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Forces for change in higher education and implications for the accounting academy

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ABSTRACT

Accounting educators need to understand the forces for change in higher education, as well as the current state of accounting programs. Part I of this paper describes how financial and technology forces have combined to dramatically change the milieu of higher education. In terms of financial forces, we examine changing student demographics, the level of student debt, shrinking levels of governmental support, and philanthropic limitations. We conclude that the financial model that has served postsecondary education well for many years is now significantly strained. In terms of technology forces, we examine the growth of offshoring and automation of accounting/finance jobs; and a growing skills/competency gap, both in the general job market and in the accounting profession. Technology advances have transformed academic research and publishing, and have been incorporated into familiar ways of teaching. However, as yet, they have not significantly changed either what we teach (curriculum) or how we teach (pedagogy); changes in these areas may accompany future financial models. We provide examples of institutional responses to date and discuss the importance of strategic planning. Part II of this paper considers the implications for accounting academia. We report the results of a survey of accounting program leaders, including examples of recent curricular and faculty (staffing) changes. We recommend strong faculty involvement in change efforts, but also discuss simpler ways that faculty can get involved in efforts to face the forces for change. Concluding thoughts consider both the window of time to institute major change and ideas for future research.

1. Introduction

On the one hand, the news is good for postsecondary accounting educators. Enrollments are up (American Institute of Certified Public Accountants (AICPA), 2015). Hiring and salaries for accounting graduates are rising (Robert Half International, 2016; Vien, 2015). There's a continuing faculty shortage, creating excellent mobility for productive accounting educators and those considering moving from accounting practice to academia (Boyle, Carpenter, & Hermanson, 2015; Boyle,

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Carpenter, Hermanson, & Mensah, 2014). Accounting tenure-track faculty salaries are higher than the average salary for all college faculty (Association to Advance Collegiate Schools of Business (AACSB), 2016; *Chronicle of Higher Education,* 2016).

On the other hand, the press and non-fiction books keep raising alarms about the "future of higher education" (Barrett, 2013; Carey, 2015; Goldrick-Rab, 2016; Quick, 2015; Selingo, 2013; Wood, 2014; Zuckerman, 2015). Are these warnings false alarms or a glimpse into *our* future? Are we doing the right things at our own institutions to face the forces for change?

We believe it is important for accounting faculty to thoughtfully consider the health of the higher-education industry. In Part I of this article, we look at the big picture, reviewing two major drivers–financial forces and technology forces–responsible for many of the alarms going off about the future of US higher education.[1] We present evidence that these forces are significant enough to demand the attention of, and thoughtful responses by, accounting educators. We also look at how selected higher education institutions are responding to these forces for change, and offer some thoughts on strategic considerations.

In Part II, we consider the implications of the forces for change specifically for accounting academia. We provide examples of recent changes from a survey of accounting program leaders, strongly recommend accounting faculty involvement in change efforts, and consider simple ways individual faculty members can prepare themselves for what is likely to be a more turbulent time for accounting education in the future than the relative prosperity we enjoyed in the recent past. Our concluding thoughts focus both on the window of time to change and on potential areas for future research.

2. Part I: The forces for change in US higher education

2.1. Financial forces

US higher education has had essentially the same financial model for 150 years. Tuition, taxpayer funding, and donations/grants provide revenues. Most costs are fixed, with little flexibility in the short run. This model was successful for a long time, including a very favorable period from 1982 to 2007. Recently, however, the model has become increasingly challenged.

2.1.1. The recent past: Favorable demographics and economic prosperity

After a deep recession that ended in 1982, the US began the greatest period of economic expansion in its history. Over a 25-year period starting at the close of 1982, and not ending until 2007, the nation experienced only two mild recessions, each lasting just 8 months.[2] Throughout this extended period, inflation and unemployment in the US remained low and stock market capitalization grew at an unprecedented rate. During that quarter century, US postsecondary education enjoyed a golden era of favorable demographics and growth of financial resources.

2.1.1.1. Favorable demographics. As can be seen in Table 1, the population of traditional US college-age 18–24-year-olds reached historical highs over the three decades from 1980 to 2010 and a growing proportion of high school graduates pursued a college education. Moreover, the number of international students studying in the US also grew. Given such favorable demographics, total postsecondary enrollment almost doubled from 1980 to 2007. (National Center for Education Statistics 2016a, Digest of Education Statistics 2014, Tables 302.10, 302.60, 307.10 and 310.20.)

2.1.1.2. Growth of financial resources. Total revenues per full-time equivalent (FTE) student grew significantly over this period. For private non-profit four-year degree-granting schools, total revenues per FTE student measured in constant 2014–15 dollars grew from $42,899 in 2000–2001 to $71,402 in 2006–7 (National Center for Education Statistics (NCES), 2016b, Table 333.40). Public four-year degree-granting schools also prospered, but at lower average revenue levels, reaching $43,912 per FTE student in 2006–7, measured in 2014–15 dollars (National Center for Education Statistics (NCES), 2016a, Table 333.10 adjusted from 2012–13 to 2014–15 dollars).

Faculty shared in the prosperity of postsecondary education during this era. Demand for faculty grew, and salaries increased in inflation-adjusted dollars at all types of schools:

- **Faculty growth:** From 1982 to 2007, faculty employed at four-year degree-granting institutions grew from 493,000 to 990,849, while two-year schools experienced faculty growth from 217,000 to 380,541 (National Center for Education Statistics (NCES), 2015, Table 315.10).

[1] Because every country has its own institutional, societal, and economic forces to deal with, our focus is on US non-profit higher education institutions, but serious challenges are also evident globally. For example, Cappelletto (2010), de Lange and Watty (2011), Ernst & Young (Australia) (2012), and O'Connor (2014) discuss the challenges to higher education in Australia, while Purcell (2014) and Musselin and Teixeira (2014) discusses both "profound disruption" and "massive changes" in higher education in the UK.

[2] http://www.nber.org/cycles.html.

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Table 1
The recent past: favorable demographics.

	1980	1990	2000	2007 *Or closest date as indicated*
Percentage of 18–24 year olds enrolled in degree-granting institutions	25.7%	32.0%	35.5%	38.8%
Percentage of current year high school graduates enrolled in a higher education program in October	49.3%	60.1%	63.3%	67.2%
•4-year degree granting school	29.9%	40.0%	41.9%	43.1%
•2-year degree granting school	19.4%	20.1%	21.4%	24.1%
Number of international students pursuing higher education in US	311,880	407,272	547,873	*2005–06:* 564,766
FTE Fall enrollment in nonprofit higher education institutions	8.64 million	9.81 million	10.87 million	12.76 million
•public 4-year degree-granting	4.16 million	4.74 million	5.03 million	5.99 million
•private 4-year degree granting	2.00 million	2.18 million	2.55 million	2.99 million
•public 2-year degree granting	2.48 million	2.82 million	3.24 million	3.75 million
•private 2-year degree granting	NA	0.07 million	0.05 million	0.03 million

Data sources: National Center for Education Statistics 2016a, *Digest of Education Statistics 2014*, Tables 302.10, 302.60, 307.10 and 310.20. NA = not available.

- **Faculty salaries:** Full-time faculty members' real income increased during this period. For example, full professors' average salary across all institutional types was $35,540 in 1982–83 (inflation adjusted to $67,765 in 2003–04 and $76,362 in 2007–08 dollars), but grew to $85,333 in 2003–04 and $98,548 in 2007–08 (National Center for Education Statistics (NCES), 2015, Table 316.10).[3]

2.1.2. The present and foreseeable future: Strains on the financial model

The deep recession that began in 2007, along with a stabilizing traditional college-age population, marked a sea change for US higher education. Both demographics and economics began to work against the financial health of postsecondary institutions. Strains on the financial model that could be managed in prior times became increasingly unmanageable.

