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Linking Teams With Technology: Integrating Databases in Experiential Exercises in an Introductory Business Course

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The arrival of the “virtual generation” on campus has shifted the pedagogy in most business courses. Students in this generation not only are adept in navigating an array of mobile devices, but also have distinct preferences for courses that enable them to leverage their technology skills. Despite their affinity for technology, many of these students may not be as aware of the nuances related to digital content and often rely upon familiar but less relevant online resources to support course projects. This article presents several experiential exercises developed to enable students to leverage technology via database hyperlinks in an introductory business course. Each experiential exercise and related hyperlink was designed to support interdisciplinary discussion related to various components of a business plan in the introductory course. Factors that impact student use of databases, as well as contextual issues that support databases in this interdisciplinary course, are also reviewed. *Organization Management Journal*, 11: 243–257, 2014. doi: 10.1080/15416518.2014.969365

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Although most first-year business students arrive on campus increasingly more “tech savvy” than their predecessors, few arrive with substantive business skills or experience. Previous employment experiences may expose students to a particular functional discipline, such as marketing, which tends to shape their perception of the entire business process. The curriculum of most business school tends to reinforce these functional “silos” by exposing students to various courses during the first and second year that tend to be taught through the disciplinary lens (Atwater, Kannan, & Stephens, 2008; Navarro, 2008; Porter & McKibbin, 1988). As a consequence, students rarely see the relationship between various functional perspectives until their senior-year courses, which typically require integration of these diverse functional disciplines.

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Critics of management education also observe that the pedagogical approach used in many business courses is often faculty rather than student centered. Faculty members teaching introductory courses may tend to emphasize content using lectures, due to the limited experience of first-year students. However, many students are not able to process information presented in this format, nor can they retain key concepts that have little relevance to their current experience (Erickson, Peters, & Strommer, 2006; Kuh, 2005; Medlin, Vannoy, & Dave, 2004; Miller, 2004; Whetten, 2007). As importantly, concepts that are easily understood during a class lecture may not as easily be transferred within a professional context, impacting both individual and organizational performance in the future (Armstrong & Mahmud, 2008; Herbig, Bussing, & Ewert, 2001).

Alternate pedagogical approaches have been proposed by Kolb and Kolb (2005), who believe that learning occurs through a process of active engagement that provides opportunities for experimentation and reflection to support students as they develop their conceptual framework. Burke and Moore (2003) also describe the interplay of instructional methods and learner motivation as key dimensions of the learning process that ultimately impact instructional outcomes. While both of these models rely upon an experiential framework to engage students in the learning process, this pedagogical approach may not be entirely sufficient in teaching the virtual generation.

As Proserpio and Gioia (2007) note, “We are no longer teaching the visual generation described by Gioia and Brass (1986) but a virtual generation” accustomed to the ubiquity of technology to support their learning process. This generation is not only defined by a high level of connectivity to their peers, but its members are also adept in concurrently navigating both synchronous and asynchronous platforms supported with an array of mobile devices such as iPads and smartphones. Conventional laptops have been a part of their secondary educational experience, with class assignments often supplemented via tablets or other mobile devices to enrich the learning experience. Consequently, it is important to leverage technology to support the learning process of these tech-savvy students.

Despite their affinity for technology, many first-year business students may not be familiar with online resources that

are available to support their learning process. Often students may lack sophistication in evaluating online data or may not be familiar with relevant business databases due to their limited professional experience (Manuel, 2002). In other cases, students may not understand the nuances involved in using specific databases to evaluate business issues or may experience difficulty in connecting diverse concepts. Proserpio and Gioia (2007) believe that use of structured hyperlinks may temper these issues and support students as they make virtual connections between various course concepts. Our pedagogical approach expands upon their conceptual model and offers several learning modules with hyperlinks to cross-functional databases developed for an interdisciplinary business course. All of the course exercises are designed to leverage technology and align digital content with the learning style of the virtual generation.

BLENDING TECH AND TOUCH GOALS IN AN INTERDISCIPLINARY COURSE

Many courses in the School of Business are designed to actively engage students in the learning process through experiential exercises in team building, simulations, and case analysis. While these courses are designed to develop both conceptual and interpersonal skills, students often did not integrate concepts from various disciplinary courses until enrolling in upper level courses. In 2000, the School of Business decided to invert this process and launch an interdisciplinary course, Introduction to Business (Business 100), for all first-year students in the business school. While the course exposes students to all functional disciplines, it concurrently requires students to integrate these diverse business concepts in a final business plan, which is presented to a team of corporate executives at the end of the semester.

While the business plan provides a framework for students to develop an interdisciplinary perspective on the entire business process, a primary learning goal of the course focused on encouraging students to leverage technology to access cross-functional databases to support decisions related to their business plan. Since most students were adept in accessing technology and comfortable with asynchronous learning, a conventional content delivery system (Blackboard) was used to develop discrete learning modules related to specific business plan components and course concepts. Students were easily able to access these modules in class to support team discussions and could also virtually access these learning modules at any time during the semester. Since undergraduate students “hold high expectations for anytime, anywhere access to course materials as well as an ability to leverage personal digital devices inside and outside of class,” it was important to select a platform that would easily enable students to access the learning modules (Dahlstrom, Walker, & Dziuban, 2013). Although a 2013 study by EDUCAUSE of more than 100,000 undergraduate students found that students are often

discouraged from using smartphones and tablets in class, all of the experiential exercises designed for the course encouraged students to leverage technology to support their business plan discussions.

While most students can easily navigate an array of mobile devices, it was also recognized that many first-year students may not be quite as adept in identifying online resources or databases to support decisions related to their business plan. Often students tend to rely upon Google or other brand-name search engines to guide their search process or may use various apps that do not capture relevant business data. Consequently, it was important to develop hypertextual connections to support student analysis related to the various business plan components. These connections are essential in an introductory course and allow students to use related databases to make connections between course concepts and their application to the business plan.

