Experiential Learning of Information Systems in Functional Contexts: The Digital Brand Strategy Project

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Abstract:
Successful technology-based ventures and the notion of every company being a “digital” company has driven an increased interest in information technology even for students majoring in areas other than information systems. With the growing need for experiential learning, educators in business schools are challenged to identify effective delivery mechanisms to impart theoretical foundations and practical applications in functional contexts that are of interest to students. In this paper we describe the design and implementation of a project that fulfills the above needs and integrates information systems and marketing. We describe the motivation for this project, its learning objectives, its innovative design and implementation and provide an example of the project to illustrate its execution. While this project could be a standalone piece in an information systems course, the project is shown to be an effective way to communicate the application of information systems in a different functional context.

Keywords: Digital Brand Strategy, Experiential Learning, Active Learning, Information Systems Project.
1 Introduction

Historically, it has been challenging for educators in general and specifically in our institution, to teach a core information systems course that is mandatory for all majors in management education. Students come in believing that their major (e.g., management, finance or marketing) has nothing to do with information systems. While it was relatively easy to draw and keep the attention of aspiring majors in information systems, it has been difficult to do the same with students aspiring to major in other fields. Recently, this attitude has changed. The increasing popularity of technology applications are driving non-information systems majors to take information technology courses. The explosion of successful technology-based ventures, smart products, and the rise of companies such as Wayfair (whose promise is to allow shoppers to find what they want through technology and innovation) have furthered the understanding that every business is immersed in technology, directly or indirectly. The importance of analytics in managing a business has helped students recognize the foundational role of technology in every business function. A recent study by Wallace et al. (2016) confirms that students not only perceive the information systems job market favorably but also that the knowledge provides them with a competitive advantage in the marketplace. Yet educators in business schools are challenged to find effective delivery mechanisms that not only provide the theoretical foundations but also practical applications of information systems in the contexts that are of interest to the students. This mandates information systems educators to teach the course in a cross-functional setting to ensure that they cover the foundational concepts and show how those concepts are applied in other functional areas such as marketing, finance, operations, accounting and sales. Further, industry now demands cross-functional skills that are linked with all business functions including information technology and systems (Woods, 2016). For example, many finance majors know how to create and manage data in databases; marketing majors understand digital presence, the use of social media platforms, and customer relationship management systems; and accounting majors understand robotic process automation; and operations majors understand organizational systems such as enterprise resource planning and supply chain management.

Curriculum developers and educators in information systems hence need to develop some innovative artifacts (such as projects, hands-on exercises) that support experiential learning of foundational information systems concepts in different functional contexts. In this paper we describe an innovative project that addresses the learning of foundational concepts in information systems, supports experiential learning in a different functional context and provides cross-functional integration. The project described is part of a course, the Sophomore Management Experience (SME), designed and offered in a small college in the northeast United States. The opportunity for this course came about in 2012 when the college set out to redesign the sophomore curriculum. When investigating possible functional areas for integration with IT/IS, two stood out – Operations and Marketing. With Operations, the integration options were more traditional such as the role of technology in automating processes, role of data in inventory management, and application of analytics in the context of supply chains. With Marketing, the growing importance of web presence and growth of social media made this topic more “trendy” and “sexy”. This, combined with the fact that Marketing is the second largest concentration in our college, led us to choose Marketing as the context for testing our integrative innovation.

Once the decision was made to integrate with Marketing, a key challenge was to create a capstone project that showcased the integration of the two courses, and allowed the students to apply learnings from each course. The course was first piloted in 2014, the project proposed in 2015 and the version of this project described in this paper evolved into its current form in 2017, after more than two years of experimenting and tuning. We recognize that many schools may not pair its marketing and IT courses and curriculum. However, while we have chosen to run this project in an integrated fashion, the project in its entirety, can be run as a stand-alone project in information systems courses. Like any traditional stand-alone information systems course, our IT foundations course is divided into three areas: Digital Strategy & Data, Digital Marketing & Analytics, and Disruptive Technologies. Part 2 of the course, Digital Marketing & Analytics, is dedicated to the concepts the students will need to be successful with the project, for example, website strategy and design, SEO, and Google and social media analytics. Part 1 covers digital strategy, software development, user interface design, database design and implementation, data analytics and data visualization. Part 3 introduces the students to emerging technologies such as Robotic Process Automation, Internet-of-Things, and Artificial Intelligence. Part 3 is
also where we introduce the students to coding using python. The project described is simply a part of our IT foundations course.

