

# The State of Digital Marketing in Academia: An Examination of Marketing Curriculum's Response to Digital Disruption

Ryan Langan<sup>1</sup>, Scott Cowley<sup>2</sup>, and Carlin Nguyen<sup>3</sup>

## Abstract

Recent advances in technology have affected nearly every facet of marketing. However, less is known about the degree to which marketing education has responded to shifting capabilities and practices. To this end, the current research conducts a systematic analysis of all 529 domestic AACSB undergraduate marketing programs to understand how digital marketing courses have been incorporated into marketing program curricula. We find a broad range of digital marketing courses adopted in a majority of business schools, and that adoption varies by institution type. We find that digital marketing courses, especially analytics, are becoming requirements for marketing degrees with many schools creating opportunities to specialize. Informed by these findings, we propose a framework of stages for marketing programs to adopt a digital marketing orientation. Collectively, this research is designed to provide a comprehensive look at the current state of digital marketing in the marketing education landscape.

## Keywords

digital marketing, social media marketing curriculum, digital marketing curriculum, digital marketing orientation, digital marketing review, digital marketing education

Today's increasingly digital environment has revolutionized how businesses operate and led to a fundamental shift with regard to how companies and consumers interact with one another. For companies, the ability to collect abundant, detailed information about consumers, competitors, and the market overall has affected all aspects of the marketing mix. According to Adidas CEO, Kasper Rørsted, "Digital touches our company at every point along the value stream—how we design, develop, manufacture, and sell our products" (Adidas, 2017).

To successfully compete in this digital era, practitioners must be digitally savvy and analytically proficient (Grewal, Roggeveen, & Shankaranarayanan, 2015), requiring a shift in the knowledge and skills desired by employers (Schlee & Karns, 2017). Despite ongoing efforts by colleges and universities to update their curricula, the scale and speed of innovation has led to a substantial shortage of digitally equipped marketers (Royle & Laing, 2014). In a recent survey and assessment of nearly 1,000 marketers in U.S. and U.K. companies, only 8% were able to demonstrate entry-level digital marketing skill, while more than two thirds recognized their need to improve digital marketing skills in order to remain competent in their current roles (O'Brien, 2016). The report points at the role of universities in contributing to this skills gap, noting, "Traditional marketers are struggling to upskill, marketing graduates have studied a

syllabus that doesn't include digital techniques, and digital professionals have inconsistent abilities due to a lack of standardized skills training" (p. 19). While some have argued that a university's marketing education should be measured on its theoretical outcomes (Petkus, 2007) or that a professional training focus should only be considered by some schools (Schibrowsky, Peltier, & Boyt, 2002), the high demands for professionally relevant, technical knowledge are forcing universities to reconsider their approach to training as an existential matter of relevancy (Schlee & Harich, 2010) as more corporations like Google and IBM make headlines for eliminating college degree requirements for hiring (Glassdoor, 2018).

Recognizing the potential inadequacy of the existing marketing curricula, Wymbs (2011) first proposed a framework for redesigning curricula to include digital marketing. More recently, Rohm, Stefl, and Saint Clair (2018) argue for the

<sup>1</sup>University of San Francisco, San Francisco, CA, USA

<sup>2</sup>Western Michigan University, Kalamazoo, MI, USA

<sup>3</sup>California State University, Los Angeles, Los Angeles, CA, USA

## Corresponding Author:

Ryan Langan, School of Management, University of San Francisco, 2130 Fulton Street, San Francisco, CA 94117-1080, USA.

Email: rjlangan@usfca.edu

benefits of a digital-first curriculum in direct response to the digital skills gap. Research has made similar cases for curriculum reform in analytics (McLeod, Bliemel, & Jones, 2017; Wilson, McCabe, & Smith, 2018; Wymbs, 2016), integrated marketing communications (Kerr & Kelly, 2017) and marketing metrics (Spiller & Tuten, 2015). Common among each of these articles is the call for a greater number and array of digital marketing courses, yet a clear understanding of the extent to which digital content is currently reflected in marketing curricula remains notably absent. To this end, our research is centrally guided by the following research question: To what extent are business schools currently offering and emphasizing digital marketing training in undergraduate marketing programs?

In this research, we conduct the first comprehensive review of digital marketing course adoption across all U.S. undergraduate marketing programs accredited by the Association to Advance Collegiate Schools of Business (AACSB) to gain insight into how digital training, in the forms of elective offerings, major requirements, and specialization options, has been incorporated into the marketing curricula. Furthermore, this is the first research that brings together the study of digital marketing, social media, analytics, and other digital technologies in business education with information about who is tasked with teaching these courses. We also use historical data to understand the incorporation of digital marketing into core marketing degree requirements over time. Informed by these findings, we propose a framework depicting stages of digital marketing orientation. Collectively, this research provides a comprehensive look at the current state of digital marketing in the marketing education landscape and provides guidance for marketing program development.

## Digital Marketing Curricula

In the current research, we adopt a broad view of digital marketing, defining it as “the use of digital technologies to create an integrated, targeted and measurable communication which helps to acquire and retain customers while building deeper relationships with them” (Wymbs, 2011, p. 94). Digital marketing includes the use of *devices* such as personal computers, tablets, and mobile phones to access consumers through *platforms* (Chaffey, 2018). Digital marketing also leverages *digital media*, which may be characterized as owned, paid, and earned media (Lovett & Staelin, 2016). Digital marketing courses often survey all three media forms, or may focus on one, such as digital advertising.

The assemblage of technologies, devices, platforms, and media gives rise to another important aspect of digital marketing—*data*. Defined simply as “individual facts, statistics, or terms of information,” data are used in marketing to gain insights into consumers, competitors, the company, and the company’s operating environment. From a curricular standpoint, this broad view of digital marketing views topics such

as social media, mobile marketing, analytics, e-commerce, e-mail marketing, marketing software, and customer data mining as “digital marketing” topics to integrate into the marketing curricula.

Prior research examining the topic of digital marketing curricula has varied in its scope of analysis. For example, Roberts, Rains, and Perry (2012) explore the adoption of a digital curricula through the lens of technology, marketing, and law, offering evidence that marketing is the most affected by a digital climate. Focusing exclusively on the marketing curricula, Wymbs (2011) first advanced an argument for a digital marketing major and proposed a plan for its design. Parker (2014) outlines the experience of developing an early interdisciplinary digital marketing major.

Research has also examined the inclusion of social media into the marketing curriculum (Dickey & Lewis, 2010). Muñoz and Wood (2015) provided an initial look at how social media is being integrated into marketing departments as courses, specializations, and as topical content in nondigital classes using a survey of instructors. A systematic review of 90 social media syllabi by Brocato, White, Bartkus, and Brocato (2015) details some of the common objectives, topics, pedagogical approaches, assessment measures, and digital tools being employed by social media instructors.

Within the domain of digital marketing curricula, prior research has also explored the topic of analytics education in other disciplines (McLeod et al. 2017). Wymbs (2016) finds that most of the analytics programs are being offered by business departments (31%), followed by computer science (21%), and math and statistics (14%). It is also noted that while an interdisciplinary approach to offering analytics curriculum is rare (7%), this approach is expected to become more common (Wixom et al., 2014). Kerr and Kelly (2015) demonstrate a global consensus that digital technologies and analytics should be incorporated into marketing curricula, with Spiller and Tuten (2015) demonstrating how analytics from social media could be incorporated into many traditional marketing classes. Recently, Wilson et al. (2018) provided a template case for creating a dedicated marketing analytics course.

While each of these studies have significantly advanced our understanding of how marketing curricula can work toward closing the digital divide, the extent to which marketing programs integrate digital marketing education into the program course structure remains unknown. In this research, we provide a comprehensive, systematic analysis of all 529 domestic AACSB programs to ascertain the adoption of digital marketing courses and the job status of those assigned to teach them, bringing together general digital education, social media, analytics, and other digital-oriented topics. We use historical data to understand how schools have added digital marketing to their core requirements. We draw from these data to analyze how offerings vary across important school attributes (e.g., school size, public vs. private, region).

