

Teaching Technology Skills to Undergraduate Marketing Students: Infusion or Dedicated Course?

Chris Ward, University of Findlay, Findlay, Ohio, (USA)
Scott Grant, University of Findlay, Findlay, Ohio, (USA)

ABSTRACT

The constant and rapid change of technology has made it challenging for higher education to identify the technology skills marketing undergraduate students should possess. When specific skills are identified, obstacles such as integration, cost, faculty skill level, and other issues complicate the implementation effort. This paper examines two dominant approaches currently used in undergraduate programs, provides an employer overview of technology expectations for entry-level marketing positions, and describes how one small, private institution attempts to address this issue.

Keywords: technology skills, undergraduate marketing students, curriculum integration

INTRODUCTION

Technology used by companies to promote and build brand awareness is constantly evolving. It is a moving target for higher education to prepare graduates who possess these technology skills for entry-level marketing positions. While the marketing basics have not changed, Benbunan-Fitch, Lozada, Pirog, Priluck and Wiseblit (2001) noted “Emerging technologies are radically and quickly changing the nature of the four elements of the marketing mix” (p. 5). “Few disciplines”, Hannaford, Erffmeyer, and Tomkovick (2005) added, “have been more affected by technology than marketing” (p. 67). The premier accreditation body for business schools, AACSB, includes technology in their accreditation standards as it stresses “... the importance of information technology and the ability of students to use current technologies in business and management contexts” Crittenden & Crittenden, 2015, p. 72). The increased use of social media to promote and build brand awareness has only intensified this issue. This paper will describe the challenges universities face teaching the necessary technology skills to meet employer’s needs or risk being viewed as disconnected.

A REVIEW OF THE CURRENT ENVIRONMENT

Higher education does include technology skills as a learning outcomes/competency (Bateman, 2010; Benbunan-Fitch et al, 2001; and Faulds & Managold, 2014). If we are to consider these skills critical for our students’ job preparation, Benbunan-Fitch et al, (2001) provide a sound description for technology competency. They stated “... technology competency refers to the ability to use technology to find and gather relevant data from various sources; organize, summarize, and analyze them; and process them into meaningful and useful information for making business decisions and for improving productivity” (p. 6). Bateman (2010) suggests universities have technology enhancements as a goal in required courses and/or embed technology-based projects.

While employers may not state specific software requirements in their job descriptions, these expectations are often implied (Crittenden & Crittenden, 2015; Frederiksen, 2015; Harrigan & Hulbert, 2011; Schlee & Harick, 2010; Smith, 2015; Teer, Teer, & Kruck, 2007; and Walker, I., Tsarenko, Y., Wagstaff, P., Powell, I., Steel, M., & Brace-Goven, J., 2009). Alumni, according to a survey by Davis, Misra, & Van Auken (2002), felt underprepared in areas such as databases, spreadsheets, and statistical packages. Educators and practitioners should have closer working relationships to ensure that marketing modules (especially digital marketing) build foundations with both a theoretical and practical relevance (Duffy & Ney, 2015, p. 112). Frederiksen (2015) noted specific marketing software tools required by jobseekers included email marketing; social media management and analytics, specifically Google Analytics and Adwords; customer relationship management (CRM); and content management systems (CMS). As this field intensifies, Teer, et al, (2007) added, graduates should have a “... solid exposure to database management and analytical skills” (p.247).

The volume of available customer data continues to grow. To survive, companies must be able to use technology to aggregate and analyze customer information then develop personalized marketing messages. As consumers want to interact anywhere at any time, have unrelated information gathered to provide value for them, personalize their

experiences, and interact with ease, the demand on businesses to meet these expectations intensifies. Sound decision-making based on data coupled with accessing this information without a significant amount of manipulation are a differentiator for companies. Employees with this skill set will be in demand (Frederiksen, 2015). With all these tools at their disposal, Smith (2015) added "... that means that to be a marketer you have to know a little bit about a lot of technology" (para. 6).

We know students should be familiar with technology, however, several questions are core to this issue. What technology do we expose our students to? What level of expertise is needed? Who teaches it? Is it stand-alone course(s) or integrated into the curriculum? The next sections of the paper will provide additional information on these questions, data on technology skills required by employers, and one institutional approach.

