Marketing the WPI Bachelor of Arts Degree

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by

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This report represents the work of one or more WPI undergraduate students submitted to the faculty as evidence of completion of a degree requirement. WPI routinely publishes these reports on its website without editorial or peer review.
Abstract
This project examined how marketing the Liberal Arts and Engineering program to students will increase the visibility and growth of the presently small program. Marketing research and interviews were used to collect data regarding Liberal Arts and Engineering and similar programs at other institutions. The program, which promotes problem solving, critical thinking, and global views, will first be marketed internally as a retention tool. After successful growth, external marketing will be used to attract prospective students to the program.
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Introduction

Worcester Polytechnic Institute (WPI) is known to scholars around the nation as an Engineering school. However, in recent years, programs in the Life Sciences as well as Interdisciplinary programs have been gaining strength in both enrollment and in faculty growth. Interdisciplinary programs such as Robotics Engineering and Interactive Media and Game Development are rooted in communication between departments, a common trait at WPI. These Interdisciplinary programs have succeeded and continue to exceed original expectations. One of WPI’s newest and perhaps most innovative majors has only one graduate and three students currently enrolled. The Bachelor of Arts in Liberal Arts and Engineering has had very low enrollment and faculty participation in the two years since its inception.

To help WPI academically, culturally, and professionally, as well as increase the institution’s visibility both nationally and internationally, it is important to ensure that all of the degree programs offered are successful and of the highest caliber in both enrollment and scholarship. In order to increase interest and awareness from current students, perspective students, and faculty, it is important to develop a marketing plan for the Liberal Arts and Engineering program. Advertising the program and the innovative impact that can be realized on the WPI campus is important to spread both internally and externally. With higher enrollment in a major program more typically found at a Liberal Arts college or university, the diversity of students and the interests that they bring will greatly increase, allowing other WPI students in traditional Bachelor of Science fields of study to work with a broader range of topics and a more diverse group of student. The traditional B.S. students will also receive a much more interdisciplinary education.
Throughout the duration of this project, various individuals and groups, both inside and outside of WPI, were contacted to provide information about their experience with the program, their view of the current situation, and views on how increased publicity of the Liberal Arts and Engineering program can help WPI. This information, combined with lengthy research into the topics of marketing and advertising, was used to construct a strategic and cost-effective marketing plan that WPI will have the option of implementing to help increase awareness and interest in the Liberal Arts and Engineering program.

The process of developing a strategic marketing plan for the Liberal Arts and Engineering degree program would benefit the school and its students, but it also created a very interdisciplinary experience for the researcher. The collection of data and information from many sources taught good research skills, interviewing subjects created an interpersonal exchange between the researcher and the subject, thus building interview skills as well as conversational skills. The collection of data as well as learning about a foreign topic such as marketing and advertising put the researcher much outside the realm of their intended path of study and opened avenues for new experiences, both academic and professional.

The project and marketing plan, if used, creates mutual benefit for both the school and the student researcher. The school will obtain a more diverse group of incoming students and possibly a more diverse group of new faculty. The student researcher achieved an expertise in a field that differs greatly from their academic field of study, providing a diverse interdisciplinary education, a value that WPI champions.
Literature Review
WPI and the Liberal Arts and Engineering Degree Program

Institutions of higher education have been present in the United States for roughly the same amount of time that settlers begins making their way to the “new world,” the mid-seventeenth century. Due to the religious reasons for their move and the strict religious nature of their background, many, if not all, of the first institutions of higher education were created to educate men in theology and history so that they could become members of church leadership.¹ These institutions became, through time, morphed into what are known today as “Liberal Arts Colleges” that remain self-governing and private, such as Harvard University and Yale University. When the Louisiana Purchase territory was acquired in 1804, over half of the American population was employed in agriculture.² The Industrial Revolution began in the mid 1800’s, but blossomed significantly after the Civil War and throughout the Reconstruction period. During the Civil War, in July of 1862, President Lincoln signed into law the Morrill Act, which allowed land-grant colleges to be established. A land-grant was given to each state in the amount of 30,000 acres of federal land for each member of congress the state had in the 1860 census.³ Public colleges were established on these land-grants, and their purpose was to provide an education in the agricultural and mechanic arts that also included scientific, classical, and military studies. Students at land-grant colleges obtained both a liberal and practical education that allowed them to pursue several different professions after their matriculation from an

² Ibid., p. 2.
³ Ibid.
institute of higher education. The public land-grant colleges and universities in the United States went on to become the public Liberal Arts institutions of today. However, in Europe, polytechnics were founded and gained popularity in the mid to late 18th and the early 19th century. The School of Mines and the School of Bridges and Roads in Paris were two of Europe’s earliest polytechnics. Graduates from these schools accumulated expertise mainly in civil engineering, but found careers in business and government in addition to civil engineering. The engineering education that graduates of the polytechnics received helped them to methodically solve problems in non-engineering related fields. The engineering mindset and methodical approach to solving problems can be successfully applied to other fields.

During the time of the Industrial Revolution in the United States and the founding of many land-grant schools, technical institutions were also being founded across the nation. Rensselaer Polytechnic Institute was founded in 1824 and opened in 1825, much before the Civil War. During the Civil War, in 1861, the Massachusetts Institute of Technology was established, but it did not open until after the war in 1865. Worcester Polytechnic Institute (WPI) was founded by nine men in 1865, and was known at the time as the Worcester County Free Institute of Industrial Science. WPI opened its doors to its first class in 1868. Original graduates of WPI found successful careers as civil or mechanical engineers, but also as carpenters, bookkeepers, chemists, teachers, and clerks. The university progressed with time, bringing many changes.

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4 Thirty-Seventh Congress, Session II, Chapter CXXX, “An Act Donating Public Lands to the several States and Territories which may provide Colleges for the Benefit of Agriculture and the Mechanic Arts” (Washington, D.C.: Library of Congress, 1862), 503-505.
5 Schachterle et. al., op. cit., p. 2.
6 Interview with Lance Schachterle, Professor of English, Worcester Polytechnic Institute, 9 December 2009.
such as adding graduate programs, many degree programs, and allowing women to attend the institute. Women were first allowed to attend in 1968, and the well-known *WPI Plan* began in 1974.

The *WPI Plan* brought about many changes, the first of which was modifying the academic calendar. The two fifteen-week semesters were cut into four seven-week quarters. The quarter system allowed for the innovative curriculum addition of the *Projects Program*. WPI's first glimpse of an interdisciplinary program was of the *IQP*, or the *Interactive Qualifying Project*. The IQP allows WPI students to use their knowledge of science and technology to help improve society in all corners of the world. Projects range from improving water irrigation to student teaching in local high schools. While the IQP is WPI's hallmark interdisciplinary program, many others have been introduced since the WPI Plan came into action. Interdisciplinary programs include *Robotics Engineering*, *Interactive Media and Game Development*, as well as Bachelor of Arts programs in *Environmental Studies* and *Liberal Arts and Engineering*. Programs like Robotics Engineering and Environmental Studies have become increasingly popular in recent years because they represent some of the most prevalent topics and issues in society today. The Interactive Media and Game Development program is also thriving with 123 students currently enrolled with IMGD as a first major and 26 with IMGD as a one of two majors in a double major program. Since its inception, 38 students have successfully graduated from the IMGD program. However, the Liberal Arts and Engineering program, perhaps one of WPI's most innovative interdisciplinary programs, has had very low enrollment.

The Liberal Arts and Engineering program became a recognized degree program in 2007. The program combines an engineering education with an education that provides expertise in the

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8 Division of Enrollment Management, *2009 Fact Book: Undergraduate and Graduate Student Enrollment Information* pp. 18-19.
9 Ibid., p. 27.
humanities and/or the social sciences. The goal of the program is outlined in the program’s mission statement:

The goal of the Liberal Arts and Engineering Bachelor of Arts (BA) degree is to provide an opportunity for students who want a broad background in engineering and other disciplines, as preparation for further studies in engineering or in other fields such as medicine, law, public policy, international studies, business, or wherever a solid technical background would give them a unique edge. The program is also designed to allow students to transfer to an engineering BS program with minimal loss of time.10

The degree program in Liberal Arts and Engineering is offered as a Bachelor of Arts degree, outside of WPI’s typical offerings of Bachelor of Science degrees. The program, while it offers an education in engineering, does not include the required number of credit hours in engineering courses that are needed for an Accreditation Board for Engineering and Technology (ABET) accredited degree. The Liberal Arts and Engineering program requires a student to complete three units (nine courses) in mathematics and basic science, three units in engineering science and design, and three units in Humanities and Arts, Social Sciences, and Management. Also required is the one unit Major Qualifying Project. The final five units are used toward the WPI Institutional General Education Requirements, including the Humanities and Arts project, the Interactive Qualifying Projects, Social Science Requirement, Physical Education Requirement, and one unit of free electives. Sample programs of study in ECE Design, Energy and Environment, and Engineering and Pre-Law are included in the course catalog, but students in the Liberal Arts and Engineering program are encouraged to develop their own course of study. (Figure 1, Appendix 2) The expected outcomes the program are for the graduate to have the ability to formulate and solve problems that require knowledge of both technical and humanistic needs and restraints, to apply relevant knowledge of science, technology, engineering, social science, and humanities, to use techniques, skills, and tools in a professional setting, and to

10 2009-2010 WPI Undergraduate Catalog 2009-2010 p. 74.
function in a multi-disciplinary environment. The program should allow give graduates the ability to understand their professional and ethical responsibility, to communicate effectively, to recognize a need for lifelong learning in response to the changing societal needs and opportunities, and to provide a broad education to understand professional solutions in a societal context. The broad learning environment that WPI provides, as well as the broad learning environment of the Liberal Arts and Engineering program allows students to think both locally and globally about societal needs and opportunities.\textsuperscript{11}

The Liberal Arts and Engineering degree program allows students to have expertise in technological studies as well as humanist, artistic, and societal studies. Liberal Arts and Engineering students will have more breadth of expertise to handle and help to solve today’s increasingly interdisciplinary technological and societal issues. The creators of the Liberal Arts and Engineering program expect that students who want to pursue their degree in the Liberal Arts and Engineering field will have an “eagerness to learn how things work.” They will also “imagine solutions to problems and enjoy designing things and processes involving disparate components.”\textsuperscript{12} The student’s vast knowledge of various interdisciplinary areas will aid in solving problems with components and issues in multiple fields. The Liberal Arts and Engineering scholar will be able to see a situation from multiple viewpoints and critically think about which way is the best way to proceed.

The ability to critically think from multiple viewpoints, as well as having a broad education involving technology, humanities, and policy can lead to successful careers in law, energy and environmental policy, finance, international relations, and politics.\textsuperscript{13} Each of these

\textsuperscript{11} Ibid., p. 74.
\textsuperscript{13} 2009-2010 WPI Undergraduate Catalog, op. cit., p. 74.
career positions can be filled by a person with an expertise in policy, management, or even psychology. The positions can also be filled by a scholar of accounting, engineering, or the life sciences. However, these positions and more like them can be more aptly filled by an interdisciplinary scholar from a program like Liberal Arts and Engineering. Careers in areas such as finance, law, and politics require a person to think critically from multiple viewpoints, an ability that the Liberal Arts and Engineering student has.

As of Fall 2009, WPI’s other Bachelor of Arts program, Environmental Studies, has five students enrolled as their primary degree and four students enrolled as a second major.\textsuperscript{14} The Liberal Arts and Engineering program at WPI has not been as successful as was hoped for by the creators of the program. According to the 2009 WPI Fact-Book, two students are currently enrolled in the program, one junior and one freshman.\textsuperscript{15} Due to the fact that the Liberal Arts and Engineering program was created as an amalgamation of courses that WPI already offered, there was no advertising campaign or “birth” of the program. Also, because the program was derived from courses that WPI currently offers, there is no faculty member who adopted the program as their own and become the “faculty champion.”\textsuperscript{16} As such, the Liberal Arts and Engineering program has not been successful in many respects.

As mentioned above, the engineering mindset for solving problems both inside and outside of engineering disciplines can be applied successfully to many fields. With growing societal problems, locally and globally, the engineering mindset can be beneficial for discussing problems, but also discussing and acting on solutions. It is therefore important to discuss engineering in a liberal arts context and discuss liberal studies in an engineering context.

\textsuperscript{14} 2009 Fact Book, op. cit., p. 18-19.
\textsuperscript{15} 2009 Fact Book, op. cit., p. 18.
\textsuperscript{16} Interview with Richard Vaz, Dean of Interdisciplinary and Global Studies Division, Worcester Polytechnic Institute, 12 November 2009.
Education and knowledge in both engineering and liberal studies will produce more adept scholars and problem solvers.

Many other technical schools around the United States offer programs that are similar to WPI’s Liberal Arts and Engineering program. These programs have been offered for longer periods of time and therefore have been and continue to be more successful than WPI’s Liberal Arts and Engineering program.

**Marketing and Advertising**

Marketing is the process by which companies create value for customers and build strong customer relationships in order to capture value from customers in return. The necessary steps to accomplish this process successfully are: understanding the marketplace as well as customer needs and wants, designing a customer-driven marketing strategy, constructing a marketing program that delivers superior value, building profitable relationships and creating customer delight, and finally capturing value from customers to create profits and customer quality (p. 5). Each of the steps made in creating a successful marketing process requires much research and critical thinking.

The first step in the marketing process is product development. Product development can involve creating a new product from nothing or modifying an existing product to enhance company growth. After the development of a product occurs, the next step for a company is to devise a marketing plan, and then a marketing strategy. A marketing plan is essentially a proposal for the product marketing project that lies ahead. The marketing plan should include an executive summary, a description of the current marketing situation, an analysis of the threats

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17Philip Kotler and Gary Armstrong, *Principles of Marketing* (Upper Saddle River, NJ: Pearson Education, Inc., 2006) p. 5. All future page references to this text will be cited in parentheses following the reference.
and opportunities, the objectives of the project, the marketing strategy, plan of action, and the budget for the project (p. 52).