Finally, we propose a framework process for the development of a digital marketing orientation in the business school.

## Methodology

To investigate the state of digital marketing in U.S. undergraduate curricula, we used a systematic approach involving the collection of predetermined information from AACSB-accredited business schools. In total, we collected data from all 529 domestic AACSB-accredited college and university websites to understand current practices in digital marketing course offerings, requirements, and specializations.

### Search Procedure and Inclusion Criterion

Two members of the research team collected data from 529 AACSB-accredited colleges and universities. To ensure data collection accuracy, a detailed search protocol was established outlining the type of data that was to be collected (see variables of interest below). After collecting data from 50 schools, a cross-validation of data was conducted. Each researcher collected data from the 25 schools that had previously been assigned to the other researcher. Results from this cross-validation yielded an interrater reliability of 96% (Krippendorff, 2004). A subsequent discussion of the discrepancies found that most of the variance stemmed from varying approaches regarding whether or not to *study abroad* and *independent study* courses should be counted as unique marketing classes. Once the discrepancies were resolved and the reliability of the search procedure and documentation process was established, the remaining 504 universities were divided between each data collector. Each data collector recorded the URL (website address) of the course catalog as well as the date accessed. This is important because a school's curriculum may change each semester, thereby affecting the number of digital and nondigital courses offered.

### Data

The data collectors visited the college/university websites to retrieve information related to each of the following variables of interest.

*Marketing program:* We define a marketing program as any business school that provides the option to specialize in marketing with at least one required marketing course as part of an undergraduate business degree. Thus, we excluded schools with only a marketing minor. We find that 52 out of 529 schools (9.8%) do not offer a marketing program, leaving a samples size of 477 schools.

*Required courses:* We recorded whether students are required to take a digital marketing course as a requirement to obtain a general marketing degree—a standard offering within marketing programs.

*Elective courses:* We recorded the names and course numbers of any courses related to digital marketing, for example, e-commerce, social media, analytics, marketing software and automation, search marketing, and so on.

*Specialization:* We documented whether the business school offers a specialization option—digital marketing major, minor, track, emphasis, concentration, or certificate program.

*Marketing course offerings:* We recorded the total number of unique marketing course offerings.

Additional sources were used to collect information related to the following variables of interest:

*Enrollment size:* The number of students enrolled (i.e., student population) at the university. Data collected from the Carnegie Classification of Institutions of Higher Education.

*Type of institution:* Universities classified as either a *public* or a *private* institution per AACSB. Data collected from the Carnegie Classification of Institutions of Higher Education.

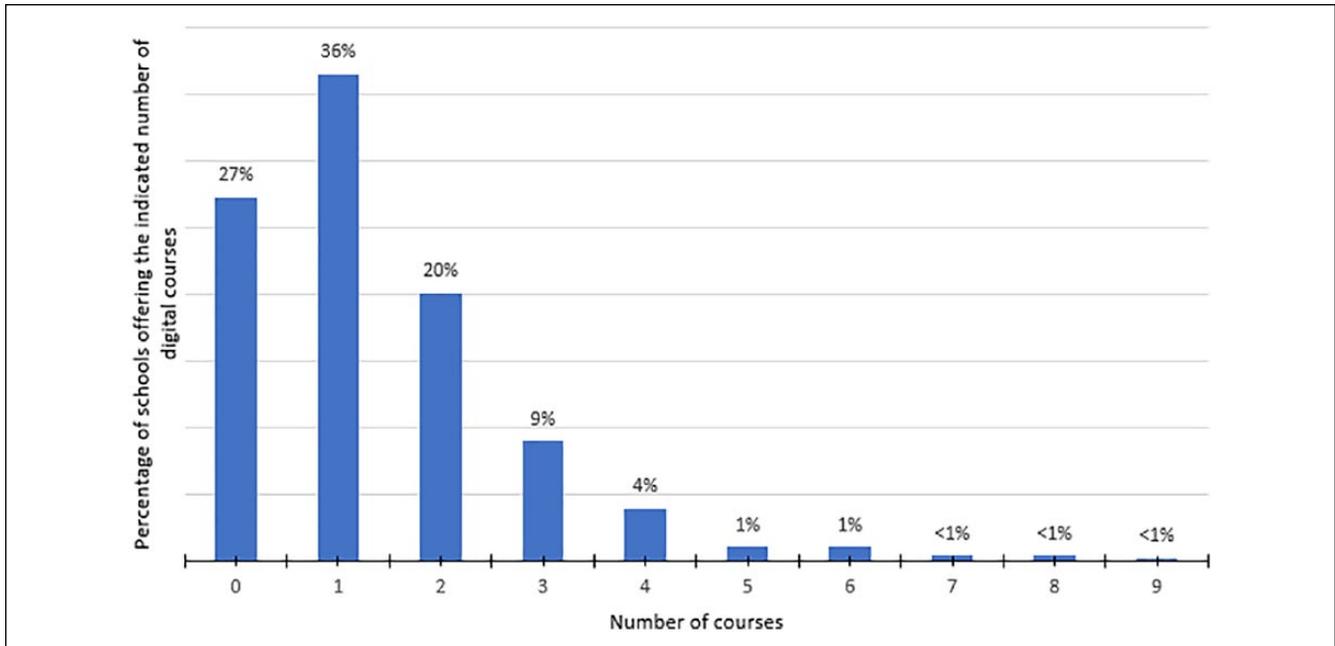
*Region:* Location (region) of the university within the United States. Each university was classified as *Northeast*, *Southeast*, *Southwest*, *West*, or *Midwest* per AACSB. The states located within each region were assigned using the National Geographic Regions Classification (National Geographic, 2012).

*Carnegie classification:* Refers to the Carnegie Classification of Institutions of Higher Education. There are 11 classifications such as *Master's Colleges and Universities: Small Programs* and *Baccalaureate Colleges: Diverse Fields*. For a full list of the classifications, please refer to Appendix A. Each of these universities can be subdivided into three major categories: baccalaureate, masters, and doctoral universities.

*Digital marketing jobs:* The number of entry-level, full-time jobs available within the state where each university is located. Please note that these data were captured through Monster.com using the search keyword "digital marketing." The results were filtered by entry-level, full-time positions only as these are likely the jobs available to new college graduates.

## Findings

Based on our analysis of data collected from 477 business school websites, we find that 347 schools (73%) offer a digital marketing course, with a range of zero to nine digital marketing course offerings (see Figure 1). Within this range, we find that a full 27% ( $n = 130$ ) of schools with a marketing program do not offer a digital marketing course of any type. For those schools that do offer a digital marketing course(s), the majority (36.4%) offer a single digital marketing course



**Figure 1.** Number of digital course offerings per institution.

( $n = 174$ ). The remaining 36.2% ( $n = 173$ ) of programs offer two or more courses.

When we exclude those institutions that do not offer a digital marketing class, results show that schools offer an average of 1.92 digital marketing courses. For 47 institutions, digital marketing represents a required course for a general marketing degree or emphasis. Recast, approximately 1 in every 10 schools with a marketing program requires digital marketing in their core marketing curriculum.

Our findings also reveal a wide array of digital course names, with a total of 229 unique digital marketing course titles (see Appendix B). This total does not include variants of the same course name. Social media marketing, for example, is represented in course titles as social media marketing strategy, social media strategies, social media in marketing, social media for marketing, social media: a marketing perspective, social media and marketing, special topics in social media, and marketing with social media. In our listing of 229 unique digital marketing course names, each of these variations of social media marketing are classified as one social media marketing course. The top five most common unique digital marketing courses offered at universities and colleges, along with the respective percentage of marketing programs offering the course, are as follows: social media marketing ( $n = 76$ , 16%), digital marketing ( $n = 75$ , 16%), marketing analytics ( $n = 70$ , 15%), Internet marketing ( $n = 41$ , 9%), and electronic or e-marketing ( $n = 35$ , 7%).