2.1.2.1. Demographics. After three decades of enrollment growth, the trend flattened (see Fig. 1). One reason was the changing size of the traditional college-age population. From a historical high of 31.6 million 18-to-24 year olds in 2013, the population of this age group dropped to 30.5 million by 2016, and is projected to remain essentially flat until 2024 (30.3 million) (Hussar & Bailey, 2016, Table B-4). By 2014, 85% of higher education leaders were either "very" or "somewhat" concerned about their institution's ability to maintain current enrollment levels (KPMG, 2014). In an increasingly competitive environment, some institutions continued to grow, but a majority (58% overall) of admissions directors failed to meet their goals for the 2015–16 academic year (including 80% of two-year degree public institutions, 47% of public four-year degree institutions, and 58% of private nonprofit institutions) (Jaschik & Lederman, 2015a). For the 2016–2017 academic year, 63% of all schools failed to meet their enrollment goals (Jaschik & Lederman, 2016).

2.1.2.2. Financial resources. After reaching a high in 2006–7, total revenues per FTE student began falling, particularly for four-year degree-granting institutions. Revenues began to slowly recover in 2009–10 but took several years to reach their pre-recession level (see Table 2). For public four-year institutions, the recovery came primarily from raising tuition, as both federal and state revenues continued to fall over this entire period. For example, from 2009–10 to 2011–12, tuition and fees revenue rose 8.8% while state appropriations declined 14%. For private nonprofit four-year institutions, declines in private gifts/grants/contracts and investment returns were the primary sources of financial stress (National Center for Education Statistics (NCES), 2016a, Table 333.10 and 333.40).

Financial stress at the parent institution level passes through the system to all academic units. Units that are net receivers of resources from the parent institution begin to fear their programs will be cut, while the pressure to produce new revenues intensifies on units that are net providers of resources to the parent institution. In the US, accounting programs are typically part of business schools or, less frequently, are separate academic units; business schools, in turn, are typically academic units of a larger parent institution.[4] For the typical US business/accounting program, the net flow of funds between the

[3] Competition for faculty also was reflected in teaching-load reductions over this period. For example, in Fall 1992, 78.1% of full-time faculty at public two-year degree schools taught 10 or more hours per week but by Fall 2003, the comparable number was 69.9%. At public doctoral-granting institutions, 29.6% of full-time faculty taught fewer than 6 h per week in Fall 1992; in Fall 2003, the comparable number was 36.0%. While in some institutions the decrease in teaching load may have yielded a drop in total workload, in other institutions the decrease represented a shift in time to other duties, such as research at the doctoral-granting institutions (National Center for Education Statistics (NCES), 1995 Table 220; NCES, 2015 Table 315.30).

[4] In a 2014 sample of 295 North American AACSB-accredited business schools, 96.6% were a standard academic unit of a parent institution; 2.7% were a semi- or mostly autonomous unit of a parent institution (such as UCLA's Anderson School of Management in the U.S. or HEC Montréal in Canada); and less than 1% were independent academic institutions with their own degree-granting authority (Nelson, 2014).

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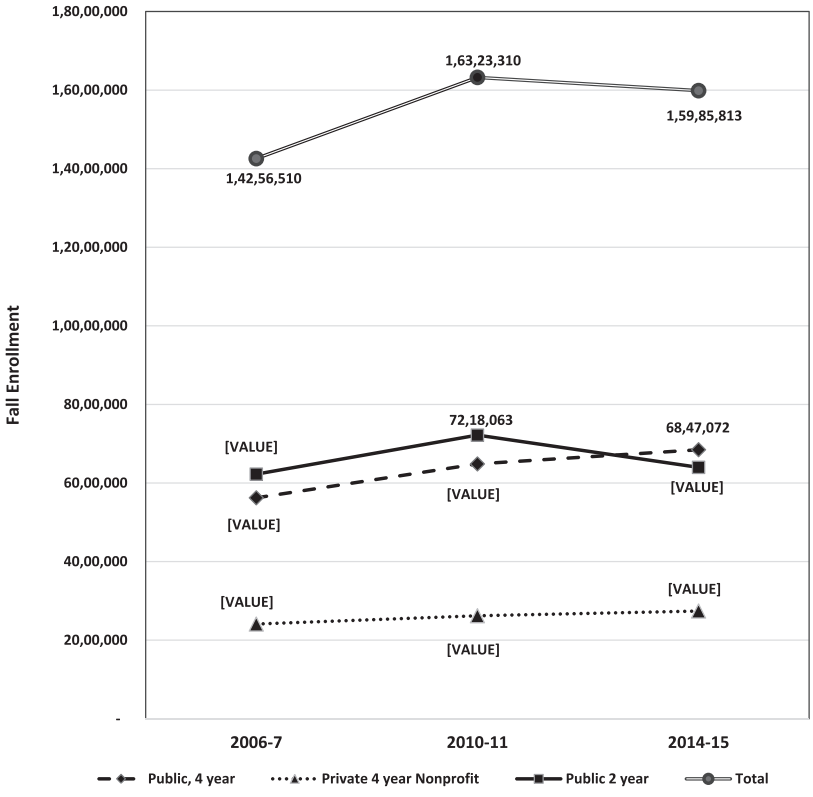

Data Source: National Center for Education Statistics 2016b, *Digest of Education Statistics 2015*, Table 303.70.

Fig. 1. Change in nonprofit higher education institution enrollments (2006–7 to 2014–5). *Data source*: National Center for Education Statistics (2016b), *Digest of Education Statistics 2015*, Table 303.70.

Table 2
Total revenues per FTE Student, 2006–7 to 2013–14 (in constant 2014–15 dollars).

	The recession years			The recovery years				
	2006–7	2007–8	2008–9	2009–10	2010–11	2011–12	2012–13	2013–14
Public 4-year schools	43,912	41,697	38,875	41,988	43,023	40,334	41,191	44,088
Private nonprofit 4-year schools	71,402	51,282	24,702*	58,201	67,503	50,799	61,648	68,604
Public 2-year schools	14,625	14,788	14,322	14,049	14,114	13,832	14,152	14,411

Data sources: Public school data for 2006–7 is from National Center for Education Statistics 2016a, *Digest of Education Statistics 2014*, Table 333.10, adjusted from 2012–13 dollars to 2014–15 dollars. All other data is from National Center for Education Statistics 2016b, *Digest of Education Statistics 2015*, Tables 333.40 and 333.10.

* Including an average *loss* of $22,964 per FTE student from investments.

academic unit and the parent institution favors the parent (Association to Advance Collegiate Schools of Business (AACSB), 2016a, 36). Thus, as higher education financial pressures increase, business and accounting programs can expect increasing pressure to find new sources of revenues.

Continuing concerns about college affordability, demands on government resources, limits to philanthropy, and long-term debt further complicate the financial stress picture:[5]

[5] While this paper is focused on U.S. higher education, resource challenges are a global phenomenon. The Organization for Economic Cooperation and Development's *Education at a Glance 2016* report on OECD countries notes (p. 29) that "To ease the strain on already tight public budgets, more countries are shifting the cost of tertiary education from the government to individual households. On average, 30% of the expenditure for tertiary institutions come from private sources. . .and two-thirds of that funding comes from households, often in the form of tuition fees. . .Over the past decade, most countries saw an increase in the number of tertiary students taking public or state-guaranteed loans–and graduating with both a diploma and a debt." The U.S. is among the highest OECD countries in terms of reliance on private sources; private sources account for 64% of the expenditure for tertiary institutions, of which 47% consists of household expenditures and 17% of other private sources, including scholarships and grants (Organization for Economic Cooperation, 2016, Table B3.1b, p. 218).

