BUSINESS ANALYTICS IN THE MARKETING CURRICULUM: A CALL FOR INTEGRATION

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Marketing education has responded, to some extent, to the academic challenges emanating from the Big Data revolution. To provide a forum to specifically discuss how business analytics has been integrated into the marketing curriculum, we developed a Special Issue for *Marketing Education Review*. We start with a call to action that underscores the importance of including analytics in developing marketing students' skill sets and competencies. In response to the call for integration, five articles discuss analytics based on four pillars of the marketing curriculum: content, pedagogy, structure, and purpose.

INTRODUCTION

The use of data to make new decisions is, of course, not a new idea; it is as old as decision making itself.
Thomas Davenport (2013, p. 66)

The collection and utilization of data are not new to the marketing discipline. What is new, however, is the manner and extent of data consumption. Marketers have traditionally used data, typically in the form of surveys, focus groups, and/or secondary data, to provide a snapshot of the customer (Krehbiel, Stearns, & Crespy, 1995). While these practices continue to be relevant today, significant changes have transformed the realm and scope of data. Extensive data accumulation as a result of the rapid growth of eCommerce and social media has brought the Big Data revolution to the forefront of marketing (and other business disciplines; Aasheim, Williams, Rutner, & Gardner, 2015).

The Big Data revolution is characterized by the *unprecedented* volume, velocity, variety, and veracity of primary data available from individual consumers (Erevelles, Fukawa, & Swayne, 2016; Hopkins & Evelson, 2011; Wedel & Kannan, 2016). In fact, some businesses consider Big Data to be a new form of capital in the marketplace (Satell, 2014). Others have branded Big Data "the oil" of the digital economy (Wedel & Kannan, 2016). The Internet and changes in technology have afforded marketers with access not only to consumers but also to data on the elaborate patterns of their behaviors. Now more than ever, companies are using data to drive decisions and provide them with competitive advantages (Wedel & Kannan, 2016).

While there may be an abundance of collected data (from terabytes to exabytes), it is often raw, unstructured, and complex (Xu, Frankwick, & Ramirez, 2016). The challenge is how to make data relevant and insightful for strategic marketing purposes. In other words, someone has to make sense of the data before it can be useful for decision making.

ANALYTICS AND MARKETING

By most accounts, the field of business analytics started in the 1950s with new tools available to collect large amounts of data and derive patterns of behavior that humans were incapable of processing in a short period of time (Davenport, 2013). Specifically for marketing, the Ford Foundation and the Harvard Institute of Basic Mathematics for Applications in Business were the impetus for the application of analytics to the field of marketing (Winer & Neslin, 2014). At this point in time, marketing was recognized as a field of decision making. This led to the creation of the Marketing Science Institute in 1961 (Wedel & Kannan, 2016; Winer & Neslin, 2014). For further reference, Wedel and Kannan (2016) provide an excellent time line on the progress of data-driven analytics in marketing.

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The introduction of the World Wide Web in 1995, as well as the subsequent growth of digital technology, led to massive amounts of clickstream data. Big Data is defined as "techniques and technologies that make handling data at extreme scale affordable" (Hopkins & Evelson, 2011, p. 4). However, the Big Data revolution goes beyond emphasizing data magnitude and volume. Big Data is about data analytics—generating and/or deriving insights (Xu et al., 2016). Data analytics become synonymous to "business analytics" when applied to the business environment (Aasheim et al., 2015). The scope of business analytics emphasizes how an organization uses collected data to grow productivity, gain customers, develop customer relationships, and enhance profitability as well as innovation (Manyika et al., 2011).

Academic Challenges

The emergence of business analytics as a growing field of study has led to marketing educators making academic changes in response to the need for data-savvy professionals (Aasheim et al., 2015). The growth and importance of business analytics underscore the critical academic challenges facing marketing education: employer demand and relevant skill sets.

First, there is an apparent shortage of available talent in business analytics. In 2011, McKinsey & Co. estimated a shortage of employees with deep analytical skills at 140,000–190,000, as well as a shortage by 2018 of 1.5 million managers/analysts with the know-how to use Big Data (Manyika et al., 2011). Recently, an article in *Forbes* reported research by Trilogy Education, using the database created by Burning Glass, identifies data analysis as the most in-demand skill among today's employers (Kauflin, 2017).

Second, we must raise the issue of preparing marketing students for analytics. According to a study sponsored by MIT's *Sloan Management Review*, in collaboration with IBM Institute for Business Value, the leading obstacle to analytics is the "lack of understanding of how to use analytics to improve the business . . . Executives want better ways to communicate complex insights so they can quickly absorb the meaning of the data and take action" (LaValle, Lesser, Shockley, Hopkins, & Kruschwitz, 2011, p. 23).

