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# 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 that every company constitutes a "digital" company have driven 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 face challenges in identifying effective delivery mechanisms to impart theoretical foundations and practical applications in functional contexts that students find relevant. In this paper, we describe how we designed and implemented a project that fulfilled the above needs and integrated information systems and marketing. We describe the motivation for this project, its learning objectives, and its innovative design and implementation, and we provide an example of the project to illustrate its execution. While this project could be a standalone piece in an information systems course, we show it to be an effective way to communicate how one can apply information systems in a different functional context.

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

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# 1 Introduction

Historically, educators in general and specifically in our institution (i.e., Babson College) have found it challenging to teach a core information systems (IS) 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 educators have found it relatively easy to draw and keep the attention of aspiring majors in IS, educators have found it difficult to do the same with students aspiring who major in other fields. Recently, this attitude has changed: technology applications' increasing popularity has driven non-information systems majors to take information technology courses. The many successful technology-based ventures, smart products, and companies such as Wayfair (which promises to allow shoppers to find what they want through technology and innovation) that have emerged in recent years have furthered the understanding that technology envelops (either directly or indirectly) every business. The importance of analytics in managing a business has helped students recognize the foundational role that technology plays in every business function. In a recent study, Wallace, Kelcey, and Ruzek (2016) confirmed that not only do students perceive the IS job market favorably but also that IS knowledge provides them with a competitive advantage in the marketplace. However, educators in business schools face challenges in finding effective delivery mechanisms that provide not only IS theoretical foundations but also practical applications in the contexts that students find relevant. As such, IS educators need to teach courses in a cross-functional setting to ensure that they cover the foundational concepts and show how other functional areas such as marketing, finance, operations, accounting and sales apply those concepts. Furthermore, industry now demands workers have cross-functional skills from all business functions, which includes 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, how to use social media platforms, and customer relationship management systems; accounting majors understand robotic process automation; and operations majors understand organizational systems such as enterprise resource planning and supply chain management.

Thus, IS curriculum developers and educators need to develop some innovative artifacts (such as projects and hands-on exercises) that help students learn foundational IS concepts in different functional contexts through experience. In this paper, we describe an innovative project that helps students learn foundational IS concepts, supports experiential learning in a different functional context, and provides cross-functional integration. The project we describe comes from a course, the Sophomore Management Experience (SME), that the faculty at a small college in the Northeast United States designed and offered. The opportunity for this course came about in 2012 when the college set out to redesign its sophomore curriculum. When investigating possible functional areas to integrate with IT/IS, two stood out: operations and marketing. The operations area provided more traditional integration options such as the role that technology plays in automating processes, the role that data plays in inventory management, and the application of analytics in the supply chain context. In contrast, the marketing area provided more "trendy" and "sexy" integration options given the growing need for organizations to have a presence on the Web and the growth in social media. Combined with the fact that marketing constitutes the second largest concentration in our college, we choose marketing as the context for testing our integrative innovation.

Once the faculty made the decision to integrate the IT and marketing areas, we needed to create a capstone project that showcased the integration and allowed students to apply what they learnt from each area. We first piloted the integrated course in 2014 and proposed the project in 2015. The project version that we describe in this paper evolved into its current form in 2017 after we experimented with and tuned it over more than two years. We recognize that many schools may not pair their marketing and IT courses/curricula. However, while we chose to run this project in an integrated fashion, one can run the project in its entirety as a standalone project in IS courses. As many educators do with traditional standalone IS courses, we divided our IT foundations course into three areas: digital strategy and data, digital marketing and analytics, and disruptive technologies. The second part (i.e., digital marketing and analytics) focuses on the concepts the students will need to succeed in the project (e.g., website strategy and design, search engine optimization (SEO), and Google and social media analytics). The first part (i.e., digital strategy and data) covers digital strategy, software development, user interface design, database design and implementation, data analytics, and data visualization. The third part (disruptive technologies) introduces students to emerging technologies such as robotic process automation), the Internet of things, and artificial intelligence. In the third part, we also introduce the students to coding using Python.

Research in management education defines soft skills as interpersonal skills such as communication and teamwork (Halfhill & Nielsen, 2007; Shuayto, 2013). Research has further demonstrated that

organizations obtain significant quality, productivity, and profit benefits by selectively hiring employees based on soft skills and leveraging them as a source of competitive advantage (Bartlett & Ghoshal, 2002; Hagen, Uden, & Wilkie, 2011). Ritter, Small, Mortimer, and Doll (2018) state that that soft skills have a critical role in workplace readiness and that educators should give them due consideration when designing and developing management curricula (Ritter et al., 2018). The innovative project that we describe in this paper helps students develop soft skills.

This paper proceeds as follows: in Section 2, we highlight the need to integrate IS curriculum and the importance of IS for marketing to motivate the project that we describe in this paper. We further describe the benefits of the integration to both the IS and marketing discipline. In Section 3, we describe the this project's learning objectives and the logistics we faced in executing the project. In Section 4, we explain how the project supports experiential learning and the importance of experiential learning. In Section 5, we describe the project's innovative design in detail, which includes the technology platforms we used in the project with a running example. In Section 6, we present the challenges we faced in creating the course. We also discuss the course's effectiveness in general and the project's in particular. Whereas this innovation combines information systems and marketing, we feel that educators should design similar projects to integrate information systems with other business disciplines such as finance, accounting, or operations management. Finally, in Section 7, we conclude the paper.