The first thing to consider when writing a marketing plan is the marketing environment into which the product will be placed. A marketing environment consists of all of the actors and forces outside the company’s ability to build and maintain successful relationships with target customers (p. 64). Marketing environments are based on what the company can and cannot control during the marketing process. The first environment to consider is one that the company can control, the microenvironment. The microenvironment consists of the company, its suppliers, competitors and publics, factors which are close to the company and affect the company’s ability to serve its customers. (Figure 2, Appendix 2) Outside of the company’s control is the macro environment, the societal forces that affect the microenvironment, including demographics, politics, technology, economics, nature, and culture (p. 65). (Figure 3, Appendix 2)

Within the macro environment are many sub-environments that affect the macro environment as a whole. The economic environment affects consumer buying power and spending patterns (p. 80). The natural environment includes resources that are used as inputs by marketers, but the environment also includes resources that are affected by marketing activities (p. 81). Forces that create new technologies, which in turn create new products and market opportunities, are classified as the technological environment (p. 82). Companies, marketing strategies, organizations, and individuals are influenced and limited by the political environment, which includes laws, government agencies, and pressure groups (p. 85). Finally, the cultural environment envelops institutions and other forces that affect the general population’s basic value system, perceptions, preferences, and behaviors (p. 89).
With a general notion of the current situation of both the microenvironment and macro environment, the process can move forward to research. Environmental situations will be reconsidered when developing a strategic marketing plan. There are many different aspects to research, as it involves publicly available information as well as data collection specific to the marketing situation at hand. It can also include research previously done by other groups or companies, or new and innovative research can be conducted by the current researcher. The first place to start looking for information is in internal databases, electronic sources of information obtained from data sources within the company (p. 102). The collection and analysis of publicly available information about competitors and development in the marketing environment is known as marketing intelligence (p. 104). In order to obtain information specific to a certain product or situation that faces a company, marketing research must be implemented. Marketing research is the design, collection, analysis, and reporting of data that is relevant to a particular marketing situation. This research is specific to a new product and its proposed marketing plan. Marketing intelligence is the data gathered from sources that are already available, while marketing research is the thorough investigation and collection of new, not publicly available data (p. 105). Marketing intelligence is secondary data: data that already exists, having been collected for another purpose. Marketing research is also known as primary data: data that is collected for the specific purpose at hand (p. 107).

Marketing research can be conducted in a variety of ways, including exploratory research, descriptive research, causal research, observational research, survey research, experimental research, and online marketing research. Exploratory research is the first step in obtaining new data for a product because it involves gathering preliminary information that can help to define problems and suggest hypotheses for both the product and the marketing plan.
Descriptive research is done next to help describe in more detail the marketing problems and current situation, and includes information such as the market potential, demographics, and attitudes of consumers. Causal research is done to test the hypotheses suggested in the exploratory research (p. 106). Observational research is done by observing people, actions, and situations that are relevant to the project, and allows for the collection of primary data (p. 109). Primary data can also be collected through survey research, experimental research, and online marketing research. Survey research entails interviewing people and asking questions about their attitudes, preferences, knowledge, and buying behavior. The process of treating groups differently, controlling related factors, and collecting differences in responses between the groups is known as experimental research (p. 110). Online marketing research is the collection of data through online surveys and internet-based focus groups (p. 113). However, research is not only done before the marketing plan is written. In order to best position a product in the market, not just as a new product, but also in the future as a continuing product, research must continue through the entire marketing process.

Another thing to consider when working toward a strategic marketing plan are the factors that make a customer want to purchase a product, which is known as the adoption process. The adoption process consists of five steps: awareness, interest, evaluation, trial, and adoption. The consumer first becomes aware of the product, but lacks information about it. Awareness turns into interest, where the consumer seeks out information about the product. After obtaining a suitable amount of information, the consumer evaluates whether the product is worth trying. If the product is worth trying, the consumer goes through a trial phase where the product is tested on a small scale to better determine its values. If the product is deemed valuable, the consumer adopts the product in order to make full and regular use of it (p. 160). There are many external
forces on the consumer that affect the adoption process. The first external factor is relative advantage, the extent to which the new product is superior to ones already on the market. Compatibility is the measure of how well the new product fits needs, values, and experiences of potential consumers (p. 161). Other external factors to consider are complexity, divisibility, and communicability. Complexity is an important factor to consider because it the degree to which the product is difficult to understand or use, a factor that consumers weigh greatly when choosing a product. A product is more likely to be purchased if it is easier to use compared to similar products. Divisibility is the measure of how long the product can be used on a limited time basis which is important because some consumers like to try before they buy. Finally, communicability is the extent to which the values of using the product can be observed and relayed to others (p. 162).

Yet another factor to consider is how the product will be marketing to the public. There are many different ways to market a product, the most typical way being through direct marketing. Direct marketing consists of direct communications with carefully selected consumers. This marketing approach uses telephone, fax, mail, email, and the internet to communicate directly with the specifically selected consumers (p. 504). Inside of direct marketing are telephone marketing, direct mail marketing, catalog marketing, direct-response television marketing, e-marketing, and integrated direct marketing. Telephone marketing is the use of the telephone to sell directly to customers (p. 509). Direct mail marketing involves sending an offer, announcement, reminder, or other solicitation to a person at a specific address (p. 510). Catalog marketing is a type of direct marketing that uses print, video, or electronic catalogs that are sent to specific customers. Catalogs can be mailed to a specific address, picked up at a store, or presented online (p. 511). Direct-response television marketing uses television
commercials, infomercials, or home-shopping channels (p. 512). E-marketing includes the creation of a website, the use of email, the placement of an advertisement or promotion online, and the creation of web communities (p. 567). (Figure 4, Appendix 2) Finally, integrated direct marketing campaigns use multiple stages and approaches, such as television infomercials, catalogs, and direct mail, to improve response rates and profits (p. 515).

Before marketing plan development begins, the ethics and values of the marketing plan must be discussed. Marketing plans must follow the Ethical Norms and Values for Marketers, a part of the American Marketing Association Code of Ethics. The norms and values address honesty, trust, harm, responsibility, fairness, respect, openness, citizenship, and implementation. Every marketing plan author should take into consideration all of these factors when developing the marketing plan (p. 646-7). (Figure 5, Appendix 2)

Once all factors are considered, the development of a marketing plan can begin. Devising a strategic marketing plan involves strategic planning, writing a position or mission statement, and targeting certain consumers with the plan. Strategic planning combines the strategic fit the goals and capabilities of the company and the changing marketing opportunities. Also included in the strategic planning process are a clear company mission, the settlement of objectives, the design of a strong business portfolio, and the coordination of different functional strategies (p. 37). A positioning statement, or mission statement, is a statement that summarizes the position of the company and the product. It typically incorporates the target group, the need for the product, the concept, and the point-of-difference from other products on the market (p. 224). The objectives and portfolio are also integral parts of the plan.

The proposed plan evolves into the marketing strategy through marketing strategy development. The development entails designing an initial strategy for the product based on the
concept, a version of the product idea that is stated in meaningful consumer terms (pp. 283, 280). The marketing strategy is the logic by which the company hopes to achieve its marketing objectives (p. 46). The strategy will include the research that has been completed, the company’s objectives for the new product, the different ways to advertise and market the product, and what types of post-marketing evaluation will be done to assess the different venues of marketing that were used in the project. All of the factors of the marketing strategy should help to contribute to the success of the product and the marketing project.

Among the many subjects to consider when writing a strategic marketing plan, selecting a target market is very important. A target market is chosen from a market segment, a group of consumers who have similar interests and respond to marketing efforts in a similar way. Target marketing is the process in which the attractiveness of a market segment is evaluated and markets to enter are selected (p. 47). The market positioning that the company decides to take will also play a large role in the success of the product. Proper marketing positioning will provide the product a clear, distinctive, and desirable place in relation to competing products that target consumers consider (p. 49). A good way for a company or organization to position their product is to offer a competitive advantage. A competitive advantage offers consumers greater value and can come in the form of lower prices, or by providing the consumer with more benefits that justify a higher cost than that of the competitor (p. 218). Also under consideration are the “4 Ps and 4 Cs” of marketing. (Figure 6, Appendix 2) The following questions need to be answered: Does the product bring about a customer solution? Is the price a reasonable cost for the customer? Is the product placement convenient for the customer? Does the promotion of the product communicate well with the customer? The “4 Ps and 4 Cs” are controllable tactics
called the marketing mix, and are used by the company in order to produce the response it wants from the target market (p. 50).

Sections included in a marketing plan are: Executive Summary, Current Marketing Situation, Analysis of Strengths, Weaknesses, Opportunities, and Threats, Objectives and Issues, Marketing Strategy, Action Programs, Budgets, Controls, and Marketing Plan Tools. In order to be able to write most, if not all, of these sections, research must be done, not only on the product itself, but on the current marketing situation of the company and the company’s competitors. Once researching the current market situation and deciding on a target market, a marketing plan can begin to be devised. The marketing plan should address the needs of the company and its customers, how all needs can be addressed, and how both parties can benefit from the creation and sale of the marketed product. The marketing plan also needs to address how the product will be marketed to the different target segments. This can be through email, websites, billboards, and brochures, as well as television ads, telephone marketing, and catalog marketing.

All things considered and a well-written strategic marketing plan completed, marketing implementation may begin. Marketing implementation is the process by which the strategic marketing plan turns into marketing actions that move toward accomplishing the marketing objectives of the company. The success of marketing implementation depends on how well the company can combine people, decision and reward systems with company culture and organizational structure. The proper blend will become a cohesive plan of action that supports the strategies and objectives outlined in the marketing plan (p. 53).

Marketing action begins by setting up a value delivery network, a group made up of the company, suppliers, distributors, and customers, all of whom work together to help improve the execution of the entire system (p. 361). Throughout the marketing implementation process,
marketing control and marketing audits should be taking place. Marketing control is the measurement and evaluation of the result of marketing strategies and plans. Marketing control also involves taking corrective action to guarantee that the marketing objectives are achieved (p. 54). Marketing audits are periodically performed by individuals outside of the company. An audit is a systematic and comprehensive examination of the company’s environment, objectives, strategies, and activities. The audit can reveal problem areas and future opportunities as well as propose a plan of action to remedy any current problems and improve the company’s overall marketing performance (p. 55). Marketing control and audits can allow a company or organization to achieve all of its marketing objectives and effectively market a successful product. (Figure 7, Appendix 2)

Methodology

The first step in beginning this marketing research project was to obtain exemption from WPI's Institutional Review Board (IRB). The IRB reviews cases in which human subjects are going to be used to obtain data useful for the project. There are many different ways in which a Principal Investigator can have their research methods reviewed by the IRB, including full review, expedited review, and IRB exemption. Gaining exemption is a process that is conducted when there is minimal or no risk to the human subjects being used for the collection of data. Minimal or no risk to the subject suggests that no data will be collected that can be used against the subject in judicial, academic, or professional arenas. The data collected keeps the identity of the subject anonymous; the characteristics and description of the subject cannot reveal the identity of the subject. If the identity is obtained by a researcher or investigator, the information regarding the identity is to be kept confidential. This exemption is typically used for the collection of data via surveys, questionnaires, and personal interviews. A sample list of
questions and research methods must be included in the IRB Exemption Form for the committee to review. Once exemption is granted, the collection of data may begin.

While the Exemption was being processed, research was conducted using publicly available information and data. Specific to the marketing of the Liberal Arts and Engineering B.A. program, data are collected about the program requirements of the degree, the introduction of the degree, its reception, and the current situation of Bachelor of Arts programs at WPI.

In addition, information was also gathered about the general principles of marketing and how to develop a strategic marketing plan, and how to aim that strategic marketing plan at a specific group of consumers. Once a substantial amount of information was accrued, a preliminary marketing plan began to develop.

When IRB Exemption was granted, members of the WPI community, including faculty students, and staff were interviewed and surveyed. Interest groups include Admission staff and members of Crimson Key, staff in Academic Advising, Career Development Center staff, faculty and staff in the management and business departments, and faculty and staff that are associated with the Liberal Arts and Engineering program as well as faculty and staff that are unaffiliated with the program. Other persons of interest are student(s) that are currently enrolled in the program, students who have matriculated from the program, and finally, students who are enrolled in B.S. programs at WPI. The facts and figures gathered from these interest groups provided data that showed the magnitude of knowledge about the Liberal Arts and Engineering B.A. program, as well as offered ideas for how to promote this program to all aspects of campus.

Simultaneously, other institutes of higher education that specialize in science and technology were contacted to discuss programs that are similar to that of WPI’s Liberal Arts and Engineering program. These institutes include, but are not limited to, Harvard University, Yale
University, Dartmouth, Harvey Mudd College, Cornell University, and College of the Holy Cross. These institutions were asked to provide information about their comparable program, its requirements, the age of the program, its popularity, how many associated faculty the program has, and how it is marketed to both incoming and current students at the institution. With this information it was possible to compare WPI’s current situation with the Liberal Arts and Engineering degree program with the programs of some of its colleagues. Due to the fact that many high-quality institutions have degrees similar to the Liberal Arts and Engineering program that WPI offers, it can be concluded that this is a distinct opportunity for students who are looking into such a program.  

After amassing all of the above data, but before moving on to devising a strategic marketing plan, it was very important to consider how marketing and academic institutions work together. Marketing an innovative college degree program is very different from marketing a candy bar. Taking what has been learned from the research on marketing and advertising and incorporating it into an academic situation is the most vital part of the marketing plan and the project as a whole. This was perhaps the most challenging, but most rewarding part of the research and analysis.

With all data collected, a strategic marketing plan was constructed, taking into account all of the information amassed from a significant number of different sources. While marketing plans typically have one marketing strategy, it was important to develop more than one marketing plan or strategy for the Liberal Arts and Engineering program. With different plans and strategies, it will possible for the university to reach out to many different constituencies and consumer groups. Each separate marketing plan could affect or target a certain group of people. Also, different strategies have different pros and cons and also different price points. All of

these factors were taken into consideration when developing a final strategy that envelops all constituencies and addresses all pros and cons as best as possible while also being cost-effective. The most cost-effective way to market the Liberal Arts and Engineering program is to start marketing internally in order to bring more students into the program. In the future, the growth of the program can help with external marketing. Due to the difficulty of incorporating all concerns, issues, and ideas into one plan while still being cost-effective, it was possible that multiple marketing plans may be proposed. However, the most efficient way to approach this task was to devise one marketing plan that can reach out to many different constituencies in one or more ways.

In a program such as marketing, it was easy to see how society can relate to science. In marketing, it is ideal to reach out to the right constituencies in order to best market and advertise the product or service that is being offered. This process involved researching the needs and wants of consumers in different constituencies, devising a marketing plan that best reaches out to the consumers who need and want the product the most, and conducting market research to find out which ways the consumer can be best served. Marketing and advertising envelop the study of society and its inner workings to help bring the most value to consumer groups nationwide and across the world. Marketing WPI’s Bachelor of Arts degree in Liberal Arts and Engineering involved doing societal and marketing research both internally and externally. Knowing what current WPI students are looking for in their WPI education gave solid evidence of the culturally enriched interdisciplinary education that WPI offers. The gathering of data from other comparable schools nationwide provided knowledge about the success of similar programs across the nation. Writing a marketing plan for the Liberal Arts and Engineering program was
possible with all of the accrued information. The marketing plan detailed how to marketing the program in a variety of ways, almost all of which incorporate science, technology, and society.

