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I, Shuting Zhong, hereby submit this original work as part of the requirements for the degree of Master of Design in Design.

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A digital platform for small businesses to catch up with the trend of omnichannel retailing

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A digital platform for small businesses to catch up with the trend of omnichannel retailing

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by

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Abstract

This thesis proposes to deal with the problem small businesses have of following the retail omnichannel trend by providing them with a digital platform. Omnichannel retailing means creating a seamless shopping experience by integrating online and offline retail channels. The type of small business in this thesis particularly refers to clothing and clothing accessories stores that have one physical location and a store website. I conducted primary research to find out which omnichannel features would be effective to small businesses. Based on the results, I selected the top five omnichannel features for my digital platform. They are “Buy online, pickup in store,” “Online live chat button to contact sales assistant,” “Buy in store, ship to home/other locations,” “In store access to product information online” and “Back in stock email.” Then based on multichannel service provided by an existing commerce service named Shopify, I developed my omnichannel platform for small businesses.
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1. Problem Statement

This thesis proposes to deal with small businesses’ problem on following the retail omnichannel trend by providing them with a digital platform. Omnichannel retailing means creating a seamless shopping experience by integrating online and offline retail channels. The type of small business in this thesis particularly refers to clothing and clothing accessories stores that have one physical location and a store website.

2. History

2.1 Omnichannel retailing

2.1.1 Definition of Omnichannel retailing

Omnichannel retailing is a business method that companies use to deliver to customers a seamless shopping experience. Omni refers to all, so omnichannel means integrating all the available channels to develop a cross-channel experience. The channels could mainly be categorized into physical ones and digital ones. Channels mainly include brick-and-mortar stores, online stores, mobile stores, email and social media as well as other medias available to consumers during the process of shopping.

2.1.2 Appearance of Omnichannel retailing

When shopping, the two main considerations people have are how to get information about products to help make purchase decisions and how their transactions are fulfilled. Before the emergence of the Internet, people shopped with traditional retailers in a process where two stakeholders were connected with each other in physical stores. That meant that shoppers
learned about the products in the stores, paid in stores and got the items they wanted in stores. You could view it as a single channel shopping process because all the behaviors are occurred in one place. No other channel was available (Bell, Gallino, & Moreno, 2014).

Because of the popularity of the Internet and the growth of online shopping, websites became another dominant channel for people to make purchases. Now, consumers have two main buying channels. It facilitated the emergence of omnichannel shopping. People could either choose to get information and get their order fulfilled in physical stores or online. The appearance of online channels also brought other possibilities. Instead of staying in one channel during the whole shopping process, people could jump between channels when taking actions. One possibility is gathering required information through online browsing and then going to a physical store to get the products. Another possibility is go to the physical stores to touch and feel the products and then place the orders online. In this scenario, the channels became integrated. This was the beginning of omnichannel retailing.
The shopping journey could be considered as decision making process. Instead of separating it into two main decisions, product choice and product fulfillment, it could be separated much further into more decisions. At the same time, the development of more mobile-based technologies created more channel possibilities, like mobile shopping applications and social media. By connecting decisions with channels, customers could enjoy tons of possibilities on jumping between channels.

### 2.1.3 Omnichannel is proved to be a winning model through retail industry

According to Forrester’s report (2013), US cross-channel retail sales that are influenced by the web in some way but are completed in stores, will reach $1.8 trillion by 2017. Eighty-five percent of consumers say they prefer to shop in bricks-and-mortar locations (TimeTrade, 2015), but digital interactions influence the equivalent of 36 cents in every dollar spent in
them (nChannel, 2015). These data points show that the presence of both online and offline channels have significant positive influence on retailers’ sales.

In addition, omnichannel also benefits retailers’ customer relationship program. According to Aberdeen Group (Demery, 2013), companies with extremely strong omnichannel customer engagement programs retain on average 89 percent of their customers, compared to 33 percent for companies with weak omnichannel customer engagement.

2.2 Small business

2.2.1 Definition of small business

The SBA (U.S. Small Business Administration) defines a "small business" by the average number of employees over the past 12 months, or by the average annual receipts over the past three years. It has established a Table of Small Business Size Standards that is matched to the North American Industry Classification System (NAICS) for industries.

For this thesis, I especially focus on the small clothing stores which are classified in the Retail Trade Sector (Sector 44-45) and Clothing and Clothing Accessories Stores Subsector (Subsector 448). From the Table of Small Business Size Standards, stores that could be put into this subsector should have average annual receipts less than $38.5 millions of dollars over the past three years.

