Determining shifts in Consumer Preferences for Non-Essentials in Improving E-Tailing Fulfillment Experience toward the New Normal

Adrian Paul B. Carandang, Aliana Rose P. Paras, and Marvin I. Noroña
School of Industrial Engineering and Engineering Management
Mapúa University
658 Muralla St. Intramuros, Manila, Philippines
apbcarandang@mymail.mapua.edu.ph, arpparas@mymail.mapua.edu.ph, minorona@mapua.edu.ph

Abstract

Over the past years, e-tailing has experienced explosive growth since it represents a more economic and convenient approach to purchasing in comparison to traditional shopping. During the pandemic, staying at home and not going out to the store made online purchasing spread widely and various e-tailing platforms have been used by consumers. E-tailing fulfillment experience evaluation can provide the analysis to determine the consumer preferences and significance of e-tailing platforms toward the new normal. With a sample size of 300 respondents from various individuals that have experienced buying goods and services on an e-tailing platform answered the online questionnaire. Structural Equation Modeling (SEM) was utilized to remove the biasing effects of random and correlated measurement errors on the outcomes of the study. The data analysis results showed that consumer preferences had a significant relationship with e-tailing platforms and positively influenced the e-tailing fulfillment experience. Also, e-tailing platforms had negative effects on the e-tailing fulfillment experience. This study theoretically reveals the relationship between consumer preferences and how e-tailing platforms contribute to the overall e-tailing fulfillment experience and provides practical suggestions for e-tailers to form sustainable competitive advantage through retail mix strategy.

Keywords
E-tailing Fulfillment Experience, Consumer Preferences, E-tailing Platforms, Structural Equation Modeling (SEM), New Normal

1. Introduction

Traditional brick-and-mortar stores are transitioning to e-tailing as the expense costing versus brick-and-mortar stores are lower. There are two categories of consumer staples: essentials and non-essentials. Essential products are physical products that are required for the consumer to sustain life or health. Food & Beverage; Health and beauty are essential products. During the first lockdown when the pandemic was declared. All non-essential products were put on hold and essential products were hoarded as the movement of people is very limited and everyone was asked to stay at home (IZEA Worldwide, 2020). Non-essentials are physical products that are not required consumers get this for leisure and self-benefits. As the lockdown eases hoardings of essential goods have slowed down and nonessentials sales are going up. Due to limited movement, work from home became the new normal, and computer and electronic sales categories went up because of this (Harbold, 2020).

During the pandemic, people are spending less of their income on items perceived as nice-to-have or non-essential (such as clothing, shoes, make-up, jewelry, games, and electronics). Globally too, during COVID-19, the developed nations are shifting towards steady-state purchasing post-stock piling as per iRi POS data (2020). The report also stated edible products are expected to have increased demand and non-edible products shall have a moderate need globally, thereby decreased demand which includes homecare, cosmetics, and personal care products (Mehta
Investigate and explore the e-tailing experience of consumers and e-tailer's strategies transitioning to the new normal.

This study looks at the consumer preferences for non-essential goods during the Covid-19 crisis. There is a need to investigate and explore the e-tailing experience of consumers and e-tailer's strategies transitioning to the new normal.
Further, this paper aims to be used as a helping guide for non-essential e-tailers in improving the e-tailing fulfillment experience and understand the factors that drive customer satisfaction. Lastly, the research found in this report could contribute to the literature that will emerge from the Covid-19 pandemic. While a significant amount of research has gone into retailing in the Philippines and elsewhere, not much research has been undertaken on the dynamics of improving the e-tailing fulfillment experience. This study deals with the analysis of consumer preferences for non-essential goods towards the new normal to determine the significance between fulfillment experience and e-tailing in the Philippines.