The project “Marketing the WPI Bachelor of Arts Degree” involved research conducted internally and externally, but only involved surveys, questionnaires, and interviews with specific groups of people. Research about marketing as well as similar programs offered at other universities involved extensive reading and research, which was mainly conducted via interviews, email communication, and reading literature.

Results
Marketing and Advertising

Marketing is a process in which a company or manufacturer creates value for customers in order to build strong customer relationships. These strong relationships will create loyal and repetitive customers, therefore returning value to the company. In order to begin to create values and receive value in return, the company must first have a product worth marketing and a group of consumers, a target market, to market said product. Once a product is conceived and tested, a marketing plan is developed to help lay out the plans for the marketing and the eventual success of the product.

A marketing plan is necessary because it can help all departments of the company, from Human Resources to Marketing as well as Information Technology to Manufacturing. The plan allows employees in all sections of the company understand what the plan of action is for the product moving forward. A well written marketing plan directs all sections of the company to help the product succeed.

The basic sections of a marketing plan are: Executive Summary, Current Marketing Situation, Analysis of Strengths, Weaknesses, Opportunities, and Threats, Objectives and Issues,
Marketing Strategy, Action Programs, Budgets, Controls, and Marketing Plan Tools. In order to be able to write all of these sections, research must be done on the product, on the current marketing situation of the company, and on the marketing situation of the company’s competitors. The marketing plan should address the needs of the company and its customers, how all needs can be addressed, and how both parties can benefit from the creation and sale of the marketed product. The marketing plan must also address how the product will be marketed to the target segments. This can be through email, websites, billboards, and brochures, as well as television ads, telephone marketing, and catalog marketing. Once researching the current market situation, deciding on a target market, and finalizing the approach to marketing, a strategic marketing plan can be devised.

**Marketing at WPI**

Marketing at WPI occurs in a variety of ways. WPI sends publications, emails, and on the WPI website. The targets of marketing also vary. The most common groups that received advertisements from WPI are prospective students, parents, and alumni.

**Prospective Students**

To market WPI as a school to prospective students, the Admissions department and the Marketing department use a wide variety of marketing methods. The two main methods are direct mail and email. Direct mail includes postcards, magazines, invitations, view books, brochures, posters, applications, and letters. The mail can come from the Admissions staff as well as current students and possibly professors. One example of direct mail is the *Transformations* catalog that profiles recent projects, notable alumni, and current projects at the
university. This view book allows prospective students and their parent to see and read about the newest happenings at WPI. In addition to direct mail and email, prospective students are also drawn in by the WPI website and banner ads that WPI posts on other online resources.\textsuperscript{19}

\textit{Alumni}

WPI also markets to its alumni in various ways. Due to varying needs for marketing to alumni, the approach for each need is different. General Alumni Relations has a website, \textit{AlumniConnect}, which serves as an online community for alumni. The Alumni and Development Office also has its own website. Alumni also receive a monthly e-newsletter called \textit{The Bridge}. In addition to these online options, the Office also sponsors regional events with the President and Provost, as well as career networking events, social events, and reunion events. Alumni also have regional chapters and clubs that are organized around cities that have a high concentration of WPI alumni. Direct mail is used to send out event invitations and information about Reunions and Homecoming.

The WPI Development Office also works with Corporate and Foundation Relations. The office works to reach out to corporations that have a high concentration of WPI alumni employees. This is done through the Development Office website, through Advisory board meetings each year, and through personal visits to companies and their employees.

Alumni are also asked to donate to WPI in multiple ways. These include the Annual Fund, Planned Giving, and Major Gifts. The way that these types of donations are approached is very different. The Annual Fund brings in donors from its website and from direct mail to alumni, parents, and past donors. Personal visits are also made to current or past donors. Additionally, events are held for certain segments of donors, including the President’s Circle.

\textsuperscript{19} Interview with Marketing Specialist, Worcester Polytechnic Institute, 23 February 2010.
(donors of $2000 or more), the Parents Fund, and Corporate Alumni events. Each of these methods is strong, but perhaps the strongest of the methods is the phone room. Student workers call alumni to talk about WPI and the possibility of making a donation to the university. This method is most effective because current student are able to tell alumni how the university has progressed and how their donation will affect the WPI education in the future.

Planned Giving donors, or those who have included WPI in their estate plans, is approached differently that the Annual Fund. Planned Giving donors are members of the Alden Society, and are invited to an Alden Society Lunch during Reunion weekend. Other events are held throughout the year and most are held to honor donors. Direct mail is also used to communicate with Alden Society members, specifically to send the Ideas newsletter that is mailed biannually. Personal visits are also a part of the planned giving marketing plan.

Finally, Major Gifts to the university are achieved by the Development Office through personal visits, personalized proposals and packets, and alumni and donor events that honor WPI’s major donors.

For donation-specific projects, such as the Sports and Recreation Center, videos and websites can be produced for the specific purpose. Additionally, all donors receive acknowledgement letters for each donation that they make to the university.\(^{20}\)

Parents

Parents, in addition to Alumni, also receive marketing materials from the Development Office. The Parents Fund is a segment of the Annual Fund, and parents received donation solicitations for this fund. All of the Annual Fund marketing approaches apply to parents as well as alumni. Direct mail is sent to all parents and past donors to advertise recent WPI event and to

\(^{20}\) Interview with Director of Development Communications, Worcester Polytechnic Institute, 24 February 2010.
ask for donations. Direct mail is also used to send acknowledgement letters for each received donation. Like with Alumni, student workers make phone calls to speak with parents about the university and to inquire about the possibility of making a donation. The Development Office also makes personal visits to donors who give large gifts to the university. In addition to direct mail, the phone room, and personal visits, the Development Office uses its website to promote the Annual Fund and what it can do to help WPI advance as a community, a school, and a research institution.

In addition to materials from the Alumni and Development Office, parents also receive monthly newsletters. Parents of prospective students receive an e-newsletter from the Admissions Office that details the admissions process, important dates to remember, details about the financial aid paperwork, and information about the WPI campus.

Parents of current students receive a monthly e-newsletter called *The Fountain* that details the current events of the university. The newsletter typically contains updates from certain campus departments, including the Career Development Center, Academic Advising, and Student Activities. The newsletter keeps parents informed about what is going on at the university and tips for success as a college parent.

**Current Situation of the Liberal Arts and Engineering Program**

The Bachelor of Arts Program in Liberal Arts and Engineering at WPI has, thus far, attracted very few students. While the program has many associated faculty members from departments throughout the institution, these faculty members are tied to their departments as well as the IGSD and committee obligations across the college. This means that no one associated faculty member can become the leader, program director or champion for the Liberal
Arts and Engineering Program. With no one person to devote all of their time to the program, not much has been done to advertise the program. The two students who are enrolled as Liberal Arts and Engineering students discovered the program through their own research, not through advertisements or major decision courses that WPI offers.

WPI has experienced record breaking numbers of applications the past two years and overall applications for undergraduate education have doubled in number since 2005. The great rise in application numbers is due to “solid interest in all that [the] university has to offer,” according to Edward J. Connor, the Director of Admissions at WPI. While the university as a whole continues to attract students, many new interdisciplinary degree programs, including Interactive Media and Game Development, Robotics Engineering, Environmental Engineering, and a Bachelor of Arts program in Environmental Science are the main attractions for prospective students. Kristin Tichenor, WPI’s Vice President for Enrollment Management, adds that “prospective students recognize the value of the WPI education” and that WPI “students learn to apply the knowledge they gain in the classroom to some of the world's most important problems out of the classroom.” Tichenor adds that WPI’s approach to education produces critical thinkers and creative problem solvers with valuable skills, knowledge, and leadership abilities.21

Due to the recent influx of above average class-sizes, WPI is not currently pursuing advertising up-and-coming degree programs, because the success of current programs is enough to sustain the financial needs of the university. Because of this, WPI is not attracting different types of students. The students who are drawn to Mechanical Engineering, Robotics Engineering, and Chemical Engineering have different mindsets than those attracted to

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Interactive Media and Game Development, Biology, or Theater. In the same sense, students with an interest in Liberal Arts and Engineering are of a different mindset and are a different type of student as compared to the students that WPI currently enrolls.

The two students, one junior and one sophomore, who are currently enrolled in the Liberal Arts and Engineering program chose the program because it allows them to “devise novel solutions to problems.” These problems can vary from managing a manufacturing shop to devising newer and cleaner sources of energy. The Liberal Arts and Engineering program teaches students the basic technical skills that they will need to lead a successful career, but also the critical think and problem solving skills that they will need to lead not only a successful career, but also a successful life. The problem solving skills can be applied to teaching future students about management and manufacturing or to bring a better quality of life to developing countries around the world. The type of person that the Liberal Arts and Engineering program produces is a person that can formulate new and creative solutions to problems to make a difference for the future, large or small.

Current students at WPI are very grounded in their major department. It is unlikely that a student would become immersed in a department that differs greatly from their major department. However, there are cases when this does happen. For example, a Chemistry student could also complete a Biology minor or a Civil Engineering student could complete a Music minor. Many times, the minor is correlated in some way to the major field, and doesn’t require many additional classes. The Liberal Arts and Engineering program allows students to move from department to department, gaining experience and education about many different subjects that are related in some way. Academic departments at WPI are known for working together to create new research projects and interdisciplinary programs. However, a program like Liberal

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22 Interview with Liberal Arts and Engineering Student, Worcester Polytechnic Institute, 26 January 2010.
Arts and Engineering encourages communication and cooperation between academic departments that only occasionally work together, which will benefit WPI greatly. Cooperation between departments not only allows for students to receive a more diverse education, but it can also allow new cooperative research ideas and groups to form.

**Similar Programs at Comparable Schools**

*Engineering Schools*

Technical schools throughout the United States have programs that are similar to WPI’s program in Liberal Arts and Engineering. Many technical colleges and universities offer degree programs in engineering that provide a broad range of engineering courses in the first two years of education followed by a more concentrated area of study in the final two years of the program.

Olin College of Engineering, a school that opened its doors in 2002, offers a degree in Engineering that allows the student to self-design a concentration. Common concentrations include: Bioengineering, Computing Engineering, Materials Science, and Systems Engineering. While most of the faculty members at Olin are devoted to teaching engineering, the curriculum also requires students to have a foundation in Arts, Humanities, Social Sciences, and Entrepreneurship.23 Olin currently enrolls 78 students in the Engineering degree program and 108 students have graduated from the program since 2006.24

Cornell University offers a program known as the “Independent Major,” which allows students to concentrate in Engineering while also having a secondary focus in a non-Engineering area. A typical degree program at Cornell requires 48 credits in the major field in addition to the

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24 Interview with Assistant to the Vice President for Academic Affairs, Olin College of Engineering, 5 February 2010.
general education requirements. These general education requirements include math, physics, chemistry, and computer science, technical writing, and six liberal studies courses. The Engineering Independent Major requires 32 credits, or two-thirds of the program, to consist of an engineering concentration offered at the university, and 16 credits, or one-third of the program, to be in a non-engineering discipline. This means that the primary course of study is engineering, and the secondary course of study is a non-engineering discipline. The non-engineering area does not have to be in a specific field and can be cross-discipline or even cross-college. The only requirement for the non-engineering area is that it forms a coherent whole that satisfies the students’ objectives and interests. Cornell is not actively advertising their Independent Major to prospective students or to current students, as they are not trying to grow the program. Approximately 45 students are currently enrolled in the program, and Cornell graduates roughly 25 Engineering Independent Majors every year.

Cornell believes the Engineering Independent Major is good for two types of students. The first type of student is a student who has initiative and has an idea of what they want out of their education and their life. These students want to plan their own program, i.e. design their own major. The other type of student is a student who is not succeeding in their regular major, cannot join a regular major at the end of their second year, or is removed from their regular major in their third or fourth years. Because the Engineering Independent Major has no minimum GPA requirements, the program has become a safety net for students who do not succeed in a regular degree program. Cornell would prefer that the Independent major only service the innovative student who wants to design their own program, but the university has no other mechanism for helping struggling students at this time.25

25 Interview with Professor, Cornell University, 7 January 2010.
Harvey Mudd, located in Claremont, California, offers a Bachelor of Science in Engineering that has been a program of study for over 50 years. There are approximately 220 students currently enrolled in the program and roughly 75 students matriculate from the program every year. Nineteen faculty members are associated with the Engineering department and seventeen courses in Engineering are required for graduation. Additionally, each student at Harvey Mudd takes approximately one-third of their undergraduate courses in social sciences and the humanities and arts and is required to have a concentration or a minor in some discipline within the social sciences or in the humanities and arts. The Bachelor of Science in Engineering program is not heavily marketing by Harvey Mudd because it is the largest program at the university, accounting for approximately forty percent of all undergraduates. Additionally, every Harvey Mudd student is required to enroll and pass E59, Introduction to Engineering Systems, a part of the required college core. As such, marketing the Engineering program is central to all marketing done by the college.26

Liberal Arts Colleges with Engineering Programs

Several Liberal Arts colleges in the United States offer engineering degrees in the scope of a liberal arts education. These schools include Dartmouth College, Harvard University, and Yale University. The engineering degree at these schools is a Bachelor of Arts degree, and typically can be followed by another year of study if the student is interested in pursuing a Bachelor of Science degree. These engineering degrees are similar to WPI’s Liberal Arts and Engineering program in that they offer engineering education combined with education in the liberal arts, typically in equal amounts.

