Expanding Retail Capabilities for the Worcester Regional Food Hub

An Interactive Qualifying Project submitted to the Faculty of
WORCESTER POLYTECHNIC INSTITUTE

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by:

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Report Submitted to:

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Abstract

Our project worked with the Worcester Regional Food Hub to expand retail capabilities. We researched point of sale systems and online retail sales platforms and made recommendations to advance the Food Hub's goal of reaching a national audience, expanding sales opportunities for local customers, and opening their first storefront. We conducted interviews, surveyed customers, and conducted online research to develop qualitative comparative analysis matrices. We found and recommended the use of Amazon marketplace as the best way to reach a national audience. We recommended NCR as the best point of sale system with self-checkout and an integrated scale. Lastly, we developed tutorials for Food Hub kitchen members to use for sales through local delivery services such as Doordash, GrubHub, and UberEats.

Executive Summary

Our project worked with the Worcester Regional Food Hub (WRFH) to expand retail capabilities. The Worcester Regional Food Hub (WRFH) is aiming to help build a new more efficient local food system. The Worcester Regional Food Hub buys food from local farmers, distributes food between local farmers, sells wholesale and retail, and rents out industrial kitchens to individuals looking to make value-added products and grow independent local business.

Our project goal was to help the WRFH improve their retail capabilities by researching and recommending a Point of Sale (POS) system as well as online selling and distribution outlets. To accomplish this goal we outlined several objectives. We needed to understand the WRFH's goals and operations, perform research into POS systems, online retail, and distribution outlets, and use our data to determine which systems would best fit the vision of the WRFH.

To understand the WRFH's goals and operations we sent a survey out through the WRFH's email list, interviewed the WRFH's director, and interviewed customers that came to pick up their weekly food box. The survey and interview responses bound our content analysis for possible POS systems and online retail and distribution outlets.

1. **We recommend the WRFH consult with NCR about buying their POS system and hardware**

Our first recommendation to the WRFH is that they consult with NCR about pricing, as well as which specific self-checkout terminal would work best with the new retail store. NCR only really provides pricing once a consultation has been initiated. Based on the fact that the NCR POS system, Emerald, supports all main requirements of the WRFH, we recommend that

the WRFH start this consultation. The NCR self-checkout terminals are found in many grocery stores, and they are the main provider of such systems

2. **We recommend the WRFH start a trial program selling through Amazon.**

We recommend that the WRFH initiate a trial program to experience fulfilling orders and selling through Amazon. This would involve making a product list of one or two items, and then try fulfilling pre-arranged orders with family members, or perhaps close friends and customers. This experience would be good for the WRFH to understand how the process of selling on Amazon works, and whether or not it seems scalable. We also recommend starting with a non-perishable value added product, such as pickles, because Amazon warehouse temperatures can sometimes be off.

3. **We recommend the WRFH and its kitchen members sell through Doordash for hot meals and groceries.**

The decision to use Doordash for local delivery is justified by its favorable price range as well as ease of use and access. Additionally, Doordash would provide great flexibility for ghost kitchens as it does groceries as well as hot meals provision with a great range. The number of plans listed below allows each kitchen group to make their own perfect plan with the features they need the most.

In preparation for the new store at Union Station we suggest implementing the self checkout hardware and POS system from NCR. This POS system and hardware offer the most complete solutions to the WRFH's needs. In addition to this, selling value added products created in the WRFH ghost kitchens through Amazon will offer an expanded reach nationwide and a speedy delivery. The WRFH kitchen members should use Doordash to deliver hot food around the city, Doordash is price competitive and offers multiple tiers of plans.

Acknowledgements

On behalf of our team, we would like to thank everyone who helped us with the project. First, we would like to thank our advisor, Laura Roberts. Laura was an incredibly helpful person to have along the way. She helped us with our timeline, team management and overall process. We would also like to thank Sarah Bonner and the other volunteers at the WRFH. They made our in person visits welcoming and productive.

Finally, we would like to thank our sponsor, Shon Rainford and the WRFH. We are grateful for this project opportunity, and are extremely thankful to have been able to help the WRFH with our work. Thank you Shon for helping us at every step of the way, and with presenting us this opportunity.

Authorship

It is rather hard to describe our overall writing process, but this section describes our general approach towards writing throughout the whole IQP process. Documents were divided into sections that were led by one team member. Once every person had written their section, the group came together to read through all the writing and make edits as necessary. If there were major issues or concerns, these team meetings allowed us to address these in person and in a timely manner. For some sections, we found that they were easier to write as a team, and not individually. When we took this approach it was to ensure everything was factually correct and agreed upon. This approach worked better for more detailed, or complicated sections.

