Business Schools on an Innovation Mission

Report of the AACSB International Task Force on Business Schools and Innovation

AACSB INTERNATIONAL

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AND INNOVATION

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FOREWORD

Throughout history, innovation has been a major factor underlying the success of the most highly respected individuals, organizations, and countries. Our current environment is no different. In the economic downturn, innovation is a key strategy for institutions to not only recover but thrive and sustain growth into the future. Despite widespread recognition of the critical role of innovation, the concept of innovation is deceptively complex and often misunderstood. This report explores this complexity and provides insights into both the innovation process and the role and value of business schools in this process. Authored by a Task Force of renowned deans, the report discovers that the role of business schools in supporting innovation remains underdeveloped, undervalued, and too-often unnoticed.

The report has several significant messages. First, the Task Force provides very useful directions concerning how business schools can do more to foster innovation. At a more fundamental level, the report provides insights about the nature and purposes of business schools and demonstrates that business schools are vital societal institutions that create value in a myriad of ways. Ample evidence is presented that dismisses the sometimes-cited critical perception that business schools exist exclusively to serve profit-seeking businesses or salary-minded students. Rather, business schools play a pivotal role by developing effective leaders and providing support for the engine driving sustainable growth in their communities and throughout the world.

The report presents convincing arguments to motivate business school leaders to elevate the concept of innovation to be a defining characteristic of the mission of their schools. Concepts are developed that should allow schools to explore new frontiers and provide an even higher integration between the school, the community, and the global environment. Insightfully, the report also sorts out how managers can impact innovation, uncovers ways that management education can make a difference, and introduces a new conceptual framework to show how any business school can be a catalyst for innovation.

To me the report also has broader implications. For example, the theme that diversity among business schools should be celebrated presents yet another challenge to the legitimacy of media rankings, which assume and encourage homogeneity. The report also strengthens the argument for business schools to be tightly integrated in both academic and practice communities. We should move beyond debates about how far "the pendulum" should swing between the two contexts; the reality is that business schools cannot foster innovation in isolation from either. Finally, it causes AACSB to think critically about its accreditation, leadership, and advocacy roles in management education.

While the report is written for AACSB member business schools, anyone with an interest in business schools or the broader aims of innovation will gain from its wealth of insights and suggestions. Given the surprises encountered by the Task Force, the findings and recommendations could be quite informative and useful to university presidents, business executives, and policy makers as they plan for the future and consider the potential role of business schools. When it comes to innovation, AACSB believes not only that business schools should do more, but also that our communities should expect more from the business schools that serve them.

On behalf of AACSB, I wish to thank Bob Sullivan who chaired the AACSB Task Force and all its members whose names are listed on preceding pages, for they have not only shown how to support innovation in society, but have also planted the seeds for innovation within business schools themselves.

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Introduction

> Now, economic progress depends more than ever on innovation. And the potential for technology innovation to improve lives has never been greater.[1]
>
> —Bill Gates, founder of Microsoft

Innovation is now viewed as our best hope to directly address the world's social challenges and to fuel the engine of economic prosperity. But hope is far from realization and prosperity is not guaranteed. Scientific and technological breakthroughs can improve the lives of vast segments of the world's population, but only if they are converted to concrete solutions—for it is only through action that ideas become innovations. Simply put, innovation is the most important opportunity for our world, and the reason why every institution should take proactive steps to foster more to solve current and future challenges.

At the request of the AACSB International Board of Directors, the Task Force on Business Schools and Innovation set out a year ago to explore the role of business schools relative to innovation. Fittingly, we carried a global perspective to our task, as AACSB is a global organization of business schools in more than 70 countries. Our interest in innovation is less about financial success for companies and more about the benefits across nations.

We also contend that innovation successes have not been built solely on science and technology. A decade before Bill Gates' testimony quoted above, Steve Jobs reminded us, "Innovation has nothing to do with how many R&D dollars you have. When Apple came up with the Mac, IBM was spending at least 100 times more on R&D. It's not about money. It's about the people you have, how you're led, and how much you get it."[2]

Messrs. Gates and Jobs together have expressed two important points that will be explored throughout this report—that innovation is about economic and social

prosperity, not just business performance, and that it is as much about leadership and management as it is about science and technology. Therefore, we see innovation as a bridge that connects the business schools' historical strengths in management education and research to a broader social purpose.

At the heart of our report we unite five overlapping streams of research that expose diverse and important roles for managers in generating innovation, and examine them within a conceptual framework that deepens our understanding of business schools. Our reward is a revelation: there is an enormous range of opportunities for business schools to create value by fostering innovation within the communities they serve. Many business schools have already assumed leadership roles in developing these opportunities, and our aim is to encourage and support all business schools to do so in their own distinct way.

> Innovation is as much about leadership and management as it is about science and technology.

Although it has not been our intention, we acknowledge that another potential benefit of our report could be to turn the conversation about business schools from what is wrong with them to how to engage them as a powerful force in driving constructive change for society. As we wrote this report, the global economy experienced a deep and unsettling economic crisis that some blame partially on business schools. But most critics, even those who believe that the economic crisis was the product of misplaced priorities of business school graduates, admit that business schools have the ability to profoundly influence the way we think about management and conduct business.

Business schools have the capacity to create a more stable foundation for our world—its wealth, health, and happiness—and the formation of an innovation mission within schools can enable such a transformation.

THE DEFINITION AND NATURE
OF INNOVATION

When top CEOs and world leaders gathered in New York for the Fifth Clinton Global Initiative Annual Meeting in September 2009, the theme was innovation as a driver of worldwide economic recovery.[3] In the same month, in the same city, Brazilian President H. E. Luiz Inácio Lula da Silva, speaking to the United Nations General Assembly, expressed deep concern that the "funding for technological innovations needed to protect the environment in developing countries…is totally insufficient."[4] A month earlier, when Chinese Premier Wen Jiabao spoke at the World Economic Forum in Dalian, he pledged to "transform China into an innovative nation."[5]

Across society, the word "innovation" is ubiquitous. Politicians, CEOs, economists, and labor leaders from around the world and from many different economic and political perspectives use it to describe their vision of the future. For example, there is little risk to politicians in linking innovation to national competitiveness or personal prosperity; if the message is about jobs, people pay attention.

In a time when stocks of natural resources seem alarmingly finite, it is reassuring to believe that innovation can increase productive capacity and promote sustainability. And when poverty, pollution, and pandemics dominate the news, it is comforting to believe that innovation will come to the rescue with solutions and cures. What is meant by "innovation" seems to have no end or uniformity—as it means different things to different people. Therefore, it is important to establish what this Task Force means by innovation.

For many reasons, including its multidisciplinary roots, a common definition of innovation has not yet emerged. However, this codification from the *Oslo Manual*, a joint publication of the Organization for Economic Co-operation and Development and Eurostat (the European Union's statistical information service) aptly serves the purposes of this report: Innovation is—

> *The implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations.*[6]

To explore the definition, it is useful to consider three widespread beliefs usually associated with the term "innovation":

- innovation is motivated by the pursuit of profits and competitive advantage.
- innovation is about entrepreneurship.
- innovation involves science and technology.

Each is obviously true but also limited and shortsighted, and has contributed to narrow and unenthusiastic thinking about the potential involvement of business schools in driving innovation. It is important and necessary to break free of the constrictions of each belief in order to fully comprehend and appreciate the role of managers, and the role of business schools in preparing these managers.

Innovation Has a Higher Purpose Than Profits and Competitiveness

There has been a tendency to think that innovation is pursued solely for competitive advantage and profits. The *Oslo Manual* definition does not restrict the purpose and context of innovation. A practical rationale for vagueness is to facilitate application across cultures, but here it is used intentionally to send a clear message—innovation encompasses a wide range of purposes and is applicable in a variety of contexts.

Most definitions assign words such as *competitiveness, advantage, profitability*, and the like to the objective of innovation, and many use terms such as *organizations* and *firms* to define the social context in which innovation occurs. In fact, in a recent study of 60 definitions across seven academic disciplines, competition and organizations were mentioned more frequently than any other words when the attribute being analyzed was the aim and social context for innovation.[7]

> To appreciate the full potential of business schools to support innovation we must now begin to think differently about the purpose of innovation.

Assigning specific motivations to innovation is not necessary. In its 2008 report to the U.S. Secretary of Commerce, the Advisory Committee on Measuring Innovation in the 21st Century Economy included, in its definition of innovation, the phrase "for the purpose of creating new value for customers and financial returns for the firm."[8] Society benefits when value is created for customers and organizations, but is that really all there is? Assuming that profits are the sole aim of innovation and that economic prosperity will follow naturally as a result is overly simplistic, and understates the purpose, amount, and scope of innovation today.

Innovations can be *strategic, disruptive, green*, or *social* regardless of whether or not they come from profit-seeking companies, and innovation is important even in economies which do not rely extensively on market signals to move resources. Today, larger and larger amounts of talent and energy are dedicated to solving social problems when there is no clear underlying financial motivation. Similarly, there are more and more organizations today that cannot be neatly placed into the traditional categories of for-profit, not-for-profit, and governmental.