26 Interview with Associate Department Chair, Harvey Mudd College, 10 March 2010.
Dartmouth College in Hanover, New Hampshire, also offers a comparable program, a Bachelor of Arts in Engineering Sciences. This major can be combined with a concentration in engineering or with another major to create a double major program. Depending on the concentration, nine to eleven engineering courses are required to graduate with a Bachelor of Arts in Engineering Sciences. After completing a Bachelor of Arts in Engineering, students at Dartmouth can stay for a fifth year to receive their Bachelor of Science degree in Engineering. Dartmouth’s Engineering program is very popular, graduating roughly 60 Bachelor of Arts students per year.27

Harvard University also offers a Bachelor of Arts in Engineering Sciences. In addition to the Bachelor of Arts degree, Harvard also offers a Bachelor of Science degree in Engineering Sciences. The engineering Bachelor of Science is the only B.S. degree that Harvard offers. In the Bachelor of Arts program, 16 courses (out of a total 32) are required to be engineering focused. The program graduated 14 students last year and currently enrolls 74 students in their junior or senior year.28

Yale University offers a Bachelor of Arts in Engineering Sciences, a major that can have concentrations in Electrical Engineering, Environmental Engineering, or Mechanical Engineering. In addition to the math and science requirements at Yale, these Engineering Science degrees require eight to ten additional engineering focused courses. Many engineering B.A. students at Yale are interested in combining their engineering degree with a degree in the Humanities, creating a double major. A double major in Engineering and the Humanities is comparable to the Liberal Arts and Engineering program at WPI. Students are inclined to double major in these areas because the current job market “is looking for students with some

27 Interview with Programs Assistant, Dartmouth College, 5 January 2010.
28 Interview with Academic Programs Administrator, Harvard University, 8 January 2010.
engineering courses,” but also with critical thinking and problem solving skills. Yale averages between six and ten Engineering Bachelor of Arts graduates per year.\textsuperscript{29}

Liberal Arts colleges also offer Bachelor of Science degrees in Engineering. Loyola Maryland, a Jesuit university in Baltimore, Maryland, is an example of this program. The Bachelor of Science in Engineering Science can have concentrations in Computer Engineering, Electrical Engineering, Materials Engineering, and Mechanical Engineering. At Loyola, the Bachelor of Science in Engineering Science is ABET accredited and provides students with an engineering education in a Liberal Arts context. This kind of education “provides students with invaluable skills needed by all engineers to excel not only in their professional careers, but in all aspects of life.”\textsuperscript{30} Loyola’s Engineering Sciences program currently enrolls 101 students and has graduated 345 students since the program’s inception in 1980.\textsuperscript{31}

In addition to Dartmouth, Harvard, Yale, and Loyola Maryland, many other Liberal Arts colleges and universities offer degree programs in Engineering. Some of these schools include: Princeton, Brown, Lafayette College, Smith College, and the University of San Diego.

\textit{Liberal Arts Colleges without Engineering Programs}

Liberal Arts colleges such as Assumption College and College of the Holy Cross offer liberal arts educations without an available engineering degree. The students at these institutions are offered a much broader spectrum of liberal arts courses without any engineering or design courses. Due to the lack of engineering courses offered by the Liberal Arts College, some colleges partner with other academic institutions to allow their students to study engineering.

\textsuperscript{29} Interview with Professor, Yale University, 4 January 2010.
\textsuperscript{31} Interview with Professor, Loyola University Maryland, 9 January 2010.
The Engineering 3-2 program has been a program of study at the College of the Holy Cross for approximately 20 years. Students study in a Liberal Arts discipline for three years at the College of the Holy Cross in Worcester, Massachusetts, and then go on to study in an engineering discipline for two years at either Dartmouth College in Hanover, New Hampshire or Columbia University in New York, New York. In 2010, three students applied to study at Columbia for their remaining two years and fifteen lowerclassmen have expressed an interest in the program. The marketing of the program includes information that is available in the Academic Course Catalog, the Holy Cross web page, and in Admissions brochures. However, that is the extent of the marketing for the Engineering 3-2 program. Typically, students join the program because they are not sure if they wish to pursue engineering or if they are interested in an “undergraduate liberal arts experience” with an option of studying engineering later in their academic career. Many students who initially express interest do not end up completing the program.\(^{32}\)

The Engineering 3-2 program at Assumption College in Worcester, Massachusetts has very recently been established in partnership with the University of Notre Dame in Notre Dame, Indiana. Currently, only one student is actively participating in the Engineering 3-2 program, but there are great hopes for expanding the program. Articles about the program have been published in the quarterly publication, advertisements on the websites of both institutions have been published, and the Public Relations department at Assumption has sent out notices to other institutions. The program will also be published in the course catalog for the next academic year.\(^{33}\)

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\(^{32}\) Interview with Engineering 3-2 Advisor, College of the Holy Cross, 15 March 2010.

\(^{33}\) Interview with Professor, Assumption College, 11 March 2010.
Analysis of Results
Marketing Academics v. Marketing Products

Marketing an academic program or institution is very different than marketing dish detergent, ice cream, or a car. Important things to consider when developing a marketing plan for an academic program are the target market and the “4 Ps” of marketing.

There are two main target groups to consider when marketing an academic program or an academic institution. These groups are prospective students and the parents of both prospective and current students. The approach to these groups is also very different. When marketing to the students, it is important to emphasize how a certain school or a certain program will make their college experience a valuable and memorable one. In addition, campus life, student activities, and community service organizations and options should be “sold” to the student, allowing them to make choices that will affect their overall college career. For the parents, the value of an education at a certain institution or the value of a program must be “sold”. It is widely known that a college education at a private institution is not inexpensive, and parents like to know that they are “getting their money’s worth” with their child’s education.

Taking these two target groups into account, marketing academics can easily follow the “4Ps and 4Cs” of marketing (Figure 6, Appendix 2). The “4Ps” are Product, Place, Price, and Promotion. The “4Ps” of marketing can be applied to most any product and can also be used as guidance when writing the basic sections of a strategic marketing plan.

The first P, Product, can be marketed strongly in a number of ways. WPI’s degree in Liberal Arts and Engineering is unusual in that it is a Bachelor of Arts degree, whereas the majority of WPI’s degrees are Bachelor of Science degrees. It incorporates aspects of engineering, design, social science, management, and humanities and arts. The program also
allows the student to design their own concentration and decide exactly which courses they want to take, while still falling within distribution requirements. Some sample concentrations are: Energy and Environment, ECE Design, and Engineering and Pre-Law, though the student can choose to design their own. While the program culminates in a Bachelor of Arts degree, students in the program are still required to have a base background in calculus, physics, and chemistry, which provide the student with the abilities of memory and reason. The Major Qualifying Project (MQP) must contain elements of engineering as well as elements of a liberal arts area. This interdisciplinary education program is perhaps WPI’s most innovative degree to-date.

The second P, Place, describes how and where the product will be marketed. For the Liberal Arts and Engineering program, new marketing techniques, in addition to common techniques, should be used in order to properly market the program. Some of the common techniques used to market academics are direct mailings. The university will mail brochures, view books, postcards, invitations, applications, posters, magazines, and letters to prospective students and their parents. Another common way to market academic institutions and programs is to meet with high school guidance counselors to explain the merits of the program and how the university can benefit particular types of students. Gaining the trust of guidance counselors is a step in the right direction for WPI, because high school students rely on their guidance counselors to help them select the right college.

The third P, Price, is one that can be dealt with very minimally, but advertised inside and outside of WPI in many different ways. There is nothing that can be done by the Liberal Arts and Engineering program, or any other program, to reduce the price of tuition at WPI. However, students who attend Liberal Arts colleges tend to need less financial aid. More students attending WPI for the Liberal Arts and Engineering program may benefit WPI because these
students might need less financial aid, allowing needier students to attend WPI and receive the aid they deserve.

The fourth P, Promotion, is a combination of the previous three “Ps” for the Liberal Arts and Engineering program. Promoting the program itself as well as the value versus the cost of the program should contribute to future success of Liberal Arts and Engineering. No high-profile advertising, such as billboard, television, and radio advertisements, would be necessary. In the past, television ads were used to attract prospective students and educate people throughout New England about the university, but failed to accomplish those particular tasks. The commercial was aired in the Boston, Hartford, and New York City metro areas and was funded by the WPI Trustees. The commercial did not have a sustainable source of funding and was soon dropped. Additionally, other comparable schools, such as Harvard University and MIT, do not use advertisements to attract students to any particular program, or the institution in general. WPI could resort to large-scale advertising if there was a desperate need for student in order to keep the university financially stable.

**Cause for Success at Comparable Schools**

The three types of school mentioned previously, the Engineering School, the Liberal Arts College with Engineering, and the Liberal Arts College without Engineering, all experience their own kind of success. Inside of each of these categories, major programs comparable to the Liberal Arts and Engineering program offered at WPI have experienced varying degrees of success as well.

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34 Interview with Kristin Tichenor, Vice President of Enrollment Management, Worcester Polytechnic Institute, 18 March 2010.
In the Engineering field, the Engineering Independent Major at Cornell has been in existence since 1988, and graduates roughly 25 students per year. The program attracts innovative students with initiative as well as students who are not successful in their regular degree programs, as discussed above. Additionally, no supplementary faculty members are needed to run the program, because the self-designed major involves creating a plan based off of current Cornell courses.\(^{35}\)

Also in the Engineering field, Olin College of Engineering in Needham, Massachusetts allows its students to self design their Engineering concentrations. Also, Olin offers Engineering degrees, so students attending Olin expect to receive an Engineering degree. Finally, since Olin is strictly an Engineering school, it has an interdisciplinary faculty that work throughout the Engineering program. Because of this, no supplementary faculty members were needed.\(^{36}\)

Liberal Arts schools with Engineering programs are able to offer a wide variety of programs to their students without having a specific specialty program such as engineering. This allows the student to explore many different subject areas while still having a specialization in a specific major field. For example, at Harvard University requires that a student complete 32 courses to receive an undergraduate degree. Of these 32 courses, 16 are required to be in the Engineering Sciences concentration. The other 16 fill math and sciences prerequisites and general education, but leave room for electives. In addition, there are over 100 faculty members in Harvard’s School of Engineering and Applied Sciences. The faculty members belong to the school and not to any specific department, meaning that no additional faculty members were needed to run the Bachelor of Arts in Engineering program.\(^{37}\)

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\(^{35}\) Interview with Professor, Cornell University, 7 January 2010.

\(^{36}\) Interview with Assistant to the Vice President for Academic Affairs, Olin College of Engineering, 5 February 2010.

\(^{37}\) Interview with Academic Programs Administrator, Harvard University, 8 January 2010.
Yale University, another college in the Liberal Arts with Engineering category, requires eight to ten engineering courses in addition to the math and science prerequisites that are necessary in the engineering program. This leaves room for other requirements as well as plenty of room for electives. The 65 faculty in Yale’s Engineering department teach courses for both the Bachelor of Arts and Bachelor of Science degrees. No supplementary faculty members are needed to run the Bachelor of Arts program. The Bachelor of Arts degree only graduates seven to ten students each year, but students can easily switch from the B.A. degree to the B.S. degree and vice versa.\(^\text{38}\)

The College of the Holy Cross is a Liberal Arts college in Worcester Massachusetts that does not offer any courses in the field of Engineering. The college does, however, allow its students to arrange a course of study that includes three years studying a liberal arts discipline followed by two years at a different institution studying an engineering discipline. This set-up, known as the Engineering 3-2 program, allows students with diverse interests to fulfill their academic needs and desires. This program has now been offered for over twenty years and has achieved a small amount of success and has graduated a plethora of students from the program over the span of twenty years.

Taking a cue from the College of the Holy Cross, Assumption College in Worcester, Massachusetts also offers an Engineering 3-2 program that began very recently. Assumption College partners with a different Engineering institution to create less conflict as well as offer more diverse opportunities for students in the Worcester area. The program has been heavily advertised by the institution and already has many interested parties. As mentioned previously, a program such as an Engineering 3-2 program allows students to fulfill their diverse academic needs and interests.

\(^{\text{38}}\) Interview with Professor, Yale University, 4 January 2010.
A combination of these three types of schools: strictly engineering education, engineering education in a liberal arts setting, and strictly liberal arts education can create a balance that can help to develop students to think about global problems, their impacts, and their solutions.

WPI’s Liberal Arts and Engineering program is trying to achieve such a combination. Part of the goal of the Liberal Arts and Engineering program at WPI is to expose students to the liberal arts in order to help them think about engineering in a more generalized way, a way that allows them to analyze engineering problems with a widened critical thinking and problem solving perspective.

Conclusions
Adoption from Comparable Programs

Many programs like Liberal Arts and Engineering require at least half of the courses or credit hours to be taken in engineering. Some schools require two-thirds or three-fourths of the credits to be in engineering. The non-engineering credits fill distribution requirement in math and science as well as general education requirements and electives. Additionally, some schools require that the non-engineering courses form a secondary non-engineering concentration.

WPI’s Liberal Arts and Engineering program already offers something similar, in that half of the credits are engineering, math, and science, while the other half are “liberal studies.”

Other institutions don’t have a specific group of faculty members that teach specifically in their Interdisciplinary Engineering programs. Faculty members teach in their area of knowledge and students decided which courses fit best into their degree program. WPI approaches faculty the same way as well. No additional faculty members are required to run the Liberal Arts and Engineering program.
Engineering programs at Liberal Arts colleges typically offer both a Bachelor of Arts degree and a Bachelor of Science degree. Offering both types of degree allows student to decide what type of degree they wish to receive. This dual offering also allows students to switch from B.A. to B.S. or vice versa as they please. Some schools, including Yale, don’t keep a separate count for the B.A. program or the B.S. program, because students switch between the two frequently. The program description of the Liberal Arts and Engineering Program states that students can “transfer to an engineering B.S. program with minimum loss of time.” However, there is no evidence to support this statement. The students currently in the program have started in the program at the beginning of the WPI career or transferred into the program from an engineering program.

Many schools with Engineering Programs have department chairs for each specific type of Engineering, such as Electrical, Mechanical, or Biomedical, but programs in general engineering education usually have associated faculty members that help to run the program. A Dean or an Associate Dean for Academic Affairs will also have a hand in the running and the success of the program. Few programs have a department chair for a general Engineering program. WPI’s Liberal Arts and Engineering program can benefit from these positions. It is possible to hire a faculty member to be a “program director” or a “department chair” for the Liberal Arts and Engineering program. It is also possible, once the three new Deans arrive at WPI, to have the Deans, Associate Deans, Provost, or Associate Provosts look at new programs or Bachelor of Arts programs and devise a plan for what can be done to fund these programs and help them succeed. A final possibility is to have a faculty or staff member deal specifically with new programs, their needs, and their degree of success.

39 Interview with Professor, Yale University, 4 January 2010.
40 2009-2010 WPI Undergraduate Catalog, op. cit., p. 74.
Engineering programs are marketed to prospective students, current students, and parents in many different ways. These programs and schools can be categorized into three distinct groups. The first group is comprised of schools who are not trying to grow their general engineering programs. In order to fully expose the program but not put forth any additional effort, the program is listed in the undergraduate handbook, or course catalog. The program also appears on the list of majors that prospective and incoming students receive. No additional special mention is made. The second group of schools markets a little more to students, but don’t put forth much additional effort. These marketing techniques include information sessions, internet searches, website searches, as well as handouts and booklets in admissions offices. Additionally, these schools hold open houses and information sessions for prospective and incoming students. The final group consists of schools who actively advertise their engineering programs to prospective students, incoming freshmen, and current students. These schools not only provide information in handbooks, handouts, and on the website, they also attend advising sessions, concentration fairs, and individually contact students who “indicated an interest in engineering on their college application.” These schools also hold events for high school juniors and seniors on weekends. During these events, faculty members make presentations as well as give tours. Additionally, the program is advertised to students and parents as one that is “broad-based, interdisciplinary, and well integrated with the university’s liberal arts core.” It is also mentioned that the programs is an “excellent preparation for a variety of career paths.” Finally, some of these schools visit local industry-sponsored engineering events that are aimed towards high school students.

