectives specifically from one level to the next.

Both approaches have their advantages and limitations. Based on our experience, we generally favor the first approach in universities that are starting formal strategic planning for the first time, or have limited experience and management structures to support planning. These plans tend to break down the higher objectives into very specific departmental and unit objectives, which provide guidance to inexperienced managers and enable university leadership to monitor accomplishments in a straightforward way. For instance, this approach might specify a university objective to improve alignment between academic programs and employers' needs. Each academic department would then adopt this objective and develop specific strategies to accomplish it within the department and its specific academic programs.

It can be more difficult to coordinate across broad goals that require support from many units, especially when the goals cannot be separated into discrete actions that neatly add up to the overall intention. For instance, a common broad goal is promoting student success through high completion rates. While this goal has implications for academic departments, faculty-student relationships, and student support services, it does not break down neatly into specific objectives for each of these actors. As universities gain experience in formal planning, we find the planning system enables leaders to set expectations and manage performance of middle managers more efficiently, allowing both leaders and managers to focus more on the institution's broad goals. Still, even in very mature research universities, it can be a challenge to get disparate colleges, departments, and supporting units to work together toward broadly shared goals.

For whichever planning approach is adopted, the university should aim for organizational units to take responsibility for their strategic planning, while promoting alignment between unit-level plans and with the university's overall strategic plan. Clear alignment of the various levels of the strategic planning system will support the successful implementation of a university strategic plan with the greatest chance for success.

The figure on the next page shows a general structure that many strategic plans follow, starting from a vision and moving down to objectives and key performance indicators.

Follow a Clear, Formal Process That Effectively Manages the Plan's Information

Strategic planning efforts *benefit from clear, formal processes* (Tromp and Ruben, 2010). At the same time, they must avoid becoming a mechanical bureaucracy that strangles creativity. The need for standardized processes and protocols must not translate into too much paperwork and mechanical computation of performance indicators. A well-developed process and strategic plan can offer the benefit of stability in a turbulent environment, while maintaining the university's ability to take advantage of unplanned opportunities.

One area in which universities should be particularly cautious is identifying key indicators. While the collection of accurate and

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General structure for strategic plan

focused information can support strategic plans through improved decisionmaking, and in some cases may be required by activities such as accreditation, gathering and analyzing too much data can be expensive, overwhelming, or confusing for decisionmakers. It can also bury the most interesting information for organizational planning under a pile of other less useful indicators. The planning process must include methods for soliciting ideas for indicators and then filtering and refining them to produce a manageable set of key indicators.

For example, one university we worked with started a planning process with widespread input organized through four planning committees. The process resulted in about 200 key performance indicators in the plan's first draft, but university leadership and planning participants almost universally felt that the plan would be difficult to manage with so many indicators. Indeed, a previous plan with fewer indicators had proven unwieldy during implementation. In the course of our work with the university, participants reviewed the indicators and divided them into three roughly equal groups. The first group contained high-priority indicators intended to be the focus in reports to leadership and the community. The second group had lower-priority indicators that nonetheless remained part of the university's overall plan, but with less focus on reporting. The final group contained indicators dropped from the university plan with

recommendations that individual colleges or departments should adopt them as part of their organizational strategic plans. During the implementation period, this reduction in the number of indicators seemed to serve the university well as it implemented the strategic plan, focusing attention on a manageable number of key indicators.

Strengthen Participation and Capacity

In order for organizational units to successfully fulfill their role in strategic planning, universities will typically need to invest in *strengthening the participation and capacity of planners and implementers.* Faculty participation is a core component of university operations. True change will require support from the faculty and commitment to implementing the strategic plan (Kotler and Murphy, 1981; Sangahan, 2009). In fact, we find that planning needs to build both organizational and human capacity in order to have lasting impact, and a lack of attention to this potential challenge means that too many plans end up on the shelf, without influencing institutional activities or structure.