Competitive international pressure to attract investment and jobs can accelerate the development of innovative capacity. Unfortunately, country-level innovation agendas are often misaligned with what is good for the world, and can result in counterproductive investments. This tendency is reflected in a new form of techno-nationalism in which policy makers compare innovative capacity based on input measures, such as the number of scientists and patents generated, without accounting for the ability to convert invention into value.

All of this is not to say that profits and competitiveness do not encourage innovation. They do and, frankly, the contributions of business schools to innovation are most obvious in this market-based context; after all, the purpose of business schools—as usually perceived by the general public—is to educate men and women for business success. Educators know this is not true, yet often still fail to appreciate the full potential of business schools to provide support for innovation. It is an essential purpose of this report to demonstrate that a new point of view is necessary.

Innovation and Entrepreneurship Are Not Equivalent

There has been a tendency to think that innovation equates to entrepreneurship. Perhaps this is owing to Joseph Schumpeter, who defined innovation as setting up a new production function.[9] In other words, a business owner becomes an entrepreneur when the organization is built on something new, a product, process, etc.—that is, unless it is an innovation. Peter Drucker seems to agree. In his classic book covering both subjects he states "innovation is the specific instrument of entrepreneurship."[10] Schumpeter and Drucker have been so influential to the thinking about innovation and entrepreneurship that the terms are now interchangeable for many people. However, conflating the two robs both of their full potential.

As it is understood today, entrepreneurship is about organization creation, regardless of whether it is innovative or not, and innovation is about implementing something new, regardless of whether it is through a newly created organization. William Gartner, in his review of Drucker's book, stated the difference plainly, "entrepreneurship is a solution to those situations which need organizing, while innovation is a solution to those situations which need something new."[11]

In fact, innovation is not required to form new organizations. According to Scott Shane, professor of entrepreneurial studies at the Case Western Reserve University Weatherhead School of Management, "most start-ups aren't innovative."[12] Most produce the same products as existing businesses, and usually their owners do not claim other competitive advantages. Only 10 percent of *Inc. 500* firms offer a product or service that other companies do not offer,[13] and a third of the founders of new U.S.-based businesses do not believe they have any advantages at all.[14] Entrepreneurship—that is organization creation—is also not required for innovation, as innovation obviously takes place within established corporations as well as start-ups.

That said, entrepreneurship and innovation are deeply and inextricably connected. Organizations that are created to exploit new inventions and ideas are most important in today's dynamic business environment. They are an engine for job creation and provide competitive pressure for incumbent companies to adopt better management practices.

New *and* innovative organizations might be born in garages or boardrooms; or, as is increasingly the case, in universities. Worldwide, universities have been assuming a more active role in commercializing inventions and ideas created by their faculties. This movement was encouraged and enabled in the U.S. by the 1980 Bayh-Dole Act, which allowed universities to patent and earn income from inventions derived from publicly-supported research. In the 2008 fiscal year, 154 research universities created 543 new companies based on academic inventions. The same universities also granted 4,350 licenses to use academic inventions to existing companies.[15] Although the benefits and costs of the Bayh-Dole Act have been hotly debated, similar legislation has begun to appear in other countries. As will be discussed later in this report, increasing university involvement in commercialization activities has introduced exciting opportunities and difficult questions regarding the role of business schools.

Moreover, the distinctions between the functions of management and entrepreneurs have been fading. Increasingly, managers in established organizations are expected to behave like entrepreneurs and entrepreneurs to behave like managers. This report will maintain a balance, neither overstating innovation's generative power nor discussing entrepreneurship as the sole creative force.

Innovation Involves Both Technological and Managerial Aspects

There has been a tendency to think that innovation is only about scientific or technological advances. The technological aspects of innovation focus on research to create breakthrough ideas, and it is at this point that future innovations are often conceived. Around the world, governmental and non-governmental policy reports about innovation rightfully address the technological aspects of innovation, and they recommend additional funding for science, technology, engineering, and mathematics (STEM) to enhance international competitiveness.

Innovation, however, requires a variety of factors working together in balance. At the macro level, regulations, financial institutions, market structures, and other aspects must be in harmony to foster innovation. The demand, supply, and financing of innovation (see Section 3) must also be in balance.

At the organizational (micro) level, the primary factors are technological and managerial. The technological aspects tend to refer to resources and processes in R&D, strategies for exploiting scientific breakthroughs, and technical aspects of production and distribution; while managerial aspects tend to refer to managing people to ensure that they are both capable and willing to innovate, and processes to ensure they are efficient and result in quality outcomes.

> One of the roles of business schools must be to teach the skills necessary to successfully bring technological breakthroughs to market.

One approach to demonstrating that both aspects are necessary and must work together is to associate technological aspects with the creation of new ideas, and managerial aspects with the implementation of those ideas. Ideas must be implemented to become innovations, and converting ideas to value is not obvious or easy. Empirical estimates

of idea-to-marketplace success rates, including patents, tend to vary widely because definitions differ and because it is sometimes quite difficult to collect data on this ratio. For example, one study estimated that one idea in 3,000 becomes a commercial success,[16] while another concluded that nearly half of the company patents granted led to a commercialized result.[17] Regardless, a new idea has a tough climb to commercialization.

Associating invention with technology and implementation with management can be misleading, as it suggests that these components are separate and sequential—that invention/technology comes first, and then it is time to implement/manage. The two are in fact complementary and interdependent, and work best when fully integrated. For example, an innovative reward structure or training procedure might be developed along with a new product. Sometimes invention and implementation can occur simultaneously, as in the case of customer-based innovations that are generated by the end-users of a product or service. Innovation happens only when the technological and managerial aspects work together, which is itself a significant management challenge.

The next section expands the nature and extent of managerial involvement in driving innovation. However, the Task Force will not venture to show that managers, whether they be business school graduates or not, actually know how to "manage" innovation well. It has not been difficult to find passionate commentaries, from executives and academics alike; suggesting that current management practices are not suited to innovation or that what is currently taught in business schools is entirely wrong if the objective is innovation. Some say standard management practices, such as continuous improvement goal setting, may be counterproductive to innovation and claim that that bold goals make innovation more likely to happen. Just as better management can foster innovation, ineffective and outdated management can thwart it. For business schools, it is not the role of the Task Force to determine the best management practices for innovation. That is for faculty and students to decide.

THE ROLE OF MANAGERS IN INNOVATION

By definition innovation requires implementation. Bringing a new idea to fruition requires visioning, planning, organizing, coordinating, motivating, and monitoring—all tasks of managers. To stop there, however, would impart a limited view of what managers do and leave out much of what the Task Force has learned about how they contribute to innovation. Recent research shows managers to be essential, active, and inextricable players in the process of innovation.

In order to capture and articulate the full potential for management and management education to support innovation, the Task Force sorted through the vast extant literature. To lay the groundwork for considering a new set of opportunities for business schools, as described in later sections, this section will briefly summarize what has been learned about the role of management and managers in innovation, as well as how that role has been changing.

A further intent of this section is to broaden the view among business, government, and education leaders about what drives innovation, and ultimately, about how and why business schools should be more engaged in supporting innovation. AACSB believes that the topics of management and of organizations that develop managerial talent have too rarely been brought into policy discussions about innovation for two reasons.

First, the role of management in innovation has not been well understood, as research on the topic has been fairly underdeveloped until most recently. Second, it has not been uncommon for people to place needless bounds on the scope of management and, as a result, carry unlikely stereotypes about managers. To some, management is strictly about the executive "c-suite," to others managers are the "suits" or card-carrying "MBAs." The reality is that anyone in an organization of any type manages and is, to some extent, a manager; and that management is complex and difficult to do well. It is something that anyone can get better at but nobody masters.

Five overlapping roles for managers in innovation are described below. Interestingly, most of the research cited has been published within the last year.

Model 1: Managers as Leaders and Decision Makers
Managerial talent is central to the demand, supply, and financing of innovation

Innovation does not just happen; it is created through complex interactions and decisions among people within and between organizations. In its 2009 report *Management Matters*,[18] the Ontario-based Institute for Competitiveness and Prosperity (ICP) offers a straightforward and comprehensive view on the role of management in innovation. The ICP serves as the research arm of the Task Force on Competitiveness, Productivity and Economic Progress, which is led by Roger Martin, dean of the Rotman School of Management at the University of Toronto. The report describes the role management plays in the demand, supply, and financing of innovation. Demand for innovation includes consumer and corporate need for new products, efficiencies, and value. Supply includes everything that contributes to increasing the stock of innovation, such as scientists and research facilities. Financing links supply and demand, as substantial funds are required to create scientific breakthroughs, commercialize new technologies, and put new process ideas into action. The report found that each element is necessary, and all three must work together in equilibrium to be effective.