Meet The Team

      Declan Murphy   **Gevorg Khukeyan**   **Abraham Koffman**

Declan Murphy, dpmurphy@wpi.edu, CS major '24 -

Growing up, my dad was always gardening in the summer. Eating fresh vegetables that had not been shipped for days was an experience that stuck with me and relates heavily to this project. I am grateful for being able to support the WRFH and their mission.

Abe Koffman - akoffman@wpi.edu, Environmental and Sustainability Studies '23 -

I study environmental change and food systems play a large role in this subject. I have always had a passion for food and eating, and I desire to be a farmer when I graduate. This project offered me the opportunity to gain experience in an area of my interest.

Gevorg Khukeyan, gkhukeyan@wpi.edu, Management Engineering major '23 -

Originally from Russia, I am enticed by American culture and I am learning as much useful information as possible in order to build my own frozen food manufacturing company. My dad is a large scale farmer therefore I will have a certain perspective that will be beneficial for WRFH and their vision.

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Introduction

Food is foundational to human existence. As humans progress and create larger and more complex communities our food systems, the food economy, expands and becomes more complex. The current predominant food system is heavily outdated and inefficient. The Worcester Regional Food Hub(WRFH) is aiming to help build a new more efficient local food system. The Worcester Regional Food Hub buys food from local farmers, distributes food between local farmers, sells wholesale and retail, and rents out industrial kitchens (ghost kitchens) to individuals looking to make value-added products and grow independent local business.

This project seeks to provide the Worcester Regional Food Hub with options and next steps for augmenting distribution and sales operations with emerging technologies. Expanding the distribution and sales capabilities of the WRFH strengthens the local economy, expands access to healthy food options, and avoids externalities common to conventional agriculture systems.

The current dominant food systems fail to meet the demands of our society. It fails to provide healthy and calorically balanced meals for all our citizens while contributing to many of our society's worst issues from climate change to rising levels of chronic disease.

The goal of this project was to recommend POS systems and online retail outlets that improve the WRFH distribution process. We have three objectives that allowed us to accomplish our goal. The first objective was to understand the WRFH's operations, the second was to conduct a content analysis of potential POS systems and online retail/distribution outlets, and the third was to construct a matrix that determines possible POS systems and retail/distribution outlets that best meet the WRFH's operational needs.

The following report will provide a holistic background of the geography of the project, a detailed methodology we followed to conduct our research, and our final recommendations.

Project Geography

This chapter will explain the economic, social, and environmental knowledge that form a context for building an updated food system. Our project sponsor is the Worcester Regional Food Hub (WRFH), led by Director Shon Rainford. The WRFH, located in Worcester MA, helps the local economy by providing a centralized source that buys food from local farmers. The WRFH also rents out industrial kitchens to entrepreneurs who use them to make value-added products and grow their independent local businesses. Through these services, the WRFH helps local farmers by being consistent and reliable bulk buyers and consumers by providing them with local food. The WRFH's goal is to expand customer retail options, this goal was identified during the recent Covid-19 pandemic.

When Covid-19 hit Worcester, many of the institutions the WRFH sold to had shifted to online work or were shut down, creating a lack of wholesale customers for the WRFH. In addition to this, services the WRFH offers, such as curbside pickup of produce became more popular as people were scared of shopping in person. These two developments, coupled together, presented an opportunity for retail expansion. Although the WRFH already sells in retail contexts, they only do in-person pickup, which could be expanded to reach more people in the area or even the country.

An example of a weekly food box picked up curbside

Since the pandemic, the Food Hub has been looking to expand the WRFH's retail capabilities. The WRFH will partly accomplish this with their move to Union Station, which

involves opening a retail store. The WRFH is also trying to expand through online retail outlets, such as Grubhub, UberEats, Doordash, etc. This chapter describes the goals of our project: recommending a POS system and online retail/distribution outlets to the WRFH as they start to expand.

2.1 Local Economies and Communities

Economies manage the production and consumption of goods and services. Local food systems, which are part of regional and global economies, strengthen community connectivity and economic prosperity. Thus, there is a correlation between local food systems and the well-being of both local communities and economies (O'Hara, 2011).

By nature of being large, some corporations have trouble maintaining a relationship with the customer that is more than just business-oriented. A strictly business relationship is focused only on buying and selling without care for customers and the community. The aforementioned local food systems yield localized food chains, which are much smaller. These smaller food chains result in accountability for the producer and consumer and relationships that are personal and human (Dunning, 2011).

Large corporations, and thus large supply chains, lead to less money staying in the local community. A study(Table 1) by Dan Houston (2002) found that when a consumer buys at a local bookstore, 45% of every dollar stays in the local economy. On the other hand, when a customer buys from a national retailer, only 13% of every dollar stays in the local economy (Houston, 2002). Thus, through keeping more money in the local economy, both economic growth and personal relationships are fostered.