Proserpio and Gioia (2007) describe the use of hyperlinks to facilitate content connections and a similar approach was used in the introductory course. Rather than rely upon students to “search” the Internet for relevant databases, hyperlinks related to specific business plan components were embedded in all of the PowerPoint presentations developed for class discussions. Each experiential exercise in class was designed to expose students to a new online database, and subsequent team discussions provided an opportunity to immediately use the database to evaluate issues associated with a specific plan component (Medlin, Vannoy, & Dave, 2004). Likewise, all of the learning modules with the embedded hyperlinks for the course were also available via Blackboard, which enabled students to virtually access the databases during online discussion with team members.

While all of the embedded databases provided information for team analysis, they also provided a forum for team members to evaluate varying degrees of risks associated with implementing decisions related to their business plan. As these pragmatic considerations became apparent, teams often used related databases to actively search for solutions to the various components of their business plan. These collaborative revisions not only improved plan components, but also exposed students to the realities encountered in a dynamic business environment (Combs & Elden, 2004).

Although embedded hyperlinks can facilitate learning, databases that are difficult to use or that present challenges may deter students. While there are many factors that may influence technology acceptance, a seminal article by Davis (1989) suggests that ease of use as well as performance features will influence student decisions to use a database. Databases that do not provide relevant data or that present glitches in the search process are less likely to be used in current assignments, and less likely to be adapted by students for future projects. Consequently, a secondary learning goal focused on developing an assessment tool to identify those databases that made it easier for students to complete their business project, and also

to identify databases that were likely to be used by students in the future for similar business projects.

COURSE EXERCISES: LINKING PROJECT TEAMS WITH TECHNOLOGY

Although many introductory business courses do rely upon experiential exercises to reinforce core course concepts, all of the following experiential exercises were designed to enable student teams to leverage technology and access relevant databases to support decisions related to their business plan. All of the embedded hyperlinks for each team exercise provide a framework for students to consider in evaluating specific components of the business plan, and all of the databases have distinct attributes to facilitate team discussion rather than to offer a predetermined solution for a business plan component.

Since experiential learning was such an integral part of the course, classes were designed to meet twice per week for 75-minute intervals with 30–35 minutes reserved for team discussion related to the various business plan components. New course concepts related to the business plan module were typically reviewed in the first 25 minutes of class with opportunity for class discussion. At the conclusion of the class discussion, students were next exposed to the relevant database related to the course concept and encouraged to access the database in class. Unique database features and application to the business plan were reviewed during the next 15-minute period as teams convened and used the related hyperlink to access the relevant database. As teams use databases to consider various aspects of their business decisions, faculty members frequently circulate among various teams to facilitate dialog about various databases. These team discussions were designed to encourage collaborative decision making and also provided an opportunity for students to immediately apply new concepts to their emerging business plan.

All of the experiential exercises were developed to complement a custom text, *Business Essentials* by Ronald J. Ebert and Ricky W. Griffin. This text includes four interdisciplinary components that are designed to expose students to various business disciplines such as management, marketing, and finance, as well as to the ethical and regulatory dimensions inherent in starting a new business and developing a product. These experiential exercises and links to the relevant databases are described in the following sections.

The first course component, *The Contemporary Business World*, is designed to expose students to ethical issues involved in managing their business, as well as to issues associated with corporate social responsibility. This course component also introduces students to the values of the university, which are focused on social responsibility and engagement in the global community. Three related experiential exercises are available to help students to incorporate these concepts in the design of their company.

Team Exercise 1: Mission Statement

Since corporate partnerships are an integral component of the strategic plan of the School of Business, Johnson & Johnson (JNJ) was selected as the corporate partner to support the Business 100 course. Students are asked to review the JNJ homepage during the first week of class to understand the JNJ mission and to specifically focus on those products produced by the Consumer Products Division. This division has a diverse portfolio of consumer products that provide a corporate framework for students to consider in launching their product and developing their business plan (www.jnj.com/).

The mission statement exercise requires student teams to write the first draft of their own mission statement. Class discussions are supported by PowerPoint presentations, text concepts, and an online comparison of mission statements from JNJ with other organizations. Direct online connections to the websites of selected organizations such as JNJ, Starbucks, and GAP are also used to illustrate key differences among various mission statements. These comparisons help students to understand that few perfect “models” exist and that mission statements generally reflect the unique focus and philosophy of an organization (<http://www.jnj.com/>).

During the semester, teams visit the homepages of various companies to evaluate various mission statements. Although the initial written statements developed by students often mimic the comparison organization, most teams revise their mission statements during the semester as they connect with their product and their company. Final mission statements generally reflect unique products attributes and statements related to firm philosophy, as illustrated in the business plan in the appendix.

Team Exercise 2: Statement of Social Responsibility

This exercise encourages student teams to evaluate various ways to gauge social responsibility. Concepts related to various models of social responsibility ranging from low-impact (minimal involvement in a community) to high-impact firms (dedicated programs/services) are discussed in class. Online examples from JNJ’s homepage are used in comparison to eco-friendly firms such as Starbucks that have specific sustainability programs designed to preserve the environment (<http://www.starbucks.com/responsibility>).

Student teams are asked to consider organizations that will directly benefit from their product or service and to design specific activities (donate percentage of firm revenues, sponsorships, public events) to support their nonprofit organization. Most student teams select nonprofit organizations that link directly to their product, although there is a course list of regional and global nonprofit organizations. Partnerships with an environmental organization, for example, have been selected by student teams designing eco-friendly diapers, as illustrated in the social responsibility section of the business plan in the appendix. In contrast, student teams working on nutritional

products for children have selected organizations ranging from global organizations such as UNICEF to regional food programs (<http://www.northwic.org>).

Team Exercise 3: Legal Structure

Concepts related to the legal structure of the company are discussed during the third week of class, as teams evaluate the benefits and risks associated with various legal structures such as partnerships and limited liability corporations. Issues related to taxation, legal liability of the firm, and protection of organizational assets are considered by students as they develop their legal structure. Online resources such as www.legalzoom.com and www.bizfilings.com are discussed, along with the use of legal experts, in this phase of business development. In the initial phase of developing their business plans, many students opt for partnership agreements despite some of the related tax issues associated with this model. Student teams tend to revisit this issue as they develop their organizational structure, and define specific roles and related liability issues associated with partnership agreements as illustrated in the legal structure in the business plan in the appendix.