On the demand side, managers drive product and process innovation and decide on resource allocations that expand or contract the demand for innovation. Good managers expect innovation by vendors and pressure industry rivals to be innovative in order to survive. On the supply side, management skills are "critical to organizing R&D efforts, for setting priorities, developing strategies, and acquiring resources."[19]

Management capability is also important for the financing of innovation. Sound financial decisions are based on accurate assessments, which often require a combination of scientific knowledge and management skills. Financiers pressure start-ups to create realistic business plans for commercialization. One study of investment analysts by the Ernst & Young Center for Business Innovation "suggested that 35 percent of their investment decisions are based on non-financial factors, including strategy execution and quality of strategy, management credibility, innovativeness, and the ability to attract talented people."[20]

Given the critical roles managers play throughout the innovation process, the ICP argues that Canada's innovation performance can be improved by strengthening its management talent pool. Managerial talent is also an important factor in more general national innovation models. For example, in Porter & Stern's *National Environment for Innovation* framework, "High quality human resources, especially scientific, technical, and managerial personnel" are one of the Factor (Input) Conditions identified as important to a national environment for innovation.[21]

Model 2: Managers as Knowledge Assets
Managers possess specific knowledge essential to the implementation of breakthrough ideas

In *Venturesome Economy*, Columbia business professor Amar Bhidé approaches innovation from a different perspective than the ICP. He views innovation within a complex, "multi-player, multi-level, and multi-period game" and examines the implications of differences in

the mobility of "know-how" at different levels.[22] For example, because high-level know-how tends to travel across international borders rather easily, the benefits of an expansion in high-level research capacity are not confined to international borders—they "spill over" into other countries. The good news, especially for those taking a global view, is that this rapid diffusion of ideas can create more social value from any breakthrough idea, but the bad news is that because of this, there is less reason for any one country or company to invest in developing these breakthrough ideas. Regardless, Bhidé argues that success resides in the application of breakthrough ideas rather than their creation.

Commercializing new products and implementing new processes require lower-level knowledge (about human resources, manufacturing processes, distribution chains, consumer behaviors, etc.) that is less general and more difficult to codify, as it resides largely within the minds of organizational managers and entrepreneurs. Therefore, developing and deploying useful innovations is dependent, at least in part, on the experience and knowledge gained through practice and education. Although it is imperfectly measured by opinion survey data, the quality of management schools is included in the World Economic Forum's Global Competitiveness Index (GCI), which provides a ranking of the competitiveness of world economies based on a variety of criteria.[23]

Like the ICP, Bhidé argues that innovation requires consumers who are willing to use new products and techniques. Enterprising and discriminating managers, willing to take risks by buying new products or investing in new productive technologies, are important drivers of the demand for innovation.

> Enterprising and discriminating managers, willing to take risks by buying new products or investing in new productive technologies, are important drivers of the demand for innovation.

Model 3: Managers as Organizational Architects
Managers build and embody the *"dynamic capability"* required to succeed

Technical advances often require new organizational and institutional arrangements to be feasible in the marketplace. "Technical advances in steam powers, steel making, and mechanical engineering made railroads and mass production technically feasible, but it was a host of novel organizational and institutional arrangements—administrative hierarchies, professional managers (and business schools to train those managers), formalized capital budgeting systems, accounting and control systems, corporate governance structures that separated ownership and management—that made them economically feasible."[24]

In a recent article[25] in *Organization Science*, Stanford professor Mie Augier and Haas School of Business professor David Teece argue convincingly that, in environments characterized by frequent change, an organization's success depends less on its position relative to external forces than on its internal capabilities—capabilities such as the ability to sense, react, and adapt quickly to new threats and opportunities. Like Bhidé, they show that innovation requires excellent execution, strategic thinking, effective management of knowledge workers, and entrepreneurism. As in the ICP's "demand for

innovation," managers play an integral role by identifying new strategic opportunities, orchestrating the necessary resources, and inventing new business models and organizational forms. To Augier and Teece, business survival is about:

> The ability to reconfigure, redirect, transform, and appropriately shape and integrate existing core competencies with external resources and strategic and complementary assets to meet the challenges of a time-pressured, rapidly changing Schumpeterian world of competition and imitation. Dynamic capabilities thus reflect an organization's ability to achieve new and innovative forms of competitive advantage… [It involves] the capacity to sense opportunities, the capacity to seize opportunities, and the capacity to manage threats through the combination, recombination, and reconfiguring of assets inside and outside of the firm's boundaries.[26]

Excellence in the performance of core management tasks has significant impact on innovation success. The "dynamic capabilities" framework reminds us that management is not just about making financial decisions. It is also about setting up effective processes, building fluid and flexible organizations, and creating learning enterprises.

Formal components of an organization's architecture, including how tasks are allocated across roles and how performance is evaluated and rewarded, have an impact on innovation, but so do less tangible elements such as leadership and the culture of an organization. Innovation may suffer when leaders and cultures do not encourage creativity and risk taking, and efficiency may suffer in the absence of accountability. Reputation and profitability may suffer in the absence of good governance. In short, the dynamic tension between innovation and accountability must be respected. Maintaining the proper balance is a role for management and one that academic institutions should prepare their students to perform.

Design Specifications of Science-Based Business

The need to integrate science and management has found a much higher level of importance, according to Harvard Business School professor Gary Pisano, who says that there are three fundamental challenges faced by today's science-based businesses.[27] First, the nature and time-horizon of risk is profoundly different for science-based businesses, such as biotech companies, than for other technology-based businesses. Cause-and-effect is more difficult and time-consuming to study, and predictive power is severely limited. Second, modern (bio)science-based businesses face an extraordinary challenge to integrate scientific disciplines because the relevant knowledge often is not modularized as it is in physical sciences. Third, in science-based businesses where failure is the norm rather than the exception, experience, intuition, and judgment must substitute for hard facts. In these circumstances, organizational learning is more important, yet more difficult. Pisano's point is that solving the unique challenges faced by science-based businesses will require profoundly different organizational forms and structures; in other words, managerial innovation.

Model 4: Managers as Inventors

Management innovations are important drivers of business success and are largely the responsibility of managers

In a recent *Economist* article about supply chains, the author wrote,

"The fact that a number of companies (such as Wal-Mart, Zara, Dell and Toyota) have managed to record extraordinary success while doing quite ordinary things (such as running supermarkets, selling clothes or making computers or cars) has made managers more fully aware that what their organizations produce can matter a lot less than the way they produce it."[28]

Though it is difficult to measure, innovation in management is as important as product innovation in creating value. One reason is because it is difficult to imitate. Another is that the gains from product or other technological innovations are often under-realized without concurrent management innovation.[29]

A Classic Example of Management Innovation

McDonald's is a classic example which illustrates the importance of management innovation—its final food products were not new, more tasty, or otherwise preferred. But, as described by Drucker, "by applying management concepts and management techniques…standardizing the 'product,' designing process tools, and by basing training on the analysis of work to be done and then setting the standards it required, McDonald's both drastically upgraded the yield from resources and created a new market and new customer."[30]

Strategy professors Julian Birkinshaw and Gary Hamel of London Business School and Michael Mol of the University of Reading define management innovation as "the generation and implementation of a management practice, process, structure, or technique that is new to the state of the art and intended to further organizational goals"[31] and model the process to include motivation, invention, implementation, and theorizing and labeling. Their innovation definition differs from this report's in that "new" refers to "the state of the art" rather than to the organization. Regardless, management innovation can be viewed as a subset, or special case, of innovation overall. When managers were presented above as organizational architects, the point was that new organizational forms enable technological advances to create value. Here, the innovation is about management and organization, and is itself the source of value.

Management innovation reminds us again of the demand side responsibility of managers, who often "buy" management ideas from consultants and require production and service efficiency from suppliers. Managers, acting as internal change agents, need to be discriminating and demanding, and they need to be knowledgeable about what can work in their organizations and what cannot. Internal change agents also need to be capable of "selling" innovations, a task that can be more difficult than convincing colleagues to launch a new product because process changes impact jobs, and can prompt considerable resistance as a consequence.

To overcome resistance, internal change agents sometimes enlist external change agents—independent professionals who develop, promote, and legitimize new management practices. External change agents, who may be academics or consultants, play a major role in management innovation because they provide legitimacy and expertise in many different steps of the process. They "give credibility to the original idea that sparks off the experiment inside the company, they can act as sounding boards or action researchers alongside the internal teams during the implementation phase, and they can play a role in theorizing about and labeling the innovation."[32]

In their 2003 book called *What's the Big Idea?*, Babson College professor Thomas Davenport and his colleagues Laurence Prusak and H. James Wilson introduced the concept of *idea practitioners*. These idea practitioners are described as "the most important players in the entire process of importing and implementing new ideas into businesses. They are the link between ideas and action. Without them, new ideas would remain on the periphery of organizations and would never get embedded into practice."[33]

By operating at the intersection of theory and practice, business professors are ideally suited to work as idea practitioners and external change agents. Business professors often are "boundary spanners [who] work across organizations as well as within them."[34]

Model 5: Managers as Bridges
Managers facilitate and engage in boundary-spanning networks that contribute to innovation

University of Chicago Booth School of Business professor Ronald Burt has written that boundary spanning managers—those that "bridge structural holes" in a network—will have "vision" advantages and tend to be more creative and effective. In Burt's words, such brokers are "at greater risk of having good ideas."[35] This point also applies to entrepreneurs, where access to valuable resources, information, capital, and skills can be increased through networks, both professional and social.