## 2 Project Motivation

Eisenberg and Johnson (2002) found that students can integrate information skills effectively when 1) the skills directly relate to the content area curriculum and to classroom assignments and 2) a logical and systematic information process model ties the skills together. The authors further state that both above requirements must be satisfied when instructors switch from teaching isolated information technology skills to integrating with other functional areas. Teachers design successful integrated information skills programs in collaborative projects that they jointly plan and teach. One can and should embed information technology skills instruction 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 that we describe here, we show how we successfully addressed both requirements above.

In order to thrive in today's competitive environment, all students (especially those who plan to major in a functional area that differs from information systems) must not only be tech-savvy but also have a firm grasp of how to strategically use technology. For instance, in Hubspot's 2018 (Hubspot, 2018) annual state of inbound marketing report, identifying the right technologies ranked fourth and managing the website ranked fifth out of nine possible responses to the question "What are your company's top marketing challenges?". To prepare future digital innovators and to show return on investment (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 business intelligence that organizations gather via analyzing data drives them. Every function in an organization depends on data and analytics to successfully develop and execute both functional and organizational strategies. Students in all majors need to understand data, analytics, and the tools and techniques that organizations use to gather and analyze data. Furthermore, we believe educators need to adopt an interdisciplinary and cross-functional approach that incorporates the foundational IS elements in a different functional context while providing students with an opportunity to apply those principles to contemporary challenges.

We believe that developing such integrated projects through collaborative instructions has significant mutual benefits to the disciplines involved. Furthermore, in our case, students somewhat drove the push to integrate. Technology (such as database marketing, social media platforms, Web development, and customer relationship management systems) clearly had an increasingly important role in marketing, which our incoming students knew. Hence, our marketing faculty did not need convincing about the benefits of an integrated project that involved marketing and information systems. Further, as part of our institution's mission to foster entrepreneurial thought and action, the institution as made a strong push to develop highly integrative and collaborative curriculum. Senior management support has accelerated innovation, and our faculty's dean encourages cross-disciplinary courses or projects such as the one we describe in this paper.

Internal processes promote such cross-functional innovation and collaboration. For instance, our college has various courses that form the sophomore curriculum's core courses. These courses cover IT/IS,

marketing, finance, operations, economics, and managerial accounting. When faculty significantly redesign any of these courses (as with our foundational IT/IS course), they share the new design with faculty involved in teaching other core courses. In doing so, they inform other functional areas about the content that they plan to teach, which, in turn, results in innovative ways to create "integration points" across two or more courses. As we mention in Section 1, the faculty significantly redesigned the IT/IS and the marketing courses starting in the 2012-13 academic year and piloted them in following year. As with any innovative integration, the project that we propose here evolved into its current form about five years later. To ensure the content remains fresh and to fine-tune both the content and projects to sync with changes in both technology and industry, the faculty rotates new faculty members into these sophomore foundational courses each year. To ensure a consistent student experience, a faculty coordinator oversees the course content and assessment and the faculty who teach in the program (which includes their development).

Our project focuses on marketing as the context to teach IS foundations. We offer two courses each semester: a course on IT and a course on the principles of marketing. 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, can also 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. We designed our curriculum and unique project to arm all students, especially marketing majors, with the strategic marketing skills and the technology and analytical skills to develop effective social media communication strategies to reach customers in a thoughtful and 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 highly sophisticated customer segments that organizations can experiment with to find the right ones for them (Ritson, 2017). Many organizations today use social media as a primary method to connect with customers. The opportunity to build relationships with customers through highly interactive two-way communication continues to increase how much money organizations spend on social media (Kharif, 2012). In this world where technology drives all functions in an organization, many IS students erroneously believe that an introductory IS course will focus only on foundations and coding. They disregard the critical thinking, research, and thoughtful analysis that go into implementing a successful functional strategy that effectively uses technology.

## 3 Learning Objectives and Preparation

The project has the following learning goals:

1) Learn how to best build a successful online brand presence with technology by understanding how to: 1) build and manage a website and content for it using target market centric content, 2) use SEO and target market centric keywords to increase your (i.e., students') website's visibility, and 3) 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 social media platforms. Furthermore, learn how to use this data to make informed and strategic decisions regarding changes to website design and content and to social media content and campaign strategies.

The project teaches the IT course and the principles of marketing course in conjunction. Thus, students take the principles of marketing course for 75 minutes before taking the IT course for 75 minutes immediately afterwards. 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 should cover and grade. Since the assessment involves both disciplines, instructors comprehensively review students' work as it relates to both disciplines and do not merely assess them on whether they completed certain tasks (e.g., website, SEO, Google analytics).

We launch the project amid a traditional 13-week semester. Prior to the launch, students participate in coursework to help them succeed in the project. The coursework in marketing involves understanding basic marketing strategy, building a brand, and targeting and segmentation. The coursework in information

systems involves understanding website strategy and design principles, SEO techniques, and social and Google analytics. In Figure 1, we present a schematic that shows the integrated project's components.


**Figure 1. Schematic Representation of the Project**

## 4 Experiential Learning

Learning activities with real-world connections enhance students' learning experience (Karns, 2005). Experiential learning explores more of the learning process than the cognitive process (Kolb, 1984). According to Kolb (1984), experiential learning comprises four learning modes with two continuums. Abstract conceptualization (thinking) and concrete experience (experiencing) anchor the first continuum, while active experimentation (doing) and reflective observation (reflecting) anchor the second continuum. This two-part cycle offers students the opportunity to use different learning styles throughout the learning process and to integrate both reflective and active behaviors. Experiential learning activities could include student teaching, internships, and consulting projects. Experiential learning positions students in conditions that encourage them 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, which allows for a more robust learning experience. Of the two types of experiential learning that Lewis and Williams (1994) identify, our project belongs to the classroom-based experiential learning. As we highlight in the following paragraphs, the project not only immerses the learners in an experience but also encourages them to reflect on the experience to develop new skills, attitudes, or ways of thinking (following how Lewis and Williams (1994) define experiential learning). According to Hamilton and Klebba (2011), as experiential learning tasks become more complex and challenging, higher-order critical thinking emerges. We see evidence of critical thinking in our students as they execute this project.