Further inspection of the 229 unique digital marketing course titles reveals a subset of common topic areas. For example, the courses titled “Advanced Research and Analytics” and “Analytics for Marketing Decisions” can be

categorized into the topic of “analytics.” We find that the majority of digital course titles can be classified into one of the following seven distinct topic areas: Digital, Internet, and E-Marketing (31%), Analytics & Insights (29%), Technology & Apps (9%), Social Media (8%), Mobile Marketing (2%), Content Marketing (1%), and combination courses, such as “Social Media and Marketing Analytics” (13%).

This research also finds digital marketing course offerings extend beyond marketing majors. At some institutions, digital marketing serves as its own major, minor, emphasis, track, or concentration (Table 1). Results show that for institutions offering specialized digital marketing programs, the use of concentrations ( $n = 17$ ), tracks ( $n = 13$ ), and areas of emphasis ( $n = 13$ ) are most common. Similarly, institutions also offer certifications in digital marketing, analytics, and social media.

### Digital Marketing as a Required Course

Among all undergraduate marketing programs that offer at least one digital marketing course, 52 schools (15%) require at least one digital marketing course as part of the program’s core marketing degree requirements. Marketing analytics is the most frequently required course, appearing in the marketing major requirements of 22 schools or 6.3% of marketing programs that offer a digital marketing course. A digital marketing survey course is required in 19 schools (5.5%), and a social media course is required by just 7 schools (2%). E-commerce and combination digital-social courses are required courses at two schools apiece.

**Table 1.** Digital Marketing Specialization Options in Undergraduate Marketing Programs.

Course	Major	Minor	Concentration	Certification	Specialization	Focus	Track	Emphasis	Total
Digital marketing	4	5	9	4	0	2	4	6	34
Analytics	3	4	4	3	2	0	3	5	24
Social media	0	0	2	2	0	0	1	0	5
E-commerce	1	1	2	0	0	0	2	0	6
Other	1	0	0	0	1	0	3	2	7
Total	9	10	17	9	3	2	13	13	76

Note.  $N = 477$  undergraduate marketing programs.

Our findings also reveal variance between the degree to which digital courses are offered as electives and those required for marketing majors. For example, we observe that among schools with marketing programs, 266 schools (55.8%) offer courses with “digital marketing” in the course title (or a close variant) and 138 (28.9%) offer a course that contains “marketing analytics.” However, there are 22 schools that require a marketing analytics course (4.6%) and only 19 that require a digital marketing course (4%). Similarly, 133 schools offer a social media course (27.9%), yet only 7 (1.5%) require it for marketing-degree seekers. Thus, when the ratio of schools requiring digital to schools offering a digital course topic are compared, marketing analytics has the highest rate of requirement (16%) compared with digital marketing (7%) and social media (5%).

Using each school’s online archive of official course catalogs and bulletins, we constructed a historical timeline to chart the addition of these courses to the official core marketing requirements, based on the course catalog year when the digital course first appeared in the list of required courses. Our analysis shows that among schools requiring marketing majors to take some digital marketing course, 77% added this requirement within the past 5 years (beginning in 2013). When looking at differences between digital marketing topics, we observe that 84% of schools requiring a digital marketing survey course added this to the requirement list within the past 5 years, compared with 86% of social media courses and 73% of marketing analytics courses. We suggest a partial explanation for the addition of marketing analytics in that 9 of the 22 schools requiring a marketing analytics course originally required a market research course and merely changed the course name to marketing analytics (based on course number consistency). While the overall proportion of schools requiring digital marketing courses is still relatively small, and thus not a foregone indication of system-wide adoption, the recency of these changes is consistent with broader shifts in the marketing education landscape and suggests a greater emphasis on digital to come.

### Digital Marketing Instruction

To assess who is teaching digital-related marketing courses, we collected data from a randomized subset of schools that

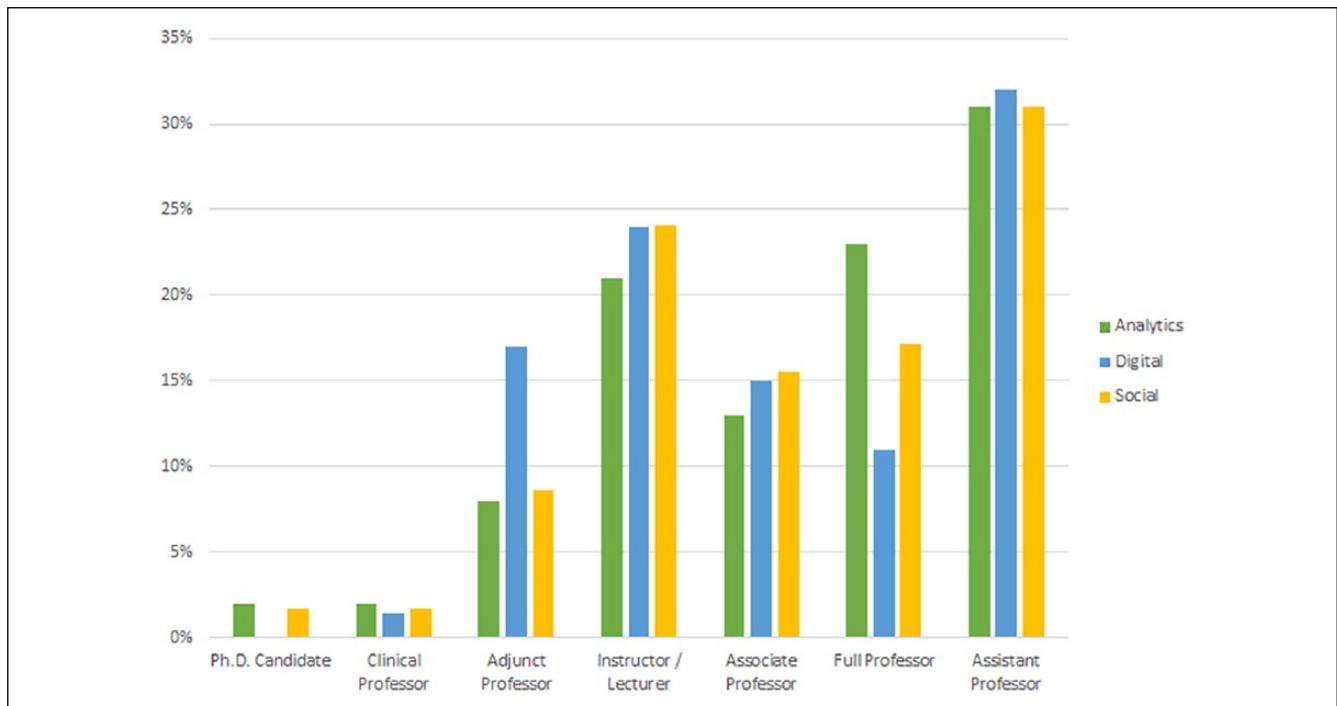
offer one or more digital marketing related courses ( $n = 105$ ) to determine if the person teaching the course(s) is a PhD candidate, adjunct professor, clinical professor, instructor or lecturer, assistant professor, associate professor, or full professor (see Figure 2). Using instructor profile websites and contacts made directly to the department, we collected instructor name and title for courses in three broad topical areas (analytics, digital marketing, and social media marketing) to see if notable differences exist among the topic areas. A total of 183 positions were collected within each of the topic areas: analytics ( $n = 52$ ), digital marketing ( $n = 73$ ), and social media marketing ( $n = 58$ ).

Given the perceived technical proficiency needed to teach digital-related marketing courses and the rapid pace with which these courses evolve, it would not be unreasonable to assume that these courses are disproportionately taught by practitioners operating as adjunct professors. Contrary to this supposition, our results show that assistant professors make up the largest percentage of job titles for all three topic areas. Notably, however, adjunct professors do tend to teach a greater proportion of digital marketing courses relative to analytics and social media marketing.