The second component of the course, *Managing the Business*, provides an opportunity for teams to design the organizational structure of their company, select key personnel to manage their company, and consider issues involved in the production of their product. Students are required to define those human relations skills that are integral in operating their company, as illustrated in the job positions and organizational structure section in the appendix.

Team Exercise 4: Organizational Structure and Organizational Function

Since some students in the course have prior work experience, team discussions focus on various technical and human relations skills that are integral to operations. Students are asked to develop specific positions for their company using conventional job postings from www.monster.com. Although teams can easily identify key executive positions in their organization, most students initially forget to include staff positions such as sales representatives or production managers that are essential to operations in the initial phase of this exercise (see appendix).

In order to help teams consider other key organizational functions, graphs illustrating various options for organizational structure including functional, divisional, and matrix structures are presented during class discussions. These charts provide a framework for students as they design their organizational structure and expand the range of positions required to operate their company. At this juncture, students are also required to connect to the Excel financial spreadsheet template for the course and to develop a human resources budget for their company. Salary reductions for key executives often accompany this exercise, as students begin to see the relationship between executive

compensation and company revenues as illustrated in the salary databases www.bls.gov and www.payscale.com.

Team Exercise 5: Production/Quality Management

Production is a multifaceted issue that encourages students to examine the relationship between various components of the production process. Production factors such as plant location, layout/capacity, and quality control are emphasized and provide tangible issues for class discussions. Plant location is often the most difficult issue for many teams to reconcile as they evaluate plant location and associated manufacturing costs. Class discussions focused on proximity to target markets, distribution channels, and transportation costs are evaluated via www.loopnet.com, which provides a visual illustration of the costs associated with various manufacturing locations. Students also evaluate issues associated with plant ownership versus leasing arrangements and are required to project operating costs for their manufacturing plant using their Excel financial spreadsheet. Other operational costs such as utilities, shipping costs to distribute products, and general office expenses are also incorporated into the financial spreadsheets (see appendix).

Since the production process is often difficult for students to visualize, video clips from external sources such as the Discovery Channel are introduced in class discussion. Students can observe the entire production process as well as equipment and supplies used in the production process of a product that is similar to their company product. The video clip in the appendix on disposable diapers, for example, provides a framework to describe the manufacturing process used for a team project on eco-friendly diapers (<http://science.discovery.com/videos/how-its-made-disposable-diapers.html>). External videos stimulate discussion on issues related to plant capacity, as well as the optimal layout for the manufacturing plant. Teams are also required to select one or more quality control methods such as surveys, sampling, or external certification programs to monitor product quality during the production process.

The third course component, focused on *Marketing Principles*, provides an overview of the entire marketing process including product pricing, promotion, and key distribution channels for the team product. Although the text includes many conventional promotional approaches, one of the more interesting aspects of the course is the increased use of social media by teams in the course. Since teams must link their marketing plan to their electronic financial spreadsheets, students must continually reconcile their “wish list” with the economic reality of a new business with limited resources.

Team Exercise 6: Marketing (4 P's of Marketing)

While most teams identify key market segments during the initial product selection process, the first part of this exercise requires students to use external databases such as www.census.gov to evaluate discrete demographic variables such as age, gender, educational level, and so on, which may ultimately affect

the consumer purchase decision. Students must refine their initial sales projections based on these demographic variables, as well as the expected purchasing patterns of their target market. This data is used to forecast sales projections and is used to revise preliminary sales and revenue projections on the financial spreadsheets for the course.

Product pricing decisions are also evaluated during subsequent class discussions with student teams. Industry databases such Datamonitor (www.datamonitor.com) and S & P Net Advantage (www.netadvantage.standardandpoors.com) are used to evaluate industry competitors and their product portfolios. Students are encouraged by faculty to compare their team product with two industry competitors, and to assess their pricing strategy in relation to these competitors. Often teams with a premium pricing strategy realize that it may be difficult to sustain their pricing strategy due to the tactics used by established competitors in their industry, as illustrated in the pricing discussion of the business plan in the appendix.

Teams must also consider marketing decisions related to product promotion and distribution channels. Conventional retail channels such as discount, specialty, and convenience stores are contrasted with firms using direct distribution channels. Many teams opt for some type of direct distribution model that combines an online presence with features to capture customer data. Promotional strategy discussions also compare existing promotional tools such as advertising and personal selling with emerging social media tools such as blogs and Facebook. Often cost considerations prompt students to adopt social media as one of their primary promotional tactics, augmented with some type of personal selling via sales representatives during the early phase of their business plan. All associated marketing expenses are concurrently linked to the Excel income statement, with students observing the impact of their marketing decisions upon their potential net income.

The final component of the course is *Managing Information*, which integrates operational expenses from the Excel financial spreadsheet into the first draft of the income statement. Students are also required to project cash requirements for their company, as well as to project the loan amount needed from investors to launch their new business.

Team Exercise 7: Income Statement & Cash Requirements

A separate Excel software program is used to assist students with financial analysis in the course. This program allows data to be easily transferred from each functional area of the plan to the final income statement and provides students with a comprehensive overview of their financial decisions. Company expenses are often challenged by executives during the presentation of the business plan, which provides authenticity to the funding request (see appendix).

Likewise, the income statement and projected cash requirements are used to project the loan request. Decisions related to short-term, intermediate, and long-term financing are reviewed

with executives during the plan presentation. Students must explain the rationale for their loan request while also concurrently supporting the financial assumptions for specific functional components of their business plan (see appendix). Although a separate Excel software package is used to assist students with financial calculations in the course, similar Excel programs can easily be developed to emphasize particular plan components.

DATABASE ASSESSMENT

Despite the prevalence of technology in the class environment, most students are not routinely exposed to business databases prior to the introductory business course. Likewise, many students may not understand the relationship between various databases, their relevance in completing their business plan, or their relevance in supporting business decisions in the future. As importantly, some students may not believe that a particular database will improve their performance on their final business plan or students may find that a particular database is difficult to use. Davis (1989) suggests that both performance features and the effort extended in using technology may play a role in decisions to use and adapt technology in the future.

A primary objective of the course was to encourage students to leverage technology and use cross-functional databases to support interdisciplinary decisions related to their business plan. Consequently, it was important to understand whether performance features influenced current decisions to use a database in the course, and whether performance features influenced decisions to use a database in the future. In order to assess these variables, a scale based on the Final Measurement Scales for Perceived Usefulness and Perceived Ease of Use was adapted for this study with the permission of the author (Davis, 1989).