A well-formulated engagement plan establishes expectations for which university members will participate meaningfully in the planning and implementation phases, and how and when they will participate. We consider it generally wise to include at least one member of each significant organizational unit, and more than one for larger units. This kind of engagement plan can help to alleviate the often-noted apprehension we see among university faculty and staff when the launch of a strategic planning effort is announced. Many universities and systems contract with external consultancies or facilitators to help develop their strategic plans, and while external perspectives and experience can be valuable in introducing changes into an organization's structure and culture, strategic planning efforts in general, and external consultants in particular, are sometimes viewed with suspicion by internal stakeholders. Furthermore, professors may have sufficient power to block attempts at structural reform, though this is less likely at public institutions where there is a stronger need to respond to the external environment (Keller, 1997). Even when suspicion is not voiced openly, stakeholders may sit back and watch efforts develop rather than joining them as participants.

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Experienced facilitators like Sangahan (2009) underscore the importance of an engagement plan to manage inputs from multiple constituencies and address suspicion about the process and external consultants. Engagement plans should be developed with university leadership before the start of the effort, so that they may play a guiding role throughout the process. Planning leadership also should incorporate staff engagement in each step of the planning process, including feedback on revised versions of the plan. However, one of the risks of broad participation is that key strategic ideas can be diluted or sidetracked by too many cycles of feedback and revision, so it is important to balance wide input with a focus on the strategic plan's overall and coherent goals. Leadership can help set the tone and identify broad priorities early, updating and reinforcing these throughout the process.

Strengthening participation and capacity

Since, as Taylor and Miroiu (2002, pp. 65–67) note, planning can lead to significant adjustments, particularly in human resources, implementation should be supported by a change management plan that highlights communication, counseling, training and retraining, recruitment, and rewarding those with newly enhanced roles. Leadership should assign implementation responsibilities among staff and organizational units appropriately and fairly and disseminate timely and transparent messages that clarify the goals of the effort, expected outcomes, the planning process itself, and the participatory nature of the work.

While broad, ongoing engagement promotes the quality of the plan and lays the foundation for strong implementation, planning teams should ensure that participation is meaningful and substantive and avoid symbolic representation or drawing representation only from certain portions of the university.

We worked with two somewhat similar education organizations on major strategic planning efforts, but these organizations took opposite approaches to participation and capacity building. In the first organization, a university, the leadership encouraged broad participation, with about 50 members involved in drafting the university-wide plan and hundreds involved in drafting the college and department strategic plans aligned with the university plan. The university invested in formal training for planning and formal systems to support the monitoring of the plan's implementation.

The second organization, a government education policy and regulatory body, took a closed approach to strategic planning. While the organization worked with us as external facilitators, it involved only a small number of central office staff in the planning process and did not provide opportunities for members of the organization to learn about strategic planning methods. While drafts of the plan were circulated to units and departments within the organization, these units and departments had limited engagement and provided much less input compared to the first organization.