41 Interview with Academic Programs Administrator, Harvard University, 8 January 2010.
42 Interview with Professor, Loyola University Maryland, 9 January 2010.
Learning from each of these examples, WPI’s Liberal Arts and Engineering programs, as well as other programs struggling to enroll students, can begin to market in a variety of different ways. Information about the program can be displayed via handout or brochure in the admissions office, as well as in many other offices of faculty and staff. These places include: the Provost, the Dean of Undergraduate Studies, the Associate Dean for the First Year Experience, the three incoming Deans, Academic Advising, and the Career Development Center (CDC). Additionally, a presentation by an associated faculty member at open houses and during the Major Exploration Series offered through the Career Development Center. The CDC also offers major panels for majors like Chemical Engineering, Biology, and Computer Science. The associated faculty members could also continue to individually contact students who are undecided about their major.

The First Steps

The first step to making WPI’s Liberal Arts and Engineering program a successful one is to hire or appoint a program director that will work only on the growth and success of the program. With a program director, the program will be up-to-date, and student will have one person they can see about the program. This program director will be able to be a “champion” for the program, working to gain funding and publicity for one of WPI’s newest programs.

Finding or hiring a program director can be a long and complicated process. There are a few changes that WPI can implement immediately. Staff on campus can advertise the degree program to current students, specifically first-year students who are undecided about their major. This can be done through Academic Advising and the Career Development Center. The current Major Exploration Series examines WPI’s more popular majors, such as Chemical Engineering,
Mechanical Engineering, Mathematics, and Biology and Biotechnology. An advising session could be offered for interdisciplinary majors like Robotics Engineering, Liberal Arts and Engineering, Environmental Studies, and Interactive Media and Game Development. The issue with a session like this is that the other interdisciplinary majors are very popular at WPI, with 163 enrolled in Robotics Engineering, 149 students enrolled in IMGD, and 9 students enrolled in Environmental Studies. These more popular majors may detract interest from Liberal Arts and Engineering.

In addition, on-campus publicity can be done through the Admissions Office to attract prospective students to the Liberal Arts and Engineering program. This could easily be done by mentioning the program on tours when the WPI Plan is explained. The Liberal Arts and Engineering degree program fit very well with WPI’s interdisciplinary education experience. Also, the Admissions Office hosts multiple Open Houses during the academic year. Presentations for parents and students during Open House include information about off-campus projects, Greek life, financial aid, and choosing a major. Incorporating Liberal Arts and Engineering into a choosing a major presentation would bring needed interest to the program.

As mentioned previously, the Liberal Arts and Engineering program and other interdisciplinary program will allow for cooperation and collaboration between academic departments. This collaboration could foster the growth and development of new research ideas and groups. The objective of cooperative learning and research between departments can be fostered by the three new Deans that will arrive at WPI in August of 2010. The Dean of Arts and Sciences, the Dean of Engineering, and the Dean of Business can work together to help foster multi-departmental collaboration and new research ideas.
It is possible that these Deans can also play a crucial role in the development of the Liberal Arts and Engineering program. Because the Liberal Arts and Engineering program incorporates Management and Entrepreneurship, Social Sciences, Engineering, and Humanities and Arts, the three Deans can work together to promote and expand the program, as well as designate a full-time program director. Deans at WPI will be responsible for external promotion of the institution as well as gaining external funding for WPI’s research interests and growing programs. The Liberal Arts and Engineering program is a new and innovative program that the Deans can advertise across the country and around the globe.

Additionally, direct mail is used heavily by Admissions, Marketing, and some Academic departments to advertise WPI as an institution as well as specific academic programs that are offered at the school. Some of these mailings could include information regarding the Liberal Arts and Engineering program, highlight a Liberal Arts and Engineering student or graduate, or have an interview with a Liberal Arts and Engineering associated faculty member. Perhaps an article could be written about WPI’s newest programs or WPI’s Bachelor of Arts programs.

Finally, the WPI Admissions Office would be able to advise guidance counselors from around the Northeast as well as from around the United States about the Liberal Arts and Engineering degree program. The guidance counselors would learn about the details of the program, the enhanced benefits of studying Engineering and Liberal Arts equally, and the possible outcomes post-graduation with a Bachelor of Arts degree in Liberal Arts and Engineering. The guidance counselors can then advise their students about the program and promote the program to well suited students with global awareness and diverse interests.
Recommendations
In order for the Liberal Arts and Engineering degree program at WPI to become more successful, future steps must be taken to promote the program. The proposed publicity and promotion of the program can be found in the following marketing plan.

Marketing the WPI Bachelor of Arts Degree: Liberal Arts and Engineering

Executive Summary
The Liberal Arts and Engineering Bachelor of Arts program at Worcester Polytechnic Institute allows students to study equally in five different subject areas: Math and Science, Engineering, Social Science, Management, and the Humanities and Arts. The combination of these areas of study exposes the student to many different subjects and teaches the student to relate one subject to another with a large-scale problem solving focus. This method to teaching gives the student expertise in many fields and opens a critical thinking and problem solving approach to problems on a local or global scale. Currently, the Liberal Arts and Engineering program has three students enrolled and one graduate. The program has its own website and is given equal space on admissions pamphlets, but that remains the extent of marketing for the program.

Overall, marketing at WPI happens in a variety of ways. Marketing is directed toward prospective students, current students, parents, and alumni. Most of the marketing happens via direct mail, while some marketing occurs electronically. Direct mail is used to send brochures, pamphlets, applications, invitations, and letters. E-mail is used to send newsletters, applications, information about the university and its programs, and invitations to events. Another electronic source of marketing is websites. Each academic department has its own website that is linked to
the WPI homepage, and many non-academic departments have their own web pages as well. Finally, more personal forms of marketing are used and include personal visits and events such as homecoming.

The Liberal Arts and Engineering degree program at WPI currently enrolls three male undergraduates, but the university as a whole and the Liberal Arts and Engineering program are targeting women. The university is targeting women in order to bring the ratio of male students to female student closer to a 50:50 ratio. The Liberal Arts and Engineering program should target women because women tend to think more holistically and the program offers the opportunity of learning critical thinking and problem solving skills that can be applied to problems large and small, local or global.

WPI and the Liberal Arts and Engineering program compete with three types of schools. These types are engineering colleges, liberal arts colleges with engineering programs, and liberal arts colleges without engineering programs. Each of these types of schools offers a different experience for a prospective student, and the Liberal Arts and Engineering program combines these experiences into one degree program.

The following marketing plan will detail the marketing strategy and marketing objectives, including the internal and external marketing of the program, enhancements to be made to current marketing tactics, new marketing tactics, distribution strategy, pricing strategy and a timeline of objectives and action plans to help increase the marketing as well as the growth of the Liberal Arts and Engineering Bachelor of Arts program.
Current Marketing Situation

College Admissions Market

The college admissions market has experienced great triumphs over the past five years. Schools across the United States have seen an extremely large increase in their application numbers, making every school more competitive than it has been in the past. Dartmouth College in Hanover, New Hampshire accepted 2,165 students from 18,778 applicants for the class of 2014, an all-time low acceptance rate of 11.5%. WPI has seen their application numbers more than double over the past five years. The application numbers are very high, not because there are more college-age students, but because the college-age students are applying to many more schools. The average number of applications has risen steadily over the past decade with a sharper increase over the past two to three years.

Additionally, with more applications being sent, more acceptances are received by students. Students who remain unsure regarding their final decision of which school to attend may send in deposits to many institutions. By sending in many deposits, these students make the number of enrolled first-year students at various institutions wrong. These students can also sign up for on-campus housing and register for classes before finalizing their decision on which school to attend. It is estimated that approximately ten percent of students who have submitted a deposit and secured their spot in the first-year class will not show up on first-year move in day.

Due to the above factors, Admissions departments at many institutions plan ahead for these situations and send out more acceptances than would typically be sent. This should result in the perfect number of first-year students unpacking on move-in day. The perfect number of

first-year students is relatively close to the number of first-year students the previous year, but a slightly higher number. However, the situation does not always work out perfectly and many more students will move-in than expected. This can cause many problems in terms of housing, food, and course selections. Also, the number of students who show up on move-in day could be significantly less than expected and the university may not be able to fully fund its budget because too few first-year students enrolled.

Overall, the college admissions market is a complex and difficult market. Nothing is ever certain and everything may or may not go exactly as planned.

Marketing at WPI

WPI markets to prospective students, current students, alumni, and parents in a variety of ways. These methods include direct mail, email, websites, online forums, events, and personal visits. The two main methods are direct mail and email. Direct mail includes postcards, magazines, invitations, view books, brochures, posters, applications, and letters. One example of direct mail is the Transformations catalog that profiles recent projects, notable alumni, and current projects at the university. This view book allows prospective students and their parent to see and read about the newest happenings at WPI. Email is used to send applications, information about the university and its programs, newsletters, and invitations to events. Alumni also receive a monthly e-newsletter called The Bridge. Alumni Relations has a website, AlumniConnect, which serves as an online community for alumni. Events are held for prospective students, such as open house, and also held for alumni and donors, such as reunion or homecoming. The events for alumni and donors are also used to honor donors for their contributions to the university.
Target Markets

In general, WPI targets many different types of students from many different geographical locations, ethnic groups, and income levels. In particular, WPI is targeting women and students of color. The majority of students who attend WPI are from the New England and Mid-Atlantic regions of the United States.\textsuperscript{45}

There are many possible target markets for the Liberal Arts and Engineering student pool. Because the Liberal Arts and Engineering program allows students to explore the areas of engineering, social science, management, and the humanities and arts, the educational experience is well-rounded and holistic. This type of program will attract women students because women tend to think more holistically than men do.\textsuperscript{46}

The Liberal Arts and Engineering program is a new program that differs greatly from the programs that WPI typically offers. WPI programs, while offering classes in the social sciences as well as humanities and arts, are usually science and mathematics based. The Liberal Arts and Engineering major, as mentioned previously, allows students to learn the fundamentals of several different subject areas. A program such as Liberal Arts and Engineering brings a major to WPI that would more typically be offered at a Liberal Arts college. Students at Liberal Arts colleges typically come from higher income families. As such, higher-income families are a target market for the Liberal Arts and Engineering program.

\textsuperscript{45} Interview with Kristin Tichenor, Vice President of Enrollment Management, Worcester Polytechnic Institute, 18 March 2010.
\textsuperscript{46} Interview with Kristin Tichenor, Vice President of Enrollment Management, Worcester Polytechnic Institute, 18 March 2010.
Market Description

As mentioned above, the Liberal Arts and Engineering program can successfully target women from higher income families. This is not to say that men and students from lower income families will not show an interest in the program, but that marketing will most likely be most successful with women and students from higher income families.

Due to the fact that the Liberal Arts and Engineering program allows students to explore many different academic subject areas and think holistically about problems, local or international, women, who tend to think holistically, will be most apt to find an interest in the Liberal Arts and Engineering program. These women can come from all around the United States and even all around the world, but the easiest geographic location to start marketing to is the New England and Mid-Atlantic area. WPI pulls many of its students from the ten or twelve states in these regions, and the offer of a new and innovative program certainly won’t decrease these numbers. After achieving success in the New England and Mid-Atlantic regions, it is possible to start marketing the program to women in more distant geographic regions.

Also mentioned previously, the Liberal Arts and Engineering program is a program that is much more similar to a program offered at a Liberal Arts College as compared to a typical WPI degree. Many students who attend Liberal Arts Colleges such as Harvard, Yale, and Brown come from higher income families and typically continue a familial legacy at a certain institution. Even the College of the Holy Cross in Worcester, Massachusetts, a high-profile Jesuit college, attracts student who have a family legacy at the school. These legacies can be one generation or can date back to the early 1800s. In addition to these legacy students, Liberal Arts colleges attract students from high income families in the local area and geographic region.
Depending on how prestigious and well known the institution is, students from all over the United States and all over the world can be attracted to Liberal Arts Colleges.

With all of the above information, it is important the WPI begins marketing the Liberal Arts and Engineering program locally. Higher income families in the Worcester area have the option of sending their students to universities such as Harvard, Yale, Brown, and Dartmouth. By showing that WPI can offer a Liberal Arts style program of equal caliber in comparison to these prestigious New England liberal arts colleges, more local, high-income students will be attracted to WPI. Additionally, it is also important to keep alumni and donors up to date with WPI’s new and innovative interdisciplinary programs. This is because alumni and donors will help to fund new programs as well as create familial legacies at WPI. These proponents of WPI will help build today’s interdisciplinary programs as well as create the interdisciplinary programs of tomorrow.

**Product Review**

WPI offers more than 25 degree programs in five main areas: Engineering, Sciences, Liberal Arts, Social Sciences, and Interdisciplinary Programs. The most populated of these areas is engineering, with 1963 undergraduate students enrolled. Engineering is followed by the Sciences, with 967 students enrolled. Interdisciplinary Programs currently have 316 students enrolled. The areas with the smallest enrollment are Social Sciences (18), and Humanities and Arts (9). Because of these numbers, WPI is primarily known for its engineering degrees. Sciences are a distant second and include mathematics, physics, chemistry and biochemistry, biology and biotechnology, computer science, management, and management information systems. The interdisciplinary programs encompass some on the most populated and some of
the least populated majors at WPI. The most popular interdisciplinary programs are Robotics Engineering and Interactive Media and Game Development, both of which were introduced in the last five years and have over 100 students in the program. The least popular, but also new, majors include Environmental Engineering (34), Environmental Studies (5), and Liberal Arts and Engineering (3).

The Liberal Arts and Engineering Program was introduced to the WPI community in 2007 as an Interdisciplinary program that educates students in Engineering, Social Science, Management, and the Humanities and Arts. It is a degree program that allows the student to “design” their own major while adhering to the general degree requirements. Each Liberal Arts and Engineering major must have a concentration such as Energy and Environment or ECE Design. This highly interdisciplinary degree teaches students about engineering design as well as professional writing, society and public policy, management, and entrepreneurship. This combination allows students of the Liberal Arts and Engineering program to be critical thinkers and creative problem solvers.