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- **College affordability**: Public media reports in the US regularly focus attention on issues of college affordability, especially rising tuition costs and student loan debt. From 1985–2013, tuition costs in the US increased 538 percent, compared with a 286 percent increase in medical costs and a 121 percent increase in consumer prices (Jamrisko & Kolet, 2013). Cochrane and Cheng (2016) report that 68% of US college seniors who graduated in 2015 had student loan debt; the average debt burden was $30,100, with a large variation at the institution level (from $3000 to $53,000) and at the state level (from $18,850 to $36,100). Affordability concerns create a downward pressure on tuition and fees increases and may reduce enrollments. In 2014, college affordability was cited by 71% of private school higher education leaders and 63% of public school leaders as a major factor impacting declines in enrollments (KPMG, 2014).
- **Demands on government resources:** As the Baby Boomer generation enters retirement, government finances are increasingly challenged by short- and long-term fiscal obligations, dimming prospects for growth of government appropriations for public postsecondary education. According to a 2015 analysis by the Mercatus Center at George Mason University, the states with the largest proportionate long-term debts, unfunded pension liabilities, and structural budgetary imbalances are Illinois, New Jersey, Massachusetts, Connecticut, and New York–states that also have large public postsecondary education systems (Norcross, 2015). Even with an economic recovery, fiscal year 2015 higher education funding in 25 states was lower than fiscal year 2010 funding (*Grapevine* survey 2015). The American Academy of Arts and Sciences' Lincoln Project (2016) analyzed state funding data and documented that the largest cuts since 2008 have been to public research universities, with an average overall drop of 26%.
- **Limits to philanthropy:** In an era of financial stress, schools may look to philanthropy to fill revenue gaps. This is difficult to accomplish in the short run as successful fundraising requires significant long-term investment of time and money to build relationships with potential donors (Suchecki, 2015; *Columbia Chronicle*, 2014) and successful development directors are in short supply (Berkshire, 2013). In addition, large donors historically prefer to invest in the most successful programs, so major gifts tend to benefit only a small number of institutions. At year-end 2013–14, the market value of total endowment funds of the 4724 US degree-granting postsecondary institutions was $539.1 billion; however, the bulk ($398.5 billion) was concentrated in just 120 institutions—ranging from Harvard University's $36.4 billion endowment to the University of Utah's $723.8 million endowment—and many degree-granting schools had little or no endowed funds (NCES, 2016a, Tables 301.20, 330.90). In 2016, the Council for Aid to Education (2017) reported that 20 institutions received 27.1% of all donor gifts.[6] Even schools fortunate enough to have large endowments are not without problems, including growing criticism about management costs, losses, and conservative use of earnings (Carlson, 2016; Fleischer, 2015; Healy, 2016; Korn, 2017; Taylor, 2016).
- **Long-term debt:** A number of universities have accumulated large long-term debt obligations to finance building construction or due to unfunded pension liabilities. For example, the University of Chicago, ranked in the top-20 universities by size of endowment in 2013, had long-term debt of $3.6 billion, amounting to over half the total market value of its endowment (McDonald & Chappatta, 2014). Strahler (2016) predicted that the University's 2015 and 2016 budget cuts and layoffs would need to continue as debt service continues to rise.

How widespread are the financial stresses? A financial statement analysis of almost 1700 US universities in 2012 (Denneen & Dretler, 2013) concluded that only 25% had a "sustainable financial model;" 43% had a financial model that "could not likely be sustained for long;" and the rest were on the borderline. In 2015, a survey of college and university business officers (Jaschik & Lederman, 2015a) found that 19% believed their own institution may have to shut down by 2020; only 64% were confident about the 5-year sustainability of their own institution's financial model. Over a 10-year horizon, only 42% were confident about the sustainability of their own institution's financial model. Even senior university leaders see a cloudy financial future for their own institutions. In 2017, only 49% of public university presidents and 54% of private university presidents were confident their own institution would be financially stable over the next 10 years (Jaschik & Lederman, 2017).

The net result of these financial forces is a significant strain on the traditional financial model. The conclusion is inescapable: Within the next few decades, postsecondary institutions in the US will be driven to find significant new sources of revenues or new ways to significantly reduce expenditures to remain financially viable.

2.2. Technology forces

Amara's Law,[7] an axiom of information technology, observes: "We tend to overestimate the effect of technology in the short run and underestimate the effect in the long run." Consider the impact of the personal computer. In January 1983, the computer was named "Machine of the Year" by *Time* (in lieu of its usual selection of a "Person of the Year") and rapid adoption was predicted, with nearly 80% of Americans expecting home computers to become as commonplace as television sets "in the fairly near future" (Friedrich, Stoler, Moritz, & Nash, 1983, 15).

[6] Data reveal that AACSB-accredited business schools' endowments are also narrowly distributed. In a sample of 502 AACSB-accredited U.S business schools, 13.9% had no endowment in 2011; 24.9% had endowments under $5 million; and only 12.4% had endowments of $50 million or more (Association to Advance Collegiate Schools of Business (AACSB), 2012, 40). There is no evidence to suggest that this underlying distribution is dramatically different today.

[7] See www.pcmag.com/encyclopedia/term/45949/laws. The author, Dr. Roy Amara, was a systems engineer. His career included work with the Stanford Research Institute and a term as president of the Institute for the Future.

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The impact of technology took longer to happen than initially predicted. While 98% of US households had television sets when *Time* made its prediction, only 15% of households had a computer by 1989, and it wasn't until the year 2000 that a bare majority of US homes (51%) had a computer (File, 2013, Fig. 1). But when the transformation happened, it was greater than predicted. As the computer was becoming ubiquitous, there was also rapid adoption of related information technologies, all inter-connectable. As Brad Anderson (2014, 1–2) of Microsoft noted in his keynote address to Tech Ed North America:

> Cell phones, smart, intelligent devices we carry in our pockets. Billions deployed over the last 15 years. And it's really interesting, in 2008, we actually hit a fascinating point in history where there were actually more intelligent, connected devices in the world than there were human beings. . .so what we're seeing is a growing number of users using a growing number of connected devices using a growing number of applications.

Today, technology forces and technology-enabled globalization are producing far-reaching disruptive effects, including a growing skills gap (i.e., gap between demonstrated and needed workforce skills). Seventy-seven percent (77%) of US community college presidents agree or strongly agree that the "skills gap" is now a serious problem in their local community (Jaschik & Lederman, 2015b, 16); the World Economic Forum (2014, 36) observes that the skills gap applies even to recent (college) graduates.

A recent *Survey of Adult Skills* provides evidence of a world-wide positive association between distribution of skills and distribution of income (Organization for Economic Cooperation, 2013). In the US, the labor market has polarized (e.g., Autor & Dorn, 2013), with wages and job growth increasingly concentrated in high-skill, high-wage or low-skill, low-wage jobs, and a decreasing number of middle-income jobs as automation replaces the relatively well-defined human tasks of many jobs at this level. [8] One example of this growing income inequality is a life-expectancy gap. For example, males at the top quintile of US earners live on average 12.7 years longer than those at the bottom quintile; females have a 13.6-year gap (National Academies of Sciences & Medicine., 2015).

2.2.1. Technology forces and the accounting profession

As noted above, technology forces today (and the accompanying globalization) are significantly changing many professions, including the accounting profession. Hood (2015) reports the result of interviews with thought leaders throughout the accounting profession, noting their three "biggest nightmares:" (1) technology-induced changes that devalue long-standing core services of the profession, (2) finding new employees with the right mix of skills and retraining current employees who need new skills, and (3) keeping up with the pace of technology change. Further evidence of the impact of technology forces on the accounting profession may be seen in significant offshoring of tasks (to lower costs) and increasing automation of accounting/finance jobs. The result is an increasing skills gap in accounting/finance.