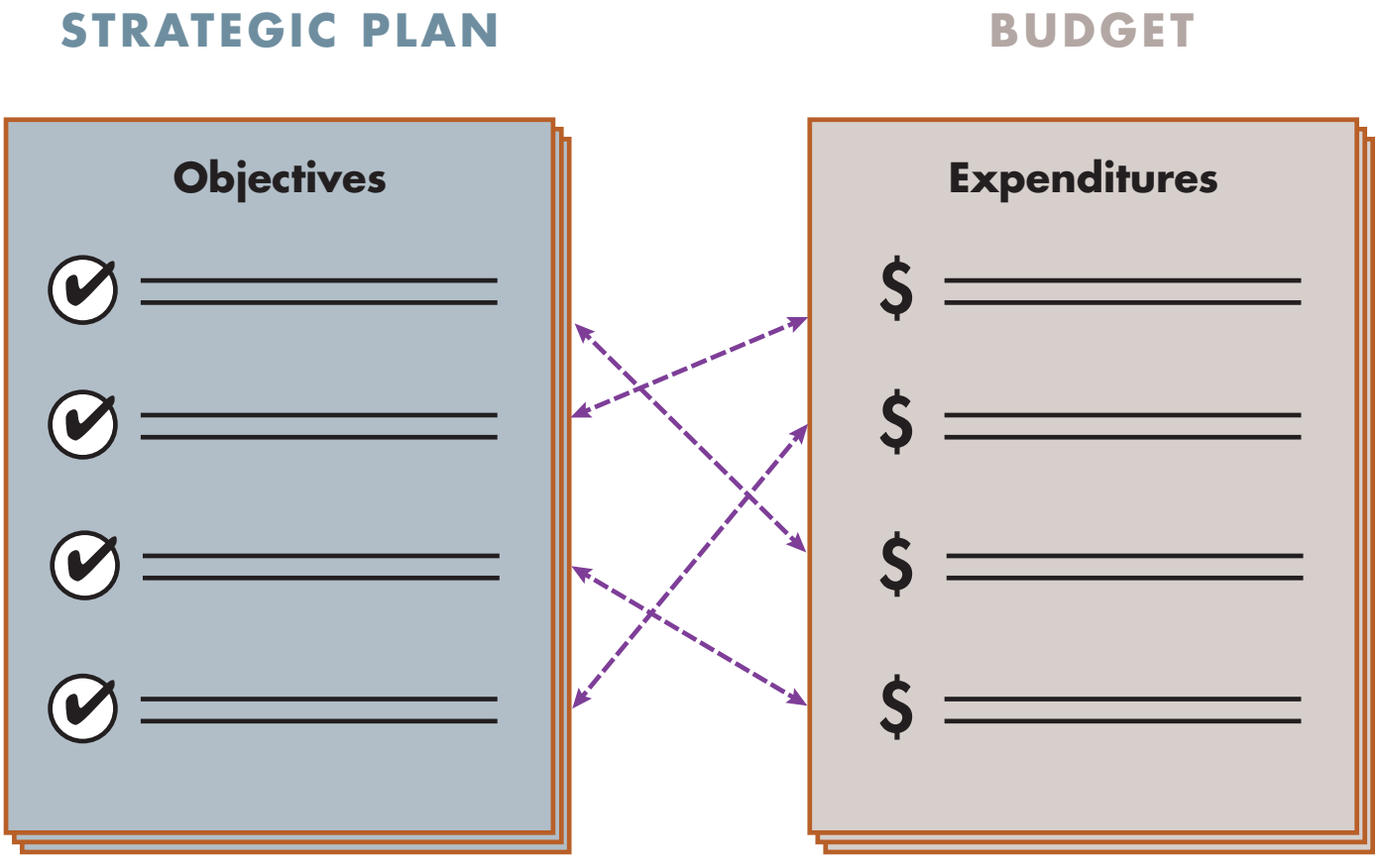
One year after its plan was approved, the university was deep into implementation, with a widely shared understanding of the goals and strategies adopted. The policy and regulatory body, on the other hand, had essentially not implemented any of the strategies adopted in its strategic plan one year after the plan was adopted. Furthermore, the organization's leadership was unsure about how to engage middle management in implementing the adopted strategies.

Nonetheless, overly broad and direct participation in drafting a strategic plan carries risks. The more people who have direct input into the content of the plan, the greater the chance that the plan will include something that each person or unit considers important and lose focus on truly significant institutional goals. While we generally favor broad participation, it is essential to have a leadership or coordinating group that can filter the larger group's inputs and redirect attention to the strategic plan's broad and most significant goals.

Align Resources to the Strategic Plan

A final key component of successful strategic planning is *ensuring that resources are aligned to the strategic plan*, and we note two common challenges many universities may face in this respect. The first is formulating strategies feasible within the university's resources. Universities in their early years of strategic planning, especially those embarking on strategic planning for the first time, need to be mindful of financial limitations and establish goals and action plans reasonably feasible in regard to both human and financial

Aligning resources to the strategic plan



resources. We have seen staff participating in the strategic planning process become overly enthusiastic and ambitious when drafting their goals and action plans, beyond what the university's resources will likely support.

Moreover, participants in strategic planning are often encouraged to think about innovative, cross-disciplinary, and cross-organizational ideas and initiatives. Some of the ideas generated during the strategic planning process are nontraditional and do not fit into existing budget structures. So in addition to challenges associated with securing funding, another common challenge is finding the proper line item or budget structure. Publicly funded organizations, especially, may operate under a rigidly defined budget line structure that does not easily accommodate new initiatives and plans, even when overall funding is actually adequate to support the university's strategic plan. We have observed a number of public universities that have been seriously constrained in pursuing new initiatives because of the inflexible traditional public-sector budgeting systems they must follow.