That managerial networks can be productive has become especially important in light of two powerful trends in innovation. First, the globalization of innovation, which in a narrow sense refers to the increasing geographic dispersion of knowledge, research, and development. By itself, this form of globalization requires new organizational structures and managerial capabilities. However, it also reveals the need for new forms of collaboration and levels of coordination. This can be a challenge; while breakthrough ideas may travel easily across borders, the lower level knowledge required to create value from these ideas is more tacit and difficult to transfer, even within the same organization.

A second trend in innovation has been the increasing fragmentation and dispersion of knowledge across firms, industries, and disciplines. A fundamental challenge for management is to sense and exploit valuable knowledge that stretches across industries. This is especially the case in fast growing categories such as services and software. Unlike durables, which are goods that rely heavily on scale and close relations to regular business partners, services and software development often require more fluid collaborations with a broader range of organizations. The need to support collaborations across borders, organizations, professional fields, and industries is an essential part of managing the innovation process and an underlying theme of this report.

Reviewing these five models, one begins to get a picture of the responsibility business schools have in preparing managers and entrepreneurs to inspire, implement, and create innovation. In addition to teaching the necessary organizational and planning skills, academic institutions must teach their students to be creative thinkers, shrewd evaluators, and effective motivators. Considering that innovation does more than simply chase profits, teaching it also means developing critical thinking about the overarching purpose of business and the ethical implications of decisions.

The models also begin to reveal other opportunities for business schools. For example, more research that is integrative can spur innovation, as can research that codifies and explains what does and does not work in organizations. Beyond education, the networks that are created and cemented through business schools can turn out to be essential. And the models reveal opportunities to challenge existing institutions or trends within higher education, such as the separation between science and business.

Are All Innovations Good For Society?

Although most innovations create additional value or increase productivity in society, it is not difficult, especially today, to admit that good intentions can nevertheless have bad outcomes. If all innovations were predictable, management would be easy, and management training could replace management education. Indeed, the possibility of causing destructive innovation is one of the most important reasons why better management matters more for innovation, and why business schools must produce thoughtful, relevant intellectual contributions that advance management practice. It is one thing to stimulate the demand for innovation or build an environment that encourages new ideas and approaches. It is quite another to create organizations that incorporate appropriate checks and balances and cultivate ethical decisions; and still another to move resources towards socially responsible and sustainable uses. All of these objectives are being shaped within the minds of managers and within the halls business schools.

THE ROLE OF BUSINESS SCHOOLS
IN INNOVATION

The Role of Business Schools in Innovation

Business schools on an innovation mission seek to foster innovation in the communities they serve. Innovation is a desired outcome and a defining role for these schools that are otherwise quite diverse. Their goals, sizes, and programs vary widely, as do their faculty and students, and the societal and institutional context within which each school operates is unique. This diversity is to be appreciated and nurtured, but it means there is no magic formula for driving innovation that applies to every school. Because business schools are not a monolith, the Task Force developed a *Business School Conceptual Framework*, which is shown in Figure 1, to organize and make sense of the many ways that business schools have and can continue to drive innovation in society.

Figure 1: Roles and Activities of Business Schools in the Innovation Process
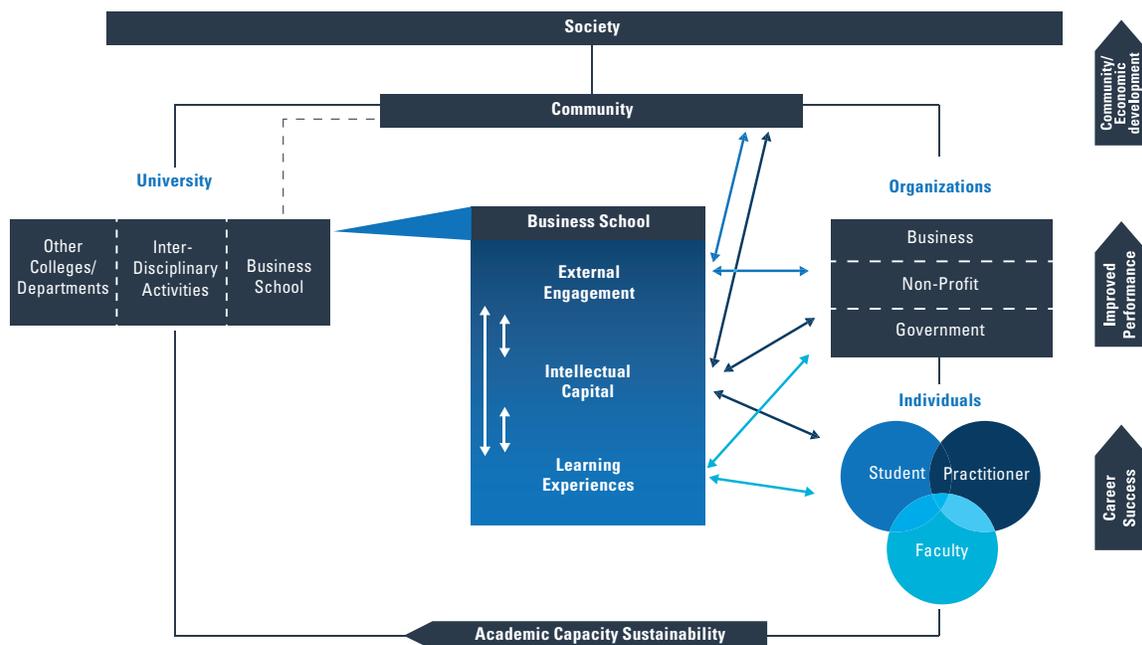
The conceptual framework places business schools within a societal structure, and identifies the many dimensions along which schools can and do differentiate their activities and expected outcomes (a full description of the framework is available for download on the AACSB web site[36]). By applying the conceptual framework to innovation, one can see how individual business schools can and do contribute to innovation, as well as discover useful ideas about how to strengthen those contributions in the future. The sub-sections below explore the nature and benefits of diversity for innovation, as well as ideas for fostering innovation through core business school activities—the delivery of learning experiences, creation of intellectual capital, and community outreach. The importance of network development to innovation is also considered before closing this section.

Innovation and Diversity

We place the business school in the center of the framework. Like other organizations, business schools operate in the context of multiple communities. They are comprised of individuals who unite to pursue a shared objective—namely, the fulfillment of the business school's mission. This mission is shaped, in part, by the context in which the business school operates—the structural, geographic, regulatory, and cultural contexts as determined by the organizations with which the school is aligned, and the communities of which it is a part.

Innovation Missions

Of the 728 member mission statements submitted to AACSB:
25% include the words "innovate," "innovation," or "innovative"
15% use the word to describe their own programs
10% use the word to describe outcomes they are seeking to achieve

Three broad categories of business school activities (condensed to teaching, research, and outreach), which are most often viewed as complementary to one another, are the most direct ways that business schools can support innovation and are discussed below. Rarely does a school place equal weight on all three. The choice of which to stress is driven by the needs of the communities the schools serve, and it is through these choices that much of the differentiation among business schools occurs. Some schools may concentrate on preparing managers for the marketplace, while others may focus on generating original research. Every academic institution has its own unique mission that balances the three activities.

Using the conceptual framework to view the business school in relationship to its constituent communities, the Task Force identified three general observations about innovation and business schools.

1. There is no single formula for how a business school should address innovation.
The business school's mission guides the emphasis it places on innovation, and shapes its approaches to doing so. Schools do not and should not prioritize and address goals, such as innovation, to the same extent. For any school wishing to devote attention to innovation in its mission, it is important to consider reach (e.g., global, regional, national, local), degree program mix (e.g., undergraduate, masters, doctoral), and the intended research outcomes (e.g., to influence theory, practice, and/or pedagogy). Additionally, there are many other defining choices to make, such as student groups to target, types of organizations to serve, and institutional communities to engage. Any

business school's strategy for driving innovation can be drawn from a large number of vastly different approaches.

As shown in Figure 1, the business school is but one organization within larger communities or societies. The overarching innovation system is itself an integral part of a larger social context, and every society differs in its ability to innovate and in its receptivity to innovation. Regulation, other educational institutions, financial systems, and the like are all part of that innovation system. Business schools should define their innovation objectives and activities to both fit and shape the innovation systems of their most relevant communities.

> Business schools should define their innovation objectives and activities to both fit and shape the innovation systems of their most relevant communities.

Geography matters to innovation. Crossing borders between countries, for example, can result in discrete changes in rules and regulations, as well as protections and responsibilities. Cultural differences are also mostly explained by geography. One popular approach to innovation is based on regional clusters, or concentrations of interconnected organizations and interrelated industries in which an area specializes. Clusters create special advantages for innovation by bringing together specialized knowledge workers and other assets in ways that facilitate new venture formation, experimentation, and scaling.

The clusters approach reminds us that the real locus of innovation is regional. Most business schools are defined, at least to some extent, by their location. Even schools that claim to be global usually carry larger responsibilities for and have stronger ties in the area that surrounds their home institution. As a consequence, the Task Force believes that business schools looking for ways to advance innovation can and should begin locally.