Research in management education defines soft-skills as interpersonal skills such as communication and teamwork (Halfhill and Nielsen, 2007; Shuayto, 2013). Research has further demonstrated that significant benefits in terms of quality, productivity and profit are achievable by selectively hiring employees based on soft skills and leveraging them as a source of competitive advantage (Bartlett and Ghoshal, 2002; Hagen et al. 2011). Ritter et al. (2018) state that soft-skills are critical for workplace readiness and should be given due consideration in the design and development of management curriculum (Ritter et al. 2018). The innovative project described in this paper supports the development of soft skills – an important design consideration in the design and development of this project.

In the remainder of this paper we describe a pedagogical innovation that helps information systems educators effectively deliver not only foundational concepts but also practical applications in functional contexts that are of interest to students. The functional context we focus on is marketing. We will describe the student challenges that motivated this project, the learning objectives and preparation for the project, the experiential learning offered by the project and the innovative design of the project. We conclude by presenting the challenges as well as the evidence of effectiveness for the course in general and the project in particular. Whereas this innovation combines Information systems and marketing, we feel that similar projects could be designed to integrate information systems with other business disciplines such as finance, accounting or, operations management.

2 Project Motivation

Eisenberg and Johnson (2002) found that information skills can be integrated effectively when the skills (1) directly relate to the content area curriculum and to classroom assignments, and (2) are tied together in a logical and systematic information process model. The authors further state that seeking to move from isolated information technology skills instruction will also need to focus on both of these requirements. Successful integrated information skills programs are designed around collaborative projects jointly planned and taught by teachers. Information technology skills instruction can and should be embedded in such a curriculum. Teachers need to work together to develop units and lessons that will include both technology skills, information skills, and content-area curriculum outcomes. In the project described here, we show how we have successfully addressed both the above requirements.

In order to thrive in today’s competitive environment all students, especially those that are planning to major in a functional area that is different from information systems, must not only be tech savvy, but they must also have a firm grasp of how to strategically utilize technology. For instance, in Hubspot’s 2018 annual State of Inbound report, identifying the right technologies ranked 4th and managing the website ranks 5th out of nine possible responses to the question, “What are your company’s top marketing challenges?”. To prepare future digital innovators and to prove ROI, educational institutions must provide students with opportunities to gather and analyze data, interpret the results, and make informed decisions based on those results. Data has become a critical organizational asset and organizations are driven by business intelligence gathered through the analysis of data. Every function within an organization is dependent on data and analytics for successfully developing and executing both functional and organizational strategies. Understanding the data and analytics as well as the tools and techniques used to gather and analyze data is critical for all majors. Furthermore, we believe in the importance of an interdisciplinary and cross-functional approach that incorporates the foundational elements of information systems in a different functional context while providing students with an opportunity to apply those principles to 21st century challenges.

We believe that developing such integrated projects through collaborative instructions has significant mutual benefits to the disciplines involved. Further, in our case, the push to integrate was in some way, student-driven. The increased role of technology (such as database marketing, social media platforms, web-development and, customer relationship management systems) in marketing was obvious and our incoming students were more than aware of such developments. Hence, our marketing faculty did not need to be convinced of the benefits of an integrated project involving marketing and information systems. Further, as part of our school’s mission to foster entrepreneurial thought and action, there is a strong push to develop highly integrative and collaborative curriculum. Innovation is accelerated with senior management support and our Dean of Faculty encourages cross-disciplinary courses or projects, like the one we describe in this paper. In terms of process that promotes such cross-functional innovation, there
is an internal process that promotes collaboration across functional areas. In our college, there are a set of courses that form the core of the sophomore curriculum. This set includes IT/IS, Marketing, Finance, Operations, Economics and Managerial Accounting. When any of these courses is redesigned significantly, as was the case with our foundational IT/IS course, the new design is shared with faculty involved with teaching other core courses. This informs other functional areas about the content that we plan to teach which in turn results in innovative ways to create “points-of-integration” across two or more of these courses. As mentioned earlier, the IT/IS as well as the Marketing courses were both significantly redesigned starting in the 2012-13 academic year and piloted in following year. As with any innovative integration, the project proposed here evolved into its current form about five years later. To ensure the content remains fresh, new faculty members are rotated into these sophomore foundational courses each year. This further ensures that there is always a new set of eyes and we have found that this helps us tweak and fine-tune both the content as well as projects to be in-sync with changes in both technology and industry. To ensure a consistent student experience, each course has a faculty coordinator responsible for the course content and assessment as well as the oversight and development of the faculty assigned to teach in the program.