### Number of Unique Digital Courses

In response to the digital marketing skills gap, it seems that the majority (72%) of the 477 AACSB universities with marketing departments offer at least one digital marketing course. This is a positive step toward enhancing the employability of students for digital marketing jobs. Despite the efforts among universities to offer digital topics such as marketing analytics and digital marketing, students still lack the requisite skills to compete in the digital marketplace. According to Frederiksen (2015) additional topics in digital marketing, such as search engine optimization, social media, and content marketing, are required to sufficiently equip and prepare students with the requisite digital skills, knowledge, and abilities.

As a result, we explored the factors that affected the number of unique digital course electives offered among universities. The number of unique digital courses offered by each university represents the breath of digital marketing topics provided. We assume that universities that offer a wider



**Figure 2.** Who teaches digital-related courses.

selection of digital marketing electives (i.e., number of unique digital marketing electives) are more likely to prepare digital marketing students for the workplace as they cover a wider range of digital topics. Note that although universities may offer multiple sections of the same course to meet student demands based on enrollment, we were unable to capture these data (number of sections) through publicly available information.

### Model and Measures

We conducted a multiple regression analysis to test whether the university- and environmental-related factors influenced the number of digital marketing course offerings among each university. The dependent variable is *digital marketing electives* (metric). The independent variables are *Type of institution* (0 = private; 1 = public), *region* (1 = Northeast; 2 = Southeast; 3 = Southwest; 4 = West; 5 = Midwest), *Carnegie classification* (1 = master's; 2 = doctoral; 3 = bachelor's), *required courses* (0 = digital not required; 1 = digital required), *marketing courses* (metric), and *digital marketing jobs* (metric). We also controlled for *enrollment size* (metric) as the number of students may differ among various universities.

### Results and Discussion

The description of the sample is provided, including the means, percentages, and counts of the variable studied (see Tables 2 and 3). Please note that two universities that

were classified as either “Associate’s Colleges: High Career and Technical–High Tradition” or “Special Focus Four-Year: Business and Management Schools” under the Carnegie Classification of Higher Education were excluded in the analysis due to the small group size. In addition, we were unable to verify whether a digital course elective was required for one university so it was also not included in the analysis.

The regression analysis results show a good fit between the data and the model ( $F = 36.62, p \leq .001$ ; see Table 4). The model accounts for approximately 22% of the variability in the number of unique digital marketing courses among each university. The multicollinearity tolerance statistics for each predictor variable is greater than .6 and the variance inflation factor (VIF) indicator statistics is less than 1.5. Taken altogether, these results suggest a low probability of multicollinearity.

**Type of Institution.** The regression results show that public universities offer less digital marketing elective courses than private universities. A closer inspection of the means reveals that private universities ( $M = 1.52$ ) offer slightly more digital marketing courses than public universities ( $M = 1.34, t(475) = 1.25, p < .01$ ). The Cohen’s  $d$  statistic (effect size) is .12 (small). One explanation for these findings is that faculty at private universities are able to teach multiple preps of digital marketing courses due to the smaller student population:  $M_{\text{private}} = 9,032$  vs.  $M_{\text{public}} = 17,212, t(474) = 7.66, p < .001$ . Indeed, we find a significant interaction between

**Table 2.** Continuous Measures Used.

Measure	M	SD	Minimum	Maximum
Digital marketing electives	1.39	1.40	0	9
Marketing courses	14.20	6.18	1	51
Digital marketing jobs	474.34	532.18	9	1,930
Enrollment size	14,789.16	11,264.90	395	60,767

**Table 3.** Dummy Variables Used.

Variable	Sample (%)	n
Type of institution		
Private	29	141
Public	70	336
Region		
Northeast	21	101
Southeast	32	151
Southwest	10	46
West	15	71
Midwest	22	108
Carnegie classification		
Master's	46	220
Doctoral	49	234
Bachelor's	5	21
Required courses		
Digital elective not required	90	428
Digital elective required	10	48

enrollment size and type of institution ( $\beta = -0.00005$ ,  $p < .01$ ), which suggests that more digital marketing electives are offered at private universities with larger student populations than those offered at public universities. To illustrate, assuming that the teaching load is equal between both private and public universities, due to the larger enrollment size, faculty at public universities may have to teach multiple preps to accommodate the larger student population, whereas faculty at private universities can focus on offering additional preps (courses) as multiple sections of the same course may not be necessary.

**Required Courses.** The results indicate that marketing programs that require a digital marketing course in the curriculum offer more digital marketing electives than those universities without the requirement. One explanation is that universities that require digital marketing may be more committed to offering students the breadth and depth of knowledge and training (through a variety of digital marketing electives) necessary to prepare for entry-level digital marketing jobs. Alternatively, this requirement may be the impetus that stimulates the interest and demand for additional topics among marketing students, which then drives the curriculum development.

**Marketing Courses.** The regression results show a significant relationship between the number of digital marketing courses and the number of (nondigital) marketing courses, when controlling for all other factors. The data suggest that universities that are innovative, by way of offering many unique marketing courses, are also likely to offer more digital marketing courses than those universities that are not as progressive. Interestingly, we regressed the number of digital marketing courses (independent variable) on the total number of marketing courses (dependent variable), controlling for enrollment size, type of institution, and curriculum. We find a significant relationship,  $F(4, 471) = 63.57$ ,  $p < .001$ , adjusted  $R^2 = .35$ , between the total number of marketing courses and the number of digital marketing electives ( $\beta = 0.10$ ,  $p < .001$ ). These results suggest that digital marketing electives are added onto other marketing-related courses, potentially increasing the number of preps and, thus, workload among marketing faculty and staff in the digital age.

**Region.** The regression results show no significant relationship between the number of digital marketing electives and region. In other words, universities in the Midwest, for instance, offer no more or less digital marketing electives than universities located in any other parts of the United States despite the fact that enrollment size varies among each region,  $F(4, 472) = 5.19$ ,  $p < .001$ .

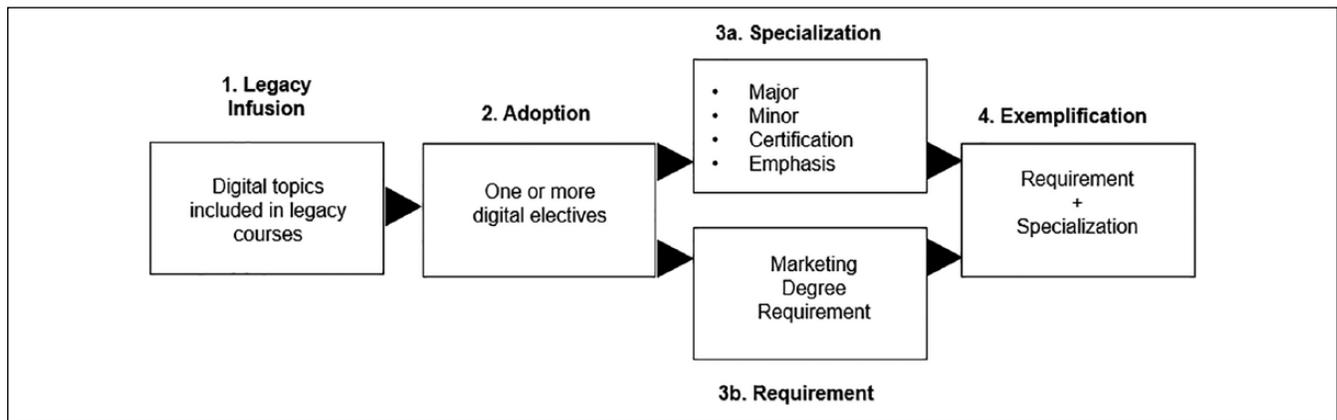
**Carnegie Classification.** The regression results show that the number of digital marketing electives offered by each university does not vary among bachelor, master's, or doctoral granting institutions, when controlling for all other factors.