3. Argument
3.1 Small businesses need to catch up with the omnichannel retailing trend

3.1.1 Customers’ shopping behaviors continuously change

Digital experience and digital devices are playing a more and more important role in people’s daily lives. Sixty-eight percent of Americans have smartphones and forty-five percent have tablet computers (Technology Device Ownership: 2015). Those technical transitions make consumers behavior omnichannelly, which means they are accustomed to shift between different channels and it’s their behaviors driving the demand of omnichannel and requires retailers to catch up.

It is known that physical and online channels are both important to today’s shoppers. According to a survey conducted by A.T. Kearney, 55% of shoppers said they engage via both online and physical touch points throughout their shopping life cycle. Eighty-three percent are more likely to do business with retailers that allow them to control where, when, and how they interact through their preferred channel combinations (NCR commissioned market research) (global results). These data points show that a seamless shopping experience created by omnichannel is valued by customers.

3.1.2 Today customers have higher expectations regarding shopping journey

Omnichannel is not a concept that is limited to the retail industry. It is also applied in finance, health care and even government operations. It means that people will gain better service from companies or operations from other industries which will also influence their expectation on their shopping experience.
For the large retailers and even middle size retailers, a lot of them already take actions to implement omnichannel strategies. Their efforts will also raise customers’ expectations of the minimum shopping experience. It doesn’t matter if they shop at a big retailer, middle-size retailer or a small retailer. What they care about is getting a satisfied shopping journey.

### 3.1.3 Small businesses face a fierce competition

In today’s world, barriers are broken down by technologies. The development of ecommerce and transportation industry makes it easy for customers to reach merchandises, wherever in the world. It also means that customers now have more product options rather than the ones provided by small businesses nearby their homes, so today small businesses face a much fiercer competition not only with the stores next to them, nor with the same type of retailers, but with all types of retailers, all over the world.

### 3.2 Small businesses can use big retailers’ omnichannel practices for reference

Through literature review and benchmarking, I learned that there are some omnichannel features that are frequently mentioned. Some of them have already been extensively applied by many big retailers and have been proven to be effective for their businesses. By extension some of the big retailers’ practices on omnichannel could also be used by small businesses, I identified twelve existing omnichannel features from large retailers’ business practices to examine for this thesis. One reason that I selected these twelve is because of their high frequency of being mentioned in articles or other materials I gathered during the research.
phase. Another reason is I think some features would still benefit small businesses although they are not currently popular among big retailers. I will later do first-hand research with small business owners or managers to get their opinions on these features.

The twelve features I identified to be effective for small businesses are:

1) Buy online, pickup in store

The feature “Buy online, pickup in store” allows customers to place orders through an online channel and then go to a physical store for fulfillment. It is said by Omnichannel Retail Index 2015 (2015, October) found that over one-quarter (28%) of multichannel retailers surveyed offer it as a service to their customers.

![Image of Buy online, pickup in store](image)

2) Reserve online, pay in store

The feature “Reserve online, pay in store” allows customers to make a reservation on items they like online and then go to a physical store to try on items and make the purchase. The difference between this feature and the former one is the payment method. This feature does not require customers to pay for their products in advance but may require a refundable
reservation fee. They try out the items and make the final purchase decision at physical stores.

3) **Leave customization requirement online and try in store**

This feature allows customers to leave their customization requirements of products online or use online tools to design products with their own styles. Then it combines with store pickup for order fulfillment.

4) **Only browse products available in store**
This feature refers to customers’ ability to identify quickly whether a given product is available in a nearby store as well as the ability to view in-store inventory of a certain store. From Omnichannel Retail Index 2015 (2015, October), it is said that “Half of the 100 brick-and-mortar retailers surveyed provide in-store product availability on their product detail pages on the desktop site.”

Figure 3.4 Only browse products available in store

5) Online live chat button to contact sales assistant

This feature allows customers to send out instant messages to sales assistants by clicking on a button on websites. Thirty-five percent of retailers surveyed offer real-time help via live chat (Omnichannel Retail Index 2015).
6) Buy in store, ship to home/other locations

This feature allows customers to make product selections and finish payment in physical stores, then have the products shipped to their desired locations instead of taking the products with them. Data from Omnichannel Retail Index 2015 (October) showed that “‘Buy in store, ship to home’ service is available at over three-quarters (77%) of multichannel retailers.”

7) In store access to product information online
This feature provides in-store shoppers with codes that can take them to mobile websites that “give rich product information about a potential purchase” (RETAILGEEK, 2010).

8) **Customer profiles that combine both online and offline shopping activities**

This feature sets up an all-in-one profile for each customer that collects their activities with a certain business both online and offline.

