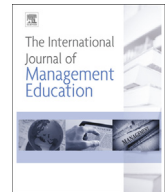


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Research notes

Management relevance in a business school setting: A research note on an empirical investigation

Charles McMillan ^a, Jeffrey Overall ^{b,*}^a Schulich School of Business, York University, Canada^b School of Business, Nipissing University, Canada

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ABSTRACT

In this research note, we address wicked problems within the context of business schools. Our aim is to understand if business schools fully reflect the needs of business. To achieve this, we assess the mission, vision, and stated strategies of the top 200 global business schools to determine if the MBA curriculum addresses wicked problems. From our findings, we demonstrate that the MBA curriculum does not address the nature of wicked problems or provide the intellectual and interdisciplinary frameworks to educate managers on serious competitive issues in a global context. In addition to challenging many premises of the MBA curriculum, we outline several areas of opportunities to assist business schools in adapting to the evolving needs of business and organizational problem-solving.

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1. Introduction

The American model of MBA schools remains the main vehicle to train managers around the globe. Publicly-funded universities, private universities, or even stand-alone MBA schools are scrambling to recruit faculty, develop course materials, and apply the teaching tools – course syllabi, case studies, journal reprints, and textbooks. Public rankings of MBA schools by the leading publications like *Business Week*, *Financial Times*, and *Wall Street Journal*, despite shifts, all show an unequivocal positioning of the leading US business schools. In the *Financial Times 2014* ratings, to cite one example, seven of the top 10, 12 of the top 20, and 30 of the top 50 were American business schools.

However, for over a decade, MBA schools have faced a paradoxical challenge. Despite rapid growth, high fragmentation of the business school industry and research output in academic journals, business schools are under intense scrutiny by the public at large, key decision-makers in business and government, and the business schools themselves (Datar, Garvin, & Collen, 2010). According to Rubin and Dierdorff (2013), researchers have largely argued that the MBA curriculum is either deficient or contaminated. It has been suggested that business schools are too focused on scientific, abstract research and not focused enough on practical knowledge that can be generalized and used by practitioners (Datar et al., 2010; Kuchinke, 2007; Rubin & Dierdorff, 2013; Rynes & Bartunek, 2013). To counter this issue, there have been calls for greater focus on applied research that can be used by practitioners (Knight et al., 2008).

In the curriculum, there is a lack of focus on problem solving, decision-making, globalization, or even sustainability. As a result of this deficiency, graduates care less about sustainability issues, which conflicts with the movement of the global

* Corresponding author.

E-mail address: jeffreyo@nipissingu.ca (J. Overall).

economy toward sustainability. Compounding the issue is that graduates possess limited awareness of global issues (Rynes & Bartunek, 2013). To overcome this issue, universities have experienced increasing pressure to develop international partnerships, which can expose their students to global, political, economic, and technical forces that are shaping our environment (Bartell, 2003). Perhaps most concerning is that graduates possess poor decision-making abilities (Atwater, Kannan, & Stephens, 2008). Furthermore, deans are hiring faculty with limited professional experience and business acumen. As a consequence of being taught by faculty with limited practical knowledge, graduates are ill-prepared to address the problems that they will encounter in their careers (Bennis & O'Toole, 2005). Given the limited experience, faculty members often possess limited ties to business. However, partnering with businesses tend to increase the career opportunities of students (Friend, 2010) and, as a result, the partnerships between universities and businesses are becoming increasingly vital.

An early criticism of the existing MBA curriculum is Mintzberg's (2004) view that specialized training for the various functional areas fails to offer a broad perspective of actual practices of management, a view now widely accepted (Rubin & Dierdorff, 2009). Related criticisms include too much functional emphasis in the curriculum that fail to integrate the disciplines (Teal & Krishnan, 2011). There has also been a limited focus on innovation. Given the fast-paced nature of many, if not, all industries, the need for teaching innovation has never been more important (Brown, 1998). Indeed, firms that have a greater capacity for innovation tend to be more profitable (Fixson, 2009). Aligned with this, employers are arguing that the core MBA curriculum is becoming disconnected from the evolving needs of the marketplace (Bisoux, 2005; Datar et al., 2010; Rubin & Dierdorff, 2009, 2013). From their study, Rubin and Dierdorff (2009) concluded that the competencies that were considered the most critical to employers were the least represented in the standard MBA curriculum. As a result of meeting the requirements of accreditation agencies, there is a perceived lack of flexibility in MBA programs. Indeed, these accreditation agencies perpetuate a less-optimal curriculum model that appears to no longer meet the needs of employers (Datar et al., 2010; Rubin & Dierdorff, 2009). Perhaps most concerning is that many universities have shifted their focus on attaining these accreditations and, specifically, the 'triple-crown' accreditation (i.e., EQUIS, AMBA, and AACSB) as a way to differentiate themselves from others through perceived quality.