Our project focuses on marketing as the context to teach foundations of information systems and these two courses are offered each semester. While we realize our situation is probably unique, other faculty might be able to rely on incoming students having a foundation in marketing, or any other discipline, by making that foundational course a prerequisite for the IT course. Incoming students, especially marketing majors are also able to recognize the benefits of cross-functional integration. From a marketing major’s perspective, effective marketers must be able to connect to customers in a dynamic global marketplace. Our curriculum and unique project are designed to arm all students, especially marketing majors, with the strategic marketing skills, as well as the technology and analytical skills, to develop effective social media communication strategies to thoughtfully reach customers in a meaningful way.

Over the past few years, information technology has transformed marketing. Even though marketing students need to understand customer segments and segmentation, Facebook has created customer segments which are highly sophisticated and allows experimentation to determine the right segment(s) for any business (Ritson, 2017: Facebook’s segmentation abilities are depressingly impressive – www.marketingweek.com). A primary way that today’s business connects with customers is through the use of social media. The opportunity for relationship building through two-way communication that is highly interactive is increasing the amount that businesses spend on social media (Kharif, 2012). In this world where all functions in an organization are driven by technology, many information system students erroneously believe that an introductory information systems course is going to focus only on foundations and coding. They disregard the critical thinking, research, and thoughtful analysis that goes into the implementation of a successful functional strategy that effectively utilizes technology.

3 Learning Objectives and Preparation

The project learning goals are as follows:

1. Learn how to best build a successful online brand presence with technology by understanding how to: (a) build and manage a website and its contents using target market centric content; (b) use Search Engine Optimization and target market centric keywords to increase the visibility of your website; (c) use social media and social media best practices to drive traffic to your website and increase awareness of your website (and its purpose).

2. Learn how to measure the impact of your inbound marketing activities by understanding how to collect and interpret analytics data from Google and from social media platforms. Further, learn how to use this data to make informed and strategic decisions regarding changes to website design and content as well as changes to social media content and campaign strategies.

The Information Technology course is taught in conjunction with the Principles of Marketing course. Students take 75 minutes of Principles of Marketing and 75 minutes of IT back-to-back. For this project, the IT and marketing course coordinators collaborated on the learning objectives, the execution steps, the final assessment, and the grading rubric (see Appendix A). The rubric outlines the topics each faculty member is responsible for covering and grading. Since both disciplines are involved in the assessment, students receive a comprehensive review of their work related to both disciplines and are not merely assessed on the technical completion of certain tasks (e.g. website, SEO, Google analytics).
This project is launched in the middle of a traditional 13-week semester. Prior to the launch, students participate in coursework to help them prepare for a successful project. The coursework in marketing involves understanding basic marketing strategy, building a brand, and targeting and segmentation. The relevant coursework in information systems involves website strategy and design principles, search engine optimization (SEO) techniques, and social and Google analytics. See Figure 1 for a schematic showing the components of the integrated project.

Figure 1. Schematic representation of the project

4 Experiential Learning

Learning activities with real-world connections enhance the student’s learning experience (Karns, 2005). Experiential learning explores more of the learning process rather than the cognitive process (Kolb, 1984). According to Kolb (1984), experiential learning consists of four learning modes, with two continuums. The first continuum is anchored by Abstract Conceptualization (thinking) and Concrete Experience (experiencing). The second continuum is anchored by Active Experimentation (doing) and Reflective Observation (reflecting). This two-part cycle offers students the opportunity to use different learning styles throughout the learning process as well as integrate both reflective and active behaviors. Examples of experiential learning activities could include student teaching, internships, and consulting projects. The purpose of experiential learning is to position students in conditions where they are encouraged to learn and apply concepts to see what changes occur. Experiential learning encourages students to draw on
previous knowledge and experiences to apply to current learning situations, allowing a more robust learning experience. Of the two types of experiential learning identified by Lewis and Williams (1994), our project belongs to the classroom-based experiential learning. As highlighted in the following paragraphs, the project not only immerses the learners in an experience but also encourages reflection about the experience to develop new skills, attitudes or ways of thinking (following the definition of experiential learning from Lewis and Williams (1994)). According to Hamilton and Kleba (2011) as the experiential learning tasks become more complex and challenging, higher order critical thinking emerges. We believe that this is evidenced in our project execution.

The project was developed considering the tenets of experiential learning. It requires students to engage in abstract conceptualization to develop their project focus and create their initial marketing plan. The students act on this conceptualization and apply their information system skills by creating a website with both a context and content that aligns with their primary target market segment. In addition, in adherence with search engine optimization (SEO) best practices, they place appropriate keywords phrases throughout their website. Since SEO involves both the use of keyword phrases and links from other websites, the students plan social media campaigns on their choice of platforms (such as Twitter, Facebook, Instagram, SnapChat and BuzzFeed) in an attempt to drive traffic to their website. Then through constant trial and error of creating and posting new content on both their website and their social media platforms, the students engage in active experimentation throughout the entire exercise guided by both the weekly website and social media analytics they gather and analyze. In line with the notion of experimentation, the students are evaluated on the number and nature of the experiments they run, namely, the changes they make to their website and social media content after analyzing their data. When simple options are exhausted and the analytics continue to demand further changes, we see students more from adjusting content to changing themes in the social media campaigns.