2. Methodology

2.1. Conceptual Framework

Figure 1 illustrates the factors that may improve the e-tailing experience: consumer preferences and e-tail platforms. The basic premise of this framework is the shifts in consumer preferences to improve the e-tailing fulfillment experience. Consumer preference is changing because of the shifts for non-essential goods and these changes should provide a satisfying fulfillment experience. Furthermore, using e-tail platforms suggests that touchpoints must be considered an interdependent part of a consumer's holistic online shopping fulfillment experience. Hence, multichannel e-shoppers would benefit, in the same manner as "traditional" shoppers, from an integrated and seamless shopping journey across e-tail platforms (Avery et al. 2009).

Figure 1. The Conceptual Model

Based on the conceptual model, we examine the following hypotheses regarding online consumer preferences, e-tailing platforms, and e-tailing fulfillment experience:

H1\(_0\): Online Consumer preferences have no direct effect on e-tail platform
H1\(_a\): Online Consumer preferences have a direct effect on e-tail platform
H2\(_0\): Online Consumer preferences have no positive influence on the e-tailing fulfillment experience
H2\(_a\): Online Consumer preferences positively influences the e-tailing fulfillment experience
H3\(_0\): E-tail platforms have no significant relationship with the e-tailing fulfillment experience
H3\(_a\): E-tail platforms have a significant relationship on e-tailing fulfillment experience

2.2. Operational Framework

Nowadays, online platforms provide consumers many ways to interact with brands. Moreover, digital has caused a shift in customer preferences, resulting in various types of e-tail platforms. Consumers can instantly compare products and prices, with greater product selection, with convenience and ease of finding desired products online. They can read customer recommendations and post reviews. Moreover, consumers can engage directly with their customer service team even if they have never made a purchase. In short, the rise of online shopping delivers highly personalized experiences and gives the customer the power to define their fulfillment experience.
To test the above hypotheses, the following operational framework shown in Figure 2 was drawn with the following latent variables to be used with Structural Equation Modelling (SEM) analysis. Due to the pandemic restrictions that interviews, and actual observations are not allowed, the Structural Equation Modelling (SEM) approach are adopted using the survey questionnaire as the primary research instrument that is used to administer at least 300 consumers of different consumable items that were traditionally bought in brick-and-mortar stores but can be conveniently ordered thru pure-click e-tailing facility.

### 2.3. Proposed Framework for SEM Analysis

As illustrated in figure 2, a more detailed analysis of the interdependence between e-tailing fulfillment experience and the following determinants: consumer preference and e-tail platforms. Furthermore, e-tailers need to optimize customer journeys, and not get lost implementing and improving touchpoints. It is not about the individual touchpoints themselves, but rather the entire journey and how e-tail platforms contribute to the overall customer fulfillment experience. By illustrating how the e-tail platforms and online consumer preferences have changed, guidance is offered to e-tailers for making more improved decisions for e-tailing strategies. This study provides insights for e-tailing sectors to a high-level overview of the e-tail platforms across five phases of the online consumer preferences towards fulfillment experience. In Figure 3, we've provided an overview of each phase: (1) Awareness: The consumer has a need and searches for available products/services to fulfill that need, (2) Consideration: The consumer evaluates the product and available offers from other brands, (3) Purchase: The consumer makes the purchase, (4) Communication: The consumer starts using the product or service, experiences it and gets retained based on the usage and (5) Loyalty: The customer returns to purchase the item or similar items again, influenced by on the post-sales experience.

Interaction serves as one of the most prominent features of the online shopping environment. E-tail platforms provide consumers with interactive tools that are conducive to attracting consumers' attention and enable consumers to perceive and experience online shop interaction (Wu and Hsing, 2006). In e-tail platform interaction, users can quickly and accurately find the information they need through various interactive tools and can get answers timely when encountering problems. Good interactive tools bring more information to the customer while providing real-time feedback on customer demand. By promptly resolving the user’s problems, e-tailers can narrow the distance with customers, improve customer service levels, enhance customer satisfaction, and even stimulate customers’ desire to purchase (Yang et al., 2012). For instance, websites are the most common and well-established interactive tool, with abundant information and various functions, crucial to e-tailing survival, and success (Homsud & Chaveesuk, 2014).
An interdependent part of a consumer's holistic online shopping fulfillment experience using e-tail platforms based on consumer preferences is shown in Figure 3. By adopting and developing all kinds of e-tail platforms, e-tailers change and improve the interactive experience of consumers, thus improving the fulfillment experience.