We developed the project considering experiential learning's tenets. 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 IS skills by creating a website with both a context and content that aligns with their primary target market segment. In addition, in adherence with SEO best practices, they place appropriate keywords phrases throughout their website. Since SEO involves using both keyword phrases and links from other websites, students plan social media campaigns on a platform that they choose (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, they engage in active experimentation throughout the entire exercise with guidance from both the weekly website and social media analytics they gather and analyze. In line with the experimentation notion, instructors evaluate students on the number and nature of the experiments they run (i.e., the changes they make to their website and social media content after analyzing their data). When they exhaust simple options and the analytics continue to demand further changes, we see students change from adjusting content to changing themes in the social media campaigns.

Many courses incorporate experiential learning exercises such as the one we outline here into their coursework. In particular, our project could add value in various contexts, such as in courses in the IS curriculum that examine social media platforms and analytics and courses in the marketing curriculum that examine advertising or marketing analytics. Instructors could adapt the project to fit each topic in a way that aligns with a course's overall learning objectives and produces a successful experiential learning result.

# 5 The Innovation

## 5.1 Project Overview

The project comprises three parts: a one-week set-up, a three-week execution, and the final presentation. One should note that the time frame we describe assume that one runs the project as a final project in a semester's second half. If one plans to run the project as a semester-long project in a course, one would need to adjust the time frame accordingly. When introducing or preparing to launch the project, we ask students 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 to build a brand presence online. Simultaneously, they develop a demographic and psychographic profile of the primary target market segment that they wish to pursue. To ensure accountability, we require that all students in a project team individually choose and document the main project task they intend to oversee (e.g., website design, social media content, Google analytics, or Hootsuite). We also ask that they name a project leader. We use these accountability steps to improve communication and team dynamics. The responsibility each student takes on helps with evaluating the performance of that student as a team member 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 use Web and social media analytics to inform content and delivery. The project runs only for three weeks because we have found that project fatigue occurs after three weeks and that holidays/breaks interrupt the project. In the project's third and final phase, the students reflect on their learning whereby they discuss the lessons they learned and their key takeaways via a final presentation. For many students, this final reflection constitutes one of the biggest learning moments in the semester.

To illustrate how we execute the project, we use a running example based on a recent project that students in one group completed in the course. Inspired by a United Nations report on climate change and its impact on polar bears, the students decided to create awareness about polar bears via a project that they called "Bearwareness". The students identified the target market as 19-25 year olds who love animals and care about the environment.

## 5.2 Website Design

Both the website context and content must align with the target market. With a customer persona in mind, the faculty encourages students to avoid chasing the Google algorithm and focus on answering users' questions. We also stress that students should follow Web-design principles (e.g., about negative space, colors, font, content layout, navigation, and so on).Following SEO principles, the faculty emphasizes that the students identify keywords (or phrases) and strategically embed the keywords (or phrases) in the content of the website.. For example, the students who conducted the "Bearwareness" project used their

Web design skills to create the website that we show in Figure 2 and embedded key phrases to increase site visibility (via SEO) as we show in Figure 3.