Many courses are incorporating experiential learning exercises, such as the one outlined here, into their coursework. This exercise (project) in particular could be especially valuable in a variety of contexts, specifically in topics such as social media platforms and analytics in the information system curriculum and advertising or marketing analytics in the marketing curriculum. The project could be adapted to fit each of these topics, aligned with the overall learning objectives of the corresponding course and executed to achieve a successful experiential learning result.

5 The Innovation

5.1 Project Overview

The project consists of three parts: one-week set-up, three-week execution and the final presentation. Please note that the time-frames described assume that the project is run as a final project in the second half of the semester. If the project is planned as a semester-long project in a course, the time-frames need to be appropriately adjusted. During the project introduction or preparation to launch, the students, in teams, are asked to brainstorm either a product line to market or a cause to support, such as raising awareness about recycling or developing a kindness initiative across campus, and then builds a brand presence online. Simultaneously, they develop a demographic and psychographic profile of the primary target market segment they wish to pursue. To ensure accountability, we require that each student in a project team choose and document the main project task she intends to oversee, for example, website design, social media content, Google analytics, or Hootsuite. They are also asked to name a project leader. All of these are designed to improve communication and team dynamics. The responsibility each student take on helps with performance evaluation at the end. The team then builds a website, adds keywords, and establishes their social media platforms. During the next three weeks, the teams build an online digital presence by posting daily to their social media platforms and, they use web and social media analytics to inform content and delivery. The project only runs for three weeks because we have found that project fatigue occurs after three weeks, also there is a significant downturn whenever a holiday (Thanksgiving in fall) or break (spring) interrupts the project. In the third or final phase of the project, the students reflect on their learning defining their lessons learned and key takeaways in the form of a final presentation. For many students, this final reflection is one of the biggest learning moments of the term.

To illustrate the execution of the project we use a running example based on one of the recent projects completed in this course. One student group was inspired by the UN report on climate change and its impact on polar bears. Their project was to create awareness about polar bears and the project was called
“Bearawareness”. The students identified the target market as 19-25 year olds who were animal lovers, and conscious of the environment.

5.2 Website Design

Both the website context and content must align with the target market. With a customer persona in mind, students are encouraged to avoid chasing the Google algorithm and focus on answering the user’s questions. Web-design principles, such as the use of negative space and colors, readable font, content layout, and navigation are stressed. Website keyword phrases or potential search-terms are identified and strategically embedded within the content. Following our example on “Bearawareness”, utilizing their web design skills, they created the website shown in Figure 2 and embed key phrases to increase site visibility (SEO) as shown in Figure 3.
5.3 Promotional Items

In order to stress the significance of customer conversion, we include a selling component. While we mainly want the students to see the flows on online traffic through web design and social media, we also want them to understand how difficult it is to convert visitors into customers. If a team is focusing on a cause, we ask them to communicate to the visitor that all proceeds of product sales will go towards supporting that cause. If the team is building a brand, we ask the students to contribute any profits they earn to a charity of their choosing. Therefore, each group creates a unique design, complete with a logo to put on a t-shirt, mug, or other promotional item which is made available for sale through Teespring, a platform that permits users to design products online, set the selling price, and requires no cash outlay up-front.

Figure 4a. Sample Products on Teespring – Pierre the Bear for Bearawareness

Figure 4a shows a product that supports our running example. A “buy” button on the group’s website is hyperlinked to Teespring for purchase of the item (see figure 4b). Students are not penalized if they do not sell anything; this component is only included for insights on conversion.

Figure 4b. Link from website to product purchase to track conversion
5.4 Social Media

Students have 21 days to gain as many followers, likes, and fans and to drive traffic to the site and to sell their unique promotional items. Students are required to promote their website using at least three social media platforms.