In this research note, our aim is to understand if business schools fully reflect the pressing needs of business, by addressing the following needs: (1) international orientation, (2) focus on sustainability, (3) partnering with business, (4) focus on innovation, (5) wicked problems (problem-solving), and; (6) applied research orientation. To achieve this, we assess the mission, vision, stated strategies, and curriculum, of the top 200 global business schools to determine if the curriculum is addressing complex or 'wicked' problems (McMillan & Overall, 2016). To this end, we argue that the MBA curriculum does not address the needs of business, the nature of wicked problems, or provide the intellectual and interdisciplinary frameworks to educate managers on serious competitive issues in a global context. In addition to challenging some premises of the MBA curriculum, we outline several areas of opportunities for business schools that can assist them in meeting the evolving needs of employers. Indeed, this research will be helpful for business school deans that are in the process of redefining their vision, mission, strategies, curriculum, and research focus.

2. The new paradigm: wicked problems

Churchman (1967, p. B142) defined wicked problems as "a class of social system problems, which are ill-formulated; where the information is confusing; where there are many clients and decision makers with conflicting values; and where the ramifications in the whole system are thoroughly confusing". Wicked problems require a process of structuring and restructuring, in which solutions emerge only gradually through a process of defining external and internal constraints (Simon, 1969). Accordingly, there are several aspects associated with defining very complex problems. First, in order to solve the problem, one needs to recognize that a problem exists. Second, how one defines the problem affects the attempts to solve it. To add to the complexity, wicked problems have various antecedents, are difficult to define, and when conventional solutions are applied to them, the consequences can be undesirable (Camillus, 2008) (see Table 1). Considering the ambiguity,

Table 1
Ten characteristics of wicked problems.

1. There is no definitive formulation of a wicked problem (defining wicked problems is itself a wicked problem).
2. Wicked problems have no stopping rule.
3. Solutions to wicked problems are not true or false, but better or worse.
4. There is no immediate and no ultimate test of a solution to a wicked problem.
5. Every solution to a wicked problem is a 'one-shot operation' because there is no opportunity to learn by trial and error, every attempt counts significantly.
6. Wicked problems do not have an enumerable (or an exhaustively describable) set of potential solutions, nor is there a well-described set of permissible operations that may be incorporated into the plan.
7. Every wicked problem is essentially unique.
8. Every wicked problem can be considered to be a symptom of another problem.
9. The existence of a discrepancy representing a wicked problem can be explained in numerous ways.
10. The choice of explanation determines the nature of the problem's resolution. The planner has no right to be wrong (planners are liable for the consequences of the actions they generate).

Source: Rittel and Webber (1973)

wicked problems are not only challenging for inexperienced decision-makers, such as recent MBA graduates, but also seasoned decision-makers.

Examples of wicked problems include: terrorism, the need for privacy, freedom of speech versus the right to offend, and climate change. Climate change has resulted in significant challenges for business through erratic weather patterns (Li & McMillan, 2014). Its impact on society has become an increasing concern for communities, politicians, governments, and business. As a result, it has been argued that climate change is one of the greatest challenges that society currently faces (Pappas, 2012). The crux of the issue is understanding how to retard climate change whilst ensuring that global economies, especially those in emerging markets, do not suffer. With no known solution to address this problem, it is truly wicked (Lazarus, 2009). With many of the wicked problems that surround the environment, it is prudent that future managers learn how to lead firms in a sustainable way, defined as “meeting the needs of the present without compromising the ability of future generations to meet their own needs (Sroufe & Ramos, 2011, p. 351).” As a result, there has been growing arguments over the past decades that business schools need to play a stronger role in shaping the minds of future managers toward sustainable development (Graf, 2015). Specifically, communities have demanded that business schools need to teach students sustainable business models by integrating sustainability into the business school curriculum (Naem & Neal, 2012).

3. The conventional MBA curriculum

Historically, business schools have transformed the MBA curriculum, away from schools of accounting (or commerce programs) with former CEOs and retired accountants teaching courses and telling stories, to an academic discipline-based MBA curriculum that incorporates new theories of psychology, statistics, and microeconomics (Simon, 1976). Business schools became professional schools in leading American universities. Like their counterparts in engineering, medicine, law, and veterinary medicine, business schools incorporated theories, models, and modes of thinking from the traditional disciplines of the faculties of arts, humanities, and natural sciences (see Table 2).

The expansion of American MBA programs in the 1970s in US universities, now accounting for over 120,000 graduates annually spread rapidly, first to Britain (starting with the Franks Report in 1963), to Europe, and then the flood gates opened to a global reach. There are now an estimated 14,000 business schools. The global reach of the MBA curriculum and the general business model of business schools (degree = job opportunity + high salary) have propagated a teaching mindset around a relatively standardized course framework. The MBA teaching curriculum involves faculty, textbooks, teaching materials, cases, and Ph.D. programs, often reinforced by US business school outreach, through alliances, overseas campuses, joint executive MBA programs, and executive education courses. Indeed, most of the top 15–20 US schools lead in the various rankings, despite annual variations, and they excel on more than just MBA rankings, but also research, executive development, quality of faculty, case writing, book publishing, and journals.