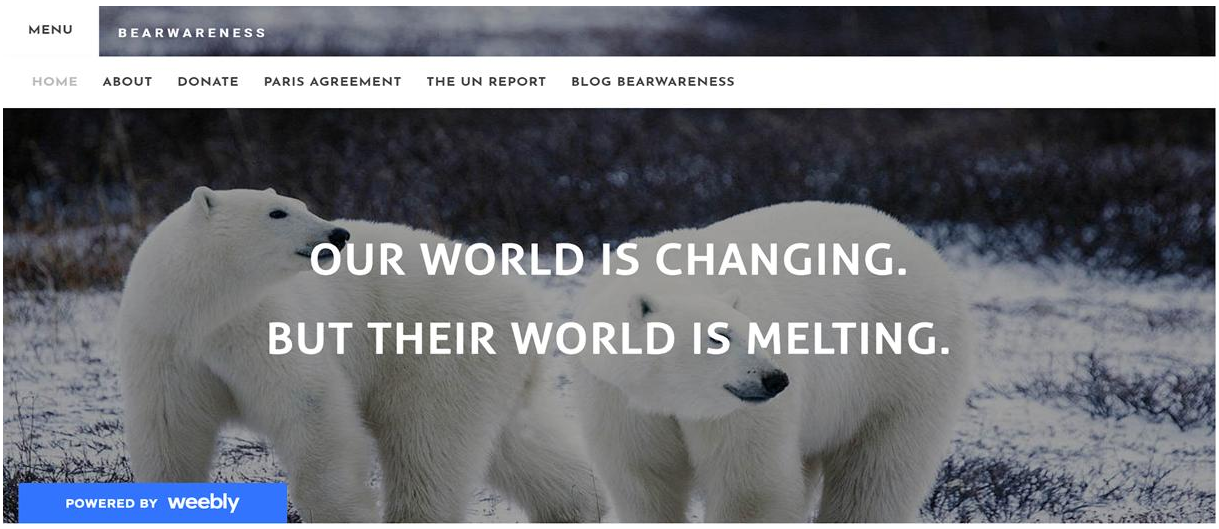



**Figure 2. Website for Bearwareness**

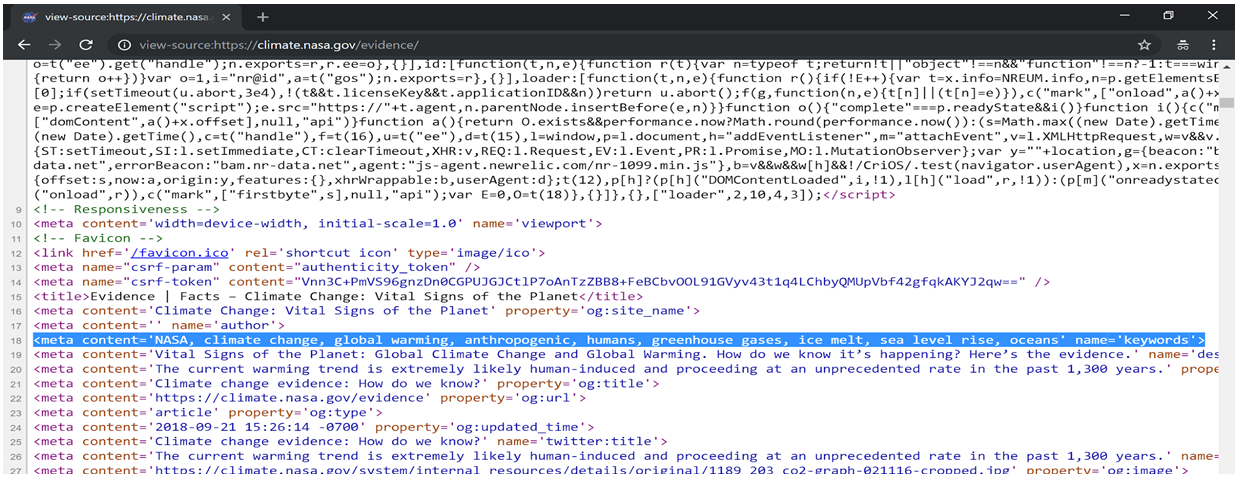



**Figure 3. Embedding Sample Keywords for SEO**

## 5.3 Promotional Items

In order to stress the significance of customer conversion, we include a selling component. While we mainly want students to see how online visitors move between the website and social media platforms, we also want them to understand how difficult it is to convert visitors into customers. If a team focuses on a cause, we ask them to communicate to visitors that all proceeds from product sales will go towards supporting that cause. If the team builds a brand, we ask the students to contribute any profits they earn to a charity that they choose. Therefore, each group creates a unique design complete with a logo to put on a t-shirt, mug, or other promotional item that they make available for sale through Teespring, a platform that permits users to design products online and set the selling price without an up-front cash outlay.


**Figure 4. Sample Products on Teespring: Pierre the Bear for Bearwareness**

Figure 4 shows a product that supports our running example. A "buy" button on the group's website contains a hyperlink to the item on Teespring (see Figure 5). We do not penalize students if they do not sell anything; we include this component only for insights on conversion.

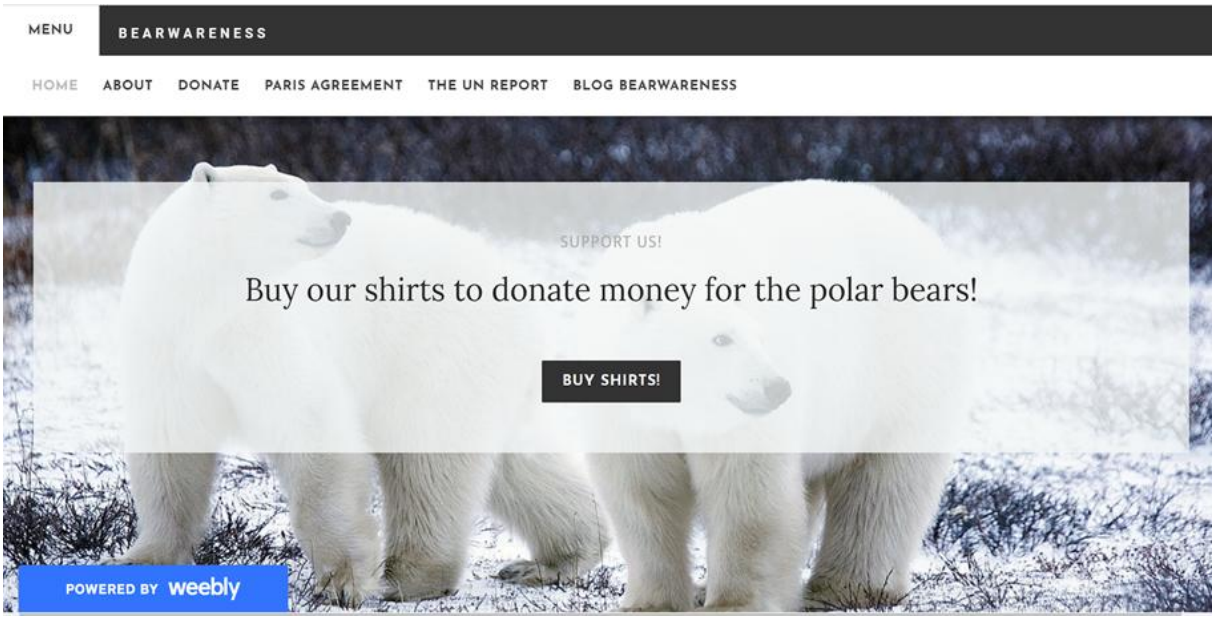



**Figure 5. Link from Website to Product on Teespring**

## 5.4 Social Media

Students have 21 days to gain as many followers, likes, and fans as they can, to drive traffic to their website, and to sell their unique promotional items. We require students to promote their website using at least three social media platforms. Based on the target market and where its members hang out online (which students identify using Forrester's people, objective, strategy, and technology (POST) framework (Jennings, Favier, & Overby, 2007)), these platforms may include Facebook, Twitter, Instagram, Pinterest, LinkedIn, YouTube, Google+, and Buzz Feed (see Figure 6). We encourage students to blog through their proprietary website (see Figure 7) and to develop rich, original content that will engage, entertain, excite, and potentially educate their target market as well.