9) **Social network referral program with rewards**

This feature allows customers to share an experience with a business with their friends through email or social media and receive rewards.
10) Product newsletters based on customers’ tastes

This feature allows customers to receive regular emails from a business and email content is based on analysis of their purchase history and personal preferences.

11) Back-in-stock email

This feature allows customers to request to receive an email notification once an out-of-stock product is in stock again.
12) Abandoned shopping cart email

This feature enables businesses to send their customers emails when the shoppers have put something in their online shopping carts but didn’t complete the purchase.
3.3 A digital platform could help small business start with omnichannel

3.3.1 Small businesses are short on financial and technical support

Unlike the giant retailers, small businesses have limitations on resources like finance and employees. It is hard for them to develop an entire omnichannel retailing system without marketing and technical support from third-parties.

3.3.2 Current digital platforms

Currently in the market, there are a lot of companies (like Shopify or Squarespace) offering e-commerce platforms to small and mid-size businesses. By paying for the platforms monthly, small businesses can set up their own websites which only require them to input product information. Services like security, transactions and backend analysis are all handled by platform providers.

E-commerce platform providers now not only help small businesses with multi-channel retailing but also use some omnichannel related features. Many providers place advertisements that emphasize the word “omnichannel”. But one thing noticed from the benchmarking of Shopify, one of the most popular e-commerce providers, is that omnichannel related features are not currently integrated together with the provider’s main backend control center. Small businesses need to purchase individual applications or plug-ins on the Shopify App Store for omnichannel services. Besides, the omnichannel services provided by the applications are individual. One application handles a small sector of omnichannel services. This means it would be hard for customers to reach out to those
Based on these situations, I think an integrated system to help small business leverage the omnichannel retailing trend is necessary. As the market of e-commerce platforms matures, this thesis is based on the present platform Shopify offers to small businesses. I will deliver a design guideline and wireframes for an application that provides integrated omnichannel features based on the current Shopify backend control center interface. My service is designed to be used by small business owners or operators to manage the omnichannel related features that are provided to their customers.

4. Research and conclusions

4.1 Omnichannel digital platform feature selection

I conducted a primary research (See Appendix 7.1) to find out small businesses' view of the twelve selected omnichannel features. Five business owners participated in this research. A score was given to each feature based on research results (See Appendix 7.1.5). The score included two parameters: participant experience level and feature effectiveness. The initial value of these two parameters was zero. Then, once subjects gave positive feedback on a parameter, its value would increase by one.

The research results were as follows:
I created a chart to map the relationship between participant experience level and feature effectiveness. From this chart, I found that the “Online chat button” gained the highest score on the feature effectiveness parameter. All five subjects agreed that it would be helpful to their business if they could provide this feature to their customers. I also found that Feature One (Figure 4.1, #1), Six (Figure 4.1, #6), Seven (Figure 4.1, #7) and Eleven (Figure 4.1, #11) all got four on the feature effectiveness parameter. Although experience level varies, these four features were viewed effective and helpful by the subjects.

Based on the parameter of feature effectiveness level, I selected the top five features to include in my digital platform. They are:

1) Buy online, pickup in store

2) Online live chat button to contact sales assistant
3) Buy in store, ship to home/other locations

4) In store access to product information online

5) Back in stock email

Another notable result was that none of these five features earned a five on the parameter of participant experience level. This means that subjects still need education and training on the omnichannel features, especially “In store access to product information online.”

4.2 Other findings from primary research

4.2.1 Service and customer relationships are important to small businesses

During the research, some of my subjects mentioned the importance of service and customer relationships without me asking. They said that this is where their advantages lie. As omnichannel retailing is developed for enhancing service and experience, it is especially helpful for small business to capitalize this advantage.

4.2.2 Education needed for both the omnichannel concept and features

Only one of my five subjects was familiar with the concept of omnichannel retailing. The other four subjects did not know about the concept but three of them told me that they had previously experienced some of the twelve omnichannel features. From the former chart of feature scores (Figure 4.1), we found that none of the twelve features had been experienced by all of my subjects. Fewer than half of the omnichannel features were known to the participants.
The low knowledge level of the participants means that small business owners or managers still need education on the omnichannel concept and features. We need to let them know what the concept and features are. We need to describe the contexts the features would be used for. Then small business owners would be aware of the benefits that would be brought by these features.

4.2.3 Technical support is valued

During one of my interviews, the subject showed me the digital commerce system they currently used for inventory and customer information management. The subject mentioned that the most convenient thing about the system was that it provided strong technical support. It took her time to get familiar with the system’s interface. Each time she encountered some issue with the platform or could not find the function she wanted, she would use the technical support. One of the platform’s technical employees would get on her computer and tell her how to figure it out in detail.