2.2.1.1. Offshoring and automation. Offshoring was the first signal of major changes in the accounting profession. The press reported examples of accounting jobs lost to outsourcing to foreign providers at Toys R Us, New York Life Insurance Company, and Cengage Learning (Preston, 2015). Now, automation is beginning to displace offshoring. Hood (2015, 43) quotes Ed Kless, senior director of Sage, who says, "It will not be long before automation will be able to handle most of the role of current CPAs. What computers can't handle, offshoring will. It will not be long before there are more people in India more knowledgeable about the US Tax Code than there are CPAs in the US (that are knowledgeable about the Code)." As *The Economist. (2014, 9)* noted:

> Until now the jobs most vulnerable to machines were those that involved routine, repetitive tasks. But thanks to the exponential rise in processing power and the ubiquity of digitized information ("big data"), computers are increasingly able to perform complicated tasks more cheaply and effectively than people. Clever industrial robots can quickly 'learn' a set of human actions. Services may be even more vulnerable. Computers can already detect intruders in a closed-circuit camera picture more reliably than a human can. By comparing reams of financial or biometric data, they can often diagnose fraud or illness more accurately than any number of accountants or doctors.

In 2015, Accenture analyzed how rapidly accounting and finance operations will change in business and industry: "Transactional tasks will move to integrated business services solutions that use robotics, which will automate or eliminate up to 40% of transaction accounting work by 2020" (Axson, 2015). In 2016, Walmart's elimination of 7000 store accounting positions (responsible for such tasks as managing daily cash flow and processing claims from manufacturers delivering goods directly to a store) provides an example of this nascent trend (Nassauer, 2016). In September 2016, *CFO Magazine* (McCann, 2016) reported that over the 18 preceding months about half the Fortune 500 had begun pilot projects using RPA (robotic process automation) for a wide variety of accounting processes, from accounts payable to closing the books, with significant cost savings and productivity gains:

> An offshore, full-time employee averages about 35% of an onshore FTE, according to a Deloitte analysis. But a robot would typically be less than a third of the cost of the offshore FTE or about 10% of the onshore employee's cost.

[8] Frey and Osborne (2013) estimated that 47% of the total U.S. labor market in 2010 held jobs that were "potentially automatable." Dolphin (2015) points out similar trends throughout Europe, where technology forces are creating a "hollowing out" of mid-range jobs and middle-class incomes.

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2.2.1.2. Accounting/finance skills gap. Automation rapidly increases the skills gap for accounting/finance jobs. As Frey and Osborne (2014, 28) succinctly put it: "If you want to stop a computer taking your job, you'll have to hone your creative and social skills." PricewaterhouseCoopers (2015, 1) notes that technology is already driving down the need for higher-order skills from more senior audit team positions to entry-level positions and advises that "Individuals entering the audit profession should be preparing for the changing skillsets that will be expected of them." Shortly after the Institute for Management Accountants (IMA) recognized the growing skills gap for management accountants as "the most pressing issue facing the profession" (Brewer, Sorensen, & Stout, 2014), a majority of US (68%) and U.K. (87%) CFOs reported hiring difficulties for finance jobs due to the skills gap (Hagel, 2015).

2.2.2. Technology forces and higher education

Much like *Time*, higher education researchers and leaders, sometimes in collaboration with business leaders, began looking forward decades ago to predict the major ways advances in information technology (and globalization enabled by that technology) would transform their futures (e.g., Bok, 1985; Brown & Duguid, 1996; Coye, 1997; Cross, 1985; Duderstadt, 2000; Green & Gilbert, 1995; Katz, 1999; Newman & Couturier, 2001; Oblinger & Verville, 1998; Rowley, Lujan, & Dolence, 1998; Schmitt, 1989; Simon, 1987). More recent thought has coalesced on many of the same ideas raised decades ago. A report (Anderson, Boyles, & Rainie, 2012) on the Pew Research Center's *Internet and American Life Project* sees universities expanding online courses; creating hybrid learning spaces on campus; and moving towards life-long learning models with different credentialing structures (nanodegrees, microcertificates, etc.) than today's degree-oriented programs. A 2015 report by the New Media Consortium and EDUCAUSE (Johnson, Adams Becker, Estrada, & Freeman, 2015) sees collaboration between different higher-education institutions; growth of open-education resources; a focus on measuring learning (competency-based education and assessment of learning); and the use of blended learning as growing trends. The report also identifies two "wicked" challenges (as distinguished from lesser "difficult" challenges): new competing models of education and creating better reward systems for teaching and curriculum development.[9]

Looking at the impact to date of information technology on higher education, academic research is a notable area of success. Academic research has been transformed by information technology (e.g., Ding, Levin, Stephan, & Winkler, 2010; Duderstadt, 2012a; Duderstadt, 2012b; Vincent-Lancrin, 2006) and "is actually embracing technology a lot faster" than predicted (Caines, 2011). Academic publishing also looks very different today than two decades ago, with rapid widespread diffusion of electronic working paper depositories (e.g., Social Sciences Research Network [SSRN]), digitization of libraries and journals, and open-access journals (e.g., Dumon, 2013; Van Orsdel & Born, 2006). Sullivan (2014) forecasts continuing evolution of business research to become more interdisciplinary and more concerned with research impact.

Progress in teaching and curriculum development has been less notable. Information technology has been adapted to familiar ways of teaching, but has not yet made a significant difference in what is being taught (curriculum) or how material is being taught (pedagogy). A decade ago, Vincent-Lancrin (2006, 19) observed that technology had "not yet revolutionized teaching and learning and represents in most cases an add-on to traditional face-to-face teaching rather than a substitute or a catalyst for new pedagogies." In an October 2013 address to the Association of Community College Trustees, Bill Gates (2013) commented that "As someone passionate about technology, I've been frustrated to see how little technology has changed the way we teach our students. My children are educated pretty much the way my dad was–almost untouched by innovation."

Digital technologies provide the opportunity to both prepare students for 21st century careers and to create new financial models for higher education, but progress to date in using technology in new ways for teaching and learning has been slow. For example, in 2015, fully 96% of the CIOs and senior IT officers at 417 two- and four-year colleges and universities supported adaptive learning technology[10] as having 'great potential to improve learning outcomes for students," yet only 4 percent of developmental and general education classes on their campuses use adaptive learning technologies (Campus Computing, 2015).

2.3. How higher education institutions are responding

In the face of pressing financial and technology forces for change, not-for-profit higher education institutions need to move from long-successful financial and curriculum models to new models that fit the vastly different conditions of the 21st century. Even among those most vested in the status quo, the expectation is that the future will be very different than today, and will arrive *soon*. For example, a survey of university officials conducted by the *Chronicle of Higher Education* in the summer of 2015 found that 73% predict their own campus will undergo significant change in the next decade (Selingo, 2015, 8). This section outlines positive and negative factors influencing the chance of successful change; discusses the importance of strategic planning for the long-run, as well as the short-run; and provides examples of some institutional reactions to date. While some examples focus on business education, these ideas apply campus-wide. In Part II of this paper, we examine accounting program reactions to date.

[9] One example of new competing models of education is the Minerva Project, where students take their classes online while traveling the world together for experiential learning (Wood, 2014).

[10] Adaptive learning technology creates personalized online learning materials based on individual student performance, see Newman (2013) for a description of degrees of adaptivity possible.

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2.3.1. The chance of successful change

At least four factors noted in the previous sections point to a good chance for successful transformation of higher education financial models and curricula. First, as technology continues to advance, there are strong economic indicators that knowledge and skills will remain pivotal to successful careers and that the need for lifelong learning will increase. Second, there are remarkably consistent recommendations from academic and external stakeholder (e.g., employers) thought leaders about the ways higher education needs to change, including a greater focus on skills and competencies, more integrative learning, more accountability through assessment, and emphasis on life-long learning. Third, there are also consistent messages from accrediting bodies and related stakeholders about the ways research needs to change, including a greater focus on research impact. Fourth, external stakeholders have shown a willingness to collaborate with academic institutions responding to the calls for change.