2.4. Data Gathering

Data collection was carried out using an online questionnaire. The survey is conducted in support of this proposed research study. This study targeted those consumers who had purchased products online. The latter part of the survey presented are statements; their answers are the basis in knowing whether e-tailing fulfillment experience is achieved to further test construct validity. The survey was designed with the answers using the five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) for responders to express the level of agreement to each question. With a sample size of 300 respondents from various individuals that have experienced buying goods and services on an e-tailing platform are considered to answer the online survey using google forms. The number of respondents is enough to fulfill an accurate result from SEM analysis. To test hypotheses, Structural Equation Modeling (SEM) was utilized because this methodology allows testing the relationships between the variables of a complete model.
3. Results and Discussion

3.1. The Final SEM Framework Output

Figure 4 illustrates the final SEM for evaluating the factors that may improve the e-tailing fulfillment experience toward the new normal. Some modifications were applied to enhance the model. This current study aims to identify the preferred e-tail platforms for consumer preferences transitioning to the new normal to provide an e-tailing fulfillment experience. Structural Equation Modelling (SEM) was utilized by illustrating how the e-tail platforms and online consumer preferences have changed, this study provided insights for e-tailing sectors to a high-level overview of the e-tail platforms across six phases of the online consumer preferences towards fulfillment experience: awareness (AW), consideration (CON), purchase (PU), communication (COM), loyalty (LO) and satisfaction (SA). Furthermore, e-tailing platforms provide consumers with interactive tools that are conducive to attracting consumers’ attention and enable consumers to perceive and experience online shop interaction (Wu and Hsing, 2006). This current study presented six key attributes that typically influence e-tailing platforms: mobile applications (MA), websites (WE), electronic payment (EP), helpdesk system (HS), product reviews (PR), and personalization (PE). From the Confirmatory Factor Analysis (CFA) result of this study, seventeen-factor loadings are greater than 0.707 and nine-factor loadings are between 0.6 and 0.707. Five loadings (those of items AW1, PU2, COM2, COM3, and WE1) are under 0.6. In general, the factor loadings should be equal to or greater than 0.707 for good convergent validity (Gefen et al. 2000).

Figure 4. The Final SEM for evaluating the E-Tailing Fulfillment Experience toward the New Normal
3.2. Goodness of fit measure of the SEM