A GUIDE TO THE INTEGRATION OF BUSINESS ANALYTICS

According to Moorthy (2015), the epicenter of data analytics has shifted from the IT department to core business functions such as marketing. While it is evident that the Big Data revolution is now rooted in the practice of marketing, the integration of business analytics in marketing education has been sporadic at best (Spiller & Tuten, 2015). For example, analytics is more prominent in social media–related courses compared to other marketing courses (Brocato, White, Bartkus, & Brocato, 2015; Spiller & Tuten, 2015). Consequently, it is incumbent on marketing academics to respond promptly to the challenges discussed earlier. For the marketing discipline, the response may involve a reevaluation of the scope of marketing education. Hence, our purpose here is to outline several ideas in the development of analytics as a critical contemporary topic for marketing education.

Helping Faculty

A significant proportion of today's marketing faculty received their academic training prior to the era of Big Data. As a result, for some of these faculty members (i.e., mostly senior-ranked marketing faculty), the lack of familiarity has led to minimal interest to present analytics in the classroom. Also, junior faculty members are less inclined to incorporate analytics in their classrooms because academic promotion is largely contingent on research rather than teaching, let alone curriculum development. Innovative teaching and/or the introduction of new topics in one's course is not necessarily rewarded. Therefore, it is hardly surprising to find resistance to learning, innovating, developing analytics, and then integrating the subject into the marketing curriculum.

To get faculty onboard with the integration of analytics into the marketing curriculum and/or courses, we must find ways to facilitate, and, to some degree, expedite, the integration process. We believe that an initial step is the careful adoption of updated textbooks that include analytics in various chapters. For example, in the recent edition of *Marketing* by Hunt, Mello, and Deitz (2018), we note a concerted effort by the authors to introduce analytics in most of the chapters as well as in the student homework exercises.

Faculty can also enhance the integration process by supplementing their lectures with analytics-related examples and cases. Participation in teaching and case conferences provides opportunities for sharing and exchanging marketing course and curriculum ideas. In addition, we encourage our colleagues to share materials that they have used in the classroom through blogs or other digital forms of communication. Last, while research in the area of integrating analytics into marketing courses and curricula has been sparse, we notice a recent growth in various types of research publications. For example, Corrigan, Craciun, and Powell (2014) developed an interesting case study on how Target utilized customer analytics focused on data mining, consumer behavior patterns, and privacy issues to make decisions. Marketing faculty can also learn from the published experiences of other instructors. Atwong (2015) outlines a social media practicum designed to provide experiential learning in social media marketing and analytics.

Expose Students to Google Analytics and Other Learning Tools

An effective means to expose marketing students to analytics is through Google Analytics. Google Analytics is a free service provided by Google that tracks as well as records website activity. It provides website administrators with insights about how many people visited the website, how many interacted with links, and so on. Google Analytics Academy "helps you learn about Google's measurement tools so that you can grow your business through intelligent data collection and analysis" (Google Analytics Academy). An instructor may direct students to sign up for free learning sessions with Google Analytics Academy as part of the required activities for the course.

There are several other business-analytics learning tools available to students and faculty. Shanda, Asamoah, and Ponna (2013) provide an excellent summary of these tools. Of particular interest is Teradata University Network (PUN, 2018). PUN is a free, web-based portal that provides students exposure to relevant business trends through hands-on software experiences and case studies about some of the world's largest companies.

Reevaluating the Scope of Marketing Research

In 1995, Krehbiel et al. (1995) urged that "marketing education needs to reflect changes in the information environment by updating the forms of analysis taught in marketing research courses and used on commonly available marketing data" (pp. 12–13). More than two decades later, Krehbiel et al.'s (1995) admonition is more relevant than ever. Marketing research needs to emphasize analytic methods and analytic logic. Wedel and Kannan (2016) provide an excellent framework that synthesizes key marketing topics (i.e., marketing mix, CRM, personalization, privacy, and security) with analytical methods. Their synthesis reinforces the importance of *marketing analytics* where the collection, management, and analysis of data are critical to enhancing marketing performance, return on investment, and control.

Course Development

A course in marketing analytics adds a completely new dimension to the marketing curriculum. It brings the mathematical, statistical, and analytical side of marketing into play—a side that many programs do not offer today. A course in marketing analytics can complement traditional marketing coursework immensely because it would include metrics, evaluation, and control—all elements essential to strategic marketing processes. Courses in marketing analytics focus on research methods in the broader context of strategic and tactical marketing planning. The main goal would be to offer courses that aid students in understanding marketing efforts and outcomes from the standpoint of performance measurement.