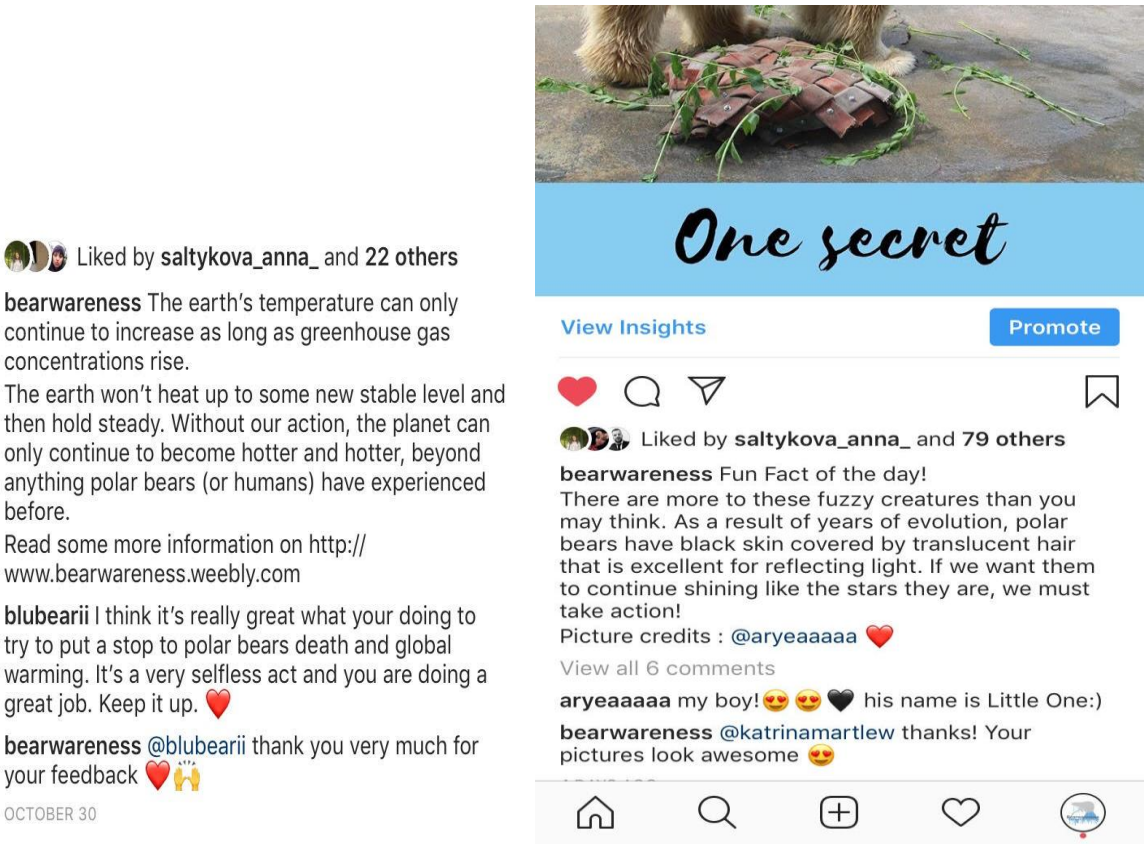



**Figure 6. Sample Twitter and Instagram Posts for Bearwareness**

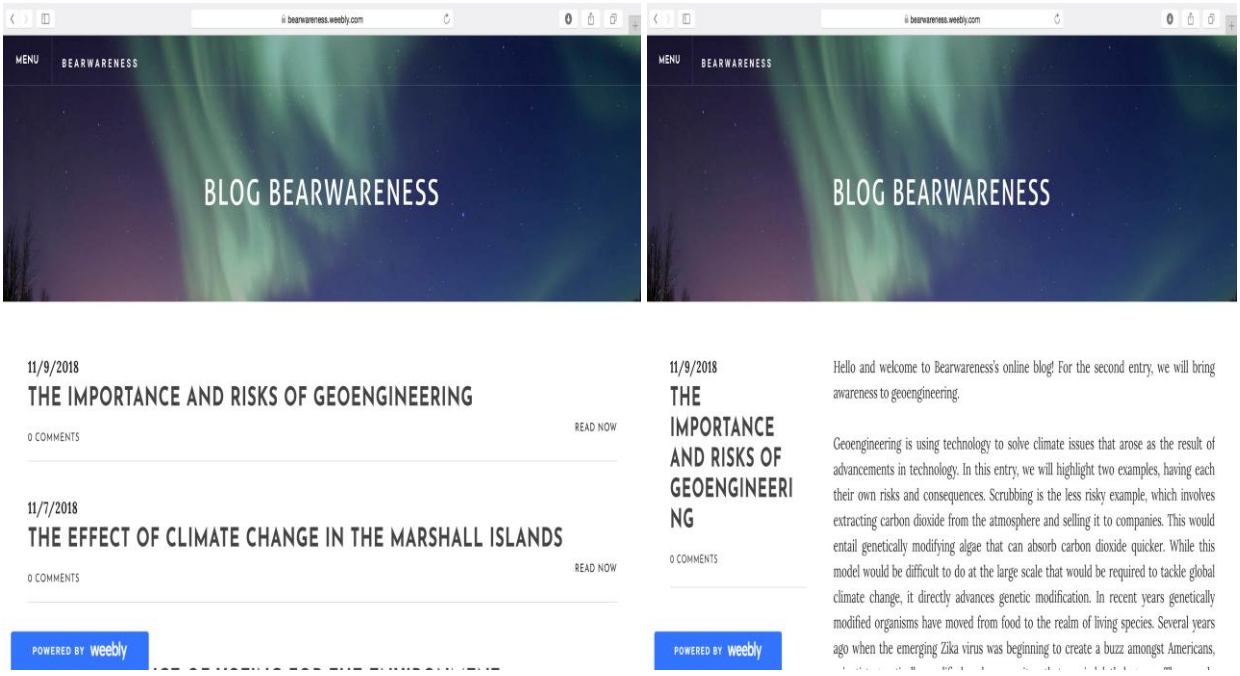
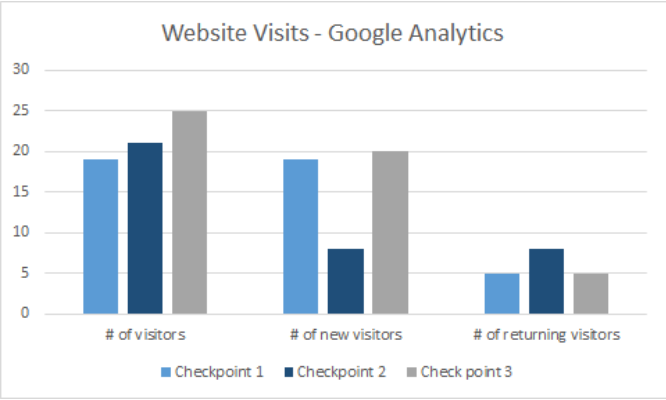
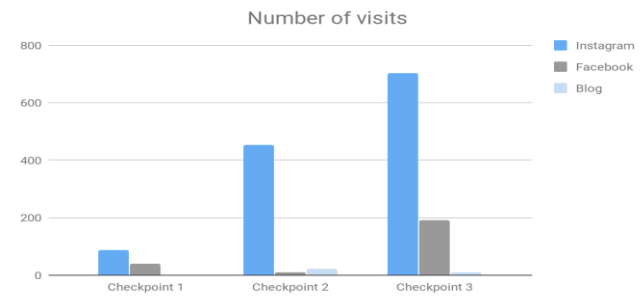



**Figure 7. Sample Blogs for Bearwareness**

Students use the Hootsuite social media management platform 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, students analyze results from Google and social media analytics and make adjustments to their website content, social media content, and 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 technology lovers). While the project runs, the students must not only reveal their statistics and analyses (see Figure 8) but also state what they plan to do differently based on these statistics. They always have a great "aha" moment when they use social media and Web analytics to see if they actually did reach their markets in the way they intended.




| | Bouce Rate | Avg. Time Per Session |
|---|---|---|
| | | |
| Checkpoint #1 | 75% | 0:34 |
| Checkpoint #2 | 53.66% | 1:21 |