Since prior use of a database could also potentially influence student perceptions of a particular database, students were initially asked to rate their familiarity with all of the 17 databases that were used in the course. Student were specifically asked whether they had used any of the databases prior to enrollment in the Business 100 course since prior use may impact a student's ability to navigate a database in the course and also may impact impressions about database performance.

Next, a performance variable was selected for analysis for all of the 17 databases used in the course, and students were asked to rate whether a particular database made it easier for them to complete their project. This variable was measured using a 5-point Likert scale, ranging from *strongly agree* to *strongly disagree*, and allowed students to rate each of the databases based on whether the database made it easier for them to complete their project. Databases that are not perceived to contribute to project performance tend not to be used by students, while databases that make it easier to complete a project are more likely to be adapted by students.

Since current perceptions of a database may influence decisions to adapt a database in the future, students were then asked whether they planned to use any of the databases in the future. Future intentions related to a particular database were measured via a 5-point Likert scale, ranging from *strongly agree* to *strongly disagree*, which allowed students to rate their intentions to use a specific database in the future.

Sample

Although 11 sections of the Business 100 course were offered during the spring semester of 2013, only the six sections taught by faculty members with 5 years or more of experience in teaching the course were included in the survey. Likewise, the honors section composed of students with higher grade-point averages (GPAs) was also excluded to avoid skewing survey results. Those course sections included in the survey did not significantly differ in demographic composition, academic experience, or class size from those sections excluded from the database study.

The initial survey link to SurveyMonkey was sent via e-mail to 141 students enrolled in the six Business 100 sections after their final business plan presentation to the executives and after submission of their final written business plan to their faculty member. The survey instrument included a letter approved by the institutional review board (IRB) of the university informing students that their participation was completely voluntary and that their responses were confidential and would be used for research and to improve the course databases in the future. Additional e-mails along with the link to SurveyMonkey were

also sent on three other occasions to students, requesting their participation in the study. After a 1-month period, the survey was closed at the end of the semester, resulting in a 55.3% response rate based on 78 useable student surveys. Several surveys were excluded due to incomplete responses, inability of the students to answer specific survey questions, or failure to complete the entire survey.

Results

Prior to enrolling in the Business 100 course, many of the students had some familiarity with some of the business databases that were used to support specific plan components. In particular, 52% of the students had previously used the ups.com database that is used to estimate shipping costs to distribute company products for the business plan, and 45% of the students were familiar with the census.gov database, which is used to develop both regional and national sales projections for the team product. While 40% of the students had previously used monster.com, which is designed to help students develop job descriptions for their company executives, only 32% of the students had used payscale.com to search for salaries commonly associated with these various positions. Likewise, only 35% of the students were familiar with excel.com despite use of this database in an accounting course in the previous semester, while 29% of the students had some familiarity with the JNJ.com homepage, as shown in Table 1.

Since this is a first-year course, few students were familiar with standard business databases such as S & P Net Advantage (16%), Datamonitor (15%), or Mintel (23%), and

TABLE 1
Student familiarity with individual databases prior to enrolling in course

	Homepage web address	Percent with prior familiarity
JNJ	www.jnj.com	29
Intellihealth	www.intellihealth.com	16
LegalZoom	www.legalzoom.com	13
BizFilings	www.bizfilings.com	12
Monster	www.monster.com	40
Payscale	www.payscale.com	32
Loopnet	www.loopnet.com	20
HowItsMade	www.howitsmade.com	27
Thomas	www.thomas.net	12
PharmEqpt	www.pharmaceuticalequipment.net	20
UPS	www.ups.com	52
Truck	www.truckpaper.com	12
U.S. Census	www.census.gov	45
S & P Net Advantage	www.S&PNetAdvantage.com	16
DataMonitor	www.Datamonitor.com	15
Mintel	www.mintel.com	23
Excel	www.excel.com	35

it was anticipated that most students would not have previously used these databases. Many databases associated with functional disciplines such as legalzoom.com (13%), bizfilings.com (12%), and intellihealth.com appear to be familiar to some students enrolled in a prior law or health management course; however, the majority of students in the course were not familiar with these databases (Table 1).

If students believe that a database may make it easier to complete their project, they may be more willing to use this database to analyze issues related to their business plan. More than one-half of the students believed that the some of the databases did make it easier to complete specific plan components, as noted in Table 2. In particular, the JNJ homepage and Datamonitor were mentioned by 66% of the students, while Standard and Poor's Net Advantage and Mintel were cited by 58% of the respondents. Since many of the standard business databases such as Datamonitor and Mintel were not familiar to most students prior to the course, a companion writing assignment was also used in conjunction with faculty instruction on accessing these databases during the class. It appears that class instruction along with the written assignment may have made these databases easier to access for students, and may have provided additional reinforcement of learning objectives. Likewise, students who had used databases such as monster.com (60%), census.gov (55%), or ups.com (56%) prior to the course were also likely to agree that these databases made it easier to complete their project. Less than 50% of the students, however, believed that specialized databases such as legalzoom.com (49%), bizfilings.com (48%),

TABLE 2
Database made it easier to do project

	Percent agree	Percent neutral	Percent disagree	Percent did not use
JNJ	66	23	2	9
Intellihealth	49	31	3	17
LegalZoom	49	34	5	12
BizFiling	48	32	5	15
Monster	60	26	5	9
Payscale	52	28	3	17
LoopNet	52	26	8	14
HowItsMade	50	28	5	17
Thomas	45	31	6	18
PharmEqpt	49	29	6	16
UPS	56	29	3	12
Truck	48	28	4	20
U.S. Census	55	28	5	12
S & P Net	58	25	5	12
Advantage				
DataMonitor	66	25	4	5
Mintel	58	26	5	11
Excel	49	32	2	15

TABLE 3
Database useful in completing future projects

	Percent agree	Percent neutral	Percent disagree	Percent did not use
JNJ	55	30	6	9
Intellihealth	45	34	5	16
LegalZoom	45	36	6	13
BizFiling	44	36	6	14
Monster	64	31	6	9
Payscale	47	31	8	14
LoopNet	45	36	8	13
HowItsMade	47	31	6	16
Thomas	41	37	5	17
PharmEqpt	42	37	5	16
UPS	53	31	6	10
Truck	46	31	6	17
U.S. Census	51	31	5	13
S & P Net	51	30	6	13
Advantage				
DataMonitor	58	28	8	6
Mintel	53	28	8	11
Excel	50	30	55	15

or thomas.net (45%) made their project easier to complete. Although legalzoom.com and bizfilings.com both provide links to various legal structures for the business plan, the text used in the course also provides an array of legal structures and can easily be used as an alternative to the electronic databases to complete this business plan component.

