**Part I: Preliminary Information**

**Title:**

An International Transformation of Produce: The Marketing of Imperfect Produce in France and the United States

**Abstract:**

In 2014, Intermarché, a grocery chain in France, started a program to decrease waste. The program, “les fruits et légumes moches” sold produce that did not meet certain aesthetic criteria at a discount, making it more affordable. The program also increased store traffic and brought Intermarché into the spotlight. If this program were implemented in the United States, it could reduce food waste and food insecurity. In order to determine its viability in the United States, interviews will be conducted in France focusing on companies with similar initiatives to Intermarché’s and program customers. The qualitative results will identify what makes customers purchase imperfect produce. A questionnaire will be formulated for American grocery shoppers and the results analyzed to determine the relative impact of each variable on willingness to purchase imperfect produce. These results will fill gaps in marketing literature and give insight into its feasibility.

**Personal Statement:**

Being from an Italian family, I have constantly been surrounded by food. My grandparents, who came to America from Sicily, owned a produce store, Machi’s Market. There, I not only learned to love everything about fruits and vegetables but also became aware of their impact on society.

As I entered high school and began volunteering at a soup kitchen, I noticed that the food I served was not the pristine fruits and vegetables I had seen at my grandparents’ store. Instead, I discovered oddly shaped bell peppers, distorted tomatoes, and crooked carrots. This produce did not taste any different, and everyone receiving the food was grateful and overjoyed. I was in awe at the reactions of these people until I realized that this food could possibly be the first full meal of the week for their family. It was there that I became fully exposed to the idea of food insecurity, an inadequate access to food due to a lack of money or resources (Coleman-Jensen, Gregory, Rabbitt, & Singh, 2015). My interest in it continued to grow as I went to college. I decided to volunteer at the food pantry at Allied Churches of Alamance County, and I was confronted with food insecurity in America once again.

I started studying French in eighth grade, and my passion for francophone culture grew during my time in high school. My French teacher for junior and senior year, Tom Joyce, inspired me as a student and person. He made me love French, and he is one of the main reasons why I decided to further my French education.

In a French class during my first year at Elon University, I watched a video about Intermarché, a grocery store in France. In early 2014, Intermarché started to sell what they call “les fruits et légumes moches” which translates to “the inglorious fruits and vegetables” (Godoy, 2014). In doing so, Intermarché hoped to reduce waste while also providing a cheaper option for produce, inspired by the European Union designating 2014 the Year Against Food Waste (Godoy, 2014). The program was launched in Provins, a town outside of Paris, where the store sold the saved ugly fruits and vegetables with a discount of thirty percent (Godoy, 2014). The program’s popularity was clear, with an increase of twenty-four percent in store traffic (Godoy, 2014).

As I reflected on the food insecurity I saw while volunteering and Intermarché’s program, I began to wonder how the two could work together. My time at my grandparents’ store piqued my interest in how and why people buy certain foods, and an apprenticeship at Point Park University in Pittsburgh, PA helped me discover my passion for marketing and imaginative ideas. With many of my different passions coming together, I saw the opportunity to explore francophone culture while decreasing food insecurity through marketing research.

The Lumen Prize will offer me the opportunity to delve into this issue with the fervor that it deserves. Furthermore, it will allow me to go beyond the average undergraduate research experience by allowing me the chance to conduct research in France and travel to professional conferences. This unique experience would also prepare me for future research and scholarly work because I plan to continue my education with a graduate degree and the Lumen Prize would help me build my research and writing skills. Additionally, my work would help me to better understand French culture and language, consumer purchasing, marketing channels, and public health issues.

**Part II: Project Description**

**Focus:**

Food insecurity does not discriminate: it affects all ages and all areas of the United States. A study conducted in 2012 shows that eighty-five percent of low-income families believe that eating healthy is important, but only fifty-three percent actually do most days (“It’s Dinnertime,” 2012). As a result of high prices, “low cost energy-rich starches, added sugars, and vegetable fats” replace “high-quality proteins, whole grains, vegetables and fruit” (Drewnowski & Eichelsdoerfer, 2010). Low-income families are interested in buying healthy foods, but their high cost, especially for produce, deters families from eating nutritious meals.

Food insecurity is fueled in part by food waste. During the production process, produce is discarded due to selective harvesting or “leaving any produce that will not pass minimum quality standards in terms of shape, size, color, and time to ripeness” (Gunders, 2012). Although many believe that unsuitable produce goes to useful sources, around twenty percent is wasted because of processing requirements, high transportation costs, or rotting before use (Gunders, 2012). Farms and processing plants cannot be entirely blamed for this culling process, though. Retailers “feel compelled to have only produce of perfect shape, size, and color” (Gunders, 2012). If this waste could be diverted to food insecure households, two major problems could be remedied. Luckily, the issue of waste has been acknowledged in France, and one grocery chain’s implementation of a program to combat food waste has been highly successful.