Only one of my subjects told me that he designed and manages his website with an ecommerce platform totally by himself. For the other four, their websites are developed by third parties. For small businesses, if we want to enable the owners or managers to operate the digital platform smoothly, we need to make it easier for them to use. And it also should be easy for them to get instant help when they need assistance.
4.2.4 Same features could be used on multiple channels and media

When they talked about their familiarity with the omnichannel features, my subjects gave examples of how they currently do the same thing without help from commerce services. For example, when customers left messages or questions on Facebook, the business owners would instantly answer them or ask customers if they would like to provide contact information so they could call or email them.

The Live Chat feature serves a similar function to Facebook for customer support. From my secondary research, I found out that now most providers of Live Chat feature limited to the channel of website. But what could happen if we integrate the same feature with other channels like Facebook and Instagram? It is still the same feature but we could expand its capability and work out a more seamless experience not only between website store and brick-and-mortar but also the other digital channels and brick-and-mortar. Now customers not only use physical and online stores for purchase. They also make purchase decisions while browsing social media and mobile stores. So, it is very important for us to consider other channels at the same time.

4.3 Conceptual research on five selected features

I did conceptual research on the five selected features. This research was to decide what information should be included for each feature. I found examples for both business-side interfaces as well as customer-side interfaces. Then I drew workflows for these examples. They were used to help determine workflow and necessary information for my digital platform design.
4.4 Information architecture

Based on the primary and conceptual research results, I worked out an information architecture (See Appendix 7.3) to prepare for final wireframe design. Information is categorized into four levels.

4.5 Wireframe design of digital platform

Based on information architecture, I designed a wireframe structure for my digital platform named Omni. Its interfaces are mainly separated into two parts: setting up the system and daily management. It contains five features which are selected based on primary research score. To use each feature, it requires users, whether small business owners or managers, to complete basic setting parameters. For this reason, I use wireframes to go through first-time setup process.
for all these five features. For daily management, the wireframe focus on users’ common usage scenarios with Omni. As Omni is designed as a plug-in feature of Shopify, there would be information interchange between Omni and other Shopify sections like Order, Customer and Product. So, besides interface design of Omni, I also made improvements on current Shopify interfaces.

To apply style to Omni, I decided to follow Shopify’s design language. I studied Shopify’s structure (See Appendix 7.2.1) and its color and typography scheme (See Appendix 7.2.2). I used them as guidelines to create my high-fidelity Omni wireframes (See Appendix 7.4).
4.6 Conclusion statement

This thesis proposes to deal with the problem small businesses have of following the retail omnichannel trend by providing them with a digital platform. Omnichannel retailing means creating a seamless shopping experience by integrating online and offline retail channels. The type of small business in this thesis particularly refers to clothing and clothing accessories stores that have one physical location and a store website. I conducted primary research to find out which omnichannel features would be effective to small businesses. Based on the results, I selected the top five omnichannel features according to their score on the parameter of effectiveness level. They are 1) “Buy online, pickup in store”, 2) “Online live chat button to contact sales assistant”, 3) “Buy in store, ship to home/other locations”, 4) “In store access to product information online” and 5) “Back in stock email”. Then I developed wireframes for these five features based on structure and style of an existing commerce service named Shopify.

5. Next Steps

5.1 Usability research plan

For the next step, I will conduct some usability testing to verify my design concepts. Following my usability research plan (See Appendix 7.5), I will do that with same interviewees of my primary research. They will be provided with a web-based prototype. I will ask each participant to complete three tasks (See Appendix 7.5.4) and do an evaluation for each task by answering specific questions (See Appendix 7.5.5) and rate SUS score (See Appendix 7.5.6).
5.2 Conduct more interviews to achieve statistic reliability

To achieve statistic reliability, I need to conduct more interviews. A solid quantitative analysis requires a larger sample number. So, I need to reach out to more small business owners or managers to verify my primary research result.

In addition, for the selection of subjects, I could focus on the differences between various small businesses. Currently, although the subjects I selected are all small business in the category of clothing and clothing accessories, they still vary a little bit from each other. For my five samples, I got a vintage clothes store, clothing stores that get merchandise from vendors, an accessory store that produces its own products, and a tailor shop. Although they are all small business in the same business category, these stores still have variety of requirements for omnichannel features. So, for the next step, I could conduct more interviews for all these four types of small clothing and accessory businesses. Each type of store should have same sample number, because then I would be able to analyze further the requirements of omnichannel features between these four types.