2. Innovation can complement other defining characteristics or objectives of business schools.

Innovation need not be the sole defining characteristic of a business school. It can co-exist with a number of other objectives. For some schools, an emphasis on innovation has the potential to sharpen the focus of other initiatives. For example, sustainability can describe the overarching mission of a school without precluding an emphasis on innovation. Alternatively, a school can combine the two, centering itself on innovation in sustainable business. Innovation can also add to any vertical market emphasis, such as health care, hotel, and education management. Building new combinations can be risky, but also can pay off by creating unique niches.

3. The diversity of business schools magnifies their ability to positively impact society.

It is not possible for any school to be everything to everyone. When each school works to its own strengths, society will derive benefits from the diversity of their missions and activities. Although diversity of missions can make understanding and comparing business schools more difficult, it also increases the overall value created by management education. If all business schools did nothing but research, there would

be no teaching and community engagement. Conversely, if all business schools did nothing but teach, there would be no intellectual capital development to advance management theory and practice, or to spur management innovation. In fact, the vast majority of the approximately 12,000 higher education institutions that award business degrees[37] around the world do not seek to independently advance the knowledge and practice of management (i.e., conduct research). Fortunately, many of these schools benefit, through better curricula and instructional materials, from the intellectual contributions of the schools that do create intellectual capital. The main point is that society benefits from the diversity of business schools, and thus a balance of different models/missions should be sought.

Innovation and the Core Activities of Business Schools

The conceptual framework suggests that business schools seek outcomes across as many as three different levels, depending on their mission, context, and activities. When addressing innovation, some schools may choose to center their educational programs on preparing individuals to contribute effectively to innovation (e.g., improving creativity skills). Others may choose to focus on improving innovation in organizations more directly (e.g., applied research and consulting activities). Still others may place most of their emphasis on working directly within the community to foster innovation (e.g., business incubators). Each of these sets of activities is described in more detail below, but it is worth noting now that seeking outcomes at one level does not preclude a school from seeking outcomes at other levels and, ideally, schools would seek achievements at multiple levels.

Innovation and Learning

It is not the mandate of the Task Force or AACSB to dictate "what" should be taught in business schools about innovation. There are many different and sometimes opposing theories about innovation, especially its causes. Instead, it is more appropriate (and hopefully valuable) to set forth some broad guidelines or jumping off points for deans and faculty to consider as they design curricula and courses.

> When it comes to innovation, management education should focus as much on developing skills as transferring knowledge.

Managerial skills take on special importance because innovation activities involve ambiguity, change, and risk, which in turn amplify the need for leadership, communication, and collaboration. Higher levels of subjectivity increase the importance of social processes, especially since innovation cuts across organizational functions and, increasingly, across organizations. The special case of management innovation (as opposed to technological or scientific innovation) is less about positional power, or what managers know and can use from the metaphorical management "toolbox." It is more about the skills managers have in applying knowledge, judgment, and the ability to adapt and fashion new tools to solve problems creatively.

Peter Drucker maintained that innovation and entrepreneurship (he argued that innovation is the tool of entrepreneurship) are behaviors that most people are capable of learning. "Everyone who can face up to decision making can learn to be an entrepreneur and to

behave entrepreneurially. Entrepreneurship, then, is a behavior rather than a personality trait."[38] One can acquire general knowledge about behaviors through concepts and theories, but to improve one's own behaviors likely requires practice and feedback.

When considering the extent to which business schools have done well in developing skills, it must be admitted that many curriculum discussions tend to focus more on content than on pedagogy—even while most management practitioners believe that it is best to learn and develop softer skills through practice with feedback, and through realized opportunities to fail. This point is not unsympathetic to Henry Mintzberg, who has consistently criticized MBA programs for overemphasizing facts and case studies and underemphasizing skill development through experience.[39] Similar concerns were also raised by a previous AACSB Task Force, which stated in 2002 that "Alumni rate interpersonal, leadership, and communication skills as highly important in the business world, yet they often rate these skills as among the least effective components of business school curricula."[40] Again, in order to support innovation, both content and skills must be addressed.

Two additional concerns have been expressed about content in business schools. First, especially when it comes to the rapid change associated with innovation, it is debatable whether the content in degree-based education has kept or can keep pace. Second, there is a growing perception that overemphasizing analytics can stifle creativity, which some argue is necessary for innovation but in short supply among today's business graduates. There is as yet no research that allows for a conclusion to be drawn either way; nor has the Task Force debated them to arrive at a shared opinion. Still, these concerns should not be ignored.

Innovation requires more integrative thinking and integrated curricula.

Calls for more integration within the business school, including curricula, are not new. By now it would be difficult to locate a quality business school that has not made an effort to minimize or overcome functional silos. Schools have used a variety of approaches, including capstone courses, shared cases, team teaching, and of course, revamping the curriculum. Beyond the curriculum, some schools have restructured departments (sometimes getting rid of them completely), reorganized work spaces, and introduced incentives to encourage interdisciplinary research. Although some of these efforts have worked, the general consensus is that business schools have not yet succeeded in eliminating silos in degree programs and scholarship. At the same time, growing interest in innovation has only exacerbated the need and intensified the calls for integration. Innovation also has altered the nature and type of integration expected.

The main point is not difficult to accept; people who are capable of thinking across knowledge gaps are also more capable when it comes to creating and managing innovation in today's organizations. Currently integrative thinking is viewed in different ways, and although everyone seems certain that requiring an integrative "capstone" course or experience is no longer enough, there is not a generally-accepted way to approach integration in management curricula. For example, although both break down functional barriers, the Yale School of Management's MBA curriculum reflects a multidisciplinary approach.[41] Alternatively, the Rotman School of Management's MBA curriculum is built on integrative thinking as the ability "to constructively face the tensions of opposing models,

and instead of choosing one at the expense of the other, generating a creative resolution of the tension in the form of a new model that contains elements of the individual models, but is superior to each."[42]

That there are numerous approaches to integration should not be considered a weakness in management education, though it does suggest that business school curricula will become more dissimilar, rather than more similar, in the future. These contrasting curricula also remind readers that innovation does not require new products; sometimes producing the same things differently is enough to create value. The same applies to management education—integration can advance innovation without being attached to a new degree title.

When seeking to foster innovation through curriculum integration, business schools should also look beyond existing management programs and consider creating new programs that integrate perspectives and approaches from other areas, such as medicine, law, engineering, life sciences, and design. Joint and dual degree programs (e.g., MBA/MD) have existed for many years, but typically these programs alternate coursework between the areas, while sometimes reducing the total number of required courses by deleting redundancies. Innovation calls for deep and authentic integration. Business schools and other academic units spill over into one another's territory by offering specialized programs (e.g., health care administration, sports management, and engineering management). In these cases, schools are encouraged to find ways of working together to strengthen the programs through integration.

A set of programs that has been growing and is especially relevant to this report includes those that focus on technology or innovation management. Examples of these programs can be found all over the world, including at Universidad Adolfo Ibanez, Kyushu University, Cambridge University, and North Carolina State University.

Executive non-degree education programs are especially well-suited to supporting innovation.

Within business schools, different program levels (undergraduate vs. graduate) and types (generalist vs. specialist) are designed to meet different student objectives (career preparation vs. career change vs. career advancement). Among the educational programs offered by business schools, executive level and continuing education non-degree programs, especially the open-enrollment sort, are particularly well-suited for supporting innovation. Participants in these programs tend to be career advancers from many industries and the main program objectives are generally to diffuse management innovation, though the programs also play a role in fostering other types of innovation. In addition to developing management knowledge and capabilities, the flexibility of such programs may accelerate the diffusion of ideas and innovation and, by expanding the group-spanning network component, augment social capital—both mechanisms create additional value from any innovation. Furthermore, as has been suggested in an AACSB report on the impact of research,[43] executive programs are an important channel for disseminating current research and trying to immediately impact management practice.

The benefits of executive education are not restricted to registered participants. Instructors learn from practicing managers that represent a variety of organizations. Business schools

that want innovation to be a specific outcome of these programs might consider new ideas, such as bringing in additional facilitators from different disciplines, providing more integrated instructional materials, and seeking greater diversity in each program. Additionally, executive programs might be closely tied to the goals of regional innovation clusters, when and where they exist.

Innovation and Intellectual Capital Development

Innovation requires new ideas or inventions as well as their implementation. The amount of innovation that occurs and the total benefits derived from it furthermore depend on the extent to which it is diffused. All three—invention, implementation, and diffusion— are important to consider with regard to intellectual capital development. In this complex domain, the Task Force relied heavily on the aforementioned AACSB report on business school research, which contained conclusions and recommendations consistent with supporting innovation.[44] The authors of the report suggested ways to broaden the types of intellectual contributions made by business school faculty because they felt too few schools were taking the risk to focus more on applied and pedagogical scholarship. The report on research also recommended ways to increase the accessibility of business school intellectual contributions to practitioners as well as to engage them more in research activities.