As presented in Table 1, the reference to model fit, researchers use numerous goodness-of-fit indicators to assess a model. Some common fit indices are Normed-Fit Index (NFI), Incremental Fit Index (IFI), Tucker Lewis Index (TLI), Comparative Fit Index (CFI), Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), and Root Mean Square Error of Approximation (RMSEA). Table 2 presented the parameter estimates of each measure indices and its suggested cut-offs, which are used to evaluate the model fit. Following some of the previous studies that utilized the SEM approach (Lin et al., 2018, 2019b; Miraja et al., 2019), some modification indices were applied to enhance the model fit. Normed-Fit Index (NFI) is an incremental measure of goodness of fit which is not affected by the number of parameters/variables in the model. A value greater than 0.90 indicates a good model fit (Bentler & Bonnet 1980). The study's NFI has a value of 0.906 which is above the suggested cut-off indicating a good fit of the model. The incremental Fit Index (IFI) also should be greater than 0.90 to accept the model (Hair 2010). IFI is relatively independent of sample size and is favored by some researchers for that reason. IFI of this study is reported at 0.948 indicates a good fit. Tucker-Lewis Index (TLI) is introduced as an index that prefers simpler models, and the study's parameter for TLI is 0.927 and with an acceptable cut-off of 0.90 (Hu and Bentler 1999), can pass as a good model fit. Comparative Fit Index (CFI), where even a small sample size is considered, has a cut-off of 0.90 is recommended (Hair 2010). CFI of this study model is 0.947 which is acceptable. The Goodness of Fit Index (GFI) statistic was introduced as an alternative to the Chi-square test. As the statistic reaches from 0 to 1, data with larger samples increases its value and a recommended cut-off point of 0.80 (Gefen 2000), therefore a result of 0.867 in the model indicates a good fit. Adjusted Goodness of Fit Index (AGFI) corrects the GFI, which is affected by the number of indicators of each latent variable, has a cut-off of 0.80 is recommended (Gefen et al. 2000). AGFI of this study is reported at 0.804, which is also within the suggested cut-off indicating a good fit of the model. Lastly, Root Mean Square Error of Approximation (RMSEA) is a popular measure of fit, partly because it does not require comparison with a null model. It is one of the fit indexes less affected by sample size, though for the smallest sample sizes it overestimates the goodness of fit (Fan, Thompson, and Wang, 1999). There is a good model fit if RMSEA is less than 0.07 (Steiger 2007). The RMSEA has a value of 0.061 which is lower than the recommended value indicating a good fit of the model. Overall, the final model fit test has shown parameters along with the suggested cut-off, indicating that the final model can be accepted and used to analyze the direct, indirect, and total effects of each latent to each other.

Table 1. Final Model Fit Test Result

<table>
<thead>
<tr>
<th>Goodness of fit measure of the SEM</th>
<th>Parameter Estimates</th>
<th>Minimum cutoff</th>
<th>Suggested by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normed Fit Index (NFI)</td>
<td>0.906</td>
<td>&gt; 0.90</td>
<td>Bentler &amp; Bonnet (1980)</td>
</tr>
<tr>
<td>Incremental Fit Index (IFI)</td>
<td>0.948</td>
<td>&gt; 0.90</td>
<td>Hair (2010)</td>
</tr>
<tr>
<td>Tucker Lewis Index (TLI)</td>
<td>0.927</td>
<td>&gt; 0.90</td>
<td>Hu and Bentler (1999)</td>
</tr>
<tr>
<td>Comparative Fit Index (CFI)</td>
<td>0.947</td>
<td>&gt; 0.90</td>
<td>Hair (2010)</td>
</tr>
<tr>
<td>Goodness of Fit Index (GFI)</td>
<td>0.867</td>
<td>&gt; 0.80</td>
<td>Gefen et al. (2000)</td>
</tr>
<tr>
<td>Adjusted Goodness of Fit Index (AGFI)</td>
<td>0.804</td>
<td>&gt; 0.80</td>
<td>Gefen et al. (2000)</td>
</tr>
<tr>
<td>Root Mean Square Error of Approximation (RMSEA)</td>
<td>0.061</td>
<td>&lt; 0.07</td>
<td>Steiger (2007)</td>
</tr>
</tbody>
</table>

3.3. Direct effect, indirect effect, and total effect

The direct, indirect, and total effects of the different latent factors are presented in Table 2. Consumer Preference (CP) is shown to have a significant direct effect on E-tailing Platforms (ETP) and E-tailing Fulfillment Experience (EFE). In addition, it is also indicated that E-tailing Platforms (ETP) had negative direct effects on the E-tailing Fulfillment Experience (EFE). Finally, Consumer Preference (CP) is shown to have indirect negative value with the E-tailing Fulfillment Experience (EFE).
Table 2. Direct effect, indirect effect, and total effect