5.3 Flexibility provides to small businesses and their customers

My initial platform focuses on two selling channels: website and brick-and-mortar. My omnichannel platform also includes some other channels like email, but little consideration was put on social media retailing and mobile commerce.
During my primary research, I learned that social media serves as an important role for small businesses’ communication with their customers. It is not only used for product display but also used as a chatting tool to get more product information as well as Q&A. As I mentioned before (Conclusion 4.2, #4), one omnichannel concept could be used to fill the gap not only between website and brick-and-mortar store but also between social media and brick-and-mortar. We could just adjust forms of these features a little bit and then make them compatible for other channels. For example, Live Chat could be also used on Facebook for customers and sales assistants’ connection. As social media now starts to integrate with selling functions, like Facebook provides Sell Button, omnichannel service would be more and more important for social media.

In addition, mobile commerce’s role in ecommerce increases year by year. As millennials’ role in consumer market is more and more important, their mobile technological habits make mobile retailing more essential than ever before. More research should be done to find out how mobile influences small businesses and how they could take advantage of it.

5.4 **Contact small business associations**

To cover a lager scope of small businesses owners or managers, I could get in touch with small business associations like U.S. Small Business Administration and National Small Business Association. With their help, it would be much easier for me to conduct more interviews to achieve statistic reliability. In addition, I could also reach to many small businesses who have interest in my thesis topic to share them with my research results without finding them one by one.
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7. Appendices

7.1 Primary research design

7.1.1 Research method

The purpose of conducting the primary research was to find out which of the twelve omnichannel features identified are most helpful to small businesses.

The two methods I used for this research were personal interviews and card sorting activities. I completed five interviews with small business owners or managers in Cincinnati. The criteria I used to select businesses for the interview are:

1) Have a bricks-and-mortar store

2) Have, or used to have, a website domain of the business for branding or selling

3) Sell clothing or accessories

Each interview was conducted individually. At the beginning, I gave my subject a consent form which roughly introduced my project and described the potential use of the research results. I started by asking about her/his knowledge level of the concept of omnichannel retailing. Then I handed twelve cards to the interviewee. Each card introduced one omnichannel feature. I described details of the feature on the card and then asked if she/he has experience with it, either from their role as either a seller or as a buyer. After they answered the question, I asked whether they thought this feature would benefit their business. I repeated this process until we completed all twelve of the cards. Based on the subject’s answer, the cards were placed into different positions.
In addition to this question and answer process, each interview varied a little bit based on subjects’ answers. I asked some additional questions according to their responses that did not exist in the prepared question list.

7.1.2 Research question

Primary questions:

1) Have you heard about omnichannel retailing? (I provided the following explanation of omnichannel retailing)

Omnichannel is a sales approach that integrates all potential touchpoints with customers, such as physical stores, online stores, and mobile stores. It helps retailers to increase customer engagement, enhancing customer experience and driving sales. It is a method of satisfying customers’ desire to shop anywhere, anytime and on any device.

2) What have you done to integrate technologies in your running of business to serve your customers?

3) I made a list of some of the popular and frequently used omnichannel features. For these features, could you help me pick out the ones that you are familiar with? For these, could you place the cards in places based on your opinion of their effectiveness?

4) Is there anything that you want to improve but currently could not do because of technologies?

Optional questions:
1) When did you launch your website?

2) What was the reason to launch your website?

3) What’s your opinion on your website’s value? Is it helping you improve your business?

4) I have done some research on your website and learned that your website is supported by a company named <insert name>. What made you choose this ecommerce platform provider instead of the others? (eg. useful features, easy managed interfaces, high quality service, proper prices)

5) Does it currently provide any omnichannel related features? If yes, have you tried any of them? Why or why not? If no or not clear, would you like to try those omnichannel features if it starts to provide them? Why or why not?

7.1.3 Research tool

1) Printed cards: each one describes one omnichannel feature with words and a picture

![Printed cards example]
2) Sorting papers: papers for interviewees to sort cards

Figure 7.1 Twelve printed cards to introduce each of the features
7.1.4 Consent form

I made a consent form to ensure that my subjects are aware of what they are agreeing to do and
are also aware of the use of information gathered from them.

**Consent for Participation in Interview Research**

I volunteer to participate in a research project conducted by Shuming Zhong from University of Cincinnati. I understand that the project is designed to gather information about how small business could utilize omnichannel retailing. I will be one of approximately 5 people being interviewed for this research.

1. My participation in this project is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty. If I decline to participate or withdraw from the study, no one will be told.