A school's mission and approach to innovation influences its expected portfolio of intellectual contributions. As in other areas, a school's approach to creating intellectual capital should fit the innovation strategy of its pertinent communities. Important impacts on innovation can come from advances in the theory, practice, or teaching of management, but intellectual contributions do not have to be revolutionary to support innovation. Most studies conclude that revolutionary management innovations have rarely originated from academia.[45] This should not be surprising, given the importance of implementation (as opposed to invention) to innovation, and the fact that new management ideas need to be shaped and contoured to fit an organization. Potentially revolutionary management ideas are of course desirable, but so is research with more modest aspirations, such as to support innovation by testing, codifying, organizing, and diffusing management knowledge. High-quality management research can legitimize new ideas and facilitate adoption in organizations. Management research can also help people to decide what not to do and how not to do it.

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The Task Force has not categorized the sources in its research, but most of the useful research about innovation has come from business school faculty members. Almost all of the researchers cited in the previous section reside in business schools, and they represent only a small portion of all business school thought leaders. Business schools are a natural hub for research on innovation because their main subject cuts across many disciplines and their best scholars often come from related disciplines. That is valuable because *there is a special and more relevant role for interdisciplinary research when it comes to supporting innovation.* Because the roots of the innovation research already cut across organizational

functions and industries, interdisciplinary research into management innovation should do the same by involving faculty from multiple disciplines.

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Innovation and Outreach

Outreach is the most direct way for a business school to support innovation in society. Schools begin by defining the communities they intend to serve. Nearly all schools would include their local communities among their most relevant constituencies, but some can provide innovation outreach activities on a global scale. The next step is to determine how best to serve these communities by deploying resources, students and faculty.

Research for this report has uncovered a wide range of business school outreach activities that directly or indirectly support innovation. These activities include business plan competitions, social entrepreneurship, community-based student consulting projects, and business incubators. One well-known example that mixes the business plan competition with social entrepreneurship is the Global Social Venture Competition, organized by the Haas School of Business at the University of California, Berkeley. Established in 1999, the competition seeks to "catalyze the creation of social ventures, educate future leaders and build awareness of social enterprises." According to its website, the program has awarded more than a quarter of a million U.S. dollars to emerging social ventures and a quarter of past competition entrants are now operating companies.[46]

Student consulting projects can be found in many schools across a variety of settings from the U.K., where organizational behavior students in London Business School's MBA program conduct organizational audits for companies,[47] to Georgia in the U.S., where students and faculty at North Georgia College & State University engage in service learning opportunities to assist local businesses through the Center for the Future of North Georgia.[48]

Business incubators play the most direct role in support of innovation, especially in the local communities surrounding business schools. Simply put, the purpose of business incubators is to create local jobs by helping entrepreneurs or innovators get their companies off the ground. Services normally include mentoring, funding, and facilities. There are reported to be more than 7,000 business incubators around the globe,[49] though of course not all of them are based in universities, much less involved with business schools.

> Business incubators play the most direct role in support of innovation, especially in the local communities served by business schools.

Business incubators frequently have a specialty, which often is aligned with the innovation foci (or cluster specializations) of their region. For example, ESSEC, a French *Grande Ecole* business school, is a founding member of Paris BioTech,[50] a public incubator that has so far housed 50 projects specializing in human health. At Silicon Valley-based Santa Clara University, the Global Social Benefit Incubator received 350 applicants in 2009 from social entrepreneurs competing for 20 educational fellowships.[51] In Chile, *Octantis*, a partnership that includes the business school at Universidad Adolfo Ibanez, is billed as a business accelerator because it helps young, but established, businesses to get ahead by facilitating business contacts and providing advice and coaching.[52]

Incubators are often created at the university level to commercialize and earn income from the new inventions of its faculty in basic and applied sciences. The involvement of professional schools, business and law in particular, in these efforts varies but appears to be increasing. Business school faculty and student teams might, for example, be deployed to write a business plan for a new enterprise, created to develop and produce products based on a university-developed patent. But even as business schools have become more involved with university commercialization programs, many management education leaders question whether existing financial arrangements will encourage ongoing and additional engagement by business schools. According to some scholars, the current U.S. model is "plagued by ineffective incentives, informational asymmetries, and contradictory motivations for the university, the inventors, potential licensees, and university technology licensing offices."[53] Since the U.S. model, including the framework of the 1980 Bayh-Dole Act, is being more widely adopted around the world,[54] it seems likely that institutional models for exploiting patent ownership will continue to expand and evolve. Business schools around the world should position themselves accordingly.

Innovation and Connectedness

An important characteristic of the conceptual framework illustrated by Figure 1 is its openness. It includes multiple places where business schools can connect with and engage external constituents or collaborate with different types of organizations. The framework makes it clear that business schools can and do work with other colleges and schools within the institution to create unique programs to support innovation. As has been emphasized throughout this report, schools on an innovation mission should reach out to other campus units, especially in the sciences and engineering, to create interdisciplinary learning and research environments, as well as to engage relevant communities in unique ways. Doing so can create more value for innovation initiatives by combining resources, providing diverse perspectives, and improving idea generation.

> Business schools can and do work with other colleges and schools within the institution to create unique programs to support innovation.

A second aspect of connectedness refers to efforts to convene diverse groups of people. Business schools often bring together active players, such as entrepreneurs, venture capitalists, and government leaders, in the creation of innovation. For many business schools, the power to convene talented individuals from around the world to consider important topics has been tremendous.

The value of an innovation to society depends on the speed at which it is shared. Without diffusion, an innovation's impact can be severely limited. Business schools, by convening the right mix of people, can accelerate the diffusion of innovation. Recall that innovation does not require ideas to be new to the state of the art or industry. Rather, most innovations are adapted or tweaked when applied to different organizations. Executive non-degree education courses, which were discussed above, offer a particularly convenient mechanism for creating powerful new professional networks.

The final point to consider is that business schools should not ignore the importance of other activities, such as alumni relations, which can contribute significantly to innovation through social capital development. Business alumni groups often grow quite large and diverse; members come from and go to different cultures, industries, functions, and positions. This network diversity can be a powerful source of vision and creativity. Because its members share a common experience and speak a common "language" (business and management), however, the alumni group also builds trust, another powerful mechanism to support innovation. Burt refers to these mechanisms as "brokerage and closure."[55]

Critics of business schools sometimes suggest that the associations created by business schools, as well as their array of activities, are useful only to attract students and engage alumni. In fact, they are an essential component for achieving the social aims of management education. Effective alumni programs not only build trust, they make this trust actionable. More sharing through networks translates into more innovation.

> Business schools should not ignore the importance of other activities, such as alumni relations, which can contribute significantly to innovation through social capital development.

In their marketing literature, business schools often describe the benefits of alumni networks to students. To its prospective students, Harvard Business School proudly states "when you graduate with an MBA from Harvard Business School, you earn a place within a community of nearly 70,000 business leaders in 150 countries. More than 40,000 of our alumni have made themselves available to help current students build connections and uncover business opportunities throughout their careers."[56] Alumni networks are believed to be especially important for programs in entrepreneurship; students are often connected to an international network of contacts and advisors who will expose students to cultural differences and help them to avoid embarrassment—or worse—errors. In other words, these programs can enhance the innovation potential of future business school graduates.

Conclusions and Recommendations

This study has been a tour of innovation, management, and business schools. The Task Force has, as a result, developed a much deeper appreciation of the role of business schools in supporting innovation. The process has not, however, been straightforward. Much of what the Task Force has learned has previously been difficult to see because managers and management educators have too often assumed that the overriding purpose of innovation is profit and competitiveness, equated innovation with entrepreneurship, and viewed innovation narrowly within the scope of science and technology. Moreover, there has been surprisingly little research about the role of management and managers in creating innovation. In the end, the Task Force was able to get beyond the limitations and misconceptions to develop a richer understanding of innovation and the role of managers.

It also became apparent that popular misconceptions, or limited perceptions, about modern business schools have barred the schools, and the public, from fully appreciating the impact business schools can have on innovation. By applying a new conceptual framework, it has been possible to examine a wide range of business school approaches and activities designed to create and advance innovation in society. Business schools are, in fact, well positioned to advance innovation by developing managerial talent, conducting research on relevant topics, directly engaging relevant communities, and more.

This report includes several examples of business schools already extensively engaged in a variety of activities that support innovation. These leaders have begun to redefine the way managers and organizations think about innovation. The schools are the alma maters of countless innovation-minded executives, some of whom have no doubt contributed directly to the rise of innovation in economic policy agendas around the world. They are supportive partners to engineering programs, design schools, research labs, and corporate entities engaged in innovation activities.

Business schools have only just begun to scratch the surface of the possibilities. The opportunities to support innovation are too many, and the potential to create value is too high, for anyone to believe business schools have done enough. Although mindful that all schools cannot support innovation in the same ways, the Task Force believes there is substantial room for each and every school to do more to support innovation in society explicitly. Because managers are an indispensable part of the innovation process,

determined efforts by business schools to develop managerial and organizational innovative capacities can make an enormous difference in fostering innovation. Innovation is about global prosperity and provides an opportune conceptual bridge to demonstrate that business schools properly exist to achieve a broad social mission. Finally, because business schools do vary so much in mission and scope, innovation becomes a grand theme that unites them for the future.