Although the JNJ database was helpful in completing the business plan, most students (55%) recognized that the JNJ database may not be quite as relevant in completing future projects (Table 3). In contrast, many of the standard business databases such as Datamonitor (58%), Mintel (53%), Standard & Poor's (51%), and Excel (50%) were recognized as databases that would be helpful in completing projects in the future. Databases that were used prior to the course such as monster.com (64%), ups.com (53%), and census.gov (51%) were also mentioned as databases that would be useful for future projects. In contrast, many of the specialized databases including intellihealth.com (45%) and legalzoom.com (45%) were less likely to be used by students to complete projects in the future. These findings are not entirely surprising due to the specialized nature of these databases, which were designed to complement the experiential exercises for the course.

DISCUSSION

All of the experiential exercises developed for the business plan were specifically designed to align with the learning style of the virtual generation, and to encourage students to leverage technology and use databases to support various aspects of their

business plan. As anticipated, all of the undergraduate students in the course were adept in using technology, with most students using an array of mobile devices and conventional laptops to support their business decisions. Students were encouraged to use these devices in both class discussions and virtual team discussions, with technology providing a platform for accessing the relevant databases for the business plan. While technology enabled students to access relevant databases, there are also some contextual and organizational factors that appear to facilitate this process.

In particular, it appears that prior exposure to a database can influence student perceptions about that database as well as intent to use that database in the future. Databases that are familiar to students or that have been used in the past are often the first to be selected by students to complete their projects. Developing experiential exercises, which incorporate familiar databases in the early phase of a project, may be somewhat repetitive but it also appears to provide a mechanism to reinforce prior learning. Students can easily navigate familiar databases, and using these databases in the early phase of a project appears to positively reinforce prior learning and confidence in the search process. Faculty members can identify familiar databases through a class survey that asks students to rate their familiarity with specific databases during an initial class assignment, and can use this information as a foundation in creating subsequent experiential exercise linked to these databases.

Faculty demonstration of a database during an experiential exercise also appears to influence student perceptions of a particular database. Many of the business databases such as Mintel were not familiar to students prior to the course and required further discussion during an experiential exercise. Consequently, it was important for faculty to demonstrate unique database features in class so that students could understand the various nuances and specific application to their business plan. These demonstrations encourage students to concurrently manipulate data in the class environment and identify potential glitches in accessing related information. Often databases that are perceived as challenging may deter students from using a database, and it appears that interactive class presentations may moderate student concerns about database performance and compatibility with diverse mobile platforms.

Supplemental written assignments linked to key business concepts, such as competitive analysis, also appear to have a positive impact on future use of a database. Although faculty feedback was provided on written assignments, discussion boards would further enhance the feedback process by allowing peers as well as faculty to provide suggestions on selected databases. Discussion board questions would also provide another channel to support students as they confront more challenging databases, and provide a forum to share perspectives on ideas to expeditiously manipulate various databases.

Since challenges with specific databases can influence intentions to use a specific database, it is essential to quickly develop a mechanism to identify these issues during the course. Providing concurrent discussion board assignments may

provide a forum to understand some of these barriers and immediately resolve technology issues. Mobile devices, in particular smartphones, can also be used to support this process by having students use “screen shots” to illustrate a particular issues associate with a database. This process can easily identify obstacles that may impact student use and help to eliminate databases that are difficult to manipulate or that fail to provide relevant information.

Most importantly, it is essential to have organizational support from various divisions within the university for this type of interdisciplinary course since students often encounter obstacles that extend beyond the course parameters. Simple issues associated with user identification may prevent a student from accessing relevant information and negatively impact student use in current projects. All of the business databases in this introductory course were supported via the online reference department of the university library with daily online support from the reference librarians. Likewise, Blackboard issues that emerged with course content were also quickly resolved via the instructional design team, which was extensively involved in designing the platform to support the course. These components are integral factors in supporting database access as well as the “anytime, anywhere” preferences of the virtual generation.

Although the majority of students indicated that they intend to use interdisciplinary databases in the future, it is important to assess if these findings extend through the duration of the college experience. Designing curricula and sequencing advanced courses that integrate cross-functional databases can support an interdisciplinary perspective, but it is also important to assess the nature and scope of subsequent databases adapted by students and their use in advanced-level courses. While it is anticipated that many students will use a similar interdisciplinary approach for projects in advanced courses, additional research will be required to determine whether this effect is transitory or has an enduring impact in the future.

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This project may not be duplicated by external parties without permission of the student authors. This student business plan was condensed in length to meet guidelines of journal. This business plan does not include the interactive excel spreadsheet for student use in the course. Excel data at the end of the appendix are illustrations and not part of this student business plan.

Product Overview

Our company is producing environmentally friendly diapers that fit the needs of children ages 0–5 while also cutting down on pollution, thus preserving our environment. Almost everyone is aware of the huge pollution problem that we are facing globally; however, many do not know that diapers are key contributors in this matter. Currently, it takes a diaper 400–500 years to fully decompose. Our “green” diapers will expedite the decomposition process down to one year; therefore, lowering pollution. For every one of our diapers that is sold we will donate a small percentage of our profit to the Conservation Fund. The Conservation Fund is the nation’s foremost environmental organization dedicated to protecting America’s most important landscapes and waterways. They’re also one of the highest rated green charities on www.charitynavigator.org with approximately 94% of their funds going towards program expenses.

Health and Wellness

Snuggies diapers will tackle another common diaper problem; diaper rash. Diaper rash is common in conventional diapers. Diaper rash causes extreme discomfort for babies. Most diaper rash is caused by skin irritation from the diaper rubbing against the baby and from moisture. Our diapers cut diaper rash by re-designing the “ideal” diaper.