Competitive Review

WPI is in competition with three types of schools: Engineering Schools, Liberal Arts Colleges with Engineering Programs, and Liberal Arts Colleges without Engineering Programs.

The first of these schools, the engineering school, competes with WPI in relation to WPI’s most popular major area. These schools include, but are not limited to: Rensselaer Polytechnic Institute (RPI), Cornell, Harvey Mudd College, Carnegie Mellon, and Olin College of Engineering. All of these institutions specialize in engineering, but some also offer degrees in non-engineering fields, making them very comparable to WPI. The above schools, with the
exception of Harvey Mudd College, are also in WPI’s geographic area, making the competition for local students even more difficult.

The second of the schools, Liberal Arts Colleges with Engineering programs, offer roughly the same set of majors that WPI does, but almost all degrees given out by these institutions are Bachelor of Arts degrees. These schools include, but are not limited to: Yale University, Dartmouth College, Harvard University, Princeton University, Brown University, Smith College, Lafayette College, Loyola Maryland, and the University of San Diego. These colleges offer Bachelor of Arts studies in social science, management, business, and humanities and arts. They also offer engineering degree programs that culminate in a Bachelor of Arts degree in various fields of engineering. These schools are comparable to WPI because they offer almost exactly the same degree programs, yet WPI offers all of these degrees as Bachelor of Science programs. Liberal Arts Colleges with Engineering programs are spread across the United States, but some of the most well known and most highly regarded schools are found in WPI’s geographic area, creating more competition for WPI.

The last of the schools, the Liberal Arts College without an Engineering program, offers more specialized degrees in social science, management, and the humanities and arts. They do not offer any engineering programs, regardless of whether the degree would be a Bachelor of Arts or a Bachelor of Science degree. This type of college can be found throughout the United States, but WPI’s main competitors in this field are the Liberal Arts Colleges found in Worcester County, Massachusetts. These schools include, but are not limited to: Clark University, Worcester State College, Assumption College, Becker College, Atlantic Union College, and the College of the Holy Cross. These schools have more successful programs in the social sciences
and in humanities and arts, but cannot rival WPI in the life sciences and engineering fields. The main competition in this category is geographic competition.

_Distribution Review_

The external marketing of the Liberal Arts and Engineering will reach out to local women and local students from higher income families, as well as alumni and donors. Starting small will hopefully grow the program and provide enough backing to enable the marketing of Liberal Arts and Engineering around the country and around the world.

These groups do not necessarily need to be broken down into smaller groups. WPI already markets specifically to women in order to increase the female:male ratio of undergraduate students on campus. Additionally, WPI sponsors overnight programs specifically geared toward female prospective students as well as offer summer camps for middle and high school girls. Marketing toward women is already in full force at WPI and the Liberal Arts and Engineering program could be easily added to the marketing repertoire.

WPI also markets heavily to alumni and donors soliciting donations, advertising events, and planning homecoming and reunions. The Office of Alumni Relations uses many different tools to market effectively to its donors. These tools include e-newsletters and other e-mails, direct mail used for donation solicitations, event invitations, notes, and newsletters. Alumni Relations also keeps its website up-to-date and also runs a networking site called _AlumniConnect_. These sites and newsletters could also be easily added to in order to incorporate the Liberal Arts and Engineering program.
Strengths, Weaknesses, Opportunities, and Threats Analysis

**Strengths**

One of WPI’s main strengths is the interdisciplinary education that students receive while attending the institution. Many students are involved in interdisciplinary group projects as early in the WPI career as the first semester of their freshmen year. These freshmen work on the Great Problems Seminars, GPS, to help solve local, national, or international problems of energy, housing, and food. The GPS is the only voluntary project. The Humanities & Arts project, typically completed in the sophomore year, allows WPI students to explore an area of interest in the Humanities & Arts. This project allows for creative exploration with culmination in a research paper or a practicum, such as a recital or a gallery showing. The Interdisciplinary Qualifying Project, the IQP, requires students to use science and technology to help better society. These projects are typically completed in the junior year and the majority of the projects are completed at off campus project sites, located on 5 continents. These projects, like an expansion of the GPS, focus on irrigation, energy use, food, housing, community areas, and the advancement of society and can take place on a local, national, or international scale. Finally, the Major Qualifying Project, the MQP, is typically completed in the senior year. It consists of research in an area related to the major program of study and typically lasts throughout the entire senior year. The four projects create a large focus on cooperative group work and interdisciplinary study to successfully solve problems.

Another strength the WPI has to offer is the small faculty to student ratio. The information released in the Fall 2009 Common Data Set states that WPI’s current faculty to student ration is 1:14.\(^{47}\) In addition to the small ratio, 87% of classes at WPI have 40 or fewer

students and 67% have 20 or fewer students. The small student to faculty ratio allows for smaller class sections and more individualized student attention. Faculty members at WPI truly care about the students and give the students the attention they need and deserve.

A third strength that WPI has to offer is the generation of new degree programs. In recent years, WPI has introduced at least four new degree programs over the last five years. The programs include Bachelor of Science programs in Robotics Engineering and Interactive Media and Game Development (IMGD), as well as two Bachelor of Arts programs, Environmental Studies and Liberal Arts and Engineering. These new programs are well-known at WPI as interdisciplinary programs. Robotics Engineering combines Mechanical Engineering, Electrical and Computer Engineering, and Computer Science, while IMGD incorporates Computer Science and Humanities and Arts. The Bachelor of Arts in Environmental Studies involves Environmental Engineering as well as some aspects of Social Science, Public Policy, and Law.

The other Bachelor of Arts degree, Liberal Arts and Engineering, combines Management, Social Sciences, Engineering, and Humanities and Arts, but the exact combination of these four ingredients is left up to the student. Certain amounts of each of the four components are required, but the exact courses are for the student to decide. This allows the student to create their own concentration inside the Liberal Arts and Engineering major. Sample majors include: Energy and Environment, ECE Design, and Engineering and Pre-Law. The Liberal Arts and Engineering Program encourages students to pursue their interests by designing their own major program. This highly interdisciplinary program educates students not only about the design process of engineering, but also about professional writing, society and public policy, and management. This combination of skills allows students of the Liberal Arts and Engineering program to be critical thinkers and creative problems solvers.

48 Ibid., p. 27.
Weaknesses

Since its inception, the Liberal Arts and Engineering program has met the needs of only a small number of WPI students. This small number can be attributed to a number of weaknesses that the program currently possesses.

First, the Liberal Arts and Engineering program has no true Program Director. Two program directors are listed in the WPI course catalog, but both have other departmental and staff obligations, and thus cannot devote their time fully to the Liberal Arts and Engineering program. There are also a number of associated faculty members, but again, all have other departmental affiliations. Due to the fact that the Liberal Arts and Engineering program has no one Program Director, the program has not been advertised, publicized, and promoted to the WPI community, alumni, parents, or prospective students.

Another problem that the Liberal Arts and Engineering program faces is that only two students are currently enrolled in the program. With so few students enrolled, the knowledge of the program is very low. Students at WPI and prospective students considering WPI don’t know that they can design their own innovative and interdisciplinary major that is custom-tailored to their interests.

A third problem, caused by the second problem, is that only one student has graduated from WPI with a major in Liberal Arts and Engineering. However, this graduate has not registered with the Career Development Center, so there remains no evidence of careers in the Liberal Arts and Engineering field. Attracting students to a program with one graduate and no evidence of career options after graduations is a difficult process. The two students currently enrolled in the program have custom-designed their major to fit their interests and have plans for
their future after graduation. However, it is not possible to use these plans as evidence, as they have not yet been put into action. The Career Development Center (CDC) at WPI works to recruit companies for each specific degree program that WPI offers, but find difficulties recruiting for Liberal Arts and Engineering because being a self-designed program, every student will have different career needs and opportunities.

**Opportunities**

The expansion of the Liberal Arts and Engineering program will provide WPI with many opportunities. The program could also bring attention to the Worcester area and the Colleges of Worcester Consortium.

The Liberal Arts and Engineering program is a very unique program that allows students to study many different academic areas in order to gain knowledge and proficiency in studies that will be useful for critical thinking and problem solving. Other colleges and universities in the Colleges of Worcester Consortium offer programs with similar benefits, but are not able to provide the engineering education at their campus in Worcester. This results in cooperative Engineering 3-2 programs with well-known engineering institutions.

The Engineering 3-2 program has been available for Holy Cross students for approximately 20 years. Students study for three years at the College of the Holy Cross in Worcester, Massachusetts, and then go on to study for two years at either Dartmouth College in Hanover, New Hampshire or Columbia University in New York, New York. Three students have applied to study at Columbia for their remaining two years and fifteen lowerclassmen have expressed an interest in the program. The program information is available in the Academic Course Catalog, the Holy Cross web page, and in Admissions brochures. However, that is the
extent of the marketing for the Engineering 3-2 program. Typically, students join the program because they are not sure if they wish to pursue engineering or if they are interested in an “undergraduate liberal arts experience” with and option of studying engineering later in their academic career. Many students who initially express interest do not end up completing the program.\(^49\)

The Engineering 3-2 program at Assumption College in Worcester, Massachusetts has recently been established in conjunction with the University of Notre Dame in Notre Dame, Indiana. There is currently only one student who is actively participating in the Engineering 3-2 program, but there are great hopes for expanding the program. Articles about the program have been published in the quarterly publication, advertisements on the websites of both institutions have been published, and the Public Relations department at Assumption has sent out notices to other institutions. The program will also be published in the course catalog for the next academic year.\(^50\)

In contrast to the Engineering 3-2 programs at other Worcester Consortium schools, WPI is able to offer studies in Management, Social Science, Humanities and Arts, and Engineering in one location as well as provide a degree that can be finished in four years. The courses required for the Liberal Arts and Engineering give a student a strong background in engineering design and problem solving, policy and law, history, technical writing, business, and management that can lead to success in many different career paths including law, politics, and finance.

WPI will also see an opportunity for many added benefits with the expansion of the Liberal Arts and Engineering program. The expansion of the degree program could allow for an expansion of WPI in a number of ways.

\(^{49}\) Interview with Engineering 3-2 Advisor, College of the Holy Cross, 15 March 2010.
\(^{50}\) Interview with Professor, Assumption College, 11 March 2010.
The anticipated growth of the Liberal Arts and Engineering degree program will potentially see an added diversity of students on the WPI campus. These students will not only be ethnically diverse, but also come from different geographic regions around the United States and around the world. Additionally, these students could come from different types of families with different levels of income and different religions. The diversity does not necessarily need to be a physical diversity. The Liberal Arts and Engineering students will have different outlooks on society and the world as well as different goals in life. The increased diversity that the Liberal Arts and Engineering program could bring to WPI would enhance the global outlook and interdisciplinary education that WPI already fosters.

As mentioned previously, one possible target market for the Liberal Arts and Engineering degree program would be students who come from higher income families. Because the Liberal Arts and Engineering program is more comparable to a degree program offered at a Liberal Arts college, students who might be more likely to attend a Liberal Arts College might find an interest in the Liberal Arts and Engineering program at WPI. Also mentioned previously, students who attend Liberal Arts colleges are more likely to come from higher income families and typically continue a familial legacy at a certain institution. In addition to legacy students, Liberal Arts colleges bring in students from high income families in the local area, surrounding geographic region, as well as students from all over the United States and even all over the world. The expansion of the Liberal Arts and Engineering program at WPI could bring in more students from higher income families that require less need-based financial aid, which will hopefully lower the average financial aid package. A lower average will allows for more funds to be given to qualified students who need aid.
Finally, the Liberal Arts and Engineering program affords WPI a huge opportunity to move away from being known as an “Engineering Institution.” While WPI offers degrees in the life sciences, humanities and arts, social sciences, management, and many others, the school is most well known for its engineering programs. These programs include Mechanical Engineering, Chemical Engineering, Biomedical Engineering, Robotics Engineering, Electrical Engineering, and many more. The Liberal Arts and Engineering program, while including the word engineering in the degree title, allows students to study and understand much more than just engineering. The expansion of the Liberal Arts and Engineering program would allow WPI to advertise and promote the growth of interdisciplinary education as well as the global approach to problem solving that the WPI atmosphere and education cultivates.

**Threats**

The Liberal Arts and Engineering degree program at WPI could see threats from three main areas. These areas are: Worcester Colleges, New England Liberal Arts Colleges, and nationwide Technical Institutions.

The first group, Worcester Colleges, encompasses all colleges and universities located in Worcester and the surrounding area. These colleges are a part of the Colleges of Worcester Consortium (COWC), of which WPI is also a part. Many of these colleges, including the College of the Holy Cross, Assumption College, Clark University, Becker College, and Anna Maria College, are Liberal Arts Colleges that offer no coursework in Engineering. However, some of these schools offer a 3-2 Engineering program in which students study the Liberal Arts for three years and Engineering for the subsequent two years. This 3-2 program is very similar to WPI’s Liberal Arts and Engineering program and is offered by at least three schools in the
Worcester area, Holy Cross, Clark, and Assumption. These 3-2 programs could be a large attraction for local students who are unsure if they want to study engineering, and the programs, if successful, could pose a large threat for WPI’s Bachelor of Arts degree program in Liberal Arts and Engineering.

Another threat to the Liberal Arts and Engineering program are the Engineering programs offered by prominent New England Liberal Arts colleges. These colleges include Dartmouth College, Harvard University, Yale University, and Brown University. These colleges offer Bachelor of Arts degrees in engineering disciplines, but in enhanced Liberal Arts settings. The students studying engineering at these institutions are heavily exposed to the Liberal Arts while they are studying engineering. Students studying engineering at a New England Liberal Arts college study roughly fifty percent engineering and fifty percent liberal arts. This ratio is very similar to the Liberal Arts and Engineering program offered by WPI. Since these colleges are local and within driving distance of WPI, they pose a large threat to WPI because they attract students with equal interests in engineering and in the liberal arts.

While WPI’s Liberal Arts and Engineering program offers students the option of easily switching to a more focused engineering discipline, schools that are more focused on engineering pose a threat to WPI. These schools, including Massachusetts Institute of Technology, Rensselaer Polytechnic Institute, Rochester Institute of Technology, Olin College of Engineering, and Cornell University, offer the same strong focus on technology and engineering that WPI does. Although switching from the Liberal Arts and Engineering Bachelor of Arts program into an accredited Bachelor of Science Engineering degree is easy to do at WPI, another technical school may be more appealing to a student who wants to focus solely on engineering.
The attraction to other technical schools poses a threat to WPI, the Liberal Arts and Engineering program, and the engineering departments at WPI.