2. I understand that most interviewees will find the discussion interesting and thought-provoking. If, however, I feel uncomfortable in any way during the interview session, I have the right to decline to answer any question or to end the interview.

3. Participation involves being interviewed by researchers from University of Cincinnati. The interview will last approximately 45-60 minutes. Notes will be written during the interview. An audio tape of the interview and subsequent dialogue will be made.

4. I understand that the researcher will not identify me by name in any reports using information obtained from this interview, and that my confidentiality as a participant in this study will remain secure. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions.

5. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.

6. I have been given a copy of this consent form.

My Signature _______________________

My Printed Name ___________________

Date ______________________________

Signature of the Investigator ____________

Figure 7.4 Consent form
7.1.5 Transcription and research result

Figure 7.5 Transcription and color coded research results
### 7.2 Shopify e-commerce platform study

Omnichannel retail needs to be developed on the basis of multi-channel. To provide small businesses an omnichannel solution, it means that small business owners or managers need to have the access to manage multi-channel retailing first. I tried to find a commerce management system in the market first and then designed my service based on its existing structure. I assumed that my target users already get support from that system for their daily operation both online and offline.

I chose Shopify to be the system where I will build my omnichannel features. First, it is one of the most popular ecommerce platforms used by small and middle size businesses. Second, it not only runs online service but also provides its customers with retail package, which includes machines like barcode scanner and receipt print to sell in brick-and-mortar stores. In addition, some of its plug-ins on Shopify App Store are related with omnichannel retailing. The problem with them was that there is no integrated plug-in design specialized for omnichannel retailing. Those plug-ins are independent of each other and are not considered as a whole to help small business operate omnichannel retailing. For users with little knowledge of omnichannel, it would be hard for them to identify those plug-ins one by one and have them cooperate smoothly.

In conclusion, my design of omnichannel service would use Shopify as a reference. I would study its structure and current interfaces. Then, I would design new features and make improvements to the current system to refine the omnichannel retailing platform.
7.2.1 Shopify structure analysis

To analyze Shopify's structure, I took screenshots of its interface and pulled out some examples with typical structures. Then I analyzed them to learn their patterns. The following is the summary of the patterns:
1) The main interface is majorly separated into two sections. If needed, one more row could be added between these two sections.

2) An important control button could be put in the top right corner.

3) Section Two could be separated into multiple columns. Detailed information is categorized on individual cards in Section Two.
4) Tabs are used to help users find information with the same information hierarchy.

7.2.2 Shopify style

I identified the color scheme and typography of Shopify by inspecting its code.

### Background color

```
#1e1e1a  #31373d  #454e57  #ebef0  #156f7  #caef97  #c1e7f2  #9fdeff
```

### Button color

```
#078bd  #096f48
```

### Icon color

```
#798cc7  #0078bd
```

### Border color

```
#ebef0  #d8deb2  #0078bd
```

### Font color

```
#e85b0f  #707a76  #1a1a1a  #31373d  #0078bd
```

### Font family

- *-apple-system, BlinkMacSystemFont, San Francisco, Segoe UI, Roboto, Helvetica Neue, sans-serif*

<table>
<thead>
<tr>
<th>Font size</th>
<th>Line height</th>
<th>Font weight</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>32px</td>
<td>44px</td>
<td>normal</td>
<td>Welcome words, head of a vacant page</td>
</tr>
<tr>
<td>20px</td>
<td>24px</td>
<td>normal</td>
<td>Page title, text following head of a vacant page</td>
</tr>
<tr>
<td>18px</td>
<td>24px</td>
<td>600</td>
<td>Head of cards</td>
</tr>
<tr>
<td>16px</td>
<td>24px</td>
<td>normal</td>
<td>Footer nearby search bar, text in search bar, text in top right button</td>
</tr>
<tr>
<td>14px</td>
<td>20px</td>
<td>600</td>
<td>Highlighted body text</td>
</tr>
<tr>
<td>14px</td>
<td>20px</td>
<td>normal</td>
<td>Highlighted footer text, product name in chart, highlighted numbers, body paragraph</td>
</tr>
<tr>
<td>14px</td>
<td>20px</td>
<td>normal</td>
<td>Title of input box, explanatory text following input box, text at card's top right corner</td>
</tr>
<tr>
<td>14px</td>
<td>20px</td>
<td>400</td>
<td>Chart head, chart body, footer text</td>
</tr>
</tbody>
</table>

Figure 7.11 Color scheme and typography
7.3 Information architecture

Information is categorized into four levels. Level One is the level that information has the highest hierarchy. It includes two parts, Omni (name of my omnichannel service) and Shopify. In Level Two, under Omni, there are five parts: 1) Store Pickup, 2) Live Chat, 3) Back-in-stock, 4) Shipped-out Order, and 5) Information scanner. They correspond to top five features from my primary research, “Buy online, pickup in store”, “Online live chat button to contact sales assistant”, “Back in stock email”, “Buy in store, ship to home/other locations” and “In store access to product information online”. Under Shopify, there are two parts, Order and Customer, which interact with Omni’s Level Two sections.