**Digital Marketing Jobs.** The regression analysis did not reveal a significant relationship between the number of digital marketing electives and the number of full-time, entry-level digital marketing jobs available in the state where the university is located. This suggests that digital marketing elective offerings are not necessarily influenced by market demands such as the number of digital marketing jobs available. Stated differently, the results suggest that universities may not be responding to market demands by offering additional digital marketing jobs that provide the breadth and depth to compete in the digital marketing job market, thereby possibly widening the skills gap among college graduates.

**Table 4.** Regression on Digital Marketing Electives.

	$\beta$	Standardized $\beta$	$t$	$p$
Constant	0.30		1.15	.25
Required courses (not required)	1.13	0.24	5.94	.00
Type of institution (private)	-0.50	-0.16	-3.57	.00
Digital marketing jobs	7.50E-5	0.03	0.66	.51
Region (northeast)	0.03	0.03	0.64	.52
Enrollment size	2.44E-5	0.2	3.97	.00
Carnegie classification (masters)	-0.10	-0.04	-0.96	.34
Marketing courses	0.07	0.32	7.32	.00

Note. Dependent variable = digital marketing electives.  $R^2 = .229$ , adjusted  $R^2 = .218$ ,  $F(7, 466) = 19.80$ ,  $p < .0001$ .

**Figure 3.** Stages of digital marketing orientation.

### Stages of Digital Development

Our analysis of marketing programs and digital marketing courses suggests that business schools are varied in their investment in digital marketing education. This variability can be expressed along a continuum of stages (shown in Figure 3). We suggest that business schools seeking to deliver relevance and value to marketing students in their increasingly technology- and data-focused career paths, must deliberately develop a digital marketing orientation through their offerings. To do this, they should determine their current stage of orientation and the extent to which they can progress to the next stage. We will also illustrate how each stage of digital marketing orientation offers flexibility for schools to make within-stage progress.

The initial stage of digital marketing orientation is the *Legacy Infusion Stage*. In this stage, schools have no discrete courses in digital marketing. Rather, they have a core of legacy courses for marketing students. Some of these schools have determined that sufficient training in digital marketing can be obtained by teaching fundamental marketing courses infused with current business examples and topics. While this stage of orientation exhibits minimal digital marketing activity, schools can progress within the stage in two ways.

First, they can audit existing marketing courses to identify the current level of digital marketing topical coverage and enhance existing courses by bringing in more digitally oriented readings, cases, lecture examples, class exercises, assignments, and metrics (see Spiller & Tuten, 2015, for guidance). Second, they can consider whether a pragmatic modification to a legacy course title may be possible. In our business school data set, we observed the pairing of legacy and digital topics within the same course, for example, Marketing Strategy and E-Commerce. We caution, however, that institutional inertia may result in a legacy–digital course such as this being mistakenly oriented more toward the legacy topic than the digital one. Currently, 130 business schools (27%) are in this beginning legacy infusion stage. Indiana State University and the University of North Carolina at Asheville are two examples, as of this writing.

Schools that have at least one dedicated, but not required digital marketing course, with no options for students to formally specialize are in the *Adoption Stage*. We observed many schools offering one or more digital marketing electives across many different topics. While digital marketing training is provided as an option, it is not prioritized by the business school. In light of rapidly shifting business practices, schools with existing digital courses should frequently

evaluate those courses for the alignment of objectives with current practices and desired skills. Schools may also want to evaluate the utility of their current course names. For example, the title of a marketing course called "Internet Marketing" may be accurate, but according to Google search volume data, that term was supplanted in popularity and demand by the term "digital marketing" years ago in 2013, with search demand for "digital marketing" being seven times greater than "Internet marketing" in 2018, creating an image that perhaps the contents of the course are also outdated. Logically, schools should also consider whether they are able to add new courses to meet student and industry needs and fill gaps in their current instruction. Finally, they should review the feasibility of offering a specialization in digital marketing or in requiring a digital marketing course to be taken by all marketing students. A specialization, in some cases, does not need several new courses if some existing courses are coordinated to effectively teach digital principles to an appropriate breadth and depth. Schools in the adoption stage, offering some digital marketing courses, but not offering a specialization or requiring these courses comprise the majority, 254 schools (53%), of our sample. Belmont University offers a social media marketing course, while University of Houston offers an introductory digital marketing course, a social media course, and a search engine marketing course. Both of these are Adoption Stage institutions as of this writing.

Schools can choose two paths to better orient their curricula toward digital marketing in the third stage. *Specialization Stage* schools offer digital marketing courses as well as a way for students to formally specialize in a digital topic with a required combination of digital-oriented courses. *Requirement Stage* schools elevate the priority of digital marketing training by adding a digital marketing course to the degree requirements for all marketing students. Specialization comes in many forms. In our data set, we observed majors, minors, certifications, emphases, concentrations, and tracks. While definitions may differ between institutions, majors, minors, and certifications are more formal programs that typically require more credit hours while emphases and tracks are informal ways to suggest a combination of courses that be more preparatory for a desired career path than other combinations. Higher commitment options require resources, development, and reporting, though they typically deliver value by facilitating more personalized and targeted course experiences by more specialized instructors for a cohort of students. In some cases, schools choose a lower commitment option first to determine its viability before transitioning to a major or certification. Schools in the Specialization Stage should determine whether a marketing analytics or digital marketing requirement for all students would aid career preparation and other benefits such as program brand positioning, relative to the resource demands. Likewise, Stage 3 requirement schools that require a digital course for all students should consider enhancing their digital marketing orientation through specialization

options for career-motivated students. Many AACSB schools have already taken steps to develop competencies in Stage 3. We find that 54 schools (11%) choose to offer a specialization option but no digital marketing requirement for marketing students. Specialization Stage school Florida Atlantic University offers both minor and certificate options in digital marketing while Western Michigan University provides a way for students to major in digital marketing and e-commerce. In our sample, 38 schools (8%) require students to take a digital marketing course of some type but offer no specialization. One Requirement Stage school, Winthrop University, requires marketing students to take a Promotion Management and Digital Marketing course as part of its degree requirements while Christopher Newport University requires both a Marketing Analytics and Strategic Internet Marketing course, as of this writing.

The *Exemplification Stage* is characterized by both requiring digital courses for all students and offering opportunities to specialize. Among all schools, only 9 (1.9%) qualify for this stage, including University of North Georgia, James Madison University, and California State University, Los Angeles, as of this writing. These schools are those most likely to benefit reputationally from their program structure and offerings. Furthermore, they promote the best environment for a population of marketing students to manage changing industry conditions. Our findings provide some initial evidence that undergraduate marketing programs are making stage-by-stage progress toward becoming more digitally oriented, though deliberately prioritizing curriculum, courses, specializations, and requirements that integrate digital marketing topics.

## Discussion

As digital, mobile, and social technologies reach ubiquity, the world of business continues to undergo seismic changes in how consumers make consumption decisions and how marketers successfully reach their target markets. As a result, marketers are expected to develop knowledge and capabilities necessary to serve a digitized consumer or risk becoming individual contributors to a growing digital skills gap (General Assembly, 2018). Similarly, institutions of higher education face important development decisions about the extent to which they can and should adequately meet the demand for next-generation marketing training in the connected economy. Our research uncovers a variety of approaches being used by business schools in an effort to incorporate digital marketing and analytics into their course offerings, major requirements, and options for specialization. By comprehensively examining the inclusion and prioritization of digital marketing courses within undergraduate AACSB business schools, this research can provide guidance to schools and marketing departments in their efforts to create value and deliver relevance.