For most business schools, the basic MBA curriculum is a commoditized platform product that combines topics drawn from functional subjects (e.g., accounting, finance, human resources, organizational theory, operations management, and management science) with corporate strategy as a capstone course. Even in capstone courses like strategic management, but especially in required functional courses, managerial and organizational assumptions may not be questioned, tested, or understood. Indeed, the textbook model of known problems, known solutions applies to all functional areas, despite new thinking, often outside the academic world. For example, for decades, courses in operations management introduced a plethora of tools to manage inventory – but little on the science of actually eliminating it. It took Toyota’s lean production system to revolutionize the tools of production.

From the focus on functional subjects and integrating courses on the total enterprise, the MBA curriculum has shifted dramatically to fewer required courses, new electives based on student demand, and courses built on abstract models that are far removed from the practical world faced by many industries and managers addressing complex social problems. Indeed, the full impact of globalization, technology, and knowledge development means that real problems – wicked problems – are sparsely addressed in the MBA curriculum. The reasons may seem obvious. Business schools and university administrators, reflect the politics of business corporations. Coalition behavior allows senior executives to mold recognition, identity, competences, and decision premises by controlling communication tools, office layout, luxury goods (e.g., board rooms, expenses),

Table 2
The tightly-coupled conventional MBA curriculum.

	Core course	Underlying disciplines	Silo reinforcement	Time horizons
First year	Functional courses	Statistics, economics, psychology	Cases, textbooks, presentation slides	Short-term (1–2 years)
Second year	Functional + specialist electives	Political science, sociology	Corporate project, speakers	Medium-term (2–5 years)
Faculty drivers	Young faculty, PhD students, part-timers	Research in the FT top 40 journals	Top researchers exempt from teaching	Journal outputs
University drivers	Student numbers	Ratio of part-time faculty to full-time faculty	High turnover of faculty, more part-time faculty	Budget year
Corporate drivers	Course specialization	Finance, marketing	Low emphasis on humanities	Annual recruitment

and executive positions that preserve power and status (March & Olsen, 1976). Yet global competition has never been more intense, and the combination of complex forces – social, technological, demographic, scientific, and military – requires decision frameworks that go well-beyond the linear models of the conventional MBA curriculum.

As a result of the importance of globalization (De Meyer, 2012), business schools can no longer be viewed in strictly national terms (Qiang, 2003). Business schools need to prepare students adequately for international careers (De Meyer, 2012). To achieve this aim, international partnerships between business schools has grown in importance. These partnerships not only provide students with a global perspective, but they also facilitate the incubation of wicked problems within the curriculum. Increasingly, students are demanding a diverse management education whereby they are exposed to a multicultural student populations along with international experiences (Hulstrand, 2007). Although there is a clear need in the market, business schools have been slow in adapting. In general, there has been increasing criticism around the sizable gap between what the market is demanding and what business schools are offering in their curricula (Bruner & Iannarelli, 2011). This, in term, is placing significant pressures on universities to adapt to these changing needs (Bartell, 2003).

The MBA curriculum structure remains a relatively closed knowledge system, where the main variables are known or can be predicted, focusing mainly on how firms cultivate measures of self-sufficiency to leverage power, applause, and executive esteem. At its core, the MBA curriculum teaches models of decision-making of simple and complex problems and, also, the various institutional levels (e.g., boards, CEO, and senior management), functional roles, and governance issues of decision role-playing. Textbooks, readings, and case discussion focus mainly on predictable routines, predictable problems, predictable calculus, with known solutions, or new solutions adopted from non-business disciplines. Organizational culture fusing knowledge and resource competencies creates a sense of virtue, illusions, and incentives, leading to brand reputation, communicated and embedded internally and externally. Likewise, curriculum revisions vary widely, by size and prestige of the school, for example, but also by location, corporate hiring needs, links to the university via joint appointments and partnerships with business.

The hangover from the 2008 recession has led many governments toward implementing austerity measures, which has reduced the funding available for higher education. As a result, there is now a pressing need for business schools to seek funding from external sources. To address this growing need, large corporations have the budgets to fund research and development initiatives (Lowry et al., 2000), which makes partnerships between universities and business attractive. Not only does partnering with business address the funding needs of business schools, but it also helps students in developing the skills needed to function in the current economy (Benson & Dresdow, 1998). Furthermore, by cultivating relationships with corporations, business schools increase the quality of their graduates through real-world interactions (Lowry, Cherrington, & Watson, 2000). This in turn not only enhances the experience of students, but it might also improve the reputation of the business school in the community at large. On the other side of the coin, partnering with business enables companies to interact with students, which addresses the continuous need for good candidates (Lowry et al., 2000).