| Checkpoint #3 | 51.61% | 0:37 |
| YTD | 59.65% | 0:58 |



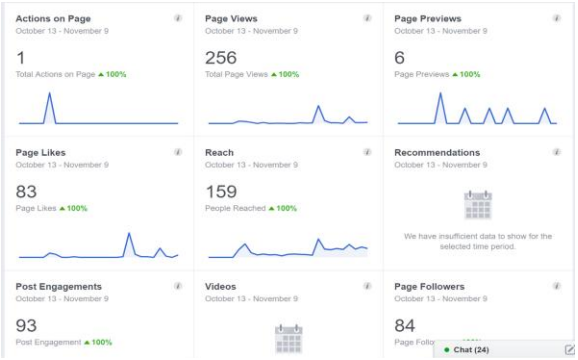




**Figure 8. Screenshots of Sample Analytics for Bearwareness**

## 5.5 Analytics

To track traffic, students embed Google code into their websites. Using analytics, they track how well their keywords and social media activities perform and gauge the effect of their SEO activities. Each week, we require the teams to post their key Google analytics metrics to a Google sheet, and we spend the first 20minutes 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 companies often collect, store, and analyze data but neglect to make the necessary changes. By insisting on that they report on their changes each week, we ensure that the students learn about the need to follow through. Finally, during this activity, we ask the teams to act as consultants to one another by offering helpful suggestions for what actions their classmates could take to drive more traffic to their website. We show the website analytics process in Figure 9 below.