**Objectives and Issues**

*First Year Objectives - Inside WPI*

The first year objectives for the marketing of the Liberal Arts and Engineering program involve the internal marketing of the program. There are many different ways to market the program to current students, especially new incoming students who are still undecided about their major.

The first of these ways is to incorporate the Liberal Arts and Engineering program into the “Major Exploration Series” that guides first-year students to choose the major that fits them best. This program is run through the Office of Academic Advising in conjunction with the Career Development Center. The Major Exploration Series introduces academic programs to students, details the program requirements, and outlines future career that are possible in different fields of study. The integration of the Liberal Arts and Engineering program with the Major Exploration Series will give the program much more publicity on campus.

WPI hosts a number of Open Houses throughout the academic year and during the summer. Information sessions and panel talks are given during the open houses and vary in topic from studying abroad to Greek Life. Typically, at least one of these panels or information sessions revolves around how to choose a major. Additionally, during Spring Open Houses, it is typical for academic departments to hold information sessions about the programs of study offered in their respective departments. It is possible for the Liberal Arts and Engineering program to hold such a session at Open Houses in the spring.
Finally, WPI is introducing a new set of administrators that will be joining the WPI community in the fall of 2010. These administrators are three new Deans for the university. The Deans will represent Engineering, Management, and Arts & Sciences. The Deans will be working together in many respects. Internally, they will be evaluating the success of current academic programs as well as helping academic departments work together to create new interdisciplinary programs. Externally, they will be spreading information nationally and internationally about WPI’s projects program and the innovative and interdisciplinary education that the university offers to its students. They will also be responsible for major fundraising for the university’s academic programs.

The new Deans could play a vital role in expanding the Liberal Art and Engineering program because the academic requirements of the program would involve all three Deans. Perhaps they could work together to advertise the program locally, nationally, and internationally, as well as raise funds to expand the program. They could also look into a Search Committee to locate and hire a suitable program director and faculty member for the Liberal Arts and Engineering program is the program needs additional faculty support.

Second Year Objectives—Outside of WPI

The second year objectives for the marketing of the Liberal Arts and Engineering program can include, but are not limited to, conducting a search for and hiring a program director, continuing a strong, campus-wide push for interdisciplinary programs of study, and advertising the post-undergraduate paths of recent graduates of Bachelor of Arts programs.

Hiring a program director to lead the Liberal Arts and Engineering program would benefit the program in many ways. The program director would also receive a faculty
appointment and teach classes that will support and enhance the Liberal Arts and Engineering program. The search committee for the program director should include the 3 Deans, Engineering, Business, and Arts and Sciences, as well as the associated faculty for the Liberal Arts and Engineering program. The search could be conducted internally or externally. The program director would be able to work with the new Deans to promote the program locally, but also globally, as the Deans will be working to promote WPI on a national and international scale. The program director would also be able to give informational presentations at open houses for prospective students and be an academic advisor for students who are currently enrolled in the Liberal Arts and Engineering program. Hopefully the search would finish by the end of the second year so that the program director could start his/her role in the fall of the third year.

In creating success for the Liberal Arts and Engineering program, WPI must keep its focus strong on the interdisciplinary programs that it already offers, including Robotics Engineering, Interactive Media and Game Development, Environmental Engineering, and Environmental Studies. Growing these programs and making them as strong as possible will attract students to the interdisciplinary lifestyle that WPI offers to its students. Additionally, the continuation of the projects program and the ability to complete a project off-campus takes a very interdisciplinary, global look about worldwide problem, something that the Liberal Arts and Engineering program stresses. By continuing to emphasize the importance of interdisciplinary education, WPI can set the scene for Liberal Arts and Engineering to become a popular choice of academic program.

Finally, the students currently enrolled in the Liberal Arts and Engineering program will be graduating with the undergraduate Bachelor of Arts degree over a span of one to three years. After their graduation it is not only important, but necessary, to follow up with these students
after their graduation to see how they have progressed either in a career or in further schooling. This evidence of post-graduation options will provide benefit to prospective students who show an interest in the program. With no current evidence, it is hard to sell the program and what a student can do after graduating with an undergraduate degree. After graduation, evidence will be granted to WPI, and such evidence will hopefully help to grow the Liberal Arts and Engineering program.

*Future (>2 years) Objectives*

Following the successful hire of the Liberal Arts and Engineering program director, certain objectives will need to be successfully carried out each year so that the program can continue to blossom and grow.

The first of these objectives is to continue the strong emphasis on interdisciplinary education throughout WPI. As mentioned previously, the projects program combined with a plethora of new interdisciplinary majors help to keep the interdisciplinary focus strong. Continuing these programs as well as enforcing the required projects, and possibly adding new interdisciplinary programs of study will continue the theme of interdisciplinary education at WPI.

Another objective that needs to be successfully continued is the evidence of post-graduation plans from students who are currently enrolled in the Liberal Arts and Engineering program. The program director or the academic advisor, who may be one in the same, should work to ensure that graduates of the Liberal Arts and Engineering program register with the Career Development Center and provide the CDC with their post-graduation plans. These plans could include graduate school or a career in a particular field. If the CDC has this information
from recent graduates, it can be actively used to promote the Liberal Arts and Engineering program to prospective students.

A third future objective to continue is the promotion of the Liberal Arts and Engineering program in a variety of ways. The program can be promoted internally, locally in Worcester, throughout Massachusetts, around the United States, and possibly around the globe. While the program may not currently be large enough to promote by itself around the globe, the success of many different interdisciplinary program may be promoted, and Liberal Arts and Engineering may be included.

The three previous objectives provide help to make the fourth objective succeed. The fourth objective is to continue the growth of the Liberal Arts and Engineering program, which will allow WPI to accept a more diverse group of students. Continued strength of interdisciplinary programs, promotion of said interdisciplinary programs in many different arenas, and continued evidence of post-graduation success will help to secure the growth of the Liberal Arts and Engineering program at Worcester Polytechnic Institute.

Issues

In order to help the Liberal Arts and Engineering program grow, marketing and advertising will play a key role. The program can be advertised at Open House sessions by associated faculty members as well as worked into the Major Exploration Series run by the Career Development Center. Neither of these options will require additional cost as they are programs that are currently run and can easily be added to or altered.

However, additional external marketing would require additional funds. Incorporating the Liberal Arts and Engineering program into additional Admissions pamphlets as well as other
marketing tactics will require additional funding. These tactics include various direct mailings as well as website updates. The Liberal Arts and Engineering website needs to be updated in order to keep information up to date about course requirements, sample projects, and general university policies.

Additionally, if the Liberal Arts and Engineering program were to expand enough to require an additional faculty member and/or a department head, a search committee would be formed and a search conducted for the person in need. If the only need was a department head, a search could be conducted internally to such a person and no additional funds would be necessary, since they are already being paid as a faculty member at WPI. However, if additional faculty members are needed in any area, Engineering, Social Science, Management, or Humanities and Arts, an external search would need to be conducted and as a result of the search, an external candidate would be hired. The hiring of a new faculty member would require additional funds from the university.

As mentioned above, many different aspects of the expansion of the Liberal Arts and Engineering program could possible require additional funding from the university. As of right now, no additional funding is needed and no funding was granted. In the future, adding such funding might stretch the university budget, especially in tough economic times. In the future, if necessary, it would be best to hire internally first and only hire externally if completely necessary.
Marketing Strategy

Product Strategy

The Liberal Arts and Engineering program at WPI offers a unique education and should be promoted and publicized as such. The program offers studies split equally between engineering, math and science, humanities and arts, social sciences, and management. This combination of studies offers insight and knowledge in many different areas. The graduating student will be knowledgeable enough in each of these areas to have many successful career options which include law, politics, medicine, engineering design, and business, among others. The program also promotes a critical think and problem solving approach that can be applied to local, national, or international problems. Due to the wide range of knowledge, the global approach, and the vast career options, the Liberal Arts and Engineering program at WPI should be expanded and marketed.

In order to sell the Liberal Arts and Engineering program, it must first be incorporated as a recognized program at WPI. It was voted on by the faculty in 2007 and has been an official program beginning in the fall of 2007. Thus far, one student has matriculated from the program and three more are currently enrolled. In order to increase the number of students enrolled in the Liberal Arts and Engineering program, the product strategy must begin internally.

Internally, WPI can begin with expanding some already existing programs in order to incorporate the Liberal Arts and Engineering program. These programs include the Major Exploration Series, Major Panels, and Academic Advising events. The Major Exploration Series is a program for undecided first-year students that is used to help them decided what major is right for them. These sessions include available career paths, expected salaries, options in graduate school, degree requirements, and many other topics. These topics of discussion work
together to help a student decide which major program is right for him/her. Additionally, the Career Development Center offers Major Panels that highlight students and graduates from related fields (i.e. Chemistry and Biochemistry, Biology and Biotechnology, and Biomedical Engineering). These panels are informational sessions that students can sit in on and learn about the projects inside the program, the overall experience of a certain major, and the possibilities and options after receiving an undergraduate degree. Finally, the Office of Academic Advising is very involved in the academic lives of first-year students. Many students meet with a member of the Academic Advising staff to receive advice on courses, majors, double majors, minors and concentrations, and other related topics. The Academic Advising staff can easily incorporate the Liberal Arts and Engineering program into their advising role by learning about the degree requirements and outcomes as well as identifying students who might be a good fit for the program. All of the internal expansions mentioned are easily accomplishable and could be incorporated into the already existing programs with no problems.

External marketing efforts can be divided into two groups, those efforts that are easily accomplishable, and efforts that are not easily accomplishable. The easily accomplishable efforts include the incorporation of the Liberal Arts and Engineering program into Open Houses for prospective and admitted students, as well as continuing the advertisement of Liberal Arts and Engineering in direct mail. Open Houses typically include informational sessions on academic departments. It would be relatively easy to secure a small room on-campus to give information about the program and its benefits. Current Liberal Arts and Engineering students would be invited to the informational session to talk about their experience and their plans for after graduation. Associated faculty members would also be invited to speak about how their respective departments are incorporated into the Liberal Arts and Engineering program. This
would hopefully occur at all Open Houses throughout the academic year. Also, the Admissions Office currently sends out pamphlets and informational packages that detail all of WPI’s different majors and academic departments. One of these pamphlets is the “Areas of Study” pamphlet, which details each academic program in one to two paragraphs. The Liberal Arts and Engineering program is given the same amount of space on the pamphlet as every other major. Efforts like the “Areas of Study” pamphlet should be proliferated and continued. The information can be updated by an associated faculty member of the Liberal Arts and Engineering program. Finally, many academic departments and programs offer specialized pamphlets that describe in detail the program requirements, outcomes, and possible post-graduation options for students in specific departments. The Liberal Arts and Engineering program does not yet have one of these pamphlets. With all the existing information, it would not be difficult to put together such a pamphlet.

The not easily accomplishable external marketing efforts include updating the Liberal Arts and Engineering website as well as advertising the accomplishments of Liberal Arts and Engineering graduates. The Liberal Arts and Engineering website was created in 2007, after the program was approved by the faculty at a monthly faculty meeting. The website has not been updated since its creation and could benefit from more up-to-date information. The first change to the website would be to update any course information or program requirement information that has changed. This is important to note because some courses are no longer being offered or have been replaced with newer courses. This information is vital for both prospective students and current students who are considering the Liberal Arts and Engineering program as their course of study. The second change or addition to the website would be testimonials from past and current students. These students should describe why they chose the program and what they
expect to learn from their course of study. Finally, they should detail their plans for after
graduation and what they hope the Liberal Arts and Engineering program will lead to in a career.
Getting this information to update the website may not be difficult, but the actual changes to the
website will be time consuming. Also, the most important, and perhaps most difficult task is to
keep in touch with graduates of the Liberal Arts and Engineering program to assure that they
have listed their post-graduation plans and job offers with the Career Development Center. This
will allow both the Career Development Center and the associated faculty of the Liberal Arts and
Engineering program to publicize and promote the success of Liberal Arts and Engineering
graduates. In the future, it is possible that one of the Liberal Arts and Engineering graduates
may be profiled in the Transformations magazine that is sent to prospective and current students
and their families. Right now, the task is difficult because only one student has graduated from
the program, but in the future this task must be completed in order to accumulate valuable
evidence regarding the success of the Liberal Arts and Engineering program.

Pricing Strategy

Tuition at WPI is a set price, regardless of what major field a student is studying. Additional costs incurred can include books, room and board, meal plans, insurance, parking, and school supplies. As all of these things are basic needs for college students, it is no surprise that the cost of each increases annually.

WPI raises the cost of tuition approximately four percent every year. The funds gathered by raising tuition are used to pay salaries for new faculty and staff members as well as keep the university running smoothly on a day-to-day basis. However, since the Board of Trustees votes on the raise in tuition, there is nothing that the Liberal Arts and Engineering program can do to
lower the cost of tuition for Liberal Arts and Engineering students. All academic and non-academic departments must comply with the rates decided upon by the Board of Trustees.

*Distribution Strategy*

A typical distribution strategy section in a marketing plan would detail how a product (a car, clothes, or a candy bar) would be distributed to the paying customer. Since the Liberal Arts and Engineering program is not something physical that can be purchased, this Distribution Strategy section will focus on how marketing tactics will be used, or distributed, to the target markets.

To successfully market to the target markets mentioned previously, many different tactics must be incorporated into the overall marketing plan. In order to market the Liberal Arts and Engineering program to women, WPI must continue the specialized programs directed toward women of all ages. This includes the Athena overnight program, the WUNDERs summer camp for teenage girls, and Camp Reach for middle school girls. Bringing interest to the university as a whole will allow girls of all ages to explore the different academic programs that WPI has to offer. Girls who continue to return to WPI for these programs, and others, like Frontiers, should continue to receive informational packets about WPI and solicitations from specific departments of interest.

Students that come from higher income families, as discussed above, are more likely to attend a liberal arts college and require less need-based financial aid. As such, these students showing an interest in WPI should be receiving information and packets that detail the strengths of the Humanities and Arts Department, Social Science Department, and the Interdisciplinary Projects Program. Additionally, many liberal arts colleges require their freshmen students to
enroll in and successfully pass a freshmen year seminar. These seminars typically focus on writing and/or history, as well as team-building and cooperation. The new freshmen project, the Great Problems Seminars should be well-detailed and promoted to students who would typically attend liberal arts colleges.

Both of these groups should also receive more typical mailings and solicitations such as brochures, financial aid information, posters, and applications. They should also receive the same emails as other prospective students, such as newsletters, applications, and correspondence with current students.