![Sample Twitter and Instagram Posts for BearAwareness](image)

**Figure 5a. Sample Twitter and Instagram Posts for BearAwareness**

Based on the target market and where its members hang out online (identified using Forrester (2007) POST, People, Objective, Strategy and Technology framework), these platforms may include Facebook, Twitter, Instagram, Pinterest, LinkedIn, YouTube, Google+, and Buzz Feed (see figure 5a). Blogging through their proprietary website is encouraged as well (see figure 5b). The students are strongly encouraged to develop rich, original content that will engage, entertain, excite, and potentially educate their target market.
The Hootsuite social media management platform is used to compose and post content to the multiple social media accounts. Hootsuite’s scheduling feature allows students to maximize engagement with their target audience by selecting a specific day/time to post social content or by using its auto-schedule algorithm. Each week, results from Google and social media analytics are analyzed and students make adjustments to their website content, social media content, and combinations of social media platforms to increase website traffic and customer conversion rates. In addition to the basic analytics such as number of visitors, time on site, pages viewed, and bounce rate, students analyze user behavior patterns (e.g. sequence of movements from page to page), traffic source (e.g. direct, organic, referral), and customer conversion rates. With enough traffic, they also gain demographic information such as age, gender, and interests (e.g. movie or tech lovers). While the project is running, the students must not only reveal their statistics and analyses (see figure 6), but also state what they plan to do differently based on these statistics. It is always a great “aha” moment when they use social media and web analytics to see if they actually did reach their markets the way they intended.
5.5 Analytics

To track traffic, Google code is embedded into the websites. Using analytics, the teams track the effect of the optimization and performance of their keywords and social media activities. Each week, the teams are required to post their key Google analytics metrics to a Google sheet and we spend the first twenty minutes of class discussing their statistics, the teams’ best practices, and the changes they made to their website and social media content based on the analytics. We explain that too often, companies collect, store, and analyze data but then neglect to make the necessary changes. By insisting on weekly report-outs of their changes, we ensure that the students learn the importance of follow-through. Finally, during this report-out we ask the teams to act as consultants to one another, offering helpful suggestions for what actions their classmates could take to drive more traffic to their website. An overview of the website analytics process is shown in figure 7 below:
5.6 **Final Deliverable**

The final deliverable is a 15 minute presentation followed by 5 minutes of Q&A. Following the presentation, the IT and marketing faculty pair meet and determine a single project grade. The grade is worth 15% of the students’ IT and marketing course grade. We provide the students with the following presentation outline:

1. **Inspiration and Target Market:** Explain the topic and the target market, including demographics and psychographics.
2. **Product:** Describe the promotional product (t-shirt, mug, etc.) and logo along with a photo.
3. **Website:** Show all pages of the website and describe how it adheres to the UI/UX principles outlined in class and how it aligns with the target segment.
4. **Keywords:** List the keywords and keyword phrases on the website and indicate where on the site they are included.
5. **Social Media:** Explain the strategy for reaching your target market and why it was effective or not. Describe the social media campaigns and how they align with your target market. Show examples of the rich, original content created to ensure customer engagement and describe how you adhered to the 4E (Excite, Educate, Experience and Engage) framework. Comment on your use of Hootsuite.
6. **Google analytics:** How much website traffic was generated? Show, explain, and comment on your Google analytics data at end of weeks 1, 2, and 3. Explain the changes made to the website and social media activities as a result of reviewing your Google analytics. Include all analytics.
data as an appendix. To keep track of their deliverable, the students are provided with the project timeline shown in Appendix B.

7. Social media analytics: How much social media traffic was generated? What type of content did your customers find most engaging? Support your statements with social media analytics. Explain the changes you made to your social media activities after analyzing this data. Include all analytics data, every social media post including likes/comments/date and time as well as overall engagement as appendices.

8. Lessons Learned: Describe your key takeaways? What would you do differently in the future?

9. Following the presentation, the project is graded using a rubric (see Appendix A) that encompasses activities from both disciplines. From a marketing perspective, students are judged based on the creativity of the design of the promotional item, the target market description, impact of the website, development of unique and impactful social media content on each platform, and lessons learned. From an IT perspective, the evaluation is based on the adherence to website design principles, the application of search engine optimization best practices, and the interpretation of and response to their Google and social media analytics. Furthermore, a comprehensive peer-evaluation is conducted in which each team member rates each of her peer teammates for contribution to both process and content. As each member has a specified role (sometimes multiple roles at different points in time), teammates evaluate the member on how well she executed that role. The peer-evaluations play a significant role in the final project grade.

6 Effectiveness and Challenges

When we first introduced the project into the course, students were unhappy with the intensity of the project and what they perceived to be a lack in structure. We then simply followed the approach we suggest to our entrepreneurial-minded students, namely, take action, reflect on the learnings, make adjustments, and then repeat the cycle. Over time as we tweaked the project and its instructions, we believe that the project has been very successful. The benefit that we (faculty) observed was that students treat their courses as silos and are unable to make connections between content and functional areas. This can create problems for students later as they begin their careers as very few organizations operate in silos. Following this course and the project, we noticed the change in how the students perceived this integration as adding value to their professional development. Our student evaluations have indicated an increased overall satisfaction with the two courses over the recent two years. Since nothing else about the courses have changed, we can, with some confidence, attribute this increased satisfaction to the role that the project has played. We further surveyed the students and asked them to rank (1=excellent, 2=good and, 3=bad) the project in terms of how it contributed to their learning experience in the course. Nine-one percent of the students rated the project as excellent or good. In addition, here is a sample of the students’ comments we received this semester:

“I really enjoyed the Digital Brand Project because it gave me a chance to use what we’ve been learning in class and apply it to a real situation.”