However, if corporations are funding university research, they need to be able to use the findings to improve their operations. As a result, there is a need for universities to focus on applied research as opposed to abstract, theoretical research. Indeed, by focusing on research that is relevant to business (i.e., applied research), the collaboration between business and universities might stimulate innovation (Lowry et al., 2000). In this vein, there has been an increasing need for business schools to provide students with the skills needed to innovate, which has led to a growing need for innovation to be integrated into the curriculum (Brown, 1998). Although some universities have embraced this need through the implementation of incubators and accelerators, such as Ryerson University's Digital Media Zone (DMZ), there appears to be a void in the curriculum of many business schools.

Although the core structure of the MBA program remains constant, many of the new elective courses offered by business schools are perceived as 'soft' courses – often a professorial exercise in 'preaching', not 'teaching' (Simons, 2013). Similarly, elective courses like business ethics disguise how the playful images of Machiavelli fail to explain how the mechanisms of managerial behavior can shift corporate risk to the public sector, game the regulatory system, or turn the regulatory system into a captive stakeholder as was illustrated in the 2008 global financial crisis. Although specializations may be useful in providing future managers with the tools needed to address ethically questionable organizational situations, they hardly provide managers with the decision tools needed to address wicked problems, for two reasons: increasingly, the external environment is one of extreme complexity and, second, the main drivers are rarely economic variables (see Table 3).

Despite well-known theories of creative destruction (Christiansen, 1997; Schumpeter, 1942), continuities, not discontinuities, are preferred decision choices in the MBA curriculum, despite falling performance and potential failure of corporations and public policy. Sense-making, the vital managerial capacity to recognize, understand, and interpret inherent complexity, is based on both retrospection and forward action in ambiguous, unknown or unexpected environments (Weick, 1995). As a decision tool, sense-making forces the use of mental frameworks that test decision issues and processes, past assumptions, and future actions. Decisions that appear rational for one group can alone or in combination lead to unintended consequences. Unintended consequences tend to emerge in complex situations because interdependent actions and reactions arise beyond our immediate field of view. Many are negative. In crisis, organizational cohesion diminishes, predicated on low individual and organizational trust. In many business schools, faculty members display psychological exit, and managing crisis effectively is largely absent from the MBA curriculum (Fischbacher-Smith & Fischbacher-Smith, 2013).

Managerial assumptions are rarely questioned or even articulated. The executive coalition justifies its power and position as a license to leverage information and knowledge to cultivate a scarce good, corporate reputation (Carpenter, 2010). Reputation is a process of learning, exploiting organizational memory, and communicating and interpreting beliefs about

Table 3
Comparative managerial doctrines of MBA curriculum.

Issues	Conventional program	Wicked program
Leadership	CEO-oriented, transactional	Dispersed-team oriented, transformational
Organizational design	Bureaucratic, SBU, loose coupling	Networks, platforms tight coupling
Strategic planning	Incremental adjustments around narrow competencies-capabilities	Long-time horizons around knowledge competencies
Public regulation	Limited, domestic	High, international, and includes supply chains
Decision incentives	Short-term competitive, narrow leaning	Long-term, collaborative, adaptive for entire ecosystem
Supply chains	Sequential, dispersed, often internal Tier 2 and 3	Lean JIT production, Tier 1, Tier 2
Economic model	Atomistic, autonomous, opportunistic search processes	Oligopolistic, revenue maximization, long-term knowledge planning
Outputs	Products or services	Products and services
Financial	Entrepreneurial, bank and corporate financing	Long-term bonds, public investments, supplier investments
Nature of competition	Five forces model	Oligopolistic, risk mitigation
Technology system	Internal competencies, or acquired technology to address discontinuities	Internal knowledge system of experts, plus knowledge competencies of suppliers
Risk profile	Simple and complex risks, short-term	Potential for catastrophic Failure
Labour force	Moderate training, high turnover, governed by general labour market	High skills, long-term employment, low internal turnover
Marketing	Domestic and regional, scale, exploitation	Global, scope, experimentation
Time horizon	Short-term (1–3 years), short product cycles	Long-term (10 years +) long product cycles, platform modifications

organizational action and expected performance. By contrast, reputation damage, repair, or reputation destruction comes from decision styles that are political, personal, and conflict-driven (McMillan, 2010; Rhee & Hadwick, 2011). Strategies are driven by hubris, gaming, and short-term executive compensation. Wicked problems are ignored, dealt with lightly, by-passed, and second-order consequences are left to the future (McMillan & Overall, 2016).

Wicked problems challenge the cognitive systems of conventional managerial behavior in two ways, by constantly testing the mindset orientation to external forces, and by the sense-making (explicitly or implicitly) of decision choices. Cognitive psychologists now understand that such sense-making leads to ambiguities of conflict resolution, forming a theory of attention directing, a theory of perception, a theory of problem solving, or a theory of motor control (Anderson, 1983). Cognitive psychology recognizes two modes of cognitive processing. The first is less capacity-limited, possibly parallel invoking direct stimulus inputs. This pattern is common in routine decisions and problems, the core model of the MBA curriculum, evoking pathway activities and conscious attention, or efficiency goals (Posner, 1973). The second pattern is much more complicated. It requires conscious control, severe capacity limitations, possibly serial, and evokes from internal goals and novel mental thinking (Denning, 2013).