Collaborative Teaching

As noted earlier, a large number of marketing educators had minimal, if any, training in analytics within the context of 21st-century Big Data. In the past, data analysis was considered part of either a statistics or a marketing research course (Krehbiel et al., 1995). But to truly optimize the value of data, an interdisciplinary approach that includes mathematics, statistics, econometrics, psychometrics, psychology, and computer science may be necessary. Therefore, it may be time to cross departmental and/or functional lines to provide marketing students with the necessary academic training to be competitive in the business arena.

Curriculum Integration

Most B-schools and marketing departments have business advisory boards. These boards serve as the primary conduit between the university and industry. They typically offer insights on marketplace and employment trends as well as feedback on the caliber of an institution's graduates. Advisory boards are often eager to provide assistance, particularly when it comes to curriculum development. Perhaps the advisory boards can assist in conducting curriculum audits. In doing so, both practitioners and marketing academics would be able to match marketing coursework with the analytic skills and competencies sought by prospective employers. For example, in the case of a regional state university in Texas, this type of dialog led to the modification of the core requirements in the B-school curriculum to include a general business analytics course. In the case of a private university in New Jersey, the advisory board helped the marketing department refocus its approach to market research and to expand its reach, resulting in the creation of marketing metrics courses at the undergraduate and MBA levels. The board members also participate actively in assisting the said department, and the B-school, in implementing its mission of transforming concepts into business practice. Their ongoing participation is not limited to guest lecturing about their expertise or experiences. Rather, the advisory board members come in to advice student projects so that the deliverables are consistent with what the real world expects.

We want to end this section by addressing marketing metrics. Marketing metrics are the tools that measure the impact of marketing activities. Beauchamp and Bobbitt (2010) provide directives on which metrics ought to be covered in different courses. The authors developed these directives based on their research on the implementation of metrics across various marketing courses, such as Principles of Marketing, Product Management, Promotions, and so on. Relatedly, to respond to the popularity of digital and social media, Spiller and Tuten (2015) offer suggestions on how to infuse quantitative analytics in marketing courses using social media metrics. We believe that offering courses in marketing metrics benefits not only students once they enter the corporate world but also the institution's programs. With courses in marketing metrics, students will be a step ahead of other job candidates who may not have learned the importance of evaluating marketing and business analytics in school (Lozada, 2017).

MER SPECIAL ISSUE

When we proposed this special MER issue our intent was to trigger a substantive discussion about how business analytics has been integrated into the marketing curriculum. We wanted to learn from experts and from the experiences of marketing colleagues. To accomplish this goal, we include five articles in this Special Issue.

To start our discussion on business analytics in the marketing curriculum, Dan LeClair's article provides a prescriptive approach. As a business-education expert and a member of the AACSB Executive Leadership Team, LeClair offers eight recommendations on integrating analytics across four parts of the marketing curriculum: content, pedagogy, structure, and purpose.

In keeping with LeClair's recommendations, the other articles in this Special Issue reflect integration applications across four parts of the marketing curriculum. Liu and Levin utilized a progressive approach to address content and pedagogy. They investigated the lack of systematic teaching of analytics across the marketing curriculum. To fill this gap, Liu and Levin introduce a progressive approach to teaching analytics across different marketing courses, focusing on program-wide curriculum mapping and design.

Focusing on content, Liu and Burns applied text-mining techniques to integrate insights from marketing practitioners and professors to design a marketing analytics course. Their insights focused on how marketing educators can help develop the relevant analytical skills that employers desperately seek. Liu and Burns provide specific topics that their research underscored as essential in the coverage of marketing analytics courses. Their intent is to add the most value to undergraduate students majoring in marketing.

Two articles emphasize the structure and purpose of analytics in the marketing curriculum. Houghton, Schertzer, and Beck discuss the efforts their institution followed to respond to employers' demands for marketing analytics skills. Their efforts resulted in the design and introduction of an MS program emphasizing customer analytics—a program primarily driven by the input provided by their employer base. Houghton, Schertzer, and Beck also discuss how they were able to identify the characteristics and skills sought by employers to fill positions in marketing analytics.

Likewise, Wilson, McCabe, and Smith document the events, processes, and outcomes of curriculum innovation for a marketing department seeking to respond to

the demands of the industry. In doing so, they address the critically important marketing analytics skills gap. The authors utilized the curriculum innovation framework by Borin, Metcalf, and Tietje (2007) and case-study research methods to highlight the curriculum innovation process. Wilson, McCabe, and Smith provide academic insights that are translatable to other institutions.

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