“I loved the Digital Brand Strategy project.”

“I thought this project was a great way to utilize all of the skills learned in this class. I loved it!”

“This was a very fun and educational project that helped us gain a lot of firsthand experience growing a brand and promoting a cause.”

“It was a great learning experience. I thoroughly enjoyed and learned a lot more than I expected going into it.”

Great Project. I learned a lot!

“It was one of the most interesting projects that I have done in [college]; furthermore, it was one that truly allows us to adapt and apply it to a real life situation.”

“It was fun participating in the project!”

“Really enjoyed learning Hootsuite and learning more about developing content - I will apply it to my businesses!”
“Great experience. I wish we had more time/weeks to do the project”

“It was really hard - we really felt how hard and time consuming producing original content is”

We also had the students rank the topics covered in the class based on how valuable/useful that topic was to their learning and growth. Topics related to this project such as Web Design, UI/UX, Google Analytics and the Digital Brand Strategy project were all ranked highly right below Coding, and Databases. In light of the fact that more than 50% of the students surveyed planned to major in something other than information systems and marketing, our data appears to indicate that the effectiveness of delivering foundational content in both marketing and information systems was elevated by the design and execution of the integrated project. Moreover, this project prepares students for more advanced electives like marketing analytics, digital marketing, business analytics, and social media strategy. Additionally we have seen an increase in the enrollment of both marketing and IT electives. While we are unable to directly attribute this to the project, students interested in concentrating in marketing stated that after the project, they felt more prepared for a career in digital marketing and all students exited the two courses with a clear understanding of the need to be tech savvy, regardless of their concentration. From the marketing perspective, throughout the marketing course, students engage in thoughtful discussion and analysis on understanding target markets, creating unique content for specific audiences, understanding how content engagement builds brand awareness and loyalty, and developing the right structure and cadence to engage audiences without creating fatigue. Many students consider themselves “experts” in social media because they are frequent users. However, once they realize the difficulties of creating unique content and driving engagement, they understand that social media and digital marketing are a marriage of both art and science, and being a user does not equate to being an expert.

The biggest challenge we have faced with the project is the need to stay current with the software that the students encounter in the project. This includes not only Weebly, Teespring, Google Analytics, and Hootsuite, but also the social media platforms they elect to use. For example, with the heightened congressional focus on data security, the students’ Facebook business pages were occasionally shut down with no explanation. In addition, we needed to update our various project documents to include even minor changes to the user interfaces of the applications used.

One of the most interesting challenges has been the students’ choice of project topics. As our student population comes from very diverse backgrounds globally, politically, and socio-economically, the students occasionally struggle finding common topics that they all feel passionate enough to commit to for three weeks. Additionally, while we want to promote student creativity and create a forum for them to engage in freedom of expression, as representatives of the college, they must adhere to its brand policies and in some instances, the suggested project ideas have violated those principles. Our project description clearly prohibits projects involving promotion of tobacco, alcohol or illegal drugs. Projects around political issues have also presented challenges when not all team members are comfortable with a given stance. In all instances, we have tried to work with the students on team building exercises to come up with project concepts that appeal to the entire group as we have found that the most successful teams tend to be the ones where all participants are passionate about the cause. Finally, there are expected constraints on the use of either the college’s or third-party logos. Teespring’s stringent intellectual property check helps to ensure that students do not violate copyrights.