Rash Information

- Known causes of rashes include irritation and bacterial, fungal, or viral infection.
- Symptoms include bright red rash; red or yellow scales; itching; and pearly pimples, bumps, or cysts.
- Rashes that require treatment can be helped by gentle cleansers, moisturizing ointments, antibiotic creams, and anti-itch drugs.

Snuggies is committed to making sure that we leave our world to a generation of healthier babies. By tackling such a pivotal contributor to the decomposition of our ozone layer, we can make sure that the world is a healthy place for tomorrow’s future. Snuggies diapers will help make our world a cleaner place. Snuggies diapers will help in the following ways:

- Snuggies diapers will decompose 2× faster than conventional diapers, lessening our carbon footprint.

APPENDIX: STUDENT BUSINESS PLAN



“Perfectly Green With a Touch of Snuggle”
Snuggies

Darius Barnum
Kathleen Fitzmartin
Meghan Martin
Richard O’Donnell

- Reduce irritability and chafing associated with conventional diaper.
- Provide key botanical soothers that will make wearing the diaper more comfortable for babies.

Product Attributes

Our Snuggies produces environmentally friendly diapers that fit the needs of children ages 0–5 years while also curtailing pollution, thus saving our environment. Our product is made with natural soothers such as aloe and beeswax and natural absorbers such as rice, cotton, and wood pulp. These ingredients help to prevent the following problems that are commonly associated with rash and irritation in babies.

All Snuggies are designed to be:

- All-natural.
- Disposable.
- Environmentally friendly.
- Reduce the risk of diaper rash.
- Improved design for more comfort.
- Better leak protection.
- Biodegradable.

Our Mission

Our Mission Is Creating a Healthier World One Diaper @ a Time

Our Mission at Snuggies Diapers is to promote a cleaner, healthier diaper while fulfilling our environmental obligations. We have the power to impact the world by making subtle changes to our everyday lives.

Our purpose is to make sure that we leave our world to a generation of healthier babies. Snuggies diapers will help make our world a cleaner place. Snuggies diapers will help in the following ways:

- Reducing baby irritability due the constraints of a conventional diaper.
- Adding key botanical soothers that will make wearing the diaper healthier for baby.
- Snuggies diapers will decompose 2× faster than conventional diapers, lessening our carbon impact.

Social Responsibility

Our number one responsibility at Snuggies is to ensure a cleaner world for tomorrow's leaders. By creating a diaper that is environmentally friendly, we will be taking the small, necessary steps to improving our quality of life. Our environment is in an abysmal state and we have the responsibility of making sure that it doesn't get worse. There are many efforts to do this same exact thing and that is why we are partnering with some key organizations that share the same goals as we do. We believe by partnering with these key organizations, our message will

have more impact and be heard and felt across a wider spectrum.

Organizations such The Green Initiative will help us get our message across. Our partnership with nonprofits such as The Green Initiative will fund further endeavors to promote a more environmentally friendly society. Nonprofits such as this will help us promote environmental responsibility and awareness. By teaming with nonprofits our message will be more impactful. Many of these organizations have great initiatives to help our society become more "Green" but due to lack of funds and resources, their message never gets heard.

Legal Structure

Snuggies will use a *LLC (Limited Liability Corporation)* legal structure. This will be ideal for a developing company such as Snuggies because in event of failure, the investments made within the company will be lost but nothing else. This will soften the impact of the company's failure. However, we here at Snuggies do not plan to fail and the choice of a Limited Liability Corporation will better protect the assets of the top executives. They will be taxed individually as partners, dividing the tax obligations among themselves.

Tax Benefits. Some advantages of having a LLC are: owners have limited personal liability for business debts even if they participate in management. LLC benefits also allow owners to report their share of profits or losses in the company on their individual tax returns, the IRS does not assess taxes on the company itself.

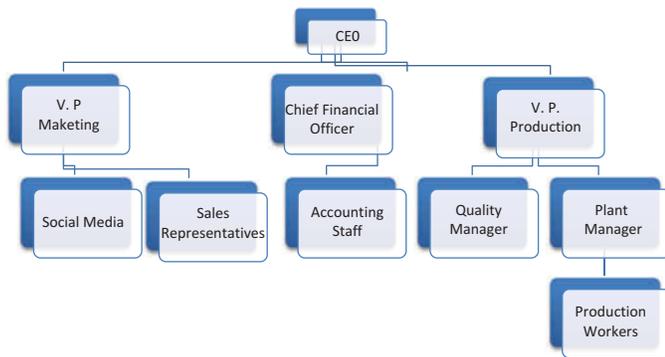
Although Snuggies has selected a Limited Liability Corporation as our legal structure, this structure has some disadvantages. For starters LLCs are subject to self-employment tax unlike an S corporation. This tax means having to pay a Social Security and Medicare tax because we will be working for ourselves. Since an LLC is considered a partnership, if 50% or more of the capital and profit interests are sold or exchanged within a 12-month period, the LLC will terminate for federal tax purposes. A limited liability company cannot take advantage of incentive stock options, engage in tax-free reorganizations, or issue Section 1244 stock. Finally, some states do not tax partnerships, but they do tax limited liability firms (www.bizfilings.com).

Organizational Structure

When determining what kind of organizational structure that Snuggies would use, we took into consideration the mission and goals that we plan to achieve. We wanted to stay flexible, but also give us room for expansion in the future. We want to adapt to changing market demands and still leave room for growth.

The best organizational structure for our company is a functional structure and our chain of command will be quite simple as it will be a centralized structure.

Snuggies will use a decentralized structure. By being flexible to change, we will not limit ourselves on how large we can get and be open to further expansion



Job Descriptions: Sample of Positions

CEO: Under the direction of the board, the CEO is responsible for company financial performance and all functional aspects of the organization. An efficient CEO will demonstrate experience and willingness to provide leadership for development and assume a strong community relations role. The CEO is expected to lead and administer all program components in conjunction with board policy, procedures, and regulatory bodies (avg. \$160,440, www.forbes.com).