From this, there appears to be a need for business school students to be taught systemic thinking skills that can assist them in addressing a broad array of problems (Atwater et al., 2008). Indeed, with the exponential expansion of business schools has come an MBA supply glut. With this over-saturation, employers, taking notice and now highly selective in recruiting, there is a flight to quality syndrome. Prior to the 2008 recession, graduates of MBA programs at top-tier schools entered consulting, hedge funds, financial services, private equity, or investment banking careers with attractive salaries. However, after the collapse, employers have become wary of recruiting from many schools, and high compensation (salary, bonuses, and perks) are largely dissipating. Many firms, and even financial institutions, are recruiting non-MBAs with skill sets from law, medicine, Ph.Ds. from various disciplines, and graduates of bachelor's programs from top-ranked institutions (Datar et al., 2010). In other words, the main selling point for MBAs of high-salaries is no longer the case. On the surface, it further appears that the MBA degree, in general, has largely become redundant in that it seems to fail in addressing the needs of employers and the career-needs of graduates (Rubin & Dierdorff, 2013). Given the importance that wicked problems, international partnerships, maintaining relationships with business, an applied research agenda, and teaching innovation as well as sustainability has on addressing the needs of business, our aim is to assess if the top business schools in the world are shifting to address this need.

4. Method

Various institutions, such as organizations, governments, and universities, use an array of media outlets to communicate with important stakeholders. These include television advertisements, print media, radio, newspapers, and more recently, social media and websites (Overall, 2016). Within the past decade, many institutions have increased their use of websites as a communication medium and, as a result, they provide a wealth of information about their initiatives (Basil & Erlandson, 2008). Business schools use their websites to outline their vision, mission, stated strategies, accreditations, program offerings, and curriculum. According to the latter, the availability of the curriculum on the website provides in-depth details related to the key areas covered. Not only is the website used to communicate up-to-date information to current students, it has also become an important recruitment tool for reaching prospective students. As a result of the valuable information

available, organizational websites are considered an interesting avenue for data collection (Li, Goodchild, & Xu, 2013; Overall, 2016; Tang, Wang, & Liu, 2012).

Considering the wealth of information available on business school websites related to their program offerings pertaining to their curriculum, they present a suitable avenue to appraise if business schools are addressing the needs of business, such as wicked problems. Indeed, if the business school does not mention wicked problems in their vision, mission, stated strategies, or anywhere in their curriculum, it is highly unlikely that they are covered in the curriculum. Therefore, consistent with Reilly and Hynan (2014), data for this research was collected from secondary sources, namely business school websites.

Given the importance of extreme environmental challenges, from globalization to dealing with truly wicked problems, we seek to understand if the MBA curriculum fully reflects the needs of business. To achieve this aim, we observe if business schools were addressing several important areas, including wicked problems in their vision, mission, stated strategies, and curriculum. Specifically, we undertook a study of 200 business schools, which were collected from the RAE Top 50, FT Top 50 MBA, the Guardian Top 25 undergraduate schools in the UK, the top five universities in each of the BRIC nations (i.e., Brazil, Russia, India, and China), the Sunday Times Top 25 universities, the Top 100 global universities, and the Top 25 American schools. For each university, we reviewed the content on their websites by specifically analyzing the: mission, vision, strategic plans, programs offered, curriculum, accreditation standings, and research.

4.1. Data collection and analysis

In this research, content analysis was used to analyse website data. In content analysis, researchers appraise the information that is present in a document. In this way, researchers are not directly observing a phenomenon, they are instead observing secondary data, namely data that has been created for another purpose (Robson, 2002). Content analysis involves establishing categories and "... then counting the number of instances when those categories are used in a particular item of text ... (Silverman, 2003, p. 158)." In other words, when using a content analysis approach, researchers develop categories and systematic linkages between them. In qualitative methodology terminology, the establishing of categories could also be considered the creation of 'themes' and the subsequent coding of said themes (Bryman & Teevan, 2005). Once the categories (or themes) are established, the use of frequencies whereby researchers count the frequencies that the categories are present in the text being analysed, is employed (Silverman, 2013). From the extant literature, there are three stages involved in conducting a content analysis: (1) definition of the categories that will be the main features of the study, (2) review the content that will be analysed, such as newspapers or websites, and; (3) count the frequencies that the categories are present in the data (Bryman & Teevan, 2005; Silverman, 2003).

Content analysis became popular in the early phases of the 20th century through the analysis of newspaper data (Robson, 2002). However, since then, researchers have been using the approach through other means beyond mass communications (Robson, 2002). Recently, Penney, Snyder, Crooks, and Johnston (2011) used content analysis to assess risk communication within the context of websites within the Canadian medical tourism industry. In this study, they used the following approach: (1) the websites were first reviewed to develop a list of categories, (2) frequency counts of these categories were conducted, and; (3) data relevant to each of these categories was compiled and analysed accordingly.