Level Three contains detailed information and its content is categorized into two parallel parts: setting and daily management. First-time users need to complete the settings and then the system would direct them to daily management interface. For an experienced user, daily management is the majority of the interface while still allowing access to edit setting if needed. Level Four information is the one that users access after clicking on Level Three information.
Figure 7.12 Information architecture
7.4 Wireframe design of digital platform

7.4.1 Omni

Figure 7.13 Omni home page

7.4.2 Store Pickup

Figure 7.14 Store Pickup Setup Welcome page
Figure 7.15 Store Pickup Setup Store location

Figure 7.16 Store Pickup Setup Pickup hours
Figure 7.17 Store Pickup Setup Notification

Figure 7.18 Store Pickup Setup Complete
7.4.3 Live Chat

Figure 7.19 Live Chat_Setup_Welcome page

Figure 7.20 Live Chat_Setup_Agents
Figure 7.21 Live Chat_ Setup_ Auto reply

Figure 7.22 Live Chat_ Setup_ Customers

Figure 7.23 Live Chat_ Setup_ Complete
7.4.4 Back-in-stock
Figure 7.26 Back-in-stock Setup Notification

Figure 7.27 Back-in-stock Setup Complete
### 7.4.5 Shipped-out Order

**Figure 7.28 Back-in-stock_ Daily management**

#### Filtered Requests

<table>
<thead>
<tr>
<th>Date</th>
<th>Product Name</th>
<th>Customer</th>
<th>Email</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Wait for restock</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Contact vendor</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Notification email sent out</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Email opened</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Purchased</td>
</tr>
</tbody>
</table>

**Figure 7.29 Shipped-out Order_ Setup_ Welcome page**
Figure 7.30 Shipped-out Order_Setup_Shipment

Figure 7.31 Shipped-out Order_Setup_Notification
7.4.6 Information Scanner

Figure 7.38 Shipped-out Order_ Daily management_ Complete order

Figure 7.39 Information Scanner_ Setup_ Welcome page
**Figure 7.40 Information Scanner Setup QR Code**

<table>
<thead>
<tr>
<th>Title</th>
<th>Store Pickup</th>
<th>Live Chat</th>
<th>Back-in-stock</th>
<th>Shipped-out Order</th>
<th>Information Scanner</th>
</tr>
</thead>
<tbody>
<tr>
<td>QR Code setting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code color</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Background color</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add logo (optional)</td>
<td>Uploaded</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>W 300 px</td>
<td></td>
<td>H 300 px</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 7.41 Information scanner Setup Complete**

Complete

You have finished the setup process of back-in-stock email.
7.4.7 Order (Shopify)

Figure 7.42 Information Scanner_ Daily management

Figure 7.43 Order_ Main page
7.4.8 Customer(Shopify)

7.5 Usability testing plan

7.5.1 Purpose

1) Find out if participants could finish the setup process successfully, specially if the hints and
progress bar, which was designed as a process indicator, helps their operation

2) Find out if participants could identify connections as well as the information interchange between Omni and Shopify

3) Find out if participants could successfully provide their in-store customers with access to online information with the help of instructions

7.5.2 Participants

The total number of participants of this usability testing will be five. They will be the same people who took part in my primary research.

7.5.3 Methodology

1) Work out a web-based prototype with InVision for usability testing

2) Bring a laptop to participants and type in the prototype web address

3) Ask participants to simulate their common scenarios of operating commerce software, sitting in an office or standing by a cashier

4) Record participants’ behavior with the prototype by observation, taking notes as well as using a screen recorder

5) Allow participants to read each task description first and make sure they are clear about what they should do, while measuring their time-on-task when they start the task

6) Ask participants several specific questions (See Appendix 7.5.5) and perform a subjective evaluation once they complete a task
7.5.4 Tasks

1) Assume that you just installed Omni and you are a first-time user. Now you are trying to set up the feature Store Pickup. Please show me how you will do that.

2) Assume that you are an experienced user of Omni. One customer came to your brick-and-mortar store and made a purchase. Instead of taking the products with her, she asked you to ship the order to her friend as a gift. Please identify two gateways on the system to achieve her request.