7 Conclusion

In this paper we have described a pedagogical innovation that helps both information systems and marketing educators effectively deliver not only foundational concepts but also practical applications in functional contexts that are of interest to students. As suggested by Eisenberg and Johnson (2002), this project effectively integrates information system skills by directly relating these skills to the content area curriculum and to classroom assignments. Further, the project pulls the content together in a logical and systematic manner. The team activities and the need to take on leadership roles during the execution of the project promotes the acquisition of soft-skills. The collaborative project described is jointly planned and taught by the faculty from both functional areas. Whereas this innovation combines Information systems and marketing, we feel that similar projects could be designed to integrate information systems with other business disciplines such as finance, accounting or operations management.
We have described the learning goals for the project, the project time-line (or plan), and provided an illustrative exemplar for each of the artifacts and deliverables created during the execution of the projects so that other faculty may recreate the project at their own institutions. We have further described the key challenges to running this project and the lessons we have gleaned from implementing it at our institution. As the project is embedded within two foundational courses, it was not easy to evaluate the effectiveness of the project using our course evaluations and student opinion. We did, however, conduct independent surveys to gauge the effectiveness of the project and we have presented the results here. Finally, we have described the culture of our institution that has helped to enable our success with the design and implementation of a cross-disciplinary project. While we have accomplished this on a large scale (all sections of the IT and marketing foundation courses), we suggest that faculty at other institutions start small and prove success by partnering with a colleague and creating an integrated project that illustrates how IT is the key enabler of efficiency and effectiveness in all disciplines. This could be a trusted colleague or a friend from the other discipline. While we partnered with marketing in the project described in this paper, we can envision collaborating with our accounting faculty on Robotic Process Automation and our operations faculty on blockchain and Internet-of-Things (IoT).
References


### Appendix A: Grading Rubric

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<th>Points Earned</th>
<th>Grading Components</th>
<th>Points Earned</th>
<th>Information Systems</th>
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<tr>
<td></td>
<td><strong>Marketing</strong></td>
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<td><strong>Information Systems</strong></td>
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<td></td>
<td>(3 points) – Logo and product design consistent with brand message</td>
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<tr>
<td></td>
<td>(10 points) Website Home page – content and design About Us page Contact page In-site links Balance of images and content</td>
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<td></td>
<td>(10 points) Target Market (5 pts) Target market description (5 pts) Target market alignment across activities</td>
<td></td>
<td>(10 points) SEO Keywords Placement of keywords (body, title, image titles) Revision of keywords throughout project</td>
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<tr>
<td></td>
<td>(20 points) Social Media (10 pts) Adherence to 4E model (10 pts) Development of unique and original content</td>
<td></td>
<td>(5 points) Social Media Use of three platforms (2) Daily posts Links to website from SM posts Hootsuite schedule</td>
</tr>
<tr>
<td></td>
<td>(10 points) Website Analytics Described changes made to website and social media accounts after reviewing the google and social media analytics.</td>
<td></td>
<td>(15 points) Website Analytics Show, explain, and comment in detail on the website (google) basic and acquisition analytics at each checkpoint: (5 pts) Checkpoint #1 (5 pts) Checkpoint #2 (5 pts) Checkpoint #3 Explain the changes made to the website and the social media campaigns after checkpoint #1 and #2.</td>
</tr>
<tr>
<td></td>
<td>(5 points) Lessons Learned--Described what you learned from this project.</td>
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<td></td>
<td>(2 points) Overall presentation--cohesiveness, preparation, etc.</td>
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## Appendix B (Sample Project Timeline)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Due Dates (Sample Dates shown)</th>
<th>Deliverable</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Set-Up</strong></td>
<td>Wednesday March 9</td>
<td>(1) Design a t-shirt for your cause or your target market based on a demographic (2) create a website, using Weebly (<a href="http://www.weebly.com">www.weebly.com</a>), to market your cause. Make sure you add a link to your product on Teespring. (3) Embed Google’s website traffic tracking code into your website (refer to the Google Analytics instructions on Blackboard). Test your analytics after 48 hours to make sure Google is tracking your site analytics.</td>
</tr>
<tr>
<td><strong>Project Review</strong></td>
<td>Wednesday March 24</td>
<td>Post your website URL to Google drive as indicated in Blackboard. We will review each website and t-shirt design in class.</td>
</tr>
<tr>
<td><strong>Project Launch</strong></td>
<td>Monday March 28</td>
<td>Take a snapshot of your Google analytics for inclusion in your end-of-project report (baseline). Go live with your website and Teespring (<a href="http://www.teespring.com">www.teespring.com</a>) campaign and launch your first social media push. When designing your social media campaign, be sure to follow the POST model. Use Hootsuite to schedule your social media posts.</td>
</tr>
<tr>
<td><strong>Checkpoint #1</strong></td>
<td>Wednesday April 6</td>
<td>Take a snapshot of your Google analytics for inclusion in your end-of-project report. Based on your analytics, make changes to your website content, keyword placement, or social media activities. Launch your second social media campaign. Use Hootsuite to schedule your posts.</td>
</tr>
<tr>
<td><strong>Checkpoint #2</strong></td>
<td>Wednesday April 13</td>
<td>Take a snapshot of your Google analytics for inclusion in your end-of-project report. Based on your analytics, make changes to your website content, keyword placement, or social media activities. Launch your third social media campaign. Use Hootsuite to schedule your posts.</td>
</tr>
<tr>
<td><strong>Checkpoint #3 and Project End</strong></td>
<td>Wednesday April 20</td>
<td>Take a snapshot of your Google analytics for inclusion in your end-of-project report. Discuss and record your lessons learned.</td>
</tr>
<tr>
<td><strong>Final Presentation Due</strong></td>
<td>Sunday April 24</td>
<td>Submit your final presentation.</td>
</tr>
</tbody>
</table>
About the Authors