Vice-President of Marketing: The VP of Marketing is in charge of advertising, marketing, promotion, public relations, and sales managers. They also coordinate market research, marketing strategy, sales, advertising, promotion, pricing, product development, and public relations activities. Median annual wages were \$108,580 for marketing managers (www.bls.gov).

Vice-President of Finance: Chief Financial Officer (CFO) manages well-being of the organization by providing financial projections and accounting services; preparing growth plans; directing staff. The Chief Financial Officer (CFO) monitors financial performance by measuring and analyzing results; initiating corrective actions; minimizing the impact of variances. The chief financial officer also maximizes return on invested funds by identifying investment opportunities; maintaining relationships with the investment community. Median annual wages, excluding annual bonuses and stock options, of wage and salary financial managers were \$99,330 in May 2008 (www.bls.gov).

Vice-President of Human Resources: The VP of Human Resources is in charge of employee satisfaction. They hire and train employees, evaluate the performance of the company, and determine compensation. They analyze performance to come up with better ways to keep the company productive and functioning optimally. Other positions reporting to Human Resources are compensation specialists with median wages of \$49,350 per year.

Products and Production

As a part of our commitment, our products and production will be in accordance with the guidelines set by both the U.S. EPA and the State of Vermont. We will make sure that all of our manufacturing plants and sites are up to date with all the environmental guidelines in their respective states. We will do this to assure that even in the assembly of our products, they are environmentally sound.

Location

Snuggies diapers plant will be made at 823 Ferry Road in Charlotte, Vermont. This warehouse is industrial and is 21,000 square feet and costs \$3.50 per square foot. This facility has 3 loading docks and there is an ample amount of parking spaces. The reason our plant is in Vermont is because our targeted market is the East Coast, and Vermont is a green state. The East is the best location for green diapers because our market is over 6.5 million in this region. The lease of the building will cost \$73,500 a year (www.loopnet.com).



Layout

For green diapers our product will be processed in our plant. Our company will have an assembly line and have machinery that makes diapers. The resources that our company will use to develop green diapers are recycled products. Our products will use environmentally friendly resources that will be produced into diapers. To see how diapers are manufactured click the following link: <http://science.discovery.com/videos/how-its-made-disposable-diapers.html>.

Equipment

We will strive to make sure that our equipment is as efficient as possible. We do this by making sure that our equipment is fully inspected and up to par with all rules and regulations.

We will need heavy machinery to speed up the process of production. It would be ideal to have sorter machinery to sort and sift out the material within the diaper. We will also need a conveyor belt that will spool the various materials that are found in our products. In addition to the machinery, we will need computers and other technology. The computers will have various uses from operating the machinery to using them to communicate. We will also need tools to transport our products and we also need vehicles and trucks and storage equipment.

Transportation

We plan to use our own personal trucks to deliver our products from the factory to different store locations. This means we will have to increase our number of employees, but it would be more beneficial to our company because our trucks will also be environmentally friendly. Having our own trucks will help us to better keep track of the quality and location of our products. Also, we wish to improve the environment and reduce air pollution, so we are looking into using trucks that produce less toxic emissions.

Quality Control

In order for our products to live up to our company's standards, our "green" diaper is all-natural and produced from recycled materials. We will implement ISO 9000 certification to make sure of this. By implementing the ISO 9000, we will make sure that our manufacturing plants are of ideal quality.

To assure that our customers stay satisfied, we will conduct surveys and focus groups to make sure that we are keeping our commitment to our customers. Without our customers, our business wouldn't be possible. So we strive to make sure that our products are up to their standards. By using these methods, we will always hear what the consumer has to say. Each bag of our diapers will have a survey invitation that can either be mailed in or done electronically.

Marketing Plan

Snuggies is targeted toward parents of children ages zero to five years old on in the northeastern region of the United States. The reason for this is that the northeastern United States has the largest baby population and is home to the greenest states in the country. By targeting the largest baby population, we will be better fit to sell more of our products (www.census.gov).

Product. Our specially formulated diapers will make the diaper less irritating for the baby and healthier for our environment. The top diapers on the market right now cannot offer any of the features that come standard with every Snuggies diapers. According to www.babycenter.com, "Most children experience a diaper rash some time during the first three years of life, most commonly at 6–8 months of age." The

botanical found in Snuggies Diapers will appeal to parents who are concerned with their baby's well-being since diaper rashes are irritating to both the baby and the parent. Due to the constant pain of the rash, babies often cry in agony, bothering the parent to get up every fifteen minutes to apply the ointment. With Snuggies this will no longer be the case

Promotion. To promote Snuggies diapers, we give out free samples of our diapers at hospitals. By giving samples to parents of newborns, we will develop that important rapport with parents of infants. This will aid in the development of the customer loyalty between Snuggies and their customers. Each parent will receive a care package upon their departure from the hospitals with Snuggies diapers in it. Snuggies in the future will team with these hospitals to make sure that babies are comfortable from the day they are born. We will team with various hospitals to be the exclusive diaper provider for their patients. By doing this we will provide the best care to babies when they are in their most delicate stages of their lives.

Price. We are aware of the exorbitant prices that our competitors may charge for diapers that aren't any different from those who produce generic diapers. These diapers do not offer anything significantly different that isn't found in most conventional diapers. That is why even though our diapers are light years ahead of the competition, we will strive to keep our prices affordable. Our diapers will give consumers the best care for their children, while still being considerate of their wallets. We guarantee at Snuggies to keep the prices of our products reasonably priced as a way of helping our neighbors make the best of this recession. That is why each pack of Snuggies (36pk) will cost \$13.49, giving the customer the best product for a good price. The customer will use each Snuggies product and feel assured that they are getting the best product at the most reasonable price. We will use odd-even pricing to capitalize on customer preference. Even though our pack of 36 diapers are slightly higher than our competitors, the customer will still be comfortable buying our products because the price will still be appealing.

Place/distribution. Snuggies will team with some of the nation's largest retailers to make sure that our products are as accessible as possible to our consumers. We will team with Walmart exclusively to offer great discounts that will make buying our products more affordable. We will also team with Walmart to be the exclusive suppliers of our unique e-pons. These E-pons, only found at Walmart, will enable consumers to instantly save money and receive incentives for purchasing our products. These electronic coupons can be sent to the consumers' cell phones every time they purchase one of our products. These coupons can be stored in the cell phone and can be scanned during future purchases to offer instant savings. By eliminating paper coupons, Snuggies will be working on a large problem that plagues our world.