In 2014, Intermarché started “les fruits et legumes moches” program in order to decrease food waste by selling aesthetically imperfect produce at a reduced price. Intermarché is not the only company experimenting with this idea; Auchan and Monoprix, two of Intermarché’s competitors, and Fruta Feia, a food cooperative in Portugal, started similar programs (Godoy, 2014). Additionally, a United Kingdom-based grocery chain, Waitrose, began to sell “weather blemished apples” (Godoy, 2014). Through the popularity of these programs, it is clear that Europe embraced the fight against food waste, yet there are not any programs like this in the United States.

A plethora of questions and opportunities arise from this information. The potential benefits of a program like this are remarkable, such as its ability to provide food insecure households with access to good nutrition. In order to implement a program like Intermarché’s, different questions would have to be addressed such as the kinds of people who would try ugly produce and what stores could do to make it more appealing. With the proper implementation, the “ugly” produce could positively impact public health and businesses in the United States.

Intermarché’s program received a great deal of coverage from the popular press (ex: Barrow 2015, Cliff 2014, Godoy 2014), but there is no marketing literature regarding this topic. However, there is a large body of literature describing the role of expectancy theory in the purchase of produce. Expectancy theory states that attitudes regarding expected value of an option will directly impact the behaviors associated with choosing or not choosing that option (Cohen, Fishbein, & Ahtola 1972). For example, if a person has a choice between a disfigured and standard apple, the person would likely choose the standard apple. Moreover, it may take more cognitive effort for consumers to purchase a non-standard produce item, as incongruence with expectation requires consumers to process with more effort and intensity (Childers & Heckler 1992). Because an imperfect fruit or vegetable is incongruent with a consumer’s expectation, it therefore requires more demanding and intricate processing.

Expectancy theory has not yet been applied directly to the purchase of ugly fruit, but has been applied to food choice in other ways. For example, Butler, Houston-Price, & Shiba (2009) find that exposure to unfamiliar produce can reduce the natural tendency to avoid it. Therefore, pre-exposure to imperfect produce could combat unwillingness to buy imperfect produce. Imram (1999) links food products’ appearance and willingness to purchase the product, finding that appearance is extremely important for the acceptance of a food product. This concept has been applied to the purchase of organic produce, as cosmetic defects may deter a shopper from purchasing this produce (Kidwell & Thompson 1998), however it has not yet been explored in the context of general non-standard produce. Combining the literature regarding expectancy and incongruity along with previous research regarding produce consumption will provide a basis for research questions and survey design, and this proposed research will begin to fill this gap in the literature.

To explore the impact of the program in France and Europe, surveys and interviews will be conducted in France. The research questions will focus on determining what factors affect willingness of consumers to purchase ugly fruits and vegetables. This data will offer an example of a successful implementation of the program.

The potential impact of this research is vast and significant. This information could transform how the public sees produce and could successfully incorporate European ideas into American society and commerce. It is attractive to farmers and store managers because it would increase profits of farms and store traffic of grocery stores. Produce would be more affordable and therefore more accessible to food insecure families. If this program could become a standard for grocery stores, it could benefit many Americans, especially those who are food insecure.

**Proposed Experiences:**

During the spring and summer of 2016, I will complete my literature review. Using this information, interview guides will be created for the companies in the fall of 2016. Also, I will create interview guides for the Intermarché customers, focusing on consumer side variables, specifically drivers of desire to buy or not buy imperfect produce. My coursework in MKT414: Market Research will strengthen my research skills.

During Winter Term 2017, I will translate the interview guides into French with the assistance of French professor Patricia Burns. I will study in Paris, France during the spring of 2017. While there, I will interview the companies and Intermarché customers, finding the customers through communication with fellow students, my host family, and university resources. The companies will include Intermarché, Auchan, Monoprix, Fruta Feia, and Waitrose. These interviews will give insight into the business perspective surrounding this program. I will contact them through their websites, LinkedIn or other connections.

Once I return from France, I will compile and analyze consumer and company qualitative data, looking to identify patterns and themes. In a manner suggested by Weiss (1994), responses will be read and re-read, and then themes of responses will be determined. From these themes, initial categories of responses, particularly those pertaining to motivations to buy or not buy imperfect produce, will be created. Data from each interview will be coded into these categories. Any emerging relationships among response categories will be used to organize the data into specific categories that shed light on issues associated with purchase intentions. I will then use the emerging themes and topics to create a questionnaire.

During the fall of 2017, I will distribute the questionnaire to an online sample of U.S. grocery shoppers using Amazon MTURK. I will analyze the results of this questionnaire using Structural Equations Modeling, which I will learn during my senior year. Using this data analysis method will allow me to determine the relative impact of variables on the primary variable of interest, the willingness to purchase imperfect produce. My coursework in MKT415: Consumer Behavior will help me to better understand consumers purchasing choices. I will also complete the first draft of my paper and attend a conference to present the qualitative data and receive feedback from professionals.