One approach to addressing this challenge is to use a well-drafted strategic plan to justify requests for additional funding and the addition of new item lines in the budget. This approach also engages board members and funding agencies in developing the strategic plan, so as to gain their support for the budget changes needed to implement the plan. Realistically, however, it may take one or two full cycles of strategic planning before the university can cultivate such support.

A sound strategic plan can also help set the direction for a fundraising campaign. If the university is going to emphasize fundraising linked to the strategic plan, it may be wise to involve donor representatives in formulating key strategic initiatives and gain their support early in the planning process. Donors, however, will probably appreciate a more limited and focused opportunity to contribute compared to the university members who may be meeting regularly and at length.

The second challenge is to align resources within the university to the priorities of the strategic plan. As Goldstein (2012) explains in his comprehensive guide to higher education budgeting, a budget will not achieve the institution's goals unless it is clearly linked to the institution's strategic plan. A number of universities (and some public-sector agencies more generally) are adopting performance-based budgeting practices, specifically to enable them to align resources to strategies. Theoretically, these approaches should enable universities to prioritize funding requests by how well they advance the strategic plan. But in our experience, this proves to be far from straightforward. If strategic plans are developed without sufficient information linking clear objectives to resources, the plans may not enable university leaders to sort out competing requests for funding. Even when priorities and objectives are specified clearly, it is often difficult to estimate which expenditures will have the greatest impact in achieving the objectives. And, of course, much of a university's expenditures can be nearly fixed over periods of five to ten years, given the university's college and department structure and the existing faculty and staff positions that may be difficult to reallocate.

Nonetheless, even basic steps can help align resources and implementation. Universities should at least ask colleges and departments to justify their budget requests in terms of the approved strategic plan. In some universities, the leadership sets aside a portion of revenue for a strategic initiatives fund and allocates the funds to specific initiatives that best support strategic goals. These may include

establishment of new laboratories, recruitment of star faculty, and major construction projects. Transparency regarding accounting procedures and resource allocation to support the strategic plan are important principles to guide institutional participants in both planning and implementation (Taylor and Miroiu, 2002, pp. 65–67).

Organizations should also consider the incentives that will best align individual and departmental behavior with the strategies adopted. For example, one university trying to increase its high-impact research publications adopted a bonus scheme where faculty received a cash bonus for publishing articles in highly cited peer-reviewed journals.

Conclusion

Strategic planning holds great promise for complex organizations like universities and colleges, but inattention to essential stages of the process leads too many plans to end up sitting on a shelf rather than truly guiding the organization to its goals. The process must begin with a clear understanding of the motivation for planning. Clear, formal processes are essential to organize the planning effort, but these must not become mere exercises in filling out templates. Leadership must maintain a focus on the strategic plan's broad goals, because many plans become bogged down in long lists of actions and indicators that draw the organization's focus away from its major goals.

Often, a small group selected by organizational leadership conducts planning, but this approach generally sets up failure during implementation. Middle management and staff must be engaged throughout the planning process so they develop the capacity and understanding required to implement the plan. At the same time, wide input from multiple constituencies must be shaped into a coherent plan aligned with the institution's major goals. Finally, many plans express worthwhile goals and sensible strategies to achieve those goals, but they fail because resource allocation is not aligned to the key priorities in the strategic plan. As a result, organizations continue on more or less their previous path based on traditional allocation of resources, rather than realigning resources and cultivating new resources that support their strategic plans.

By paying close attention to the principles discussed, institutions should be better positioned to conduct and benefit from strategic planning to reach ambitious goals.

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References

Bayenet, B., C. Feola, and M. Tavernier, "Strategic Management of Universities: Evaluation Policy and Policy Evaluation," *Higher Education Management*, Vol. 12, No. 2, 2000, pp. 65–80.

Bryson, J., *Strategic Planning for Public and Nonprofit Organizations: A Guide to Strengthening and Sustaining Organizational Achievement*, San Francisco: Jossey-Bass, 1995.

Chaffee, Ellen Earle, "Successful Strategic Management in Small Private Colleges," *The Journal of Higher Education*, Vol. 55, No. 2, 1984, pp. 212–241.

Crisp, P., *Strategic Planning and Management*, Blagdon, UK: The Staff College, 1991.