EXAMPLES OF USING INFUSION OR DEDICATED APPROACHES

Learning new technology can be daunting for both faculty and students. It is important to follow Bloom's Taxonomy ("Bloom's Taxonomy", n.d.) of introducing, reinforcing, and then applying concepts as it is well-documented students retain information longer with this approach. Two distinct approaches to implementing technology into the curriculum are used. The first approach is to infuse technology into a specific course. This might include embedding assignments or projects using specific spreadsheet, database, or webpage software as part of a course. The second approach is to add or require a technology course with the primary outcome of the course revolving around in-depth learning of one or two software programs.

Hannaford, W., Erffmeyer, R., & Tomkovick, C. (2005) conducted a survey of AACSB schools to determine the prevalence and importance of specific technology course in the marketing discipline. They reported "...a quarter of those who responded currently offer or are strongly considering offering a discrete technology-based marketing applications course" and "...a full two-thirds report that they offer a course in Internet marketing and another 12 percent are contemplating adding such a course within two years" (p. 70). When asked to identify the biggest challenge in teaching marketing technology, the responses included competition from other departments (Management Information Systems or Computer Science); lack of an overall departmental/school strategy; insufficient time, money, or facilities; the fast-changing nature of technology; and the view that teaching technology was outside the scope of the marketing area. One particular respondent comment was astute and reinforced the main issue - How do we find room in the curriculum and, if the choice was integration due to its efficiency, are we sacrificing effectiveness?

Harrigan & Hulbert (2011) surveyed senior marketing practitioners to gain a general understanding of the marketing discipline. The results of this survey lead to old and new Marketing DNA models. The old DNA model included marketing in the context of the wider organization; marketing planning; marketing environment; buyer behavior; marketing research; segmentation, targeting, and positioning; contexts of marketing, 4Ps of marketing, marketing communications, marketing channels, and implementation ad control. The new Marketing DNA is comprised of customer led marketing; online and offline integrated marketing communications, data driven marketing, value driven strategic marketing, and marketing channels. The new model separates the organization 'response' role and the customer 'ambassador' role and allows for more in-depth in any strand, for example customer insights in the customer led marketing or Customer Relationship Management (CRM), Customer Experience Management (CEM), and analytics (dashboards) in the data driven marketing strand. As each strand is strengthened, the DNA, as a whole, is stronger. The repackaging and overlapping strategy of the new Marketing DNA model has the potential, they stated, to deliver "...many of the new technology-related skills in digital communications and marketing analytics that employers are crying out for" (p. 268).

This appears to be a good approach by not sacrificing content for technology but it still does not address the some obstacles such as acceleration of technology change (McCorkle, Alexander, & Reardon, 2001); interstudent technology competency (McCorkle et al, 2001); not having a faculty expert (Hannaford et al, 2005; McCorkle et al, 2001); sufficient technology support (Hannaford et al, 2005); implementation issues, such as marketing versus business core specific technology (Hannaford et al, 2005; McCorkle et al, 2001); and that some faculty do not believe they should be teaching technology skills in the curriculum (Hannaford et al, 2005). Hannaford et al (2005) believed some of these obstacles could be overcome by team teaching, utilizing staff to teach a portion of the course, developing technology expertise in one or two faculty, securing corporate sponsorship, charging students lab fees, adding smaller – one or two credit – courses, and/or linking critical thinking skills to technology since students typically need to 'figure out' how to use some technology features. Using the diffusion approach, McCorkle et al

(2001) detailed a four-step approach, including a faculty incentive/ reward structure, to incorporating technology. The reward structure provided summer grants, release time, titles/recognition, travel funds, graduate assistants, and even merit pay increases for achieving key success measures. The first step in the approach was to identify technology champions within the department while step two provided these champions with the appropriate resources. Step three, essentially an adoption or rejection feedback loop, was determined based on step four. In the first part of step four, the champion was responsible for mentoring faculty, disseminating the proposed technology through workshops or short courses, and developing a curriculum map. A committee then made recommendations, secured grants, and educated tech support on their needs. This approach appears to provide the appropriate structure and support for technology integration but still leaves some issues to resolve such as “Tech support is more likely focused on computer hardware and software needs within the labs and office instead of on multimedia difficulties in the classroom” or “differing levels of upgrades, making discipline-specific compatibility between classrooms, student, and faculty difficult” (p. 19).