It is with these purposes in mind that the Task Force enthusiastically offers a series of recommendations, first to business schools and then to their association, AACSB International.

On the Role of Business Schools

Recommendation 1:
Using our conceptual framework as a guide, individual business schools should develop and regularly evaluate their contributions to innovation in society.

Every business school should support innovation, but each should find its own way of doing so. Each school must craft its own approach to fostering innovation depending on its unique assets and relative strengths. Though a school's approach should fit within the regional innovation system, there is virtually no limit to the possibilities and no contribution too small to make a difference. Some, such as University of California schools in San Diego and Berkeley, see innovation as their core mission. The Rady School of Management in San Diego carries a mission "to educate ethical leaders for innovation-driven organizations" and values "innovation, impact, collaboration, integrity and risk taking."[57] The mission of the Haas School of Business in Berkeley is "to develop leaders who redefine how we do business" and the archetypical graduate is the "Innovative Leader, who build[s] enterprises powered in every business area by new ideas put into action."[58] While these schools weave innovation across the full range of their activities, others may envision a more modest emphasis on innovation or one in which innovation gives texture to another defining characteristic. As discussed earlier in this report, this diversity of approaches is valuable to society.

Using the conceptual framework as a guide, every business school should evaluate its role in fostering innovation in society. This means regularly revisiting its vision and mission as they relate to innovation, as well as evaluating its ongoing and potential contributions to innovation. Schools can start with two general questions:

- In what ways has my school contributed to innovation locally, regionally, or globally in line with our mission?
- What else can my school do to support innovation in the context of our mission and communities?

Schools wishing to go further can utilize the conceptual framework to ask more specific questions about their support for innovation. In doing so, they might consider their portfolio of educational programs, research agendas, outreach activities, and other unique programs. They might also consider the achievements of alumni, their relationships with other units on campus, and the consulting activities of faculty members. Other questions might include the following: How does my school's mission fit within the most relevant innovation system? In what ways does my school augment the innovative capacity of relevant economies?

This recommendation is couched in flexibility because of the wide range of approaches that could emerge from the incredible diversity among business schools worldwide. Several specific observations were introduced in Section 3 and are now repackaged as suggestions:

1. Blend innovation with other themes, such as sustainability, vertical markets (e.g., health care), leadership, and ethics. Schools should not be afraid to combine themes to create new and valuable niches.

2. Do even ordinary things differently. For example, one way to support innovation is to break down functional silos and disciplinary barriers in learning and research.

3. Focus on developing skills to support innovation, not just on knowledge transfer. Think deeply about how best to develop these skills.

4. Give special consideration to non-degree executive education. These programs allow for more current, research-driven content consistent with innovation to influence management practice quickly.

5. Convene the key players in relevant innovation systems. They produce network benefits that boost creativity and facilitate the diffusion of innovation.

6. Understand and leverage the importance of alumni networks and engagement in driving innovation. Alumni organizations can provide the networks and trust to make innovation more likely.

7. Bear in mind that research does not have to be revolutionary to have an impact on innovation. Innovation also benefits from the testing, codification, and synthesis of what works and does not work.

8. Explore partnerships with other academic units to develop outreach activities that most directly impact the innovation capacity of relevant communities.

Recommendation 2:
Individual business schools should develop an approach for creating value at the intersection of different perspectives.

"Recent economic and psychological research has confirmed what scientists and entrepreneurs have known for decades: innovative breakthroughs frequently come at the estuary region where different fields, not necessarily related, intersect."[59] This reflects what has been stated in different ways throughout this report:

• Lower-level know-how is increasingly dispersed and difficult to transfer.
• Innovation is a complex function of technological, scientific, and managerial talent.
• Boundaries between organizations of different types (for-profit, not-for-profit, government, non-governmental organization) and across different industries have become more permeable.
• Managers that bridge knowledge gaps between functions, organizations, and industries have vision advantages.
• Idea practitioners span boundaries and bring together many constituent communities.

All of these observations converge to suggest that every business school should have an approach for creating value at the intersection of different perspectives.

The recommendation is purposefully broad and applicable to a wide range of questions in business education. The Task Force encourages breaking down silos within management and business schools—an act which can by itself be an important contributor to innovation. It is also sympathetic to efforts to rethink the foundation of business schools through different lenses, such as philosophy, psychology, sociology, and political science, or to view the school as an agora—a marketplace of divergent ideas.[60] That too could help strengthen the positive worldview of business schools and exploit the enormous potential for business schools to assist in creating more scientific breakthroughs and to create more value from these scientific breakthroughs. Scientific breakthroughs, in turn, can dramatically improve the potential for business schools to lay a foundation for management innovation. For example, advances in neuroscience offer insights into cooperation and teamwork, as well as product design and marketing. Nanotechnology can create production efficiencies and improve supply chain management.

As has been emphasized throughout this report, there is no single best approach for all schools. One approach to this recommendation is to develop on-campus partnerships with innovation as the primary driver for education, research, and outreach activities. On-campus collaborations are not new. The Fisher Management and Technology (M&T) Program, which is a partnership between Penn Engineering and The Wharton School, is celebrating its 30th anniversary this year. M&T students simultaneously pursue bachelor's degrees offered by the business and engineering schools. The M&T Program grew out of the emphasis of the engineering school's Board of Overseers, a distinguished group of business executives and academics, which is reflected in the quote, "If I had to do it over again, I would try to find a college which gives a program in business administration along with a thorough knowledge of engineering."[61]

Another opportunity particularly relevant to business schools in large research institutions is to engage existing multidisciplinary organizations, such as technology licensing offices (TLOs) which have been set up to patent and commercialize inventions from across the institution. The Task Force has noted that, although business schools often provide business planning assistance to university spin-offs, the financial model and incentives that apply to these engagements do not usually reflect the value of the services provided.

There are also other approaches and interesting new models. In Finland, the new Aalto University is being created through a merger of three existing institutions: the Helsinki School of Economics, University of Art and Design Helsinki, and Helsinki University of Technology. The merger is intended to create a business-focused academic institution that is inter-disciplinary in every aspect and capitalizes on the country's reputation for industrial and product design.[62]

Partnerships between medical centers and business schools, which have existed for decades, have moved beyond joint and dual degrees and managerial training for physicians and hospital administrators. They now provide specialized education and research for an industry that is extraordinarily complex, changing rapidly, highly regulated, increasingly global, and in dire need of innovation related to cost management, efficiency, and patient care. There is also potential for law schools to cooperate with business schools on intellectual property and governance questions related to innovation.

Such collaborations need not be restricted just to other academic units on campus. They can involve units on other campuses around the globe, corporate research labs, governmental and non-governmental organizations. Another approach is to set up business incubators or

accelerators, where mentoring comes not only from management, but also from scientists and engineers.

Nothing in this report should be interpreted to suggest that management is only for business degree holders (e.g., MBAs). Almost everyone manages in an organization and wants to get better at it. For example, collaborations with R&D entities can improve the management capability of science and engineering professionals. An exciting example is the emerging interest in professional science master's degrees, which combine academic training in sciences with education in business and management. There is also vast room for programs that develop the technical knowledge and skills of business school graduates.

Recommendation 3:
Individual business schools should advocate for their role in innovation.

Public dialogue about innovation policy has seldom included business schools. This is evidenced by the tendency of reports on innovation to exclude management education in their recommendations and to focus on measures such as the number of patents, Ph.D. scientists, and the like. The Task Force has isolated three related explanations for this. First, both innovation and business schools have been misunderstood or mischaracterized. Second, there has not been a generally accepted view of the role of management in innovation. Third, aside from some lobbying efforts, business schools have not been strong advocates or champions for their role in innovation. This report will hopefully begin to clear up the first two issues, but the third is much more difficult.

The absence of public engagement and recognition has limited the investment of business schools in driving innovation—at great opportunity cost to society. It is fair to say that advocacy is best achieved at a collective level (see Recommendation 5 below). However, individual business schools cannot rely exclusively on others; they must individually take the lead for several reasons. First, every school can contribute to innovation in unique ways, depending on its mission and context. Second, when advocacy means getting a "seat at the table" in policy discussions, that seat is more likely to be filled by a local expert(s), who will have local knowledge and be more politically acceptable. The implication is that advocacy strategies and messages must be to some extent "localized."

To be effective advocates, individual business schools might consider the following strategies: clearly articulating the expected impact on innovation in society; documenting and publicizing successes; encouraging and supporting involvement by faculty experts in policy discussions; and working collectively with other units within the institution.

Unfortunately, the benefits that would accrue to a school from its advocacy efforts are not likely to exceed the costs, except for schools that make innovation their central mission. There are externalities, however; the greater the number of business schools that are proactive advocates, the greater the combined benefits. This suggests an incentive for business schools to work together and, as discussed below, also suggests a potential role for AACSB International. With this report, AACSB has begun to assist by providing a framework for understanding both the role of managers in innovation and the potential role of business schools in supporting innovation. Both can be useful to individual business schools in local settings.