Table 1.

Local Economic Return from $100 Spending	
Borders	$13
BookPeople	$45
Waterloo	$45

Houston, Dan. Economic Impact Analysis: A Case Study. Local Merchants VS. Chain Retailers. LivableCity and Civic Economies. December 2002.

Because regional food hubs are part of local economies, they yield the same benefits of local economies and centralizing storage and preservation infrastructure (Dunning, 2011).

Regional food hubs order large quantities of goods from farmers, ensuring farmers have a stable source of income. Although farmers sell to food hubs at a lower unit cost, the net profit can be greater because of the large quantities purchased by food hubs. The produce is resold to clients in a wholesale or retail context. Food hubs that operate locally help limit the size of the supply chain. This promotes local economies and healthier eating (Dunning, 2011).

2.3 Health and Environment/Food

In addition to promoting healthy local economies, food hubs also promote healthy humans and the environment. Americans consume a diet of calorically rich, low nutrient foods. This has led to a population that suffers from chronic illness. According to Joel Fuhrman, a medical doctor specializing in health science and nutrition research, a fast food genocide is actively occurring among the human population (Fuhrman, 2018).

The fast-food genocide is a product of food apartheid. Food apartheid is the practice of economic and geographical segregation of the economically disenfranchised from access to healthy food. The populations subject to eating nutrient-less and calorically dense foods die on average 45 years younger than those who eat nutritionally dense and calorically balanced foods (Fuhrman, 2018). According to Fuhrman, there is a consensus in the medical community that diet is one of the primary causes of obesity, diabetes, heart attacks, strokes, dementia, cancer, and mental illness (Fuhrman, 2018).

Nutrient levels in produce are linked to how the food was grown and transported. Most produce sold in stores is picked before ripening, halting the plant's nutrient development. The instant produce is harvested, the nutrient levels drop (Dunning, 2011). The produce finishes its ripening stages in transport, which is suboptimal due to the loss of nutrients. This loss in nutrients demonstrates the nutritional superiority of smaller supply chains. Through the WRFH's operations, healthy food is distributed through a smaller supply chain, thus minimizing the previously mentioned loss of nutrients in the food.

Another issue with long-distance food transportation is the underdeveloped produce is sprayed with a mix of pesticides and preservatives before being shipped to distribution centers or retail stores in refrigerated trucks (O'Hara, 2011). According to the EPA pesticides and preservatives can cause damage to nerve systems and hormonal systems (EPA). Some forms of produce can be frozen to preserve nutrient levels; however, this method does not work for all vegetables and consumes vast amounts of electricity (Brown, 2017).

Fertilizers used to grow food are also linked to health issues. To increase yields, farmers spray the soil with fertilizers and the crops with pesticides. Fertilizers are designed to return nutrients to the soil, but in practice, most of the fertilizer washes off the ground when it rains.

The fertilizer flows into streams, lakes, and oceans, causing major ecosystem damage. When fertilizers flow into bodies of water, algae start to multiply quickly. These algae can contaminate water supplies and lead to eutrophication (Chislock, 2013). For example, the city of Toledo in Idaho once had its entire water supply become toxic and deadly overnight due to a buildup of fertilizer (Hance, 2020). Excess fertilizers in food and water supplies can result in many serious life-threatening health issues, such as thyroid cancer and diabetes (Moddassir, 2017).

Spraying the crops with pesticides may protect them from pests, but it kills the microorganisms in the soil. Without these microorganisms, plants cannot properly take in the nutrients needed (Chhabra, 2013). Pesticides also kill and harm larger organisms such as animals and insects. Scientists have linked pesticides with bee colony collapse and the destruction of many other key species that maintain our biosphere (Ndakidemi, 2016).

Shorter supply chains and the ability to hold producers and distributors more accountable helps combat these threats to nutritional levels in our food and the other externalities on human and environmental health. Food hubs are able to facilitate short supply chains; thus, supporting their needs is necessary.

2.4 Conclusion

Before the pandemic started, the WRFH planned to expand and open its first storefront in Union Station. The pandemic highlighted the need for a store. This means that adjustments needed to be made for the functioning of the WRFH.

With our recommendations, the WRFH will be able to improve its sales process by integrating a POS system, expanding its capabilities with a self-checkout system, and selling through 3rd party distributors. In addition to helping the WRFH, this project contributes to larger

goals. It would help promote local communities, combat climate change, and promote

sustainable and healthy food consumption.