Social and digital media utilization has brought a whole other twist to this issue. Spiller & Tuten (2015) questioned “...whether or not our college marketing courses are keeping up-to-date and teaching relevant quantitative concepts and metrics needed for the marketing profession” (p. 117). Fortunately, digital opportunities, offered by software companies, do exist. Google Analytics and Adwords, Hootsuite University, and Hubspot Academy enable professors to incorporate social media analytic concepts into their courses by offering some free access and online tutorials. “As industry continues to develop” they noted “other digital services may offer universities access to industry tools and current data” (p. 120).

Whether faculty decide to use a diffusion versus a dedicated course approach to technology, the issue of which technology to incorporate still exists. The next section of the paper provides a sample of technology skills required or preferred by employers.

EMPLOYER JOB LISTING RESEARCH

A search using Indeed and Monster job sites on current entry-level marketing positions was conducted. While there are many titles for entry level marketing positions, two primary search terms were used to gather data: marketing associate and marketing coordinator. Even with these terms, positions such as marketing specialist and sales/marketing assistant often came up in the results. Specific job posting were eliminated if they required more than three years of experience or high school diploma as these postings did not fit the entry-level marketing positions most students would be qualified or apply for.

Forty positions in a variety of industries, ranging from health care to manufacturing to business-to-business services were reviewed and entered into a spreadsheet. Nineteen of the forty postings (47.5%) listed Microsoft Office Suite, with 11 of the postings specifying advanced Excel skills as required or preferred skills. Other technology listed as preferred or required familiarity were Adobe Suite (23%), content management systems (18%), customer relationship management systems (15%), WordPress (13%), HTML (10%), and Social Media (10%). Social media included Facebook, Twitter, Instagram, and YouTube. Google AdWords or Analytics, search engine optimization, SAP, and syndicated data, such as Shopper Card were all mentioned in less than 10% of the postings.

While some of the listings called out for specific software, for instance, Pardot, Salesforce, Pipedrive, Constant Contact, or Hubspot, many of the companies preferred more general terms such as CRM, CMS, database lead tracking or social media management. Table 1 below provides a sample of business/marketing software and the basic purpose of the software. This aligns with much of the research already stated above – a specific software may not be as important as the familiarity with the overall concept of managing the consumers’ behavior and the ability to learn new technology and applying it to a marketing problem.

Table 1: Business/Marketing Software and its Purpose

Software	Purpose
Adobe Suite	Graphic design, video editing, and web development applications
Canva	Graphic design
Constant Contact	Email and online marketing campaigns
Drupal	Content-management framework
Easel.ly	Create infographics
Google Adwords	Advertising system based on keywords
Google Analytics	Marketing analytics and measurement
Google Digital Garage	Mastering online marketing
Hootsuite	Manages social media
Hubspot	Inbound marketing and sales
Microsoft Office	Word processing, spreadsheet, database, email, content management
Pipedrive	Customer relationship management and sales management
Salesforce	Customer relationship management, B2B marketing
SAP	Enterprise management system
Sprout Social	Social media management
SPSS	Statistical analysis
Tagel	Word cloud generator
Wordpress	Website or blog

The next section of the paper describes our approach to teaching students technology using both the dedicated and infused approaches.

A combined approach by our college

As a small, private college with a multitude of business majors including accounting, finance, management, and marketing that share core business classes, we have adopted a combined approach. All students get exposed to Microsoft Office, as well as project management, and document sharing software in a business software course as most companies use these in their day-to-day operations. Specific core courses add additional technology content, then marketing courses apply the knowledge learned in core courses and expose the students to marketing-specific software programs. The details of our approach are described next.