However, there are also at least four factors working against success. First, while not-for-profit higher education institutions traditionally have very deliberative decision processes, the speed of technology-driven change is increasing, meaning the time to make successful changes at the campus level is growing shorter. Second, for many institutions, the current financial model is not capable of generating large resources for investments, so faculty and administrators must either work harder (substituting human resources for capital) or find temporary additional sources of capital until a new equilibrium is reached. Third, traditional barriers to entry in higher education (large investments in infrastructure to build a campus, long lead times to build a reputation to attract quality faculty and students, the regulatory power of the accreditation system) are being reduced or eliminated, leading to the entry of new competitors such as Coursera, Udacity, Minerva, and UniversityNow. Finally, the biggest factor working against success is that focusing on short-term solutions to financial pressures can distract institutions from addressing the long-term challenges. As one higher education analyst noted: "All of the signals are that this is a sector in trouble. . .Yet the kind of things that would better position institutions for the long haul probably aren't happening. They're still at the edges, and solving this more symptomatically than strategically." (Jane Wellman, quoted in Woodhouse, 2015).

The temptation to focus on short-term financial pressures is powerful. Finding short-term changes may be necessary, but should not displace development of longer-term strategic plans. Currently, many public universities are seeking more out-of-state or international students who will pay higher tuition, and many institutions are investing human and technology resources in creating online programs based on their legacy traditional curricula. Given the current environment, it is important to recognize such changes as temporary sources of added revenue, useful primarily for buying time to craft a plan that might provide long-run sustainable changes to the financial model and/or curricula.

2.3.2. The importance of strategic planning

In the face of formidable forces for change, we must "practice what we teach" in business schools. First and foremost, institutions need to seriously engage in strategic planning that considers innovative new models, rather than only smaller adaptations to current models. As Clay Shirky noted in a 2015 panel discussion at New York University's Stern School of Business: "If you think about our stock-keeping inside the university, there are seven big constructs: class, course, grade, credit, degree, department, major. Not one of them is real. They're all just how we do it." (Lapowsky, 2013). Any of these elements might be subject to change, as well as others, such as faculty roles, admission criteria, and even student mix. Not-for-profit higher education institutions should consider ideas such as unbundling, flattening of the industry, personalization/customi zation, faculty roles, admission criteria, and student mix:

- *Unbundling*: Will future students need to take all their major courses from one provider or could they combine courses from multiple providers to earn a degree?
- *Flattening of the industry*: Could online offerings be required for technical content leading to a shorter time on campus? Will every educational institution have its own technical content online courses or will only a small number of providers serve each course market? Will basic courses be provided by higher education institutions or by for-profit competitors such as e-book publishers or both? Will the number of universities needed to serve students decline as students spend a shorter time on campus and more time with e-learning?
- *Personalization/customization*: Will degrees move from a fixed-credit-hour model to a competency model? Will students be able to tailor more personalized degrees (e.g., an accounting major specializing in the financial services industry)? Will "nanodegrees," "digital badges," or "microcertificates" (smaller sets of courses tailored to specific knowledge or skills) supplement or replace the traditional degrees?
- *Faculty roles*: Could a hierarchy of teaching faculty arise to parallel the hierarchy of research faculty? For example, could there be a highly paid small group of superstar faculty who develop new courses or create compelling lecture videos, demonstrations, etc., complemented by a larger group of teaching faculty who facilitate courses developed by others? Should we divide course teaching into a version of the paraprofessional-professional model in medicine? One version of this future could be technical knowledge courses taught largely online or in flipped classrooms[11] staffed primarily

[11] A flipped classroom pedagogical model repurposes much of the class time into hands-on workshops. See Diaz, McDaniel, Bonamici, Getman, and O'Neill (2013).

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by paraprofessionals with larger teaching loads and relatively low pay per course. High touch and in-person courses would be staffed by professionals (high level of expertise and teaching excellence) with lower course loads and relatively high pay per course.

- *Admission criteria*: Should traditional admission criteria be replaced with performance on a core set of online pre-admission courses?
- *Student mix*: Should the mix of students change from today's primarily 18–24 year olds to a life-long learning model that includes more adults at all stages of their work lives?

2.3.3. Examples of institutional responses

While many institutions are still focusing on short-run solutions, some institutions are already discussing and experimenting with major changes. Consider the range of change in the following examples: the Massachusetts Institute of Technology; the University of Illinois at Urbana-Champaign; Arizona State University; the Modern States Education Alliance; Harvard Business School; Stanford University; and, Bellevue College. While it is too early to tell which of these strategies will succeed or fail, they are all attempts to innovate rather than just incrementally change curricula and financial models.

The Massachusetts Institute of Technology (MIT) created an *Institute-Wide Task Force on the Future of MIT Education* to seek input from faculty, students, staff, corporations and alumni advisory groups and the broader community. The task force issued a preliminary report in 2013 and a final report in 2014 (available at http://future.mit.edu). In 2016, MIT announced that its one-year supply chain management program (leading to a master's in logistics degree) would also be offered in a new blended format: the first semester's courses are taken as MOOCs (massive open online courses) with no admission requirement through edX, saving tens of thousands of dollars of tuition per student. Students successfully completing the program receive an "MITx MicroMaster's" certificate, a new brand for the school. Students with the certificate may apply for admission to take the second-semester courses on campus (at regular tuition cost) and earn the Master's degree (http://micromasters.mit.edu/). In 2017, MIT began offering a second MicroMasters certificate, in Data, Economics and Development Policy.

Educational researchers at the University of Illinois created a 10-point charter for change in education based on the premise that "In this moment of tremendous change, investing in old ways of doing education may not be the best way to use hard-won personal and public resources" (http://education.illinois.edu/newlearning). In 2016, the business school began offering a new "iMBA" program (https://www.coursera.org/course/imba or https://onlinemba.illinois.edu) in partnership with Coursera. The cost for the iMBA MOOC courses is about $20,000 (compared to about $50,000 for the on-campus MBA) and includes support from faculty members and online discussion groups that are not available to other students enrolling in the Coursera courses for free. For each small group of iMBA courses completed, students earn a certificate as a credential (Young, 2015). The first year saw 270 students begin the program, with a 98% retention rate.

In 2015, Arizona State University (ASU) began offering its "Global Freshman Academy" (https://www.edx.org/gfa or http://gfa.asu.edu) option where students can take all their first-year courses online through edX with no admission requirements. The 2015–16 cost of about $200 per credit hour was less than one-third the cost per credit hour on campus; living at home also saves room and board costs (Meyer, 2015).

The Modern States Education Alliance, a nonprofit organization founded by a former US Department of Education acting assistant secretary for postsecondary education and a philanthropist, offers an even lower cost "Freshman Year for Free" program through edX. Freshmen-level MOOC courses (https://modernstates.org/course/) may be taken for free; the only cost to students is for Advanced Placement (AP) or College Level Examination Program (CLEP) tests, which would be taken after completing the MOOCs. Thousands of universities will accept specific individual courses for credit by AP or CLEP. In September 2015, Texas State University announced that starting in 2016 students can earn a full year of credit via this program (http://www.tsus.edu/new/news-releases/release-091015.html).

Harvard Business School's HBX program includes a proprietary online platform designed to deliver a case study program or other interactive classes effectively, remaining at the high end of tuition but with very distinctive components. Among the experiments so far are case discussions held in a "classroom of the future" (Byrne, 2015) housed at Boston's public television station, with the faces of 60 students appearing on individual screens of a curved video wall mimicking the shape and feel of a live amphitheater style classroom for the instructor. All the participants' microphones and laptop cameras are live all the time. A roaming camera operator follows the professor as the discussion progresses; other staffers perform various roles, including a director who chooses from among the multiple available images and supporting slides and videos what to project to the audience of students.

In May 2015, Stanford University's Graduate School of Business (GSB) began offering an executive education online certificate program using virtual reality technology, including customizable avatars for students who "attend" classes in a virtual space designed to resemble the GSB campus classrooms (Gellman, 2015). The eight-course program costs about $16,000; about 100 students can enroll for each offering (Kitroeff & Otani, 2014).