Methods Overview

3.0 Project Goal:

Our project goal was to help the Worcester Regional Food Hub (WRFH) improve their retail capabilities by researching and recommending a POS system as well as online selling and distribution outlets. To accomplish this goal we outlined several objectives. We needed to understand the WRFH's goals and operations, perform research on POS systems, online retail, and distribution outlets, and use our data to determine which systems would best fit the vision of the WRFH.

To understand the WRFH's goals and operations we sent a survey out through the WRFH's email list, interviewed the WRFH's director, and interviewed customers that came to pick up their weekly food box. The survey and interview responses bound our content analysis for possible POS systems and online retail and distribution outlets.

3.1 Objective 1: Understanding the Worcester Regional Food Hub's Operations and Goals

Our first objective was to understand the WRFH's operations and goals. Before we could think about what POS systems to recommend, or what online retail outlets were the best fit for the WRFH, we needed a better understanding of their internal operations and goals. We accomplished this through the following tasks.

An independent business owner renting out the kitchens and prep space to make kettle corn

The first task was to understand the perspective of the customers who used the curbside pickup (Appendix B). This task was important because the needs of the customers are central to business growth and stability (Frank, 2020). To accomplish this we first used structured interviews because it allowed us to gather qualitative data that fit in with the project's paradigm view from interviewees (DiCicco-Bloom, 2006). Because each interviewee was limited in the same way, our data was standardized, and therefore easy to analyze (Rowley, 2012).

Interviewing customers as they pick up boxes

We also sent out a survey to the WRFH customer mailing list, to try and reach more customers who we were not able to interview in person. We modified the questions slightly, based on the limited structured interview responses, to try and understand why these people were not picking up from the WRFH every week. We wanted to understand what was holding them back from picking up, and whether or not delivery services could help mitigate this. We used a survey because it provides an easy means of gathering both quantitative and qualitative data on the WRFH customers, in an efficient manner (Rowley, 2012).

The other main task for this objective was a semi-structured interview with the WRFH director, Shon Rainford (Appendix C). This interview helped us narrow down the scope of what we were researching, and provided insight into the vision for the WRFH. This knowledge helped us make recommendations that were both more targeted to the WRFH, and aligned with Shon's vision. The reason we chose semi-structured interviews for the interview with Shon is because we needed qualitative data in a manner that did not restrict his thought process. This enabled the interviewee to help lead the interview (Rowley, 2012).

3.2 Objective 2: Conduct Research on POS Systems and Online Retail Outlets

Our second objective allowed us to gather qualitative data on comparable businesses' experiences with various online retail outlets as well as POS systems. We interviewed an owner of an herbal company, Jennifer Pillari, about her experience selling through Amazon. This semi-structured interview gave us valuable insight into the pros and cons of utilizing a large corporation such as Amazon. This insight was so important because it provided information we would not have been able to find as easily online: real experience and opinions.

In addition to interviews, we conducted a review of online sources regarding POS systems, online retail outlets, and distribution options. We constructed comparison matrices

(grids with features required for our sponsor) of POS systems, online retail, and distribution options. The comparison matrix was constructed and presented to our sponsor multiple times in order to incorporate feedback as our research progressed. This online research helped supplement our limited data collected with a larger variety of POS systems and retail/distribution options.

3.3 Objective 3: Determine Which POS Systems/Retail Outlets Best fit the WRFH Vision

We used comparison matrices that presented our research in order to determine what POS systems/retail outlets were the best fit for the WRFH. We reviewed these comparison matrices during our sponsor meetings and received feedback on how to improve our research.

3.4 Ethical Considerations

Throughout the course of this project it was very important to make sure our study followed ethical guidelines and rules. We always asked for consent from the relevant parties before conducting our research, using the script in Appendix E. In addition to this, we specified to people being interviewed that their participation was optional, and could be withdrawn at any time. People being interviewed were also asked if they were willing to allow us to take notes and record the interview for later research. This project proposal went through the WPI IRB process (IRB-22-0338).

Results and Analysis

4: Findings

This chapter presents our findings. We will make claims that we have drawn from our research and then present the evidence to support each claim. In addition to this, the shortcomings of the research will also be acknowledged to give a holistic view of our interpretations.

4.1: The WRFH needs a POS system that allows self-checkout, integrates with Quickbooks, and includes a scale.

The WRFH, given their move to Union Station, needs a POS system with certain features to run their new retail store smoothly. Of these features, the most important ones to the WRFH are self-checkout, integrated scale, and Quickbooks compatibility.

In order to compare POS systems we developed a comparison matrix. Each of the columns represents a feature of a POS system necessary for all the WRFH operations including: self-checkout, hardware integration, ecommerce, customer management, team management, scale, and quickbooks compatibility. For example, putting the "Hardware Integration" column in the matrix allowed us to compare all the POS systems' hardware integration side by side to identify which systems were stronger than others. This matrix, constructed from our content analysis, provided the necessary comparison and "checklist" means. For example, a scale that integrated with the POS hardware was essential for weighing fruits and vegetables at checkout. So, by having "Scale" as a column in the matrix, we ensure that the systems we researched satisfied this requirement.