In the business software course, the instructor focuses on software the students would encounter in upcoming business courses as well as in the business field. The course objectives included:

Utilize software for use in formal reports and presentations

Analyze data by use of various software tools

Evaluate software tools needed to best perform a task

Research software needs and compare best use of resources

The instructor covered Excel, concentrating on pivot charts and other advanced techniques; database structure; Google Docs and Drive; and Adobe Creative Suite, specifically Photoshop and InDesign. The university has a Microsoft Office license plus Adobe Creative Suite in one lab on campus. As part of the course, the students researched a CRM product that could be implemented into an industry of their choice. One student, with an interest in athletics, researched Turbostats and Krossover. These students may be in a position to find and implement a specific software to solve a business problem so this project was could be useful. The students also experimented with SmartSheets and Hootsuite. As suggested in some of the literature, a staff member with content knowledge taught this course. This worked well as the staff member was open to faculty suggestions and able to communicate any issues with the structure and content of the course. The instructor does plan to introduce Tableau and Sharepoint in the future. This course was designed to be flexible, allowing us to provide exposure to core software (Excel, Access, etc.) but also pull in other software as they become mainstream in businesses.

Our college also has several core and major-specific courses integrating software with assignments/projects. Core courses include Principles of Accounting and Management of Information Systems. The Principles of Accounting use SAP to learn basic functionality and how to navigate the software. In the Management of Information Systems course, students are required to set up a Sharepoint site and communicate between group members. Major specific

courses in Marketing have used Excel, Hootsuite, Wordpress, Tableau, Easel.ly (an infographics software), social media, plus some exposure to Google Analytics and AdWords. Students reinforce and apply their previous learning by using pivot tables to analyze sales data or advertising variables, and conditional-formatted dashboards to display sales goals. Some programs, like Tableau, have video tutorials and sample data sets. These tutorials and data sets provide a strong application for the students. Current plans include incorporating Google Digital Garage into an Advertising and Public Relations class and Canva into a Consumer Behavior class.

This approach is not perfect. The Adobe Creative Suite is installed in one lab on campus leading to access issues for the students. While students can purchase a month to month student-discount license from Adobe, adding this cost to students is not attractive considering the availability of free photo editing and creative software. In the business software course, depth was an issue as some students wanted to spend more time on the Adobe Creative Suite while others asked for more Excel. In the marketing courses, students downloaded the software onto their tablets or laptops. Students encountered system requirements, storage space, or other issues. Assisting with these problems was far beyond the capability of the professor. As more and more students forego laptops for tablets, these issues may become more prevalent. The institution must also be aware of exposing students to viruses, adware, or malware when using free or open source software.

Conclusion

As industry shifts happen and advanced software skills become an expectation from employers, higher education should be conscious, but not constrained, by this shift. Preparing students for employment by equipping them with good written and oral communication skills, problem solving skills, and soft skills such leadership will always be most important. Student can get on-the-job training with any software and generally have a flat learning curve. However, students (and parents) often look for these types of skills to differentiate one school from another and businesses may find students more attractive if they already possess some aptitude with specific software. Recruiters may also perceive your institution in a more positive light as students are equipped with more pertinent work-ready skills.

There is one final hurdle to overcome with software integration – certification. These are offered in numerous areas, and while specific certifications were not identified by employers as critical, perhaps, by exposing students to this option, we can encourage them to be aware of new technology trends, update their skills, and stay relevant. Digital Marketing, Social Media, Analytics, or Search Engine Optimization certifications are available through various software companies. A limited number of these are free but these certifications can range in price from just under \$100 to several hundred dollars. In addition, some certifications require an annual renewal and/or offer higher levels of competency at an increased cost. While these are attractive and provide a point of differentiation on resumes, embedding the cost into a course may not sit well with a student and absorbing the cost is generally not an option for the university.

Duffy & Ney (2015) call for “... a more reflective exploration of how technology has been used in marketing education; greater understanding of what students are gaining, or not gaining, from this pedagogical shift; and how it will enhance their marketing practice” (p. 112). This mindset regarding technology is important. We must, as educators, keep our fingers on the pulse of changes in the market, embrace these shifts, but also remember that these tools should be incorporated in a way so that critical thinking skills are at the core of the assignment and the ability to learn new software is essentially the result of our efforts. The question is not so much an integration versus infusion as it is assessing the awareness and results of the tools being used and evolving as the industry changes.

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