Bellevue College is an open-access public institution, the largest of the 34 community and technical colleges in Washington state. In 2014, the college inaugurated a competency-based online certificate program for business software specialists, developed with funding from the Bill and Melinda Gates Foundation through Western Governors University. Bellevue is also partnering with seven other technical and community colleges in the state to build an 18-course competency-based associate degree program in business (Stinson, 2015).

The preceding examples demonstrate efforts to develop truly new models for 21st century higher education, rather than short-run (stop-gap) solutions. As the Chancellor of Antioch University once commented (Guskin, 1996, 28), "The key to

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changing a college or university is to *start* the process. There are many reasons to resist restructuring our institutions–not the least of which are the difficulty and pain. But there are societal forces at work that will eventually lead us to make systematic changes in our institutions, whether we like it or not."

3. Part II: Implications for accounting academia

What are the implications of the forces for change in higher education for accounting academia? As G. Peter Wilson observed, "students, faculty, and practicing accountants must all 'up our game' to stay competitive" (quoted in Vendrzyk, in press). In this part of the paper we move from a broad focus on higher education to a more localized focus on accounting programs and accounting educators.

3.1. Implications for accounting programs

For almost 30 years, there have been regular calls for accounting education change to meet the needs of the evolving profession. Those calls came both from profession-sponsored reports (Arthur Andersen et al., 1989; Carlozzi, 1998; Siegel & Sorensen, 1994; AICPA, 1999, 2000, 2010) and practitioner-academic joint efforts (e.g., AAA Committee on the Future Structure, Content, and Scope of Accounting Education, 1986; Accounting Education Change Commission (AECC), 1990; Albrecht & Sack, 2000; Bolt-Lee & Foster, 2003; Pathways Commission., 2012; and Lawson et al., 2014). The recommendations have been remarkably consistent, calling for a greater focus on skills, as well as technical competencies, and the use of more integrative and active learning models.

These calls brought about some positive changes, but overall the accounting curriculum and pedagogy of today still has much in common with the curriculum and pedagogy of the mid-1980 s. The Pathways Commission (Behn et al., 2012, 599) noted there have been "pockets of innovation" but little in the way of widespread change to date. Boyce, Greer, Blair, and Davids (2012, 48) similarly concluded there has been "little in the way of systemic change" in accounting education. Lawson et al. (2014, 299) find that "most changes in accounting education have not led to the necessary structural changes needed to position accountants for long-term career demands across a variety of organizational settings." These recent assessments echo earlier comments by Diamond (2005, 305) that the accounting education change process has been stuck in "neutral" for decades and the conclusion in Merino's historical overview (2006, 363) that "one of the themes that emerges...is the consistency with which those calling for reform...have delivered this message and how little effect it has had."

Employer interest in change in accounting education has been strong in the US throughout the decades, beginning when the then-Big Eight largest public accounting firms funded the Accounting Education Change Commission (AECC). Employer interest continues today, as evidenced by the recent collaboration of the AICPA and AAA to create the Pathways Commission and by individual firm collaboration efforts, such as KPMG's joining with Villanova University and The Ohio State University in 2017 to create the "KPMG Master of Accounting with Data and Analytics Program" for a group of their new hires (KPMG, 2017).

In the sections below, we provide examples from a survey we recently conducted as to how accounting programs are responding to the forces for change and recommend a framework for schools wishing to consider major curricular change.

3.1.1. APLG survey: Spring 2017

We distributed a voluntary survey at the second day luncheon of the 2017 meeting of the Accounting Program Leadership Group (APLG) of the AAA. One-hundred and forty-five schools had registrants at the meeting; we received a completed survey from 61 institutions (42% response rate).[12] Responses to the question "Within the last 3 or so years, has your accounting faculty created any new degree programs, areas of emphasis, certificate programs or other major curriculum changes?" reflected two basic types of changes: (1) offering new on-campus programs or revising existing programs, and (2) creating new online degree or certificate programs.

3.1.1.1. Offering new on-campus programs or revising existing programs. Twenty-nine schools reported offering new on-campus degree programs (11 schools) or revising existing programs to attract more students (18 schools). Four of these schools reported significant new revenue from these programs. In addition, 15 schools reported plans to revise their existing programs in the next year or two. Revisions to existing programs included creating tracks or emphasis areas in the master's program, adding new classes, including coverage of new topics (e.g., IT, sustainability) within existing classes, moving to a summer intensive schedule, and moving away from summer classes to promote internships. For the most part, these degree program changes have been a continuous improvement of the traditional accounting curriculum rather than a move to an integrated competency-based framework.

[12] Second-day attendance at the 2017 APLG meeting, as measured by the number of lunch attendees, was 68% of total registrants (160 people of 235 registered). We have no way of determining how many of the total number of schools were present the second day. If fewer than 145 schools were present, the response rate was higher than 42%. Our purpose was to collect examples of strategic responses to environmental change, not to estimate the degree of change overall. Given the audience and the voluntary nature of the survey, if there is a bias in the responses it would be toward overstating the likelihood of changes in the general population of accounting programs.

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3.1.1.2. Creating new online degree or certificate programs. Six schools initiated online degree programs based on their on-campus curriculum, one at the undergraduate level, the others at the graduate level; five of the six schools report their online programs as a significant source of new revenue. Five additional schools plan to offer new online programs in the next year or two.

Nine schools initiated new certificate programs, primarily using courses from existing degree programs; three of the nine report significant new revenue from these programs. In the next year or two, another five schools plan to introduce new certificate programs. Some certificate programs are designed for non-accounting graduates to help them qualify to sit for the CPA exam and others focus on specializations within accounting. Examples of certificate programs include:

- The University of Connecticut's online *Accounting Certificate Program* (http://msaccounting.business.uconn.edu/certificate/) combines material from six undergraduate accounting courses into a four-course graduate sequence. The program is primarily asynchronous with some synchronous activities that require students to be online at specified times. After completing the certificate, students may be approved for transition into the MS Accounting degree program.
- West Virginia University recently initiated a graduate certificate program focused on forensic accounting (http://business.wvu.edu/graduate-degrees/forensic-accounting-fraud-examination-graduate-certificate). Certificate students complete four of the ten courses from a previously-established online degree program, the MS in Forensic Accounting and Fraud Examination; two of the four courses are also part of the on-campus Master of Professional Accountancy degree.
- Colorado State University introduced an online one-semester *Accounting Ethics and Auditing* certificate program that helps fulfill CPA licensure requirements (http://catalog.colostate.edu/generalcatalog/colleges/business/accounting/graduate-certificate-accounting-ethics-auditing/). While enrollment started very low, the school anticipates significant growth moving forward. A second certificate program, *Business Analysis and Accounting Technology*, is planned.

3.1.1.3. Strategic changes in faculty structure. Most schools made program changes without making strategic changes in the structure of their faculty, but a small number of accounting programs reported adjusting the mix of Ph.D. research-oriented faculty and clinical teaching faculty. Five schools indicated a move to more clinical faculty as a cost-savings strategy; at the same time, three schools indicated a move to more Ph.D. faculty in an effort to raise research output. One school indicated a new strategy for recruiting research-oriented faculty to set a higher research expectation. Three schools made strategic changes to their administrative structure with two schools establishing accounting departments and another school changing its administrative structure within the department.

3.1.1.4. Impact on the financial model. One potentially troubling result of the changes reported in our APLG survey is that while 44 schools reported new programs or revisions to current programs, only 12 schools reported that these changes provided significant new sources of revenue. Moreover, only 8 of the 61 responding schools reported significant new sources of revenue from any other source within the last three or so years. Six of these schools raised new funds from donors, corporate sponsors, for-pay seminars or recognition dinners, while two schools benefitted from changes to university budgeting systems. One university changed from a historical allocation, which resulted in unchanging budgets for years, to a responsibility-based system where funding is allocated based on enrollment. Another university changed its revenue allocation to allow graduate programs to keep 50% of their residual (revenues less expenses) funding.