*Marketing Communications Strategy*

In order to successfully expand and market the Bachelor of Arts program in Liberal Arts and Engineering, many campus departments must work together and cooperate to get tasks accomplished.

A good example of departments working together can be seen in the Major Exploration Series that is run by the Career Development Center with help from the Office of Academic Advising. This program, as mentioned previously, helped undecided first-year students choose a major with options and career paths that suit the student well.

Many campus departments regularly cooperate and communicate with the Marketing department. Because the marketing department is in charge of all marketing communications and press releases that are released both inside and outside of the WPI community, it is almost required that marketing works cooperatively with each department. Marketing works with the Admissions Office to create informational brochures on topics such as areas of study, residential life, career development, student activities, and diversity. These brochures also require
information and cooperation from the departments mentioned in the brochures, such as Residential Services, the Student Activities Office, the Career Development Center, and the Office of Women’s and Diversity Programs. Additionally, the associated faculty members of the Liberal Arts and Engineering program have worked with and continue to work with the Marketing Department to create the website dedicated to the Liberal Arts and Engineering program. Essentially, the Marketing and Communications department is linked with every on-campus department to ensure success for each department.

The associated faculty members as well as the currently enrolled students will work cooperatively with the Career Development Center to report their post-graduation plans as well as to offer insight into prospective employers and graduate studies. The faculty and current students will also work with the Office of Academic Advising to educate the staff members on the degree requirements and the different concentrations inside the program. Finally, the associated faculty members and current students will work cooperatively with the Admissions Office to plan informational sessions regarding the Liberal Arts and Engineering degree program for prospective students.

Marketing Research

The marketing research associated with marketing the Liberal Arts and Engineering Bachelor of Arts degree program included investigation into the marketing efforts that already existed. The investigation also looked into what marketing tactics were used in the past and whether said tactics were successful or unsuccessful. In order to completely carry out the marketing research, many different departments were contacted, including the Admissions Office, the Office of Marketing and Communications, the Office of Development and Alumni
Relations, the Career Development Center, and the Office of Academic Advising. The research focused on what programs and tools were available to prospective, first-year, and upper-class students, parents, and alumni.

Continuing research should be conducted in order to stay up-to-date with all marketing efforts at WPI. This may include staying in touch with each of the above departments, as well as developing new marketing techniques and tactics for one or many departments to use.

Marketing research was also conducted externally. Colleges with similar programs were contacted and feedback about marketing was solicited. The responses varied greatly and some tactics were adapted or used in the marketing plan.

Continuing external research should be conducted with competing universities or universities with programs similar to Liberal Arts and Engineering. New or enhanced techniques and tactics could be discovered through this research.

**Marketing Organization**

Worcester Polytechnic Institute is overseen by a President and his “Administrative Group,” which includes the Provost and all of the Vice Presidents. This group could possibly include the new Deans when they join WPI in August of 2010. Currently, each department head reports to the Provost, who reports to the President. When the Deans arrive, they will become intermediaries in this process. Inside each academic department, faculty members report to their respective department head. Staff departments report to their respective Vice President. For example, the Student Activities Office reports to the Vice President for Student Affairs and Campus Life and the Admissions Office reports to the Vice President for Enrollment Management. The President is also a member of the Board of Trustees, members of the WPI
community who have made an investment in the institution and want to be a part of the decisions made regarding the university.

Many departments will play an important role in the marketing and expansions of the Liberal Arts and Engineering Bachelor of Arts degree program. One very important department is the Admissions department, which is responsible for informing prospective students about WPI’s projects program as well as different academic departments. Staff in the Admissions Office includes associate directors, assistant directors, and admissions counselors. Admissions also works with student ambassadors and student tour guides. The tour guides are part of a group known as Crimson Key. Staff members inside the admissions office report to The Director of Admissions. The Director of Admissions reports to the Vice President for Enrollment Management.  

Another crucial department to the expansion and success of the Liberal Arts and Engineering program is the Marketing and Communications department. The staff members of the marketing department are responsible for graphic design, web editing, research communications, web development, public relations, marketing communications, and print productions. All staff members in the marketing report to the Vice President for Marketing and Communications.

Finally, associated faculty members of the Liberal Arts and Engineering program report to the department head in their specific departments, for example, Chemical Engineering, Humanities and Arts, or Social Science and Policy Studies. However, in regards to the Liberal Arts department, associate faculty members report to the department head. In regards to the Engineering department, associate faculty members report to the School of Engineering.

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52 “WPI Marketing and Communications Division – Our Staff,” January 14, 2010 <http://www.wpi.edu/Admin/Marketing/staff.html> (accessed April 15, 2010).
Arts and Engineering program, these faculty members report to the program director(s) of the Liberal Arts and Engineering program.

**Action Programs-Timeline of Objectives**

**August 2010**

In August of 2010, the beginning phases of the expansion of the Liberal Arts and Engineering program will begin. The three new Deans, Engineering, Business, and Arts and Sciences, will join the WPI community on August 1st. While they become acclimated to the community and atmosphere, other planning phases may begin. The two biggest events that the Liberal Arts and Engineering program will hopefully take part in during the 2010-11 academic year are the Major Exploration Series and Admissions Open Houses. There are many Open Houses throughout the academic year, the first of which occurs in October. In August, preparations should be made as to who will be speaking on behalf of the Liberal Arts and Engineering program and an outline of what they will be speaking about should be drafted.

**September 2010**

In September of 2010, it is vital that plans for the Fall Open House are finalized. Liberal Arts and Engineering students should be asked to speak about what attracted them to the program, what their focus is inside of Liberal Arts and Engineering, and what their plans are for after college. A room should be booked for the presentation and all details should be finalized with the Admissions department. It is important to get the informational session in the Admissions information packets so that students know the date, time, and location and have the option of attending the session if they choose.
October 2010

The fall Open House occurs annually on Columbus Day. The 2010 fall Open House will take place on Monday, October 11th, 2010. Since presentations, time and place, as well as the room had been finalized in September, the Open House session should happen smoothly and without problems.

Additionally in October, associated faculty members in the Liberal Arts and Engineering program should meet with undecided students and discuss the options that the Liberal Arts and Engineering program can offer to a student with varied interests. The faculty should touch on the problem solving and critical thinking process that is the focus of the program. This process can be applied to problems great or small as well as problems that are local or international. Student major declaration forms are not due until mid-December, so the process of speaking with undecided students will continue through the next month.

November 2010

As mentioned above, the process of speaking with undecided students and promoting the Liberal Arts and Engineering program will continue through November and into early December. Another point to emphasize when meeting with undecided students is that if they decided to leave the Liberal Arts and Engineering program, it is easy to switch back to a Bachelor of Science degree program without having lost much time.

Another topic that should be receiving attention in the late fall and early winter is the updating of the Liberal Arts and Engineering website. The last time that the website was updated was July 23, 2007, almost three years ago. The website should be updated, and the

associated faculty of the Liberal Arts and Engineering program should begin to amass data and updated information for the website in November of 2010.

*December 2010*

Major Declaration forms for WPI freshmen are typically due to the registrar and Academic Advising by the middle of December. Hopefully by this time, associated faculty members will have met with a significant number of undecided students to promote and advertise the Liberal Arts and Engineering degree program. If, after the major declaration process, undecided students still remain, they are mentored by one of two faculty and staff members. Undecided Engineering students are mentored and advised by Professor Fofana of the Mechanical Engineering department. Regular undecided students are mentored and advised by Connie Peppes, the Associate Director of Academic Advising for the First Year. These mentors will help undecided students choose a major that is right for them.

Three more open houses are coming up in C and D Term of 2011, so it is important to begin planning in late B Term. This includes preparing or updating presentations, confirming student presenters, bookings rooms, and making sure that the information session details are published in Admissions materials given out at the Open House.

Additionally in December 2010, associated faculty members of the Liberal Arts and Engineering program should work with Academic Advising as well as the Career Development Center to incorporate the Liberal Arts and Engineering program into the Major Exploration Series that will run once in C Term of 2011 and once again in D Term of 2011. This cooperation will include the sharing of information, program requirements, possible careers, and other helpful information about the Liberal Arts and Engineering program between the associated faculty and the Career Development Center.
C Term 2011

The Major Exploration Series runs twice per year, once in C Term and once again in D Term. It is comprised of three sessions that will help students find the right major. The Liberal Arts and Engineering program should be included in the Major Exploration Series to give undecided students more information specifically on the program than is available through their advising mentor.

The first of three Spring Open Houses for Accepted Students occurs in February. Since all the room bookings, presenters, and topics of discussion had been previously finalized and confirmed, the day should run smoothly.

D Term 2011

The Major Exploration Series will go through its second run in D Term of 2011. Again, the Liberal Arts and Engineering program should be included in the Major Exploration series in order to give undecided students updated and sufficient information about that program that would not typically be available through their advising mentor.

The final two Open Houses for Accepted Students take place in mid-April. Since these presenters, topics of discussion, and room scheduling have already taken place, the two Liberal Arts and Engineering open house presentations should run very smoothly.

2011-2012 School Year

The second year of marketing the Liberal Arts and Engineering Bachelor of Arts program will consist of continuing and strengthening the marketing that occurred in the first year. This includes continuing the on-campus marketing such as the Major Exploration Series and the Open
House Informational Sessions. Additionally, the Liberal Arts and Engineering website should continue to be updated regularly with information regarding course changes, recent graduates, and career opportunities.

Finally, the three Deans of WPI will be familiar with the academic programs by their second year, and if they see a growing interest in the Liberal Arts and Engineering program, they can begin to plan and pursue external advertising and fundraising. It is with their help and presence that the Liberal Arts and Engineering program can be strengthened and promoted.

*Future Objectives*

The future marketing objectives for the Liberal Arts and Engineering degree program mainly consist of continuing, strengthening, and expanding the current marketing tactics. Most importantly, retaining and updating post-graduation information from recent Liberal Arts and Engineering graduates will help the program attain solid evidence of career possibilities.

Also, internal and external marketing should be continued, especially the Open House Presentations and the Major Exploration Series. The marketing tactics can be expanded to suit the needs of the program as well as the needs of the program director and associated faculty.
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Appendix 1 - Tables and Figures

Figure 1: Sample Programs offered in the Liberal Arts and Engineering degree program

### Table 1: BA in Liberal Arts and Engineering

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MQP – aimed at confluence of engineering and liberal arts cornerstones (1 Unit)
Figure 2: Factors in the Microenvironment

Figure 3: Major Forces in the Company’s macro environment

Figure 4: Conducting E-Marketing
Figure 5: Ethical Norms and Values for Marketers

Ethical Norms and Values for Marketers

Preamble
The American Marketing Association commits itself to promoting the highest standard of professional ethical norms and values for its members. Norms are established standards of conduct that are expected and maintained by society and/or professional organizations. Values represent the collective conception of what people find desirable, important and morally proper. Values serve as the criteria for evaluating the actions of others. Marketing practitioners must recognize that they not only serve their enterprises but also act as stewards of society in creating, facilitating and executing the efficient and effective transactions that are part of the greater economy. In this role, marketers should embrace the highest ethical norms of practicing professionals and the ethical values implied by their responsibility toward stakeholders (e.g., customers, employees, investors, channel members, regulators and the host community).

General Norms
1. Marketers must do no harm. This means doing work for which they are appropriately trained or experienced so that they can actively add value to their organizations and customers. It also means adhering to all applicable laws and regulations and embodying high ethical standards in the choices they make.
2. Marketers must foster trust in the marketing system. This means that products are appropriate for their intended and promoted uses. It requires that marketing communications about goods and services are not intentionally deceptive or misleading. It suggests building relationships that provide for the equitable adjustment and/or redress of customer grievances. It implies striving for good faith and fair dealing so as to contribute toward the efficacy of the exchange process.
Marketers must embrace, communicate and practice the fundamental ethical values that will improve consumer confidence in the integrity of the marketing exchange system. These basic values are intentionally aspirational and include honesty, responsibility, fairness, respect, openness and citizenship.

Ethical Values
Honesty—to be truthful and forthright in our dealings with customers and stakeholders.
• We will tell the truth in all situations and at all times.
• We will offer products of value that do what we claim in our communications.
• We will stand behind our products if they fail to deliver their claimed benefits.
• We will honor our explicit and implicit commitments and promises.

Responsibility—to accept the consequences of our marketing decisions and strategies. We will make strenuous efforts to serve the needs of our customers.
• We will avoid using coercion with all stakeholders.
• We will acknowledge the social obligations to stakeholders that come with increased marketing and economic power.
• We will recognize our special commitments to economically vulnerable segments of the market such as children, the elderly and others who may be substantially disadvantaged.

Fairness—to try to balance justly the needs of the buyer with the interests of the seller.
• We will represent our products in a clear way in selling, advertising and other forms of communication; this includes the avoidance of false, misleading and deceptive promotion.
• We will reject manipulations and sales tactics that harm customer trust.
• We will not engage in price fixing, predatory pricing, price gouging or “bait-and-switch” tactics.
• We will not knowingly participate in material conflicts of interest.

Respect—to acknowledge the basic human dignity of all stakeholders.
• We will value individual differences even as we avoid stereotyping customers or depicting demographic groups (e.g., gender, race, sexual orientation) in a negative or dehumanizing way in our promotions.
• We will listen to the needs of our customers and make all reasonable efforts to monitor and improve their satisfaction on an ongoing basis.
• We will make a special effort to understand suppliers, intermediaries and distributors from other cultures.
• We will appropriately acknowledge the contributions of others, such as consultants, employees and coworkers, to our marketing endeavors.

Openness—to create transparency in our marketing operations.
• We will strive to communicate clearly with all our constituencies.
• We will accept constructive criticism from our customers and other stakeholders.
• We will explain significant product or service risks, component substitutions or other foreseeable eventualities that could affect customers or their perception of the purchase decision.
• We will fully disclose list prices and terms of financing as well as available price deals and adjustments.

Citizenship—to fulfill the economic, legal, philanthropic and societal responsibilities that serve stakeholders in a strategic manner.
• We will strive to protect the natural environment in the execution of marketing campaigns.
• We will give back to the community through volunteerism and charitable donations.
• We will work to contribute to the overall betterment of marketing and its reputation.
• We will encourage supply chain members to ensure that trade is fair for all participants, including producers in developing countries.
Figure 6: The four *Ps* of the marketing mix

![The four Ps of the marketing mix](image1.png)

Figure 7: Marketing analysis, planning, implementation, and control

![Marketing analysis, planning, implementation, and control](image2.png)