**Table 5.** Parsimonious Regression on Digital Marketing Electives.

	$\beta$	Standardized $\beta$	$t$	$p$
Constant	-1.48		-8.72	.00
Required courses (not required)	0.55	0.12	2.97	.00
Type of institution (private)	-0.43	-0.14	-4.05	.00
Enrollment size	1.24E-5	0.1	2.71	.01
Marketing courses	0.04	0.18	5.04	.00
Stage of Digital Marketing Orientation (Legacy)	1.117	0.66	15.86	.00

Note. Dependent variable = digital marketing electives.  $R^2 = .495$ , adjusted  $R^2 = .489$ ,  $F(5, 470) = 92.053$ ,  $p < .0001$ .

We find that a persistently large proportion of schools have no course offerings that explicitly address digital marketing or marketing analytics. In some regard, this is deeply concerning, as it suggests that accredited business schools of all sizes, including some larger programs, are failing to train marketing students for the realities of the business world and likely exacerbating the digital skills gap. While we recognize the possibility that some of these schools are choosing, instead, to integrate more digital topics within existing course offerings rather than offer specialized digital electives, this approach is problematic insofar as it may create unintended barriers for motivated students seeking out digital marketing training using course names as a straightforward heuristic. This may hinder both the school's ability to attract qualified students and its potential to efficiently help existing students plan for their desired careers.

For business schools that are still reticent or unable to introduce specialized digital marketing elective courses, our findings suggest that many other business schools are finding ways to update their course offerings to reflect digital realities, even when those schools are constrained by enrollment or resources. As a starting point, schools may consider modifying more traditional core marketing course content and titles to adopt a more digital context. We observe this in course titles such as "Marketing Strategy in a Digital World" and "Virtual and Physical Consumer Behavior." As instructors plan course content to align with this new focus, students benefit from an increased ability to detect relevancy in their choice of study. Schools may also consider whether an existing elective may provide more value for students by transforming into a dual-focus course that adopts a digital topic with natural synergies for the original course. For example, we observe multiple instances of schools transforming a marketing research course into "Marketing Research and Analytics." As industry advertisers shift spending to more digital channels, especially social media platforms, it is not surprising that we see course titles like "Advertising and Social Media" that capitalize on this trend without the necessity of a discrete social media course.

This research also provides insight into potential phases of development for business schools that offer undergraduate digital marketing electives and seek to expand the role of digital in the marketing curriculum. A digital marketing

survey course was the clearly most frequently offered digital elective across all schools. Two topics—marketing analytics and social media—were offered with equal frequency, either as standalone courses or included in the title of a related course. Schools going beyond these core digital offerings typically offer more specialized courses in digital topics such as e-commerce, mobile, search marketing, or visual media, or provide a specialized context in which to examine digital issues (e.g., health care, retail, entrepreneurship). These specialized courses help narrow the digital skills gap among college graduates (O'Brien, 2016). Thus, progressing through the stages of digital marketing orientation will help develop digitally prepared, work-ready individuals.

We incorporate the four stages of the digital marketing orientation into a regression model on the number of digital marketing electives. Table 5 shows the parsimonious model with the following significant independent variables: Required courses (0 = *digital not required*; 1 = *digital required*), type of institution (0 = *private*; 1 = *public*), enrollment size (metric), marketing (nondigital) courses (metric), and stage of the digital marketing orientation (1 = *legacy*; 2 = *adoption*; 3 = *specialization*; 4 = *exemplification*). This model can be used by universities and colleges to determine the average number of digital courses it should have compared with its peer universities. To illustrate, consider Boston College, which is a private university with 14,317 students. Boston College has 13 marketing (nondigital) courses, does not require a digital marketing course, and is considered to be in Stage 2 (adoption) of the digital marketing orientation. Based on the regression model, Boston College should have 1.45 digital marketing courses. In fact, Boston College has six digital marketing courses, which suggests that it is performing above average in offering a variety of courses to prepare students for the digital workplace.

The prioritization of digital electives across schools should consider the degree to which these courses are considered fundamental to the school's core marketing education. We find evidence that an increasing number of schools are mandating digital and analytics courses as part of the required course curriculum for their traditional marketing degree. Our analysis of the timing of these courses, which has evolved from elective to required, suggests that most were elevated in the past 5 years (beginning in 2013), even

though the marketing industry's shift toward digital predates this period by much longer (Hoffman & Novak, 1996). We expect to see an increasing incorporation of digital marketing courses into core marketing requirements as marketing departments gain confidence in their ability to delivering these electives consistently at a high quality level. Perhaps most interesting, however, is that among the required digital marketing courses, a marketing analytics course is required with the same frequency as a digital marketing survey course, and these courses are required much more frequently than a social media course. Thus, digital marketing courses are not being required in the same proportion in which they are being offered as electives, and the present trend suggests that business schools are placing an increasing importance on courses that are most clearly signaling a focus on analytical, data-driven marketing. Business schools should consider whether this shift observed in the required marketing curriculum has any bearing on the direction of other course naming and curricula decisions, both within marketing and across other business disciplines.

Finally, we observe that a sizable proportion of schools offer options whereby students can specialize in digital marketing and analytics beyond course enrollment. While AACSB schools seldom offer digital marketing majors and degree programs, a host of schools presently offer some form of digital marketing or analytics concentration. Schools should assess whether they already offer courses that can be assembled into specialized combinations as a way to provide better career preparation and direction to students. In some cases, this is already being done with just one digital marketing course among the department course list. When digital course offerings are constrained by resources, instructor staffing, or demand, schools can still offer a digital specialization by having a better understanding of their own courses and instructors—identifying those that already incorporate digital and analytics content into the curriculum most effectively (or should, with proper development). Ultimately, our research paints an optimistic view that schools of all sizes can effectively meet shifting requirements for marketing skill through adoption and adaptation of digital marketing.

### *Limitations*

While this research takes an expansive look at the course offerings of all accredited American business schools, it is not without some limitations. Our level of analysis is restricted to course offerings, major requirements, and specialization options. It is possible that business schools are addressing marketing shifts in ways that are not detected by an examination of official marketing program information. This research, for example, does not examine the degree to which traditional marketing courses are incorporating digital marketing subject matter. Our findings indicate a relatively higher proportion of digital marketing courses being taught

by assistant professors than other tenure-track ranks, so perhaps professors who might be characterized as more “digitally fluent” are incorporating digital topics into more mainstream courses in their teaching load. We suggest, however, that a school's record of required and elective courses and formalized specializations represents a more advanced stage of curricular development, which indicates that some of the shift in traditional course content has already occurred and that digital marketing has advocates within the department. Nevertheless, a more comprehensive assessment of marketing course descriptions and content across all courses could help identify exactly where digital emphasis is being allocated within marketing programs.

Key components of this research assume that the state of digital marketing education today is evidence that course availability and emphasis reflect earlier changes in marketing practice and subsequent shifts in content demand for undergraduate marketing training. Furthermore, some of the changes in marketing course offerings and requirements may be externally driven by institutional mimetic processes (Crittenden & Crittenden, 2016; Muñoz & Wood, 2015). Thus, disentangling the root causes of this emerging digital trend in marketing education would enhance our understanding of the phenomenon and should be considered for further exploration.

Finally, this research focuses on undergraduate, U.S.-based marketing courses only. While our examination was comprehensive, it nonetheless looks at a specific population of students and programs. We would be cautious to suggest that these results generalize to other geographies or to postgraduate training in digital marketing.

### *Future Research*

While we provide a robust initial assessment of digital marketing's position within undergraduate marketing education, our findings do offer multiple avenues for further research that were not previously addressed. As more business schools recognize the value of providing training in in-demand marketing areas, more research is needed to determine the degree to which meeting market demand depends on specialized course offerings and degree requirements, or whether part of the responsibility can be shouldered through introductory marketing courses that better incorporate digital topics into the curriculum. It would be valuable to understand whether elements of these courses are successfully generating interest in digital marketing and analytics careers and how this early emphasis might help bridge the evident skill gap. This is a particularly timely question when marketers and educators are both trying to understand the benefits and hazards associated with siloed digital marketing training as consumers become more adept at multichannel shopping journeys that span online and offline touchpoints. Marketers will need to be equally capable at understanding the role of digital

channels in context—something that dedicated digital course electives may have challenges communicating.