Competitive Analysis

gDiapers.com

One of our key competitors is <http://www.gdiapers.com>. This privately owned company shares some of our major selling points such as being environmentally friendly, 100% biodegradable, target audience, reasonable pricing, and a distinct sense of social responsibility (as demonstrated on the website). They also have some advantages over our product like the ability to be completely flushable.



However, we are certain that our product will do much better than our gDiaper competition because there are many negatives to this product. For one, the consumer must not only buy the gPants but the gRefills as well. The gRefills are the only part of the diaper that is biodegradable. Also, it is a somewhat complex process to put this diaper on a baby. The gDiaper website suggests that you keep a user guide on hand to understand how to change your baby's diaper!

Snuggies are completely biodegradable and easy to use. Our consumers certainly won't need a user guide for our diapers. Our diapers will be much cheaper than gDiapers because their 6-pack of gPants are \$101.94 plus \$14.49 for a 40-pack of

small gRefills while our 40-pack of diapers will be around the same price as their refills and that is all our consumers need to buy. Clearly our diapers are the better buy and consumers will be able to see this. People are looking for an environmentally friendly product that won't break the bank and that is exactly what green diapers are.

LUVS

Proctor & Gamble is a major competitor who also produces products in the same industry. They compete with Johnson & Johnson, and will be Snuggies' main competition since they produce Luvs diapers. Luvs diapers are one of the top selling diaper brands in the United States. They have a great reputation and many customers will continue to buy them because of brand loyalty. Another advantage that Luvs has over Snuggies is the fact that their 36-pack is a little cheaper than ours. Snuggies cost \$13.49 while Luvs are \$11.99.



However, Luvs take 400–500 years to decompose while the goal of Snuggies is to decompose in at least half the time. The fact that our product is all-natural and biodegradable gives us a competitive edge over Luvs.

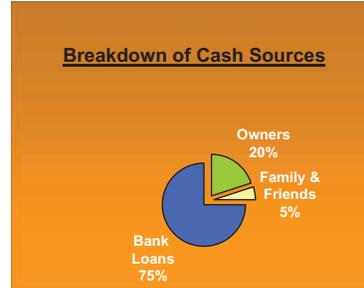
Projected income statement

	Year 1	<i>Percent of sales</i>	Year 2	<i>Percent of sales</i>	Year 3	<i>Percent of sales</i>
Sales	\$ 557,058		\$ 15,234,217		\$ 78,561,181	
Cost of goods sold	\$ 167,118	30.0%	\$ 4,570,265	30.0%	\$ 23,568,354	30.0%
Gross profit	\$ 389,941	70.0%	\$ 10,663,952	70.0%	\$ 54,992,827	70.0%
Depreciation	\$ 9,265	1.7%	\$ 9,265	0.1%	\$ 9,265	0.0%
Salary and benefits	\$ 1,395,047	250.4%	\$ 3,277,551	21.5%	\$ 5,771,484	7.3%
Commissions, bonuses, and other incentives	\$ —	0.0%	\$ —	0.0%	\$ —	0.0%
Advertising	\$ 9,710	1.7%	\$ 32,360	0.2%	\$ 68,000	0.1%
Research and development	\$ —	0.0%	\$ —	0.0%	\$ 20,000	0.0%
Rent	\$ 60,000	10.8%	\$ 61,200	0.4%	\$ 62,400	0.1%
Shipping expenses	\$ 2,416	0.4%	\$ 4,639	0.0%	\$ 9,278	0.0%
Utilities	\$ 3,000	0.5%	\$ 3,060	0.0%	\$ 3,121	0.0%
Insurance	\$ 12,614	2.3%	\$ 19,085	0.1%	\$ 29,870	0.0%
Repairs and maintenance	\$ 15,000	2.7%	\$ 15,000	0.1%	\$ 15,000	0.0%
Vehicle expense	\$ 6,696	1.2%	\$ 16,740	0.1%	\$ 33,480	0.0%
Travel	\$ 1,275	0.2%	\$ 7,673	0.1%	\$ 11,100	0.0%
Office expenses	\$ 228	0.0%	\$ 360	0.0%	\$ 900	0.0%
Unique and miscellaneous expense	\$ —	0.0%	\$ —	0.0%	\$ —	0.0%
Total operating expenses	\$ 1,515,251	272.0%	\$ 3,446,933	22.6%	\$ 6,033,898	7.7%
Interest expense	\$ 83,530	15.0%	\$ 83,530	0.5%	\$ 83,530	0.1%
Income (loss) before taxes	\$ —1,208,840	—217.0%	\$ 7,133,489	46.8%	\$ 48,875,398	62.2%
Taxes	\$ —	0.0%	\$ 2,140,047	14.0%	\$ 14,662,620	18.7%
Net income (loss)	\$ —1,208,840	—217.0%	\$ 4,993,442	32.8%	\$ 34,212,779	43.5%

Loan: Cash Requirements \$ 1,810,553
 Loan: Total Cash from Sources \$ 1,810,553

Owners' Investments

Source Description	Owner's Contribution
STUDENT A	\$ 90,528
STUDENT B	\$ 90,528
STUDENT C	\$ 90,528
STUDENT D	\$ 90,528
SUBTOTAL	\$ 362,112



Family and Friends

Source Description	Principal
STUDENT A FAMILY	\$ 22,772
STUDENT B FAMILY	\$ 22,772
STUDENT C FAMILY	\$ 22,772
STUDENT D FAMILY	\$ 22,772
SUBTOTAL	\$ 91,088

Owners	\$ 362,112
Family & Friends	\$ 91,088
Bank Loans	\$ 1,357,353

Short-Term Bank Loans

Source Description	Principal
Line of Credit	\$ 167,118
SUBTOTAL	\$ 167,118

Description of Security
 Covers Cost of Goods Sold (Inventory)

Intermediate-Term Bank Loans

Source Description	Principal
SBA Loans	\$ 1,190,235
SUBTOTAL	\$ 1,190,235

Description of Security
 Covers Expenses

Long-Term Bank Loans

Source Description	Principal
None	

Description of Security