On the Role of AACSB International

We hope that many business schools will move decisively on our recommendations to take advantage of the opportunities to advance innovation in society. We understand that by themselves, our recommendations will not stir significant numbers to action. Just as we have shown for innovation, however, supporting institutions can have an important impact on what gets done and how quickly. When it comes to business schools, AACSB is the most relevant and influential institution. It is a not-for-profit corporation owned and commissioned by schools to help achieve collectively what they cannot achieve independently—the advancement of quality management education worldwide. Through AACSB, business schools provide themselves with needed pressure, support, and coordination to pursue challenging new directions and opportunities. Thus, to complete our charge, we offer two additional recommendations directly to AACSB International through its Board of Directors. Each recommendation allows AACSB, through debate and discussion amongst its members, to decide how far it wants or needs to go.

Recommendation 4:
AACSB should determine the appropriate balance of collective pressure and support to provide for business schools to advance innovation in society.

Accreditation is an essential tool for advancing quality management education worldwide. Through accreditation standards and processes, business schools advance quality and create collective value for themselves and for society. Since 1991, AACSB accreditation has provided standards while never dictating exactly what business schools ought to do. Almost all decisions, especially about inputs, have rightfully been left to the school to make in light of its mission and local context, with quality being defined more in terms of outcomes and processes. Although this approach is the right one, it has made it difficult for external stakeholders to know what it can reliably expect from any AACSB-accredited school.

As an example, AACSB decided in 2004 to raise the level of achievement in the area of business ethics among member business schools.[63] Follow-up actions were designed mostly to support schools to get better at ethics education. AACSB hosted an online resource center, convened conferences and seminars, and worked with other organizations to develop guiding principles. These actions were also intended to assist schools in understanding and achieving recently revised (2003) accreditation standards that emphasized the inclusion of ethics among curricular requirements. At the same time, because AACSB allows flexibility in how ethics education is defined and achieved, the change added little additional pressure on schools through accreditation.

If the objective is for business schools to increase their involvement and contributions to innovation in society, then what is the appropriate balance of collective pressure and support? Although the Task Force believes that healthy portions of both are desirable, it does not presume to speak on behalf of members, especially the accredited members. Thus, the Task Force strongly encourages that this report be given to the Accreditation Quality Committee (AQC) to begin a dialogue about what role accreditation should play in moving business schools to increase their support for innovation. One approach would be to ensure that accreditation does not discourage schools from changing in drastic ways to support a mission that is more focused on innovation. Another, more positive approach, is to consider to what extent its member schools want AACSB to push or help them to pursue Recommendation 1 as presented above.

Considering the research and ideas raised in this report, there are a number of questions regarding accreditation standards and processes that could be addressed. One question relates to educational outcomes related to innovation as a body of knowledge and a bundle of skills that might be acquired through degree programs. Although it would be impossible to prescribe exactly what innovation should mean to each school, it does not seem unreasonable to include a list of broadly-defined skills that contribute to innovation, and can be addressed in ways appropriate to the school's mission. As with ethics and global issues, schools should decide what innovation means to them and how it translates into more specific programmatic objectives.

This report has raised other questions to consider regarding accreditation. One concerns the implications for accreditation of partnerships and other forms of collaboration, which are understandably increasing in numbers. As noted throughout this report, collaborative arrangements that bring together different perspectives and strengths can be especially important as schools advance innovation. Unfortunately, the implications of collaborative agreements for accreditation have not always been clear. One thorny issue that collaborations create for accreditation is related to the scope of programs to be evaluated. This report also has emphasized the potential for non-degree executive education to support innovation. This raises the questions of whether non-degree executive education should play a more significant role in accreditation reviews. There are also questions to ask about intellectual contributions. For example, to what extent should integrative or multi-disciplinary scholarship be encouraged more visibly in the accreditation standards?

In light of the many opportunities and approaches for business schools to support innovation in society, some would suggest that it could occupy a high level position in accreditation. For example, schools could be asked to demonstrate across each of the sections (strategic management, participants, and assurance of learning) how they address innovation. The emphasis could go further and position AACSB International as an institution that fosters innovation in society. Accrediting organizations have mostly been conservative, and many have been rightfully criticized for stifling innovation in educational institutions. As currently, written AACSB standards and processes theoretically do not slow innovation among accredited schools, but it might be beneficial to be more vigilant to make sure that accreditation does not stifle important growth or change.

AACSB support for the innovation initiative can come in the form of professional development (e.g., conferences and seminars), information sharing (e.g., resource center and networking activities), and additional research on the topic. All are desirable and recommending them generates significantly less controversy than revising the accreditation standards. They are, however, less influential to schools and can involve significant AACSB resources, and should not be taken lightly.

The Task Force is particularly interested in AACSB creating an online resource center for innovation. As always, the main goal would be to assist member business schools to increase efforts to support innovation, for example by sharing best practices. However, this resource center should have other objectives, such as profiling successes for public relations, supporting networking opportunities, and providing a source of information to interested policy makers. Of course, the resource center can also be a channel for publicizing upcoming professional development events and community networking activities. With such wide-ranging objectives, it seems clear that parts of the prospective online resource center should be publicly available, while others should be reserved for members only.

Another interesting way that AACSB can provide support is by developing meaningful relationships with other accrediting organizations, such as ABET, which accredits programs in engineering, computing, technology, and applied science. By doing so, AACSB can potentially assist its member schools to collaborate with other professional schools and create a valuable channel for advocacy initiatives, which is the second recommendation to AACSB International.

Recommendation 5:
Determine the nature and extent of AACSB's advocacy role, especially as it relates to business schools' support for innovation in society.

In recommending that individual business schools advocate for their role in innovation, it is understood that doing so requires a cohesive and coherent message. It also requires identifying relevant constituents and decision makers, and deciding what, in particular, AACSB's role should be in defining the outcomes or coordinating the mechanisms that are sought in order that business schools can be effective catalysts for innovation within their own countries and regions. Otherwise, it is likely that schools will under-invest in advocacy efforts.

The Task Force recommends that AACSB provide support for advocacy. After all, one of the AACSB's acknowledged "end statements" is to reinforce and influence "public perception of key management education issues through advocacy campaigns that engage a broad range of relevant publics." This task is already easier because of this report, which provides ample guidance and content for developing persuasive messages that call for expanding the engagement of business schools, leveraging the diversity of business school approaches, fostering collaboration at the intersection of different perspectives, and increasing funding for research in management innovation.

Unfortunately, for three related reasons, "advocacy" has been a particularly difficult concept for AACSB to define. First, AACSB members are increasingly diverse: some are accredited by AACSB, others are not; some are heavily focused on research, while others are not. Growing proportions are scattered over more than 70 other countries. In each case, what schools expect from AACSB may be quite different, and it is simply impossible for AACSB to provide certain types of advocacy support, such as lobbying, across so many different countries.

Second, the stakeholder groups served by AACSB have become more numerous, and balancing their sometimes conflicting expectations has become more difficult. In the past, for example, accreditation was developed exclusively by business schools for business schools. It is a self-regulated process meant to bring about achievement and continuous improvement. Today, accreditation has been pressed to take on a stronger role in signaling quality to prospective students, as well as to behave more like an industry trade association. Each new role pushes AACSB towards a different type of advocacy. In the past, the individual at any member school most involved with AACSB was the dean. Today, AACSB goes much deeper into business schools to achieve its mission. The point is that AACSB no longer represents a single stakeholder group or single perspective within that stakeholder group.

Third, AACSB has not historically been financed to support extensive advocacy activities, especially activities that stretch across the world. To be sure, whatever and however AACSB chooses to advocate for business schools, whether or not it involves innovation, that choice cannot and must not be made without simultaneously deciding how such advocacy can be funded.

This recommendation is, accordingly, quite general. AACSB should more carefully define its role as it relates to advocacy, and not only for the purpose of deciding how to handle innovation. The Task Force calls upon the Board of Directors to create an advocacy agenda because it cannot imagine a more important or valuable purpose for AACSB than fostering innovation in society as it shapes the future of business schools.

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ABOUT AACSB INTERNATIONAL

Mission

AACSB International advances quality management education worldwide through accreditation and thought leadership.

AACSB International—The Association to Advance Collegiate Schools of Business—is a membership association of almost 1,200 educational institutions, corporations, and other organizations in more than 70 countries and territories. Founded in 1916, members are devoted to the promotion and improvement of higher education in business and management.

AACSB International established the first set of accreditation standards for business schools, and for more than 90 years, it has been the world leader in encouraging excellence in management education. Today, there are close to 600 business schools in more than 35 countries that maintain AACSB accreditation.

In addition to accrediting business schools worldwide, AACSB International is the business education community's professional development organization. Each year, the association conducts a wide array of conferences and seminars for business school deans, faculty, and administrators at various locations around the world.

The organization also engages in research and survey projects on topics specific to the field of management education, maintains relationships with disciplinary associations and other groups, interacts with the corporate community of a variety of projects and initiatives, and produces a range of publications and special reports on trends and issues within management education.

AACSB's world headquarters is located in Tampa, Florida, USA, and its Asia headquarters is located in Singapore.

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