We also identify a need for research to understand the impact that inclusion of digital and analytics courses in marketing may be having on the rest of the marketing curriculum and course offerings. For example, we saw evidence that some smaller marketing programs invested heavily in digital course offerings, possibly to the elimination of other marketing courses. A more longitudinal analysis would help understand the conditions in which digital is supplanting other marketing courses rather than being seen as a necessary addition. While industry may be pining for more digitally capable marketing professionals, that need may be tempered by the realities of university resources. As marketing courses shift to become more specialized (Quesenberry, 2016), we must better understand the limits to specialization in modern undergraduate education relative to the utility of more traditional marketing courses.

## Conclusion

Ultimately, this research paints an optimistic view that schools of all varieties can effectively meet evolving requirements for marketing skill through adoption and integration of digital marketing. The large proportion of schools that do not offer a digital marketing course speaks to the need for programs to revisit their course offerings, if the digital marketing gap is to be addressed. At the same time, evidence of a wide breadth of digital marketing course offerings and a growing number of programs that are making digital marketing a requirement indicates a mounting commitment on the part of colleges and universities to prepare students for an increasingly digital workplace. As questions arise about the ability of business schools to anticipate and respond to changing industry dynamics, many schools are taking the challenge seriously by orienting their marketing courses toward digital relevancy.

### Appendix A. Carnegie Classifications.

Doctoral	Doctoral Universities: Highest Research Activity Doctoral Universities: Higher Research Activity Doctoral Universities: Moderate Research Activity
Master's	Master's Colleges & Universities: Larger Programs Master's Colleges & Universities: Medium Programs Master's Colleges & Universities: Small Programs
Baccalaureate	Baccalaureate Colleges: Arts & Sciences Focus Baccalaureate/Associate's Colleges: Mixed Baccalaureate/Associate's Baccalaureate Colleges: Diverse Fields
Other	Associate's Colleges: High Career and Technical–High Traditional Special Focus Four-Year: Business and Management Schools

### Appendix B. Unique Digital Marketing Courses.

Adaptive and Media Analytics	Consumer Behavior and Analytics
Advanced Digital Marketing	Consumer Demand Analytics with Big Data
Advanced Digital Marketing and Analytics	Consumer Information in the Digital Age
Advanced Internet Marketing	Consumer Insights through Data Analysis
Advanced Marketing Analytics/Marketing Analytics II	Consumer Insights Using Technology
Advanced Research and Analytics	Contemporary Topics in Social Media Marketing
Advanced Social Media Marketing/Social Media II	Creating Digital Experiences
Advertising and Digital Marketing	CRM and Marketing Analytics
Advertising and Social Media	Customer Analytics
Analytics and Business Intelligence	Customer Analytics and Brand Strategy
Analytics for Marketing Decisions	Customer Data Analytics
Applied Digital Analytics	Data Analytics
Brand Management and Analytics	Data Analytics and Visualization
Branding and Content Marketing Strategies	Data Driven Customer Insights
Business Analytics	Data Mining
Client-Side Web Application Development	Data Science for Marketers
Communications and Digital Media	Data Visualization
Communications Management in a Digital Marketplace	Database Marketing

(continued)

**Appendix B. (continued)**

Adaptive and Media Analytics	Consumer Behavior and Analytics
Communications Strategy and New Media	Database Marketing and Data Mining
Computer Applications for Marketing	Data-Driven Decision Making
Data-Driven Digital Marketing	Digital Marketing and Media
Data-Driven Marketing	Digital Marketing and Sales Strategies
Digital Advertising	Digital Marketing and Social Media
Digital Advertising and Social Media	Digital Marketing and Web Analytics
Digital Analytics	Digital Marketing Campaigns
Digital Analytics and Content	Digital Marketing Capstone
Digital and Content Marketing	Digital Marketing Challenges
Digital and Entrepreneurial Strategies	Digital Marketing Internship
Digital and Internet Marketing	Digital Marketing Practicum
Digital and New Media Marketing	Digital Marketing Strategy
Digital and Social Media Marketing Analytics	Digital Marketing Tools & Technology
Digital Branding	Digital Media in Sports
Digital Business Strategy	Digital Media Marketing
Digital Commerce	Digital Metrics
Digital Consumer Search and Marketing	Digital Prospecting
Digital Expertise Development	Digital Tools and Building Brands
Digital Marketing	Digital, Social and E-Commerce Marketing
Digital Marketing Analytics	Direct and Digital Marketing
Digital Marketing and Customer Analytics	Direct and Interactive Marketing
Digital Marketing and E-Commerce	Direct Marketing
Direct Marketing Management	Fundamentals of E-Marketing
Direct Response Advertising	Global Digital Marketing & Analytics in UK and Ireland
Direct Response Marketing	Global E-Business
Disruptive Technologies in Marketing	Global Electronic Business
E-Business Marketing	Global Internet Marketing
E-Commerce/Electronic Commerce	Google AdWords and Analytics
E-Commerce and Digital Marketing	Google AdWords and Web Page Design
E-Commerce Marketing Tools and Applications	Google Analytics and Landing Page Optimization
E-commerce Technologies and Social Media	Integrated Marketing Comm in the Digital Age
Electronic Commerce and Marketing Strategy	Integrated Online Marketing
Electronic Retailing and Marketing	Interactive/Internet Marketing
E-Marketing/Electronic Marketing	Interactive Marketing
E-Marketing and Social Networking	Interactive Marketing and E-Commerce
Emerging Issues in Digital Marketing	Interactive Retailing
Emerging Media in Advertising	Intermediate Social Media Marketing
Entrepreneurial Marketing in a Digital World	Internet and Direct Marketing
Entrepreneurial Tools for Digital Marketing	Internet and Social Media Marketing
E-tailing and Multi-Channel Retailing	Internet Marketing/Marketing on the Internet
Executing Social Media Marketing	Internet Marketing and Global Business
Foundations of Digital Marketing	Internet Marketing Concepts and Strategy
Internet Marketing of Products and Services	Marketing and Sales Technology
Internship in Marketing—Digital Marketing Emphasis	Marketing and the Digital Age
Introduction to Digital Marketing	Marketing Channels and E-Commerce
Introduction to Marketing Analytics	Marketing Content Creation
Introduction to Social Media Marketing	Marketing Emerging Technology
Introduction to Social Media Marketing and Analytics	Marketing in a Digital World/Age
Launching Digital Marketing	Marketing in a High-Tech Environment
Management & Marketing Databases and Analytics	Marketing Information Analytics
Managing Creative Content Development	Marketing Measurement and Analytics
Market Data Analysis	Marketing Media Analytics

(continued)