Crittenden, W., "Spinning Straw into Gold: The Tenuous Strategy, Funding, and Financial Performance Linkage," *Nonprofit and Voluntary Sector Quarterly*, Vol. 29, No. 1, 2000, pp. 164–182.

DonVito, P. A., "The Essentials of a Planning-Programming-Budgeting System," Santa Monica, Calif.: RAND Corporation, P-4124, 1969. As of May 7, 2015: http://www.rand.org/pubs/papers/P4124.

Dooris, Michael, "Two Decades of Strategic Planning," *Planning for Higher Education*, Vol. 31, No. 2, 2003, pp. 26–32.

Goldstein, Larry, *A Guide to College and University Budgeting: Foundations for Institutional Effectiveness, 4th ed.,* National Association of College and University Business Officers, 2012.

Gumport, Patricia J., and Barbara Sporn, "Institutional Adaptation: Demands for Management Reform and University Administration," in John Smart, ed., *Higher Education: Handbook of Theory and Research*, Volume XIV New York: Agathon Press. Chapter reprinted in Marvin Peterson, Lisa Mets, Andrea Trice, and David Dill, eds., *Planning and Institutional Research*, Needham Heights, Mass.: Pearson Publishing, 1999.

Jennings, David, and Stuart Wattam, *Decision Making: An Integrated Approach*, London: Financial Times Management, 1998.

Keller, George, "Examining What Works in Strategic Planning," in M. Peterson, D. Dill, L. Mets, and Associates, eds., *Planning and Managing for a Changing Environment*, San Francisco: Jossey-Bass, 1997.

Kotler, P., and P. Murphy, "Strategic Planning for Higher Education," *Journal of Higher Education*, Vol. 52, No. 5, 1981, pp. 470–489.

Larsen, I., and L. Langfeldt, "Profiling Comprehensiveness? Strategy Formulation and Effects of Strategic Programmes at Traditional Universities," in A. Gornitzka, M. Kogan, and A. Amaral, eds., *Reform and Change in Higher Education: Analysing Policy Implementation*, Springer Netherlands, 2005, pp. 343–361.

Mintzberg, Henry, *The Rise and Fall of Strategic Planning: Reconceiving Roles for Planning, Plans, Planners*, New York: Simon and Schuster, 1994.

Petruschell, Robert, "Some Remarks on Planning, Programming, and Budgeting", Santa Monica, Calif.: RAND Corporation, P-3963, 1968. As of May 7, 2015: http://www.rand.org/pubs/papers/P3963.

Sanaghan, Patrick, *Collaborative Strategic Planning in Higher Education*, National Association of College and University Business Officers, 2009.

Southern Association of Colleges and Schools (SACS), *The Principles of Accreditation: Foundations for Quality Enhancement*, 2011. As of May 7, 2015: http://www.sacscoc.org/pdf/2012PrinciplesOfAcreditation.pdf.

Taylor, J. and A. Miroiu, *Policy-Making, Strategic Planning, and Management of Higher Education*, Bucharest: Papers on Higher Education UNESCO-CEPES, 2002.

Taylor, J., M. de Lourdes Machado, and M. Peterson, "Leadership and Strategic Management: Keys to Institutional Priorities and Planning," *European Journal of Education*, Vol. 43, No. 3, September 2008, pp. 369–386.

Taylor, James, and Maria de Lourdes Machado, "Higher Education Leadership and Management: From Conflict to Interdependence Through Strategic Planning," *Tertiary Education and Management*, Vol. 12, 2006, pp. 137–160.

Tromp, Sherrie A., and Brent D. Ruben, *Strategic Planning in Higher Education: A Guide for Leaders, 2nd ed.*, National Association of College and University Business Officers, 2010.

West-Burnham, John, "Strategy, Policy and Planning," in T. Bush and J. West-Burnham, eds., *The Principles of Educational Management.* Harlow, England: Longman, 1994, pp. 77–99.

About This Perspective

This Perspective reviews the authors' experience and lessons learned from supporting strategic planning in higher education over the past 20 years in the United States, the Middle East, and Asia.

The research reviewed in this perspective was conducted within RAND Education, a division of the RAND Corporation. A profile of RAND Education, abstracts of its publications, and ordering information can be found at www.rand.org/education.

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