3) Assume that you want to provide your in-store customers with access to online product pages. Please show me the process of generating QR codes, printing them out and applying them to products they are linked with.

7.5.5 Post-task questionnaires

Task One

1) Have you noticed the instructions and progress bar provided in setting process? Are they helpful or not? Where do you expect them to appear on the interface?

2) Are there any setting options that you think are unnecessary?

3) Are there any setting options other than the provided ones that you would like to have?

Task Two

1) Of the two gateway you used, which do you prefer?

2) Do you find it necessary to keep both gateways available?

3) While you were creating the shipped-out order, did you encounter any problems or any
confusing aspects?

**Task Three**

1) From your point of view, is the process of running this feature logical or not?

2) In your opinion, how complex was the process?

3) Regardless of technology limitations, how would you make use of QR code to promote your business?

### 7.5.6 Metrics

Three parameters will be calculated after the usability test: completion rate, time-on-task and SUS (System Usability Scale) score. Among these parameters, the third one needs input from the participants. They will be given an evaluation form for each task and the form includes ten questions. They rate the questions from one to five from strongly disagree to strongly agree.

The completion rate is the percentage of test participants who successfully complete the task. The threshold time is set to be five minutes. If participants could not finish the task in this period of time, it will be considered as failed.

Time-on-task is the time to complete each task which does not include the time to understand the task and subjective evaluation durations.
SUS (System Usability Scale) score is a dependable method of evaluating the usability of systems. The following are sentences that could be evaluated by the participants:

1) I think that I would like to use this system frequently.

2) I found the system unnecessarily complex.

3) I thought the system was easy to use.

4) I think that I would need the support of a technical person to be able to use this system.

5) I found the various functions in this system were well integrated.

6) I thought there was too much inconsistency in this system.

7) I would imagine that most people would learn to use this system very quickly.

8) I found the system very cumbersome to use.

9) I felt very confident using the system.

10) I needed to learn a lot of things before I could get going with this system” (Tomas, 2015).

7.5.7 Usability testing tool
Task 1

Description

Assume that you just installed Omni and is a first-time user of it. Now you are trying to set up the feature Store Pickup. Please show me how you will do that.

Specific Questions

1. Have you noticed the instructions and progress bar provided in setting process? Are they helpful or not? Where do you expect them to appear on the interface?
2. Are there any setting options do you think is unnecessary?
3. Are there any setting options other than the provided ones that you would like to have?

System Usability Scale Evaluation

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think that I would like to use this system frequently.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I found the system unnecessarily complex.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I thought the system was easy to use.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I think that I would need the support of a technical person to be able to use this system.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I found the various functions in this system were well integrated.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I thought there was too much inconsistency in this system.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I would imagine that most people would learn to use this system very quickly.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I found the system very cumbersome to use.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I felt very confident using the system.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I needed to learn a lot of things before I could get going with this system.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>
2) Evaluation form for Task Two

Task 2

Description
Assume that you are an experienced user of Omni. One customer came to your brick-and-mortar store and made a purchase. Instead of taking the products with her, she asked you to ship the order to her friend as a gift. Please identify two gateways on the system to achieve her requirement.

Specific Questions
1. Which gateway of these two do you prefer?
2. How you view the necessity to keep both of them?
3. Are there any inconvenience or confusing happened during your operation of creating a shipped-out order?

System Usability Scale Evaluation

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think that I would like to use this system frequently.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I found the system unnecessarily complex.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I thought the system was easy to use.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I think that I would need the support of a technical person to be able to use this system.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I found the various functions in this system were well integrated.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I thought there was too much inconsistency in this system.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I would imagine that most people would learn to use this system very quickly.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I found the system very cumbersome to use.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I felt very confident using the system.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>I needed to learn a lot of things before I could get going with this system.</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Figure 7.47 Evaluation form for Task 2
3) Evaluation form for Task Three

Task 3

Description

Assume that you want to provide your in-store customers with access to online product pages. Please show me the process of generating QR codes, printing them out and applying them to products they are linked with.

Specific Questions

1. From your point of view, is the process of running this feature logical or not?
2. What’s your opinion of complexity of the process?
3. Regardless of technology limitation, how would you take use of QR code to promote your business?

System Usability Scale Evaluation

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think that I would like to use this system frequently.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I found the system unnecessarily complex.</td>
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<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
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<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I found the various functions in this system were well integrated.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I thought there was too much inconsistency in this system.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I would imagine that most people would learn to use this system very quickly.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I found the system very cumbersome to use.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I felt very confident using the system.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I needed to learn a lot of things before I could get going with this system.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>