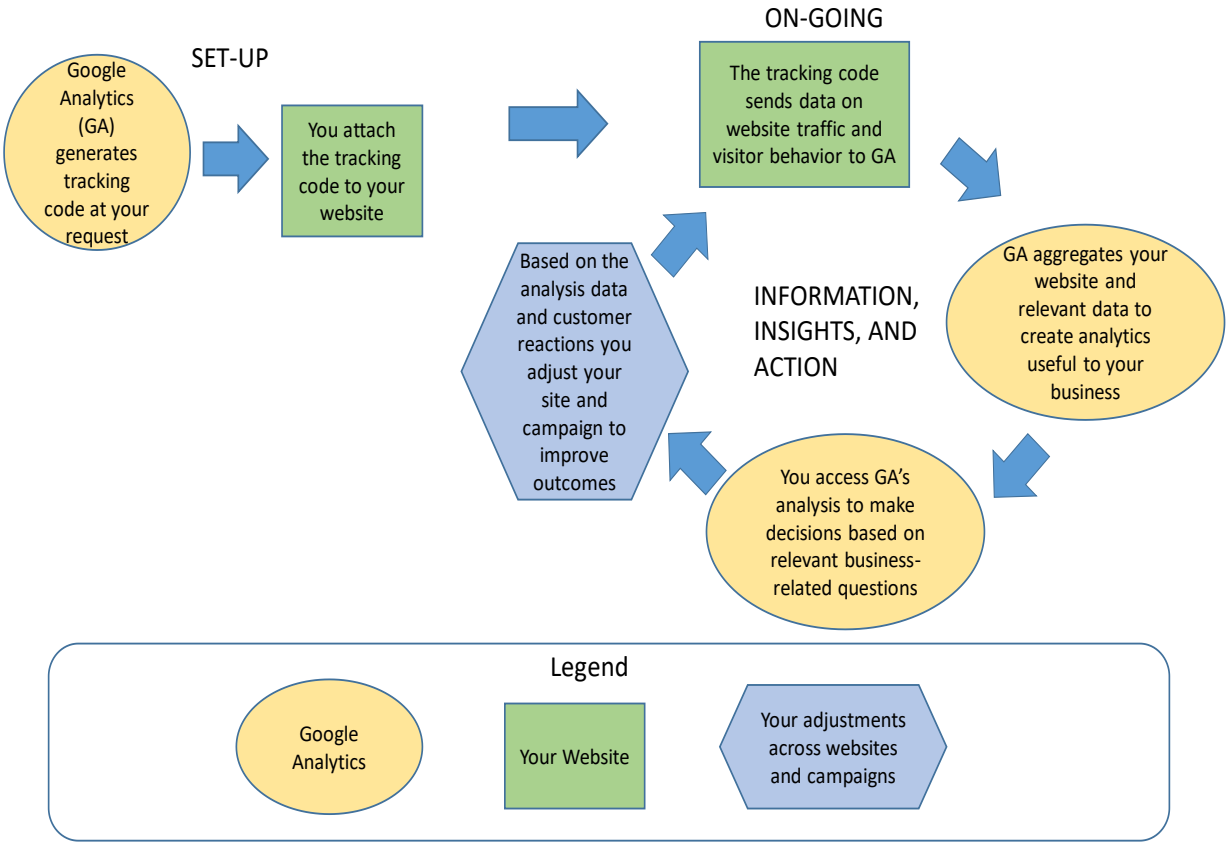



**Figure 9. Overview of the Website Analytics Cycle**

## 5.6 Final Deliverable

As the final deliverable, students deliver a 15-minute presentation before answering questions in a five-minute question-and-answer (Q&A) session. Following the presentation, the IT and marketing faculty pair meet and determine a single project grade. The grade comprises 15 percent 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, which includes 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 appear.
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 you created to ensure customer engagement and describe how you adhered to the excite, educate, experience, and engage (4E) framework. Comment on how you used Hootsuite.
6) Google analytics: how much website traffic did you generate? Show, explain, and comment on your Google analytics data at end of the first, second, and third weeks. Explain the changes you made to the website and social media activities after reviewing your Google analytics. Include all analytics data as an appendix. To keep track of their deliverable, we provide students with the project timeline that we show in Appendix B.

7) Social media analytics: how much social media traffic did you generate? 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 (which includes likes/comments/date and time), and overall engagement as appendices.
8) Lessons learned: describe your key takeaways. What would you do differently in the future?

Following the presentation, we grade each project using a rubric (see Appendix A) that encompasses activities from both disciplines. From a marketing perspective, the evaluation assesses the promotional item's design creativity, the target market description, the website's impact, whether the students developed unique and impactful social media content on each platform, and lessons learned. From an IT perspective, the evaluation assesses the degree to which the students adhered to website design principles, whether they applied SEO best practices, and how they interpreted and responded to their Google and social media analytics. Furthermore, we conduct a comprehensive peer evaluation whereby each team member rates their teammates based on their contributions to both process and content. As each member has a specified role (sometimes multiple roles at different points in time), teammates evaluate members on how well they executed that role. The peer evaluations play a significant role in the project's final grade.

## 6 Effectiveness and Challenges

When we first introduced the project into the course, students expressed dissatisfaction with the project's intensity and a perceived lack in structure. We then simply followed the approach we suggest to our entrepreneurial-minded students (i.e., take action, reflect on what we learnt, make adjustments, and then repeat the cycle). As we tweaked the project and its instructions over time, we believe that the project has been very successful. We have observed that students often treat their courses as silos and do not make connections between content and functional areas, which can create problems for students later as they begin their careers as 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 indicated an increased overall satisfaction with the two courses in the project over the recent two years. Since nothing else about the courses has changed, we can attribute this increased satisfaction with some confidence 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. We found that 91 percent rated the project as excellent or good. In addition, some comments we received from students include:

> *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 students rank the topics that the class covered based on how valuable/useful they found it to their learning and growth. They rated topics related to this project such as Web design, UI/UX, Google

analytics, and the digital brand strategy project highly right below coding and databases. Given that more than 50 percent of the students we surveyed planned to major in something other than information systems and marketing, our data appears to indicate that the integrated project's design and execution elevated how well the SME course delivered foundational content in both marketing and information systems. Moreover, this project prepares students for more advanced electives such as marketing analytics, digital marketing, business analytics, and social media strategy. Additionally, we have seen an increase in student enrollments in both marketing and IT electives. While we cannot directly attribute this increase 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 clear understanding about 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 frequently use it. However, once they realize the difficulties that one faces in creating unique content and driving engagement, they understand that social media and digital marketing involve both art and science and that being a user does not equate to being an expert.