Another focus of our POS research was the capacity for self checkout. Self checkout was important from a staffing perspective as the new retail store will not have a designated cashier but instead will make use of technology for check out. Our survey data also confirmed that WRFH customers are already familiar with and use and use self-checkout.
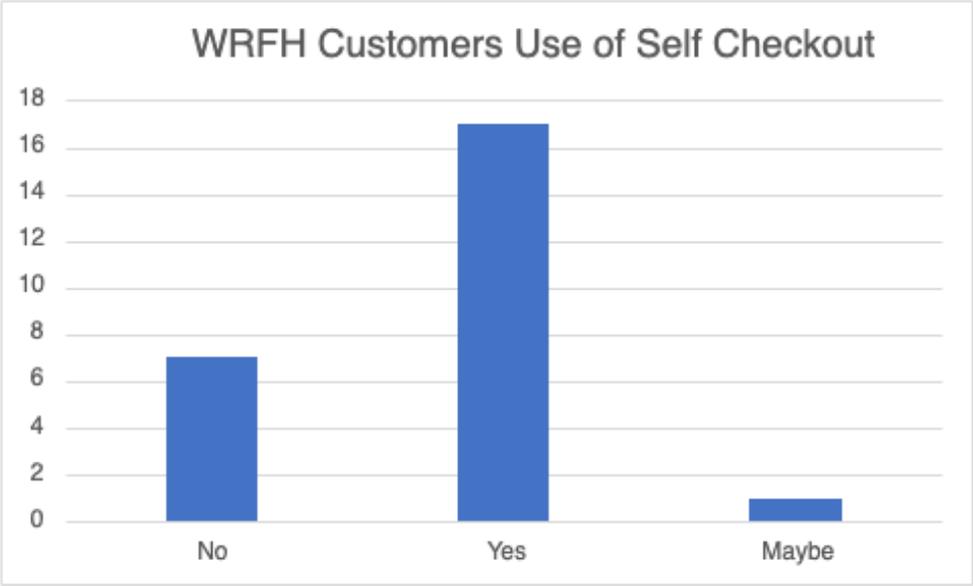

Table 2: Bar Chart of Survey Responses on if WRFH Customers Use Self Checkout

4.2: There are few online retail outlets that would allow the WRFH to sell nationally, but many more possibilities for local delivery.

The WRFH is interested in selling some of the value-added products on a national scale, as well as selling hot meals cooked in the WRFH's ghost kitchens locally. For selling nationally, we interviewed the owner of a national oriental herb company that sells through Amazon. We learned that Amazon was the only corporation able to offer national delivery and that the benefits of using Amazon outweighed the downsides. These benefits are namely a large customer base, nationwide shipping, speedy delivery, and scalability. Some other options, such as Etsy, offer

national delivery but do not fit the WRFH's distribution needs. This is because Etsy is a platform centered around arts and crafts, not food. As a result of this research, we found that Amazon was definitely the most viable option for national delivery. The downsides to Amazon were the lack of recourse; often if Amazon messes up an order the onus of fixing it falls on the small business and not on Amazon.

We developed a comparison matrix for each delivery service to be compared side by side. The columns are determined based on the key aspects of online retail outlets that we needed to assess. The columns were determined based on the key aspects of online retail outlets that we needed to assess including provider fees, customer fees, delivery radius, ease of use. When the data is side by side it is easy to see the pros and cons of each delivery service. Pricing for UberEats, for example, was much more expensive than other options, leading us to lean away from recommending them.

In addition to pricing, another one of the main factors we looked at was delivery radius. We wanted to know how far different online retail outlets could deliver in the Worcester area. Doordash seemed to dominate in this regard because they are present across the nation, and use 2-day or next-day delivery to ensure products reach customers. If the customer is ordering hot food through Doordash, a competitive radius for delivery is offered, within 5 or more miles of the customer location, thus making Doorash an all-around good option. On the other hand, some services like GoPuff did not offer a desirable delivery radius. GoPuff only delivers to a handful of zip codes in Worcester, and thus might not be able to provide the services desired by the WRFH.

Our survey and interview data also suggested that customers had experience using several of the online retail outlets. Customers had used Amazon, Doordash and Instacart, and GrubHub.