<table>
<thead>
<tr>
<th>Variables</th>
<th>Direct Effect</th>
<th>P-value</th>
<th>Indirect Effect</th>
<th>P-value</th>
<th>Total Effect</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP → ETP</td>
<td>0.853</td>
<td>0.001</td>
<td>-</td>
<td>-</td>
<td>0.853</td>
<td>0.001</td>
</tr>
<tr>
<td>CP → EFE</td>
<td>0.998</td>
<td>0.001</td>
<td>-0.114</td>
<td>0.001</td>
<td>0.884</td>
<td>0.001</td>
</tr>
<tr>
<td>ETP → EFE</td>
<td>-0.133</td>
<td>0.139</td>
<td>-</td>
<td>-</td>
<td>-0.133</td>
<td>0.139</td>
</tr>
</tbody>
</table>

3.4. Practical Implications

The objective will be fulfilled by checking the significance of the above-mentioned hypotheses by making use of the SEM approach. Based on Figure 4 and Table 2, the consumer preferences (CP) had a significant relationship on e-tailing platforms (ETP) (H1: β:0.853, p=0.001). By promptly resolving the consumer’s problems, e-tailing platforms can narrow the distance with customers, improve customer service levels, enhance customer satisfaction, and even stimulate customers’ desire to purchase (Yang et al., 2012). In addition, consumer preferences (CP) positively influenced the e-tailing fulfillment experience (EFE) (H2: β:0.998, p=0.001). For consumers, e-tailing represents a more economic and convenient approach to purchasing in comparison to traditional shopping. Consumer preference is changing because of the shifts for non-essential goods and these changes provided a satisfying fulfillment experience. The customer returns to purchase the item or similar items again, influenced by the post-sales experience. Lastly, e-tailing platforms (ETP) had negative effects on the e-tailing fulfillment experience (EFE) (H3: β: -0.133; p=0.139). E-tailers need to optimize customer journeys, and not get lost implementing and improving their platforms. It is not about the individual platforms themselves, but rather the entire journey and how e-tailing platforms contribute to the overall e-tailing fulfillment experience. E-tailing platforms should step up to elevate the fulfillment experience and help their consumers streamline their online shopping journey from start to finish to have an opportunity to create a lifetime of customer loyalty far beyond the pandemic's reach.

Table 3 shows how to improve the consumer preferences; the challenge is to implement various digital touchpoints to streamline e-tailing fulfillment experience. Consumer preferences had a significant direct effect on e-tailing platforms and positively influenced the e-tailing fulfillment experience. As for consumers, e-tailing represents a more economic and convenient approach to purchasing in comparison to traditional shopping. A consumer preference is changing because of the shifts for non-essential goods and these changes provided a satisfying fulfillment experience. It has been argued that online commerce offers more satisfaction to modern consumers who seek convenience and speed (T. Yu & G. Wu, 2007). In online communication, when a consumer sees a banner ad or online promotion, it can attract their attention and stimulate their interest for these specific products from advertisements. Before deciding for purchase, the customer may seek additional information for help. If there is not enough information, they will browse for them through online channels, e.g., using online catalogs, websites, or search engines (Laudon & Traver, 2009). E-tailers seeking to offer superior customer service as part of their e-tailing fulfillment strategy increasingly understand the importance of supporting digital touchpoints to meet critical needs. As technology and tastes change, products become out of date and inferior to those of the competition, so e-tailers must update products with features that customers value or completely replace the product. As for consumer preferences, e-tailing provides consumers with more information and opportunities to compare products and prices, with greater product selection, with convenience and ease of finding desired products online (Butler & Peppard, 1998). E-tailers typically set an intensive effort to ensure customer satisfaction and increase the chances customers will come back to make their next purchase. The customer returns to purchase the item or similar items again, influenced by the post-sales experience. Especially during this unprecedented time, e-tailers must remain consistent by providing exceptional customer service supported by an innovative e-tailing fulfillment strategy to help stay flexible and lessen potential impacts of the pandemic.
Table 3. A list of digital touchpoints to consider as for consumer preferences