By the end of Winter Term 2018, I will have finished my paper. I will submit my final work to a journal, the United States Department of Agriculture via different government contacts, and conferences, including the Academy of Marketing Science. In the spring of 2018, I will present my research at Student Undergraduate Research Forum and attend other conferences such as the Society for Marketing Advances. I will take MKT 416: Global Marketing and MKT 474: Marketing Channels to better understand international marketing and distribution channels.

**Proposed Products:**

New qualitative and quantitative data on the topic will be compiled as a result of the surveys and interviews conducted in both France and the United States, which will be important tools for further research. The emerging themes identified through the interviews will provide insight into the program and will be useful for both academics and business people.

My resulting paper will be presented at conferences, submitted to a journal for publication, and delivered to the United States Department of Agriculture. This exposure will hopefully initiate intelligent discussion and further research on this topic, making it more significant. It has the potential to impact the operations of grocery stores and farming in the United States. Grocery stores would have in-depth research on how to implement a program similar to Intermarché, and farms would waste less produce and increase revenue.

**Part III: Feasibility**

**Feasibility statement:**

While studying in France, I will have to overcome the language barrier. My seven years of French education will assist me with this. I am currently working towards fluency, and I am enrolled in 300 level French courses. French Professor Patricia Burns will assist me with any linguistic areas of difficulty such as the translation of interview guides into French and the process of contacting French companies. Connecting with the different companies could pose another problem. For this reason, I have found five possible companies to reach out to, and I have already contacted Intermarché.

The most challenging time will be conducting interviews in France. An issue may arise with finding people who participated in Intermarché’s program, but snowball sampling (Ferber, 1977) decreases this risk significantly. Snowball sampling, or referral sampling, is when existing subjects of a study refer the researcher to other people eligible to participate in the study. I will use my fellow students, my host family, and university resources as initial subjects who will then point me to other people who participated in the program. It is my hope that Intermarché will provide me with contacts as well. The questionnaire for the United States will be distributed to American grocery shoppers using Amazon MTURK, which my mentor has used before.

During the process, I will need to build upon my marketing research skills, all of which my mentor will teach me. I will need to learn how to analyze and interpret the qualitative data obtained through the interviews in France. Dr. Horky will teach me qualitative coding process so that I can do this. Another skill I will have to learn is Structural Equations Modeling and data analysis skills. This will help me to individually analyze each variable and assess the reliability of the scales. I will then better understand the influence of variables both on each other and on the willingness to purchase. In order to distribute the questionnaire in the United States, I will use Amazon MTURK, which surveys an online sample of shoppers and offers a monetary incentive. My mentor has experience with using this program, so I will be able to receive assistance from her.

**Budget:**

* **Spring Semester in Paris, France: $6,100**
* Travel to France: $1,300
* Elon Study Abroad Fee: $4,600
* Entry Visa Fees: $200
* **Travel in Europe: $754**
* Intermarché: Bondoufle, France $5
* Auchan: Croix, France $52
* Marcel Worldwide and Monoprix: Clichy, France $2
* Fruta Feia: Lisbon, Portugal $335
* Waitrose: Berkshire, England $360
* **Conferences: $400**
* Fall 2017 Conference: $200
* Spring 2018 Conference: Academy of Marketing Science $200
* **Travel to Conferences: $800**
* Fall 2017: $400
* Spring 2018: $400
* **Interviewee Incentives: $250**
* **U.S. Survey Distribution Cost: $350**
* **Unexpected Costs: $2,000**
* **Tuition: $4,346**

**TOTAL: $15,000**

**Timeline:**

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|  | **Proposed Experiences** | **Proposed Products** |
| **Spring 2016** | * FRE 350 | * Draft of Literature Review |
| **Summer 2016** | * Marketing Internship | * Completed Literature Review |
| **Fall 2016** | * MKT 414 * LUM 498—2 credit hours | * Interview guides for companies and program participants |
| **Winter 2017** | * Consultations on interview guides with Patricia Burns | * Finalized interview guides |
| **Spring 2017** | * Study in France * LUM 498—2 Credit Hours | * Collection of qualitative data through the distribution of interview guides |
| **Summer 2017** | * Compilation and analysis of qualitative data | * Identification of emerging themes and topics to create a questionnaire * Results section of paper |
| **Fall 2017** | * LUM 498—2 Credit Hours * MKT415 * Distribution of questionnaire * Tutoring in Structural Equations Modeling from Dr. Horky * Attend conference | * Results from questionnaire * First draft of paper |
| **Winter 2018** | * Completion of paper * Submit to journal, USDA, and Academy of Marketing Science conference | * Completed paper * Submissions to a journal, USDA, and conference |
| **Spring 2018** | * LUM 498—2 Credit Hours * MKT 416 * MKT 474 * Present research at conference and Student Undergraduate Research Forum | * Presentation of Work |

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