3.1.2. Adopting an accounting education framework for the 21st century

To date, most new degree programs or changes to existing accounting programs have hewed to a traditional curriculum model. What guidance is currently available for schools wishing to implement a curriculum based on the widely-recommended strategies of greater competency integration and more active learning? Two recently developed models can be used to drive such curricular-change.

A comprehensive framework for a competency-based curriculum was presented in 2014 by a joint task force of the IMA and the AAA Management Accounting Section (Lawson et al., 2014). As indicated in Fig. 2, the framework focuses on the integrated development of foundational, broad-management, and accounting competencies. In two related papers, Lawson et al. (2015) present implementation examples and advice (including sample lesson plans for capital budgeting and inventory management) and Lawson, Pincus, Sorensen, Stocks, and Stout (in press) provide a roadmap for managing the curricular-change process based on a life-cycle planning approach.

The Lawson et al. (2014) framework focuses on the content of the accounting curriculum and can be complemented by Needles (2014) conceptual model of the teaching/learning process. Needles' pedagogical model can be applied as narrowly as in a single accounting course or as broadly as in the entire accounting curriculum. As illustrated in Fig. 3, the model is based on the notion of "learning cycles" as well as integrated learning objectives, cognitive levels of learning, desired outcomes (skills), and the role of technology in supporting the goal of knowledge integration.

3.2. Implications for individual accounting faculty members

While it is challenging to rethink higher education's long-standing financial model and simultaneously imagine new approaches to teaching and research, involvement by all major stakeholder groups in the higher education community

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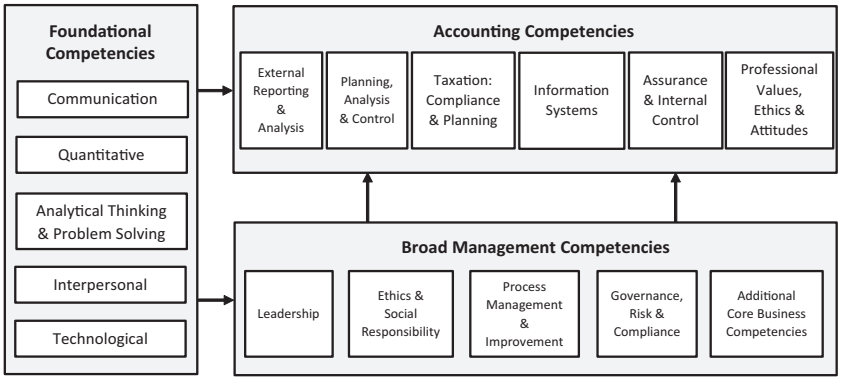

Fig. 2. Competency integration: a general framework for accounting education. **Source:** Lawson, R. A., Blocher, E., Brewer, P. C., Cokins, G., Sorensen, J. E., Stout, D. E., Sundem, G. L., Wolcott, S., & Wouters, M. J. F. (2014). Focusing accounting curricula on students' long-run careers: Recommendation for an integrated competency-based framework for accounting education. *Issues in Accounting Education*, *29*(2): 300. Used with permission from the American Accounting Association (AAA).

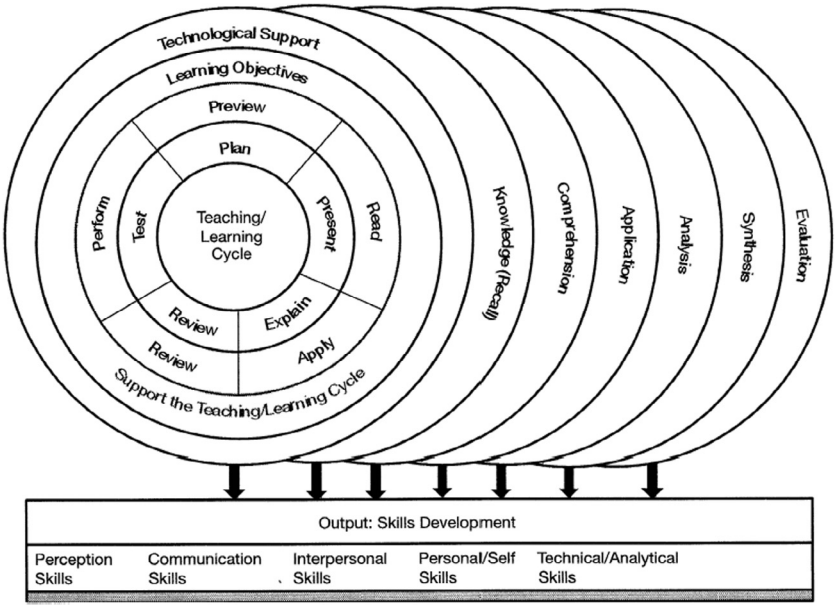

Fig. 3. A comprehensive model of accounting education. **Source:** Needles, B. E., Jr. (2014). Modelling accounting education, in: Wilson, R. M. S. (Ed.), *The Rutledge Companion to Accounting Education*. Rutledge, London and New York, 33. Permission for use pending.

increases the likelihood of successful adjustment to the forces for change. Accounting faculty, given their area of expertise, are particularly well situated to help their institutions create a strategic plan for the future and to assist in the development of models that could be used to assess the financial consequences of the plan. Therefore, we believe that all accounting faculty should participate in the process of responding to the forces for change, albeit at varying levels.

We are cognizant that our recommendation for involvement by all accounting faculty runs counter to much of the typical advice on "when to say no" to a volunteer service opportunity (e.g., Lucas & Murray, 2002, 184): when nobody else wants the job, when the task is far removed from your personal career goals, when the task calls for a significant commitment of time/-effort, or when the task may inject you into controversies or disputes. While the typical advice might have been viewed as wise career management in the recent past (i.e., in a more stable environment), it is not as wise in times of disequilibrium, when the institution is considering dramatic transformation in the face of major challenges. As James Duderstadt, former president of the University of Michigan observed in his book *A University for the 21st Century* (2000, 269): "True faculty participation in the design and implementation of the transformation process is [then] necessary, because the transformation of faculty culture is the biggest challenge of all. Both the creativity and the commitment of the faculty are essential to success."

The dilemma many faculty face is how much time to take from pursuing their own teaching and research goals to get involved in this process. The degree of involvement dilemma is particularly acute for young faculty. Young faculty may

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Table 3
Examples of recent AAA offerings in support of course and curricular innovations.

Year	Presentation title	Author(s)	Session
Sample CTLA sessions			
2015	Data Analytics—The Accounting Career of Tomorrow	Mary Miller, University of New Haven	3.5
	Flipping the Intermediate Classroom to Improve Critical Thinking and Writing Skills	Anita Morgan, Ohio Northern University	6.1
	How to Transition from Private Industry to Academia (Using AAA!) to Assisting with Teaching Thousands of Students in an Online MOOC in Less Than a Year!	Gregory Davis, University of Illinois at Urbana-Champaign	8.3
	Learning about Learning: Research Discoveries That Inform and Shape Teaching Practices	Fred Phillips, Professor and Baxter Scholar, Edwards School of Business, University of Saskatchewan	10
2016	An Integrative Framework for Teaching the Cost or Managerial Course	Neil Wilner, University of North Texas, and Rochelle Greenberg, Florida State University	3.1
	Bring Big Data into Accounting Information Systems Courses	Ashley Davis, The University of Oklahoma	9.2
AAA Center for Advancing Accounting Education Webinars/Video Recordings			
2016	"Big Thinker" Conference Program: Exploring the Value of Accreditation	http://aaahq.org/Accreditation	
2017	"Big Thinker" Conference Program: Accounting IS Big Data Conference	http://aahq.org/Meetings/2017/Accounting-Is-Big-Data-Conference	
TLC Section Midyear Colloquium Series			
2016	Learn, Reflect, and Grow" (Variety of Teaching & Learning Topics)	http://aaahq.org/Meetings/2016/Teaching-Learning-and-Curriculum	
2017	Science of Learning	http://aaahq.org/Meetings/2017/Teaching-Learning-and-Curriculum	
TLC Section Webinars			
2014	"Building or Enhancing Your Accounting Education Toolbox" (the use of technology to improve student engagement and learning)	http://aaahq.org/TLC/Teaching/Webinars#14spring	
2017	"The Ethical Compass—A Toolkit for Integrity" (Skepticism and professional ethics)	http://aaahq.org/TLC/Teaching/Webinars#22417	

Note: Proceedings for the entire 2015 CTLA are available by going to <http://commons.aaahq.org/groups/93baae20ee/summary>, signing on with your AAA username and AAA password, and then clicking on the "Proceedings" button.

be in the best position to help determine the institution's strategic plan, as they are not yet deeply entrenched in the status quo and will spend the most time in 21st century higher education, but young faculty also have a limited time to achieve success as teachers and researchers before their tenure or renewal decision.