**Appendix B. (continued)**

Adaptive and Media Analytics	Consumer Behavior and Analytics
Marketing Analytics Marketing Analytics and Research Marketing Analytics and Strategy Marketing Analytics and Technology Marketing Analytics Consulting Marketing Analytics for Decision Making Marketing Analytics for New Product Development Marketing Analytics in a Digital Space Marketing Analytics in Excel Marketing Analytics with Big Data Mobile Marketing Strategy and App Development Mobile Marketing: Reaching the Multi-Screen Consumer Mobile, Web, and E-mail Marketing Multichannel Direct Marketing New Media Marketing Online Analytics Online and Social Media Analytics Online Marketing Optimization for Interactive Marketing Overview of E-Commerce Principles of Internet Marketing Principles of Social Media Professional Practice: Cooperative Education in Advanced Market Analytics Promotion Management & Digital Marketing Qualitative Research and Analytics Quantitative Digital Marketing Retail Analytics Retailing and E-Commerce Retailing in Internet Age Sales Analytics Social Media and Interactive Marketing Social Media and Marketing Analytics Social Media and Network Analysis Social Media and Online Marketing Social Media and Public Relations Social Media Management Social Media Marketing Social Media Marketing and New Ventures Social Media's Role in IMC Software Tools for Design Software Tools in Marketing Spreadsheet-based Marketing Analytics SxSWi—Marketing, Tech, and Innovation Systems and Internet Marketing Tech in Marketing: Design Tools and Digital Foundations Technology and Marketing Text Analytics for Marketing Text Mining & Analytics for Market and Business Practice The Business of Video Games Topics in Marketing: CRM and Digital Analytics	Marketing Metrics and Analytics Marketing on the Internet Marketing Research & Analytics Marketing Techniques for Electronic Commerce Marketing Technology and Analytics Marketing Web Analytics Marketing Web Analytics & Intelligence Marketing Analytics—Decision Making in the Information Age Mobile Applications and Business Strategies Mobile Marketing Sales Force Automation Sales Strategy and Technology Search Engine Marketing Analytics Search Engine Marketing: Google Analytics & Adwords Search Engine Optimization and Social Media Marketing Search Marketing Search Marketing and Web Analytics Search Marketing: SEO & PPC Selling with Digital Media Seminar in Marketing Technologies Social and New Media Social Commerce Strategies and Analytics Social Media & E-Services  Social Media/Mobile Marketing and Analytics Social Media Analytics Social Media and Content Marketing Social Media and Digital Business Social Media and E-Commerce Social Media and Electronic Marketing Social Media and Entrepreneurship Traditional and Digital Brand Promotion Understanding Media Metrics in the Digital World Understanding the Digital Consumer Value Delivery Networks in Marketing Virtual and Physical Consumer Behavior Visual Analytics Web Analytics Web Business Strategy Web Page Marketing

## Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

## References

- Adidas. (2017). *2016 Adidas annual report*. Retrieved from [https://www.adidas-group.com/media/filer\\_public/a3/fb/a3fb7068-c556-4a24-8eea-cc00951a1061/2016\\_eng\\_gb.pdf](https://www.adidas-group.com/media/filer_public/a3/fb/a3fb7068-c556-4a24-8eea-cc00951a1061/2016_eng_gb.pdf)
- Brocato, E. D., White, N. J., Bartkus, K., & Brocato, A. A. (2015). Social media and marketing education: A review of current practices in curriculum development. *Journal of Marketing Education, 37*, 76-87.
- Chaffey, D. (2018). *What is digital marketing? A visual summary*. Retrieved from <https://www.smartinsights.com/digital-marketing-strategy/what-is-digital-marketing>
- Crittenden, V., & Crittenden, W. (2015). Digital and social media marketing in business education: Implications for the marketing curriculum. *Journal of Marketing Education, 37*, 71-75.
- Dickey, I. J., & Lewis, W. F. (2010). The evolution (revolution) of social media and social networking as a necessary topic in the marketing curriculum: A case for integrating social media into marketing classes. *Management and Marketing Faculty Publications* (Paper 32). Retrieved from [http://ecommons.udayton.edu/mgt\\_fac\\_pub/32](http://ecommons.udayton.edu/mgt_fac_pub/32)
- General Assembly. (2018). *The state of skills: Digital marketing 2018*. Retrieved from <http://enterprise-go.generalassembly.ly/the-state-of-skills-digital-marketing-2018>
- Glassdoor. (2018). *15 more companies that no longer require a degree: Apply now*. Retrieved from <https://www.glassdoor.com/blog/no-degree-required>
- Grewal, D., Roggeveen, A. L., & Shankaranarayanan, G. (2015). Marketing-ITS integration: Developing the next-generation managers. In V. L. Crittenden, K. Esper, N. Karst, & R. Slegers (Eds.), *Evolving entrepreneurial education: Innovation in the Babson classroom* (pp. 139-158). Bingley, England: Emerald.
- Hoffman, D. L., & Novak, T. P. (1996). Marketing in hypermedia computer-mediated environments: Conceptual foundations. *Journal of Marketing, 60*(3), 50-68.
- Kerr, G., & Kelly, L. (2017). IMC education and digital disruption. *European Journal of Marketing, 51*, 406-420.
- Krippendorff, K. (2004). Reliability in content analysis: Some common misconceptions and recommendations. *Human Communication Research, 30*, 411-433.
- Lovett, M. J., & Staelin, R. (2016). The role of paid, earned, and owned media in building entertainment brands: Reminding, informing, and enhancing enjoyment. *Marketing Science, 35*, 142-157.
- McLeod, A. J., Bliemel, M., & Jones, N. (2017). Examining the adoption of big data and analytics curriculum. *Business Process Management Journal, 23*, 506-517.
- Muñoz, C. L., & Wood, N. T. (2015). Update status: The state of social media marketing curriculum. *Journal of Marketing Education, 37*, 88-103.
- National Geographic. (2012). *United States regions*. Retrieved from <https://www.nationalgeographic.org/maps/united-states-regions/>
- O'Brien, C. (2016). *Missing the mark: The digital marketing skills gap in the USA, UK, & Ireland*. Retrieved from <https://digitalmarketinginstitute.com/en-us/the-insider/missing-the-mark-the-digital-marketing-skills-gap-in-the-usa-uk-ireland>
- Parker, B. J. (2014). Innovating the marketing curriculum: Establishing an academic major in internet marketing. *Atlantic Marketing Journal, 3*(2), Article 13. Retrieved from <https://digitalcommons.kennesaw.edu/amj/vol3/iss2/13>
- Petkus, E., Jr. (2007). Enhancing the relevance and value of marketing curriculum outcomes to a liberal arts education. *Journal of Marketing Education, 29*, 39-51.
- Roberts, S. D., Rains, R. E., & Perry, G. E. (2012). A business educator's guide to transitioning to a digital curriculum. *American Journal of Business Education, 5*, 483-500.
- Rohm, A. J., Stefl, M., & Saint Clair, J. (2018). Time for a marketing curriculum overhaul: Developing a digital-first approach. *Journal of Marketing Education, 41*(1), 47-59. doi.org/10.1177/0273475318798086
- Royle, J., & Laing, A. (2014). The digital marketing skills gap: Developing a digital marketer model for the communication industries. *International Journal of Information Management, 34*(2), 65-73.
- Schibrowsky, J. A., Peltier, J. W., & Boyt, T. E. (2002). A professional school approach to marketing education. *Journal of Marketing Education, 24*, 43-55.
- Schlee, R., & Harich, K. R. (2010). Knowledge and skill requirements for marketing jobs in the 21st century. *Journal of Marketing Education, 32*, 341-352.
- Schlee, R. P., & Karns, G. L. (2017). Job requirements for marketing graduates: Are there differences in the knowledge, skills, and personal attributes needed for different salary levels? *Journal of Marketing Education, 39*, 69-81.
- Spiller, L., & Tuten, T. (2015). Integrating metrics across the marketing curriculum: The digital and social media opportunity. *Journal of Marketing Education, 37*, 114-126.
- Wilson, E. J., McCabe, C., & Smith, R. S. (2018). Curriculum innovation for marketing analytics. *Marketing Education Review, 28*, 1-15.
- Wixom, B., Ariyachandra, T., Douglas, D. E., Goul, M., Gupta, B., Iyer, L. S., . . . Turetken, O. (2014). The current state of business intelligence in academia: The arrival of big data. *CAIS, 34*, Article 1. doi:10.17705/1CAIS.03401
- Wymbs, C. (2011). Digital marketing: The time for a new "academic major" has arrived. *Journal of Marketing Education, 33*, 93-106.
- Wymbs, C. (2016). Managing the innovation process: Infusing data analytics into the undergraduate business curriculum (lessons learned and next steps). *Journal of Information Systems Education, 27*, 61-74.