Of these, Instacart was one of the most prominent. However, because Instacart did not publish

any information at all on how to become a selling partner, we were not able to continue our

research on their services. On the other hand, the survey and interview data clearly support that

people have experience with all these delivery services. This is good because when the WRFH

starts utilizing these services, the customers' learning curve to start buying through them will not
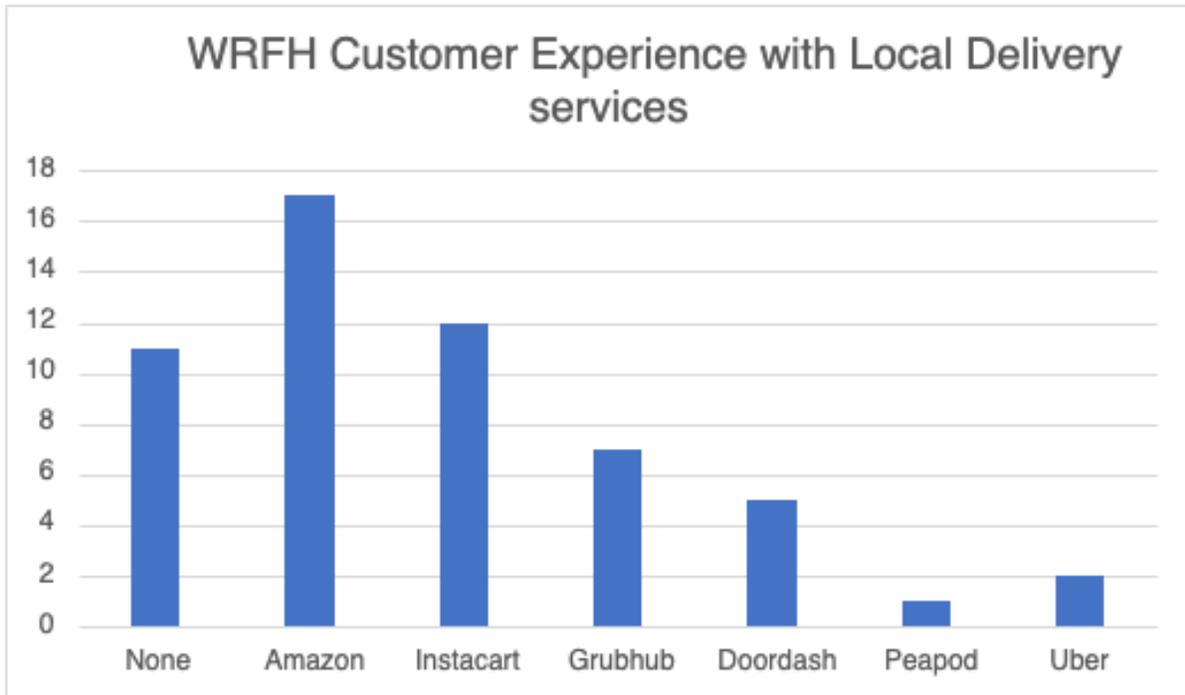
be as steep.

Table 3: Bar Chart of Survey and Interview Responses Showing Customer Familiarity with
Delivery Services

4.3: Costs and accessibility are important factors for WRFH Customers

Reasons Customers Stopped Buying

Table 4: Bar Chart of Survey Responses Showing Time as the Largest Factor for Customer Retention

The survey results show time as the most significant reason for customers to not pick up frequently or stop altogether. The structured interviews had two interviewees express time as being a constraint on how often they could pick up. Delivery services could overcome the time limitations, offering a more accessible and efficient experience to the customer.

The survey and interview data suggests WRFH customers are open to trying delivery services for products/hot meals from the WRFH. If the WRFH were to sell through a delivery service, it would help the customers who don't regularly buy from the WRFH due to time and distance constraints. If delivery were offered, people would not need to worry about time to pick up food, which was the most prominent concern among those surveyed. This openness to delivery, however, is dependent on the price of the order not being too high.
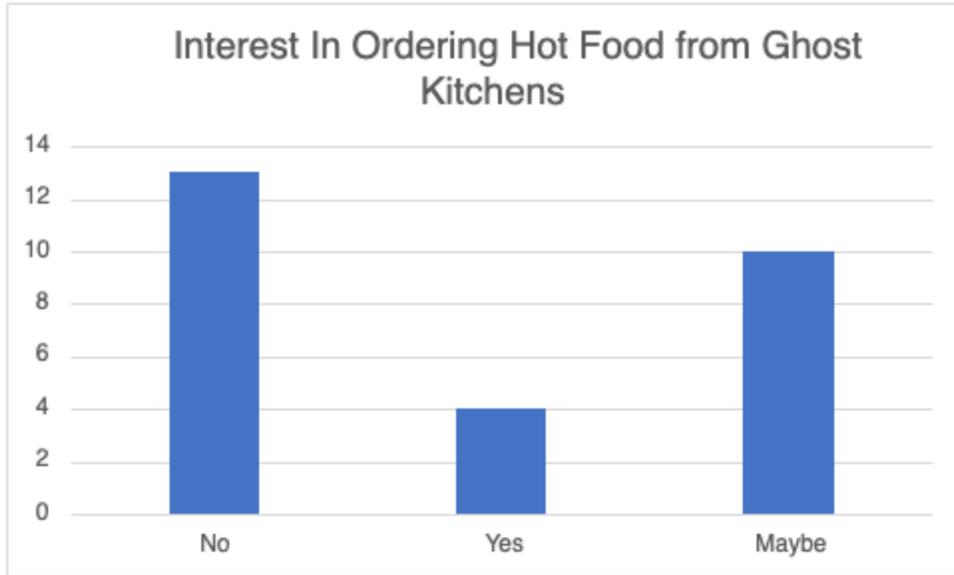
Table 5: Openness to Ordering Hot Food Through Delivery