Our view is that the benefits of involvement in institutional strategic planning will outweigh the costs. But, what if a young faculty member opts out of direct involvement in the process? Or what if a faculty member at any career stage is at an institution that is not seeking involvement in change efforts or is delegating involvement to others? What can individual faculty members do to prepare for a future that might be very different than the status quo? In this section, we recommend simple options to consider: staying informed about the forces for change in higher education, experimenting with new accounting topics and pedagogies, and thinking ahead when choosing new research topics.

3.2.1. Staying informed about higher education forces for change

We recommend that accounting educators make "keeping up with what is going on in higher education" as important as "keeping up with what is going on in your research and teaching areas." Read the *Chronicle of Higher Education* articles about the forces for change in higher education and/or subscribe to news lists such as *Inside Higher Education* (www.insidehighered.com). Based on these readings, occasionally dip into more in-depth studies related specifically to future faculty roles, such as Kezar and Maxey's (2015) study "Adapting by Design: Creating Faculty Roles and Defining Faculty Work to Ensure an Intentional Future for Colleges and Universities" and to changing financial models, such as Soares, Steele, and Wayt's (2016) report on "Evolving Higher Education Business Models: Leading with Data to Deliver Results."

Currently, accounting educators have to look for these sources on their own, but we see an opportunity here for an academic association such as the AAA's Center for Advancing Accounting Education or an accounting education journal to provide an one-stop "Have You Seen…?" information source for keeping up with news about the forces for change in higher education. We also see an opportunity for a hands-on conference, such as the AAA Big Thinker Conference, targeted at multiple participants from an institution (an accounting faculty member, an accounting department chair, a business dean, an employer of accounting graduates and a campus official) that focuses on how accounting programs can undertake major changes.

3.2.2. Teaching-related faculty-development opportunities

Most accounting educators already have their favorite ways of keeping up with their teaching interests. The following teaching-and-curriculum-related faculty-development activities are available through the AAA:

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- Conference on Teaching and Learning in Accounting (CTLA), which is held each year immediately before the AAA annual meeting.
- Midyear Colloquium offered by the Teaching, Learning, and Curriculum (TLC) Section of the AAA
- Webinars offered by the AAA's Center for Advancing Accounting Education
- Webinars offered by the TLC Section of the AAA.

Examples of recent AAA offerings in support of course and curricular innovations are provided in Table 3.

In times when rapid change is expected, we believe it is important for accounting educators to go beyond keeping up with new topics and pedagogies to regularly experimenting with them in their own classes. Wygal and Stout (2015) and Wygal, Stout, and Cunningham (in press) provide examples of how award-winning accounting educators, as part of their firm commitment to excellence in accounting education, share an openness to experimentation.

3.2.3. Thinking ahead when choosing new research projects

When possible, accounting faculty members should consider research projects that keep them ahead of the curve, especially when it comes to research impact. Sullivan (2014) provides a good discussion of how "shifting realities" in higher education are likely to drive changes in research by business faculty, including a growing emphasis on interdisciplinary research and evolving views of research impact. The AACSB's *A Collective Vision for Business Education* (2016b, 6) agreed and further emphasized the benefits of involvement of practitioners in academic research:

> When scholarship is viewed as being exclusively within the realm of higher education institution, the scope and magnitude of its potential impact is limited. The identification and prioritization of questions to explore, the execution of research projects, and the consideration of potential implications can all be enhanced through partnerships involving a variety of academics and practitioners.

4. Concluding thoughts

There is compelling evidence of strong forces for change in higher education. The current environment is shaped and challenged by two principal forces: rapidly advancing technology, and a dramatically challenged financial model. As members of the academy, business and accounting educators are not immune to these macro-level forces. Understanding the forces for change is fundamental to motivating strategic and operational changes at the institutional, program, and personal levels.

After decades of calls for change in higher education in general, and accounting education in particular, some might ask: what makes the present call different? Our response is straightforward: the current forces are of a magnitude not experienced in higher education in our lifetimes. While many educators and practitioners had the vision to see the need for change decades ago when we had the luxury of growing enrollments and a healthy financial model to support us, the window of time to institute major change is now shorter and the threats to nonprofit higher education institutions are now imminent.

At the most fundamental level, we intend this paper to: (1) support those institutions and individuals who are already devoting time and energy to planning new strategies and creating new models, and (2) start a serious and sustained dialog among those who have not yet started. Our hope is that the dialog begun in this paper will be continued by authors reporting both an expanded set of examples of strategies and evidence regarding the efficacy of those strategies.

In addition, we suggest there are many potential topics for future research and discussion beyond those we have addressed in this paper that would be interesting to institutions, programs, and individuals facing the forces for change, including the following:

- What are the risks and rewards of converting state-supported schools/programs to self-supporting status? Have early adopters of this strategy such as UCLA's Anderson School of Management (Vazquez, 2013) learned lessons that can be transferred to other schools?
- What is the optimal mix of funding for research? To what degree should tuition dollars be used to support research versus grant support or philanthropic support? Given the growing calls for accountability, what are the best metrics for scholarly research productivity and impact (DeSanto & Nichols, 2017)?
- What are the risks and rewards of different strategies for increasing financial flexibility such as discontinuing low-enrollment majors or degree programs to invest more in key majors/programs (e.g., Craver, 2014; Fishman & Spencer, 2016) or voluntary faculty and staff-reduction plans (e.g. Dunker, 2014; McNutt, 2017; Rocheleau, 2014)? What are the risks and rewards of program mergers in multi-school state systems (e.g. The Maine Center for Graduate Professional Studies, 2016)?
- To what extent is tuition discounting helpful? To what extent does it alleviate or aggravate the problem of declining enrollments (e.g., NACUB0, 2016)?
- What is the potential impact of various suggested changes in tax policy for college and university endowments (e.g., Lorin, 2017; Sherlock, Gravelle, Crandall-Hollick, & Stupak, 2015)?

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- How does the aging professoriate effect faculty mix decisions? What are the costs and benefits of growing unionization of adjunct faculty (e.g., Belkin, 2016; Lesko, 2017; Svriuga, 2016)? What are the implications for shared governance of a declining number of tenure-track faculty and growing reliance on non-tenure track faculty, both part-time and full-time? How should governance systems evolve to reflect the changes in higher education?
- Should the tenure system be rethought for the 21st century (Mallon, 2017)? Should the time to earn tenure be lengthened? Should the criteria for obtaining tenure change?

We are optimistic there are a myriad of ways higher education can successfully adjust to the current forces for change and accounting educators can help with the change process, but also soberly recognize that failure to actively engage in the change process is not a path to success, as we were reminded by a two-decades-ago warning in *Science* (Noam, 1995, 247):

> Scholarly activity. . .consists of three elements: the creation of knowledge and evaluation of its validity; the preservation of information; and the transmission of this information to others. Accomplishing each of these functions is based on a set of technologies and economies. Together with history and politics, they give rise to a set of institutions. Change the technology and economies, and the institutions must change, eventually.

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