Using Penney et al.'s (2011) approach, we first read the entire content on the business school websites pertaining to the: mission, vision, strategic plans, programs, curriculum, and research of the business schools. Next, we developed a set of categories to determine the main areas of focus, which included: (1) international orientation, (2) sustainability (or corporate social responsibility), (3) partnering with business, (4) innovation, (5) wicked problems (problem-solving), and; (6) research orientation (theoretical or applied). Third, frequencies were assessed for these categories. To present our data, we created 2×2 matrices with the categories and their frequencies. Finally, descriptive statistics were assessed to see where the majority of universities fell within the four quadrants. By analyzing these quadrants, it became apparent the areas of saturation and the areas of potential opportunities for business schools.

To facilitate the categorizing and frequency process, we leveraged the Microsoft Word program through the use of the 'find' and 'colour-coded comments' features. Through this approach, we were able to create codes, combine them, and remove them as we saw fit. By doing this, we were able to group similar concepts that shared comparable meaning among the websites in our study (Ojastu, Chiu, & Olsen, 2011).

4.2. Findings and results

At the outset, this research note sets out a few points of interest:

1. It appears that the European schools were focused on internationalization, in part by the number of countries in the European Union, their different legal systems, languages, and governance structures. Interestingly, a limited number of American schools were concerned with international partnerships.
2. A greater percentage of European universities were concerned with sustainability – American universities were less concerned.
3. According to accreditations, and specifically, the 'triple-crown' accreditation (i.e., EQUIS, AMBA, and AACSB), only a few American universities have the 'triple-crown' accreditation. In fact, many of the highest ranked universities in the world do

not have the triple-crown accreditation or any accreditations for that matter. From this, it appears that accreditations do not necessarily equate to quality and students should think critical when selecting universities based purely on the accreditations of an institution.

4. Perhaps most concerning is that only 10 universities mentioned problem-solving and another nine mentioned solving complex problems. This represents 5% of the universities from the data sample. However, only one institution was concerned with addressing wicked problems. Indeed, this appears to be a potential contributor to the reason consulting firms, think tanks, and investment banking firms are minimizing their recruitment of MBA graduates (Datar et al., 2010).

Based on the aforementioned categories, we introduced four 2×2 strategic matrices (see Table 4). In the first matrix, we introduced innovation and international partnerships. Most universities (42%) fell within the weak innovation and limited international partnerships quadrant whereas the least universities (16% of business schools) were in the diverse international partnerships with a strong innovation orientation.

In the second matrix, most business schools (58%) were located in the limited sustainability and weak innovation quadrant; however, there are only 10% of universities with advanced sustainability and strong innovation. In the third matrix, most universities (41%) appear to be conducting research that is broad and theoretical, which is consistent with the arguments made above, business schools appear to be too focused on scientific, abstract research and not focused enough on practical knowledge that can be generalized and used by practitioners (Datar et al., 2010; Kuchinke, 2007; Rubin & Dierdorff, 2013; Rynes & Bartunek, 2013). Conversely, only 8% of business schools were conducting applied and focused research.

In the fourth matrix, 57% of universities had weak innovation and weak partnerships with business, which is somewhat concerning as business schools are suggesting that they are becoming more focused on teaching innovation (Maerki, 2008), yet in practice, this does not appear to be a true reflection of reality. Perhaps most concerning is that business schools are not maintaining a connection with businesses. Indeed, only 1% of universities appear to be concerned with partnering with businesses and maintaining a strong focus on innovation. As a result of the growing disconnection between business schools and employers, as discussed earlier (Bisoux, 2005; Datar et al., 2010; Rubin & Dierdorff, 2009, 2013), the needs of businesses do not seem to be effectively taught in business schools.

Beyond the immediate need for business schools to address wicked problems, there are several opportunities noted in our findings. Specifically, there appears to be opportunities for business schools to focus on expanding their international partnerships, improving their focus on innovation, partnering with businesses, and becoming more centered on sustainability. There seems to be opportunities for universities to have an applied and focused research agenda. Most universities seem solely concerned with advancing theoretical research that is of limited importance to practitioners (McMillan & Chen, 2013).

5. Discussion

In this research, we set out to assess if business schools are meeting the needs of business in several important areas, namely: (1) international orientation, (2) sustainability, (3) partnering with business, (4) innovation, (5) wicked problems, and; (6) applied research orientation. Although European schools are focused on internationalization, there appears to be a void in other jurisdictions, namely the United States. It appears that the American business schools have not adjusted to the calls for internationalization (Bartell, 2003). Beyond internationalization, the European business schools also appeared to

Table 4
Matrices.

		International partnerships	
		Limited	Diverse
Innovation	Strong	20% universities	16% of universities
	Weak	42% universities	21% universities
		Sustainable development	
		Limited	Advanced
Innovation	Strong	27% universities	10% universities
	Weak	58% universities	6% universities
		Research strategy	
		Focused	Broad
Research strategy	Theoretical	14% universities	41% universities
	Applied	8% universities	38% universities
		Partnering with business	
		Weak	Strong
Innovation	Strong	30% universities	1% university
	Weak	57% universities	12% universities

have a greater focus on sustainability compared to American universities. Although American society appears to be a leader in addressing climate change and global warming in the international political sphere, this policy clearly needs to be reflected in business schools.