<table>
<thead>
<tr>
<th>Consumer Preferences</th>
<th>Digital Touchpoints</th>
</tr>
</thead>
</table>
| Awareness            | • Social media exposure  
                     | • Search engine interactions  
                     | • Display and banner ads  
                     | • Email Marketing  
                     | • Blogs  
                     | • Video  
                     | • SMS promotions |
| Consideration        | • Free trials  
                     | • Product/service demos  
                     | • Reviews & Testimonials  
                     | • Discounts  
                     | • Digital in-store displays  
                     | • Influencer Marketing |
| Purchase             | • Website (online checkout interactions incl. upsell / cross-sell)  
                     | • Billing  
                     | • Electronic Payment options |
| Communication        | • Delivery and shipment tracking  
                     | • Automated returns handling  
                     | • Online help center  
                     | • Support Content (e.g., FAQs, How-to-guides)  
                     | • Email follow-ups  
                     | • Social media interactions |
| Loyalty              | • Loyalty program  
                     | • Personalized rewards |
| Satisfaction         | • Reviews & Testimonials  
                     | • Q&A sessions  
                     | • Discounts  
                     | • Automated fulfillment  
                     | • Support Content (e.g., FAQs, How-to-guides)  
                     | • Support Tools  
                     | • Customer Service / Support  
                     | • Social media/email interactions |

4. Conclusion

There is no doubt that e-tailing will take a new shape in the post-COVID world. Our lifestyles as consumers have been forced to change dramatically; shopping in stores and wandering in malls are practices we try to avoid for fear of being infected. Filipinos are becoming more comfortable with buying goods and services online. The current study utilized the Structural Equation Modeling (SEM) approach for evaluating the factors that may improve the e-tailing fulfillment experience toward the new normal: consumer preferences and e-tailing platforms. Based on the results in the SEM analysis, consumer preferences have a significant direct effect on e-tailing platforms and e-tailing fulfillment experience. Furthermore, e-tailing platforms had negative direct effects on the e-tailing fulfillment experience. This study theoretically reveals the relationship between consumer preferences and how e-tailing platforms contribute to the overall e-tailing fulfillment experience and provides practical suggestions how to improve the consumer preferences through digital touchpoints.
References
IBM, 2020 Fulfillment is the heart of the customer experience Retail’s new route to customer happiness retrieved from https://www.ibm.com/watson/supplychain/resources/order-management-fulfillment/
IZEA Worldwide, Inc, (2020) 45% of Consumers Say They Have Purchased “NonEssential” items during Coronavirus Lockdown retrieved from https://www.globenewswire.com/news
Miraja BA, Persada SF, Prasetyo YT, Belgiawan PF, Redi AP. Applying Protection motivation theory to understand generation z students’ intention to comply with educational software anti-piracy law. Int J emerging Technol Learn (iJET) 2019;14(18):30, doi: http://dx.doi.org/10.3991/ijet.v14i18,10973
Tellis, Gerard J. and Birger Wernerfelt (1987), "Competitive Price and Quality Under Asymmetric Information," Marketing Science, 6 (Summer), 240-53

Biographies

Adrian Paul B. Carandang is a graduate of Mapua University with a degree in B.S. Service Engineering and Management. He has successfully completed Advanced 5s certificate, Kaizen 6 sigma Greenbelt from Kaizen Management System Inc. Initiating and Planning projects from Coursera and Project Management Essentials Certified from Management & Strategy Institute.

Aliana Rose P. Paras is a graduate of Mapua University with a degree in B.S. Service Engineering and Management. Her current affiliation is with the Coursera organization where she has successfully completed an online course authorized by University of California, Irvine and offered through Coursera and received verified certificate in a project management course.

Marvin I. Noroña is a faculty member of the Mapua University School of Industrial Engineering & Engineering Management and School of Graduate Studies. He earned his BSIE and MBA degrees from University of the Philippines and is completing his dissertation for a Doctor in Business Administration degree at the De La Salle University. Apart from research and teaching, he is into management consulting and training in the areas of sustainability, supply & operations management, production & service systems improvement, strategic planning, and management, lean six sigma, and design thinking.