G. Shankaranarayanan (Shankar) is the Glavin Honors Chair and Professor of Information Technology and Management in Babson College. He obtained his Ph.D. in Management Information Systems from The University of Arizona, Eller School of Management. His research has appeared in several leading IS/IT journals, won best paper awards at WITS and ICIQ, and focuses on data management and data quality management. He serves as the Area Editor of the *International Journal of Information Quality* and as an Associate Editor of the *ACM Journal for Data and Information Quality*. He received the Computer World Laureate honor from the *Computer World Honors Program*.

Donna Stoddard is Interim Associate Dean of Faculty, chair of the Technology Operations, and Information Management Division (2003-2009, 2017-2018 and 2019-present), and Associate Professor of Information Technology Management (ITM). Dr. Stoddard has taught undergraduate, graduate and executive education courses related to management information systems, entrepreneurship and business strategy. Before joining the Babson faculty, Dr. Stoddard was on the faculty at Harvard Business School where she taught in the MBA and executive education programs. She is a graduate of Creighton University, University of North Carolina at Chapel Hill, and Harvard Business School where she received her BS, MBA and DBA, respectively. Her research has been published in *Accounting Horizons*, *Journal of Business Strategy*, *Entrepreneurship, Education and Pedagogy*, *Harvard Business Review*, *Journal of Information Systems*, *Management Information Systems Quarterly* and other publications. Before entering the doctoral program at the Harvard Business School, Dr. Stoddard spent several years in various marketing positions at IBM where she worked with large financial services and manufacturing companies and she was on the audit staff at Peat Marwick Mitchell.

Ruth Gilleran brings over 20 years of industry experience to the classroom. Prior to joining Babson College in 2001, Ms. Gilleran worked for Computer Associates where she was Assistant Vice President of Development for its business application division. While at Computer Associates, Ruth was responsible for the development of mainframe and midrange Business Intelligence, eCommerce, and ERP systems. Since joining Babson College in 2001, Ruth has demonstrated her versatility by teaching courses in entrepreneurship, analytics, and information technology in the college’s Undergraduate, MBA, Masters of Accounting, and Executive Education programs. In 2012, she was awarded the Dean's Award for Teaching Excellence in any program. Currently, Ms. Gilleran is the co-coordinator of the multi-section core undergraduate technology course. Ms. Gilleran's research interests include analytics, Internet of Things (IoT), and blockchain.

Lauren Skinner Beitelspacher (Ph.D., University of Alabama) is an Associate Professor and Chair of the Marketing Division at Babson College. Her research interests include: buyer-supplier relationships, retail management, and the retail supply chain. Her work has been published in numerous scholarly journals including: *Journal of Marketing*, *Journal of Applied Psychology*, *Journal of Retailing*, *Journal of the Academy of Marketing Science*, *Journal of Business Research*, and *Industrial Marketing Management*. She has also presented her work at numerous conferences and won several best paper in track awards at the Society for Marketing Advances and Academy of Marketing Science. Her research concentrates specifically on the relationships with retailers and manufacturers. Whenever possible, her research focuses in the athletic, outdoor, and sporting goods industry. In 2016, Lauren was named “Poets & Quants 40 under 40.”

Sandra Bravo is a Senior Lecturer in the Marketing Division at Babson College. She specializes in marketing strategy and communications and primarily teaches Principles of Marketing and the capstone course, Strategic Marketing. Prior to joining Babson, she taught at both the graduate and undergraduate levels at the Carroll School of Management at Boston College. In conjunction with teaching, Sandra also serves as a marketing consultant for small- and medium-sized businesses in the New England area. With an entrepreneurial spirit, Bravo Communications provides clients with corporate identity systems, marketing research, positioning strategy, value proposition determination, sales development programs, and copywriting for white papers, websites, and more. Prior industry experience includes a Marketing
Manager position at Handex of New England, a publicly held environmental company, responsible for marketing efforts along the East Coast. Additionally, she served as the first Marketing Specialist for Winter, Wyman & Company, New England’s leading recruitment firm. Sandra earned an M.B.A. in Marketing from Babson College and a B.A. in English from the University of Massachusetts Dartmouth.