The biggest challenge we have faced with the project concerns the need to stay current with the software that the students encounter in the project (i.e., 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, Facebook occasionally shut down students' business pages 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 that students used.

One of the most interesting challenges has been the project topics that students have chosen. As our student population comes from very diverse global, political, and socio-economic backgrounds, 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 students to freely express themselves, they must adhere to its brand policies as college representatives. Thus, in some instances, we have had to prohibit them from using project ideas that have violated those principles. For instance, our project description clearly prohibits projects that promote 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, we have faced expected constraints about using either the college's or third-party logos. Teespring's stringent intellectual property check helps to ensure that students do not violate copyright.

# 7 Conclusion

In this paper, we describe a pedagogical innovation that helps both IS and marketing educators effectively deliver not only foundational concepts but also practical applications in functional contexts that students have an interest in. As Eisenberg and Johnson (2002) suggest, we developed a project that effectively integrates IS skills by directly relating them to content area curricula and to classroom assignments. The project pulls the content together in a logical and systematic manner. Furthermore, we encourage students to acquire soft skills via team activities and have them take on leadership roles when conducting their projects. While faculty from both the IS and marketing functional areas jointly plan and teach the collaborative project we describe, we feel that educators could design similar projects to integrate information systems with other business disciplines such as finance, accounting, or operations management.

We describe the learning goals for the project, describe the project time line (or plan), and provide an illustrative exemplar for each artifact and deliverable that students create when conducting the project so that other faculty may recreate the project in their own institutions. Furthermore, we describe the key challenges that we have faced in running this project and the lessons we have gleaned from implementing it at our institution. Given that we have embedded the project in two foundational courses, we have not always found it easy evaluate its effectiveness using our course evaluations and student opinion. We did, however, conduct independent surveys to gauge its effectiveness and we present the results in this paper. Finally, we describe the culture at our institution that has helped to enable our success in designing and

implementing a cross-disciplinary project. While we have done so 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 enables efficiency and effectiveness in all disciplines. While we partnered with marketing in the project that we describe in this paper, we can envision collaborations with our accounting faculty on robotic process automation and our operations faculty on blockchain and the Internet of things (IoT).

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# Appendix A

**Table A1. Grading Rubric**

| Points earned | Grading components | Points earned | Grading components |
|---|---|---|---|
| | **Marketing** | | **Information systems** |
| / 3 | Logo and product design consistent with brand message | / 3 | Logo and product design consistent with brand message |
| | | | **Website** |
| | | / 10 | Home page: content and design<br>About us page<br>Contact page<br>In-site links<br>Balance of images and content |
| | **Target market** | | |
| / 5 | Target market description | | |
| / 5 | get market alignment across activities | | |
| | | | **SEO** |
| | | / 10 | Keywords<br>Placement of keywords (body, title, image titles)<br>Revision of keywords throughout project |
| | **Social media** | | **Social media** |
| / 10 | Adherence to 4E model | / 5 | Use of three platforms<br>Daily posts<br>Links to website from SM posts<br>Hootsuite schedule |
| / 10 | Development of unique and original content | | |
| | **Website analytics** | | **Website analytics** |
| / 10 | Describe and explain changes made to website and social media accounts after reviewing the Google and social media analytics. | | Show, explain, and comment in detail on the website (Google) basic and acquisition analytics at each checkpoint. Explain the changes made to the website and social media campaigns after the first and second checkpoints. |
| | | / 5 | First checkpoint |
| | | / 5 | Second checkpoint |
| | | / 5 | Third checkpoint |
| | **Lessons learned** | | **Lessons learned** |
| / 5 | Describe what you learned from this project. | / 5 | Describe what you learned from this project. |
| | **Overall presentation** | | **Overall presentation** |
| / 2 | Cohesiveness, preparation, etc. | / 2 | Cohesiveness, preparation, etc. |
| | | | |
| / 50 | **Total** | / 50 | **Total** |

# Appendix B

**Table B1. Sample Project Timeline**

| Activity | Due dates (sample dates shown) | Deliverable |
|---|---|---|
| **Project set-up** | Wednesday 9 March | 1) Design a t-shirt for your cause or your target market based on a demographic<br>2) Create a website using Weebly (www.weebly.com) to market your cause. Make sure you add a link to your product on Teespring.<br>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.** |
| **Project review** | Wednesday 24 March | Post your website URL to Google drive as indicated in Blackboard. We will review each website and t-shirt design in class. |
| **Project launch** (start of three-week long project execution) | Monday 28 March | **Take a snapshot of your Google analytics for inclusion in your end-of-project report (baseline).** Go live with your website and Teespring (www.teespring.com) 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. |
| **Checkpoint 1** (review analytics and make changes to your activities) | Wednesday 6 April | **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. |
| **Checkpoint 2** *(review analytics and make changes to your activities)* | Wednesday 13 April | **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. |
| **Checkpoint 3 and project end** | Wednesday 20 April | **Take a snapshot of your Google analytics for inclusion in your end-of-project report.** Discuss and record your lessons learned. |
| **Final presentation due** | Sunday 24 April | Submit your final presentation. |

## About the Authors

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**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). She has taught undergraduate, graduate and executive education courses related to management information systems, entrepreneurship and business strategy. Before joining the Babson faculty, she was on the faculty at Harvard Business School where she taught in the MBA and executive education programs. She graduated from 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 others. Before entering the doctoral program at the Harvard Business School, she 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, she 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, she is the co-coordinator of the multi-section core undergraduate technology course. Her research interests include analytics, the Internet of things (IoT), and blockchain.

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**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, she 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. She earned an MBA in Marketing from Babson College and a BA in English from the University of Massachusetts Dartmouth.