As outlined in our findings, the most concerning finding was that only 5% of the universities appeared to be concerned with addressing complex problems and only one institution was concerned with addressing wicked problems. Clearly, this is an important growth area for business schools. Without focusing on wicked problems, business schools will scarcely be in any position to address the needs of business. Compounding this issue involves the lack of innovation being taught in business schools. As was argued, innovation is vital to ensuring long-term sustainability (Fixson, 2009).

As we demonstrated, business schools are not conducting applied research that can be used by practitioners. Instead, they appear to be focusing primarily on abstract, theoretical research that practitioners do not seem to care about. However, not to ignore the elephant in the room, the top-ranked business journals tend to have a greater focus on publishing abstract research that is 'new' as opposed to research, that might not necessarily be new, but rather important to the needs of business. Considering that business school faculty are rewarded for publishing in these top-ranked journals (Overall, 2015), there is limited incentive to publish applied research.

From our findings, in general, it can be said that the current MBA curriculum does not address the needs of employers. This is consistent with the contention that business school curriculum is becoming disconnected from the evolving needs of organizations (Bisoux, 2005; Datar et al., 2010; Rubin & Dierdorff, 2009, 2013) related to the lack of focus on developing the competencies that are considered most relevant to employers, namely problem solving (Rubin & Dierdorff, 2009). Without improving, demand for business school qualifications may continue to spiral in a downward fashion, which may continue to have an adverse impact on the cachet of the MBA degree.

Importantly, not all business schools are satisfied with the traditional model and some are listening to the evolving needs of the marketplace (Datar et al., 2010; Rynes & Bartunek, 2013). Other business schools are attempting to adapt to ever increasing complexity in the external environment by offering credit courses by spending time in unique settings, from NGO organizations to cultural institutions, where simplistic economic and financial tools do not easily apply. Some faculty – Oxford's Said Business School and its web platform and student tutorials, and Washington's Olin Business School and its certificate program in wicked problems for instance, are notable exceptions. A few leading business schools may seem like fully autonomous entities on American university campuses (i.e., loosely-coupled bureaucracies), but in reality, through research, joint appointments, and research centers, they encompass leading edge theories and models from history, economics, sociology, and psychology (Simon, 1976). This general approach may not exist outside the top universities in the US or in most countries.

Some of the highly ranked institutions, such as Harvard and Stanford, are becoming increasingly flexible, diverse in their curricula, and are adopting new models to remain relevant in the market. These institutions and others are developing programs beyond the conventional cross-functional approach and are endeavoring towards a cross-disciplinary model by integrating law, medicine, public policy, and design within the MBA program (Datar et al., 2010). Harvard now requires students to spend time in an emerging market (Simons, 2013). At Stanford, for example, students are required to write argumentative papers on current affairs related to business, society, and politics, in part to develop the skills of business students, such as critical thinking, argumentation, and effective communication (Rynes & Bartunek, 2013). Furthermore, many business schools are beginning to shift away from the traditional two year full-time model, which represents 40% of MBA degrees. There is now more emphasis being placed on less-conventional approaches, such as online, part-time, executive, and one-year programs (Datar et al., 2010).

However, with the exceptions aside, considering that wicked problems are widespread, from our results, it is clear that MBA students are not receiving adequate training on wicked problems. Indeed, it is vital that MBA students be exposed to the complexity, tradeoffs, and tools needed to address them. Truly complex problems and their 'wicked' features require new teaching tools, far beyond the textbook lectures of traditional MBA courses or the artificial teaching environment of the classroom. Indeed, wicked problems are too complex and too pervasive to rely on a simplistic textbook approach. Further, students need to experience them directly in real time to gain new tacit knowledge and theories (Nonaka & Takeuchi, 1995). Although many of the innovations in the business school industry are positive, they are scarcely useful in exposing students to the world of wicked problems.

5.1. Recommendations for MBA curriculum

Whilst wicked problems are pervasive in business (Spender, 1983), the new MBA curriculum needs to incorporate conventional courses and electives into new frameworks, theories, and models to address them beyond the classroom. Although many MBA programs offer internships, employers are willing to involve interns only sparingly in any 'real problems' as they typically assign them to low-level projects. Clearly, this is not enough real time exposure to wicked problems and a disruptive change in the MBA curriculum is needed. To fill this lacuna, we propose that business schools should shift their MBA programs to be more practitioner-oriented, requiring MBA students to gain course credit through 'hands on experiences' that many other disciplines offer. For example, the Osler system applied in medical schools, originating at McGill University by William Osler, has first year students dealing directly with patients in the hospital wards, under direct supervision.