When asked if they would be interested in ordering hot food from the WRFH through a delivery app, many respondents answered no or maybe. Comments on the survey indicated that customers were concerned about the cost of this service. Several customers commented that they would only be willing to use this service if the delivery cost was less then $5.00. Knowing this wariness of fees, we wanted to find an option that put minimal expenses on the provider and the customer.

Table 6: Bar Chart of Survey Data for Customer Openness to Delivery Fee

5: Recommendations and Conclusion

This section presents the recommendations to WRFH and the conclusion to our project. The following are based on our research and data, and culminate all of our findings into specific action items for the WRFH.

5.1: Recommendation 1: We recommend WRFH use the NCR POS system

Our first recommendation to the WRFH is that they consult with NCR about pricing, as well as which specific self-checkout terminal would work best with the new retail store. NCR only really provides pricing once a consultation has been initiated. We recommend NCR because the NCR POS system, Emerald, dominates self-checkout, supports ecommerce, scale-integration, inventory management, and offers great analytics. Because of these benefits, we recommend that the WRFH start this consultation. The NCR self-checkout terminals are found in many grocery stores, and they are the main provider of such systems.

5.2: Recommendation 2: WRFH should initiate a pilot program to sell a limited number of products via Amazon marketplace.

Since Amazon is the only corporation able to offer fast nationwide delivery, as well as a number of other services, we recommend the WRFH look into using Amazon for national delivery of value added products. There are no better options for national delivery. In addition to this, many customers have experience using Amazon, so the WRFH might be able to smoothly start selling with Amazon.

We recommend that the WRFH initiate a trial program to experience fulfilling orders and selling through Amazon. This would involve making a product list of one or two items, and then try fulfilling pre-arranged orders with family members, or perhaps close friends and customers. This experience would be good for the WRFH to understand how the process of selling on Amazon works, and whether or not it seems scalable.

5.3: Recommendation 3: We recommend WRFH kitchen members sell through Doordash

The decision to use Doordash for local delivery is justified by its flexibility, and competitive pricing. Doordash, for a storefront plan, charges 2.9% + $0.30 processing fee, which is competitive relative to the pool of online retail outlets. Doordash offers several plans allowing businesses to choose the best fit for their situation. In addition to this, the delivery radius for Doordash (~5 miles around the customer location) is also highly competitive. For ghost kitchens, this flexibility will be very helpful.

In preparation for the new store at Union Station we suggest implementing the self checkout hardware and POS system from NCR. This POS system and hardware offer the most complete solutions to the WRFH's needs. In addition to this, selling value added products created in the WRFH ghost kitchens through Amazon will offer an expanded reach nationwide and a speedy delivery. The WRFH kitchen members should use Doordash to deliver hot food around the city, Doordash is price competitive and offers multiple tiers of plans.

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Appendices:

Appendix A - Participant Observation Tool

Observed Event	Notes

Appendix B - Structured Interview Questions for WRFH Customers

Survey Goal:
      To learn about the experience of customers at the WRFH store. To understand what the customers think about the WRFH, to understand how they interact with the WRFH, to understand what customers enjoy, and to understand what they would like to see improved.

Research Consent:
      Are you comfortable with the contents of this interview being recorded for later reference?

Structured Questions:
    Question 1
      a. How often did you pick up food from the WRFH?
    Question 2
      b. Why did you start buying from WRFH?
    Question 3
      a. Do you use any of the following retail and delivery platforms, and if so how often?

            Grub Hub
            InstaCart
            Amazon
            Uber Eats
            Go Puff
            Doordash
            (other food delivery service)
    Question 4
      a. If the food hub was selling products through any of the previous food delivery services would you consider buying though it?
      b. Would you be willing to pay a fee for this service?

     c.   If hot food was offered by WRFH kitchen members would you order it through delivery apps?