To achieve this radical, practitioner-oriented approach, we propose a model in which students receive 50% of their course credit in a classroom environment and 50% working for a company or NGO. In other words, we suggest a model where

students work full-time and study full-time. In the suggested paradigm, students will be exposed to traditional learning with in-class sessions, internet-based classroom learning, and writing reports that reflect on their employment experiences. Through this approach, students should be in an improved position to apply the knowledge gained through their academics to their employment whilst being exposed to wicked problems. It is possible that not all students will be exposed to 'extreme' wicked problems in their employment. However, as truly complex problems come in varying degrees of known and unknown solutions, students will be required to reflect on and share their experiences, both in written and verbal reports. Schools will vary, based on resources available, location, size, and quality of faculty, so there can be huge variation on how students cope with their responsibilities and succeed at both school and work.¹

For this solution to function appropriately, it is imperative that business schools collaborate with firms in their community through partnerships. Students will work for these companies whilst they complete an MBA. If students succeed, companies could consider retaining them. This solution offers several advantages to students, business schools, and companies. First, the solution addresses the issue of exposing MBA students to wicked problems. Second, the solution does not simply link students with employers at graduation; they are connected at enrollment as employers would be intimately involved in the admissions process. Third, the solution offers both companies and students a 'trial period' in the recruitment process. The successful students would most likely have a guaranteed position and companies will have an employee that is already trained on their procedures and that has been taught the essentials of organizational theory. Fourth, business schools will become better connected with various important stakeholders in their communities. Fifth, these partnerships expose business schools to an additional source of funding. Finally, considering that it will be a challenging curriculum, this new model incorporating wicked problems would address the over-saturated market of MBA graduates.

5.2. Limitations and future direction

Although websites offer valuable information about the practices of a business school and that data collection through websites is an innovative method to collect data, it is a secondary data source. As a result, the typical limitations associated with secondary data apply, such as the inability to probe participants to uncover richer, qualitative information. However, the data available through company websites is sufficient to address the core focus of this paper, namely to assess if business schools are addressing the needs of business. Although we reviewed the vision, mission, stated strategies, and curriculum, we did not speak to business school faculty or were present in the classrooms. To counter this issue, an area for future research might involve conducting in-depth interviews with business school deans and faculty members to assess their position on wicked problems. A further direction might involve understanding 'why' wicked problems have not been introduced into the curriculum and, subsequently, to understand 'how' best to introduce wicked problems into the curriculum, both directly and indirectly.

Considering that the top 200 business schools typically have a preoccupation with conducting abstract, theoretical research that is of interest to academics and less on engaging with industry, there could be an argument that these business schools would not necessarily address the needs of industry, directly. However, considering that the commoditized model of the MBA curriculum is rooted in the top-ranked institutions, which is replicated globally and, as a result, has the greatest reach, we felt that it was important to study these programs in the first instance. Importantly, the lower-ranked institutions might have a greater focus on the needs of industry. Therefore, an important area for future research might involve comparing the curricula of the top 200 business schools with those of the bottom 200 to assess if the latter addresses the needs of business more effectively.

6. Conclusion

As knowledge advances globally and as industrial nations become more interdependent and integrated by trade, finance, sharing sovereignty, international organizations, and communication links, more problems arise where linear models of decision-making fail to address wicked problems. New tools of intellectual sense-making, analysis and synthesis are required to go beyond textbook analysis of linear thinking of closed systems. The traditional MBA curriculum offers a doctrine of thought based on relatively rational profit-maximizing performance subject to limited constraints of individual and institutional behavior. For many, perhaps most business problems, these tools are acceptable and possibly edifying. However, they are increasingly inadequate for the new challenges faced by business - wicked problems - as they present extreme complexity and conventional tools have limited use in addressing them. Indeed, wicked problems require new approaches, more experiential learning, and greater suspension of accepted thought processes and doctrines.

Many of the leading 20–25 top-tier schools have a unique location advantage, because they are situated in leading universities in capitals, national or global financial centers, and urban, knowledge clusters of headquarters, hospitals, think tanks, and consulting firms. These location advantages allow network spillovers to business schools located there for career opportunities and alumni connections, quite apart from the merits of their MBA curriculum. As globalization truly impacts

¹ We acknowledge that executive MBA and part-time MBA programs have been in existence for some time. However, these programs are generally designed to accommodate the working schedules of students, except for more global travel, but largely replicate the MBA curriculum. Our recommendation is aimed at the conventional full-time MBA curriculum where the majority of students might not possess managerial experience.

corporate decision-making, the boundaries of the firm, and global supply clusters, the traditional MBA curriculum remains wedded to a 20th century model of the owner-manager operating in a domestic market, a loosely-coupled view of the firm. The status quo state of denial is ending. The skill sets needed for wicked problem-solving may include tools and models of the conventional MBA curriculum. However, it most increasingly requires a new, multi-disciplined approach, a focused recognition of historical, social, and technological impacts, and new methodologies. Reality and experience now show that firms live in a very different, complex environment, with alternative visions, complexity, and tightly-coupled systems, the world of wicked problems.

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