Question 5

    If the delivery option was still available would you still pick it up in person?

Question 6

    If the WRFH started offering delivery through the previously mentioned services, would you be willing to pay a delivery fee?

Question 7

    Do you currently use self checkout when you go to a grocery store?

Question 8

    Do you prefer self checkout or regular assisted checkout, with a cashier?

Question 9

    Have you ever had an experience with software that was confusing because the interface was too complicated?

Questions from the meeting

1. Have you ever used one these services?(Amazon,grubhub,ubereats/instacart)

2. If the food hub has been using those services would you be willing to by from them
3. IF the food hub would be selling hot meals would you be interested in them?
4. How often do you use those services?
5. If there is delivery would you still be interested in curbside pickup?
6. Would you be willing to pay for delivery?
7. How convenient is the curbside pick up?

Appendix C - Semi-structured Interview Questions for Shon Rainford and Sarah Bonner regarding WRFH Operations and Goals

Interview Goal:

    To learn about WRFH operations and goals.

Verbal Consent for Recording:

    Are you comfortable with the contents of this interview being recorded for later reference?

Semi-Structured Questions:

1. Question 1
   a. Can you talk a little on the larger social reasons for having a Worcester Regional Food Hub.
2. Question 2
   a. Could you describe the short and long term goals of the WRFH?
      i. Economic
      ii. Social
3. Question 3

      a. What features do you desire in a POS system
         i. Self checkout
      b. What constraint do you have for a POS system
4. Question 4
      a. What existing systems must a POS system integrate with?
         i. Social media
         ii. Accounting software
5. Question 5
      a. Can you describe each step of the distribution chain, how does the food get from the local farms to both the wholesale and retail customers?

Appendix D - Interview Questions for Administrators at Other Food Hubs

Interview Goal:
    To learn more about management of a food hub and what has worked in the past.

Verbal Consent for Recording:
    Are you comfortable with the contents of this interview being recorded for later reference?

Semi-Structured Questions:
1. Question 1
      a. Do you have a POS system?
         i. If so, what POS system do you have and how did you decide to use this one?
         ii. If not, what system do you use and why do you use that system?
2. Question 2
      a. If you have a POS system, what features do you like best about it?
         i. On the flip side, what features of the POS system are you unsatisfied with?
3. Question 3
      a. What features do you wish your POS system could do?
4. Question 4
      a. Did your POS system increase the connection between the customers and the business?
5. Question 5
      a. Did the POS system improve your control over the organizational processes?
6. Question 6
      a. How is your business' retail space organized?
      b. What is the reasoning for this organization?
      c. What improvements would you want to make to your retail space?

<div align="center">**Appendix E -** Verbal Consent Script</div>

1. You have been invited to partake in a student research study through a structured interview. This study is voluntary, so feel free to not participate or withdraw participation at any time.

2. This research is being conducted to understand the customers' experience at the WRFH.

3. We are planning to conduct 5-10 minutes long interviews regarding the ways of purchasing the products by the customers as well as the efficiency of interactions with the WRFH.

4. The information collected will be recorded in the form of notes, afterwards the data will be analyzed using a coding program that would allow us to identify patterns in experiences between the WRFH customers.

5. Before we start do you have any questions?

Appendix F - Survey Questions for non-returning customers

Survey Goal:
   To learn about the experience of customers at the Worcester Regional Food Hub store. To understand what the customers think about the Worcester Regional Food Hub, to understand how they interact with the Worcester Regional Food Hub, to understand what customers enjoy, and to understand what they would like to see improved.

Consent for Research use:
   Are you comfortable with your answers to this survey being used ? You will stay anonymous.

Structured Questions:
   Question 1
      How often do you pick up food from the WRFH?
      Include possible answers
   Question 2
      Why did you start buying from WRFH?
   Question 3
    b. If you stopped picking up food from Worcester Regional Food Hub why?
   Question 4
      The Worcester Regional Food Hub is thinking of using food delivery services to distribute its produce and products.

      Have you used any of the following, and if so how often?
         Grub Hub
         InstaCart
         Amazon
         Uber Eats
         Go Puff
         Doordash
         (other food delivery service)
   Question 4
    a. If the food hub was selling products through any of the previously mentioned food delivery services would you consider buying though them?
    b. If hot food was offered by WRFH kitchen members would you order it through delivery apps?
   Question 5
      If the WRFH started offering delivery through the previously mentioned services, would you be willing to pay a delivery fee?

The Worcester Regional Food Hub is opening a retail store in Union station, we are trying to figure out if self check out is enough or if a full time cashier is needed.

Question 7
    Do you currently use self checkout when you go to a grocery store?
Question 8
    Do you prefer self checkout or regular assisted checkout, with a cashier?