Ship Faster: Feasibility Studies on a Freight-Forwarding APP from China to Bahrain

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Abstract: The Ship Express application effectively addresses the limitations and inconveniences of transporting and purchasing products through the AliExpress app. However, with the rapid growth of online shopping, competition in the mobile transportation app sector where Ship Faster operates is becoming increasingly intense. To enhance consumer satisfaction and strengthen the market competitiveness of the Ship Faster application, this study focuses on the services and features of the app, analyzing the impact on consumers' online shopping behavior. The goal is to identify the most effective services and features that provide users with a more user-friendly experience. Through a questionnaire survey and Kano model analysis, this research examines consumers' attitudes towards different functionalities and attributes, assisting Ship Faster in determining the most effective services and features. The analysis reveals that implementing last-mile delivery tracking, utilizing social media, enhancing image search functionality, and improving free shipping and cash-on-delivery services are key factors. In response to these effective application features, this study proposes targeted measures to improve the design of the Ship Faster application. These include establishing a cargo tracking system with historical data collection and analysis, executing precise and effective advertising on social media, offering vouchers to customers who purchase in large quantities, etc. These strategies are expected to effectively enhance consumer satisfaction and strengthen the market competitiveness of the Ship Faster application.

Keywords: Ship Express; Online Shopping; Kano Model Analysis

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1 Introduction

Nowadays, online shopping is increasingly popular, and many customers are adopting this trend. In Bahrain, AliExpress offers a wide range of products to meet the rich online shopping needs of people, aiming to provide high-quality discounted goods even for small orders. However, since most of AliExpress's warehouses are in China, products are shipped from China to the buyer's country. The international freight for fragile, heavy, and perishable products is relatively high, and this is a significant factor influencing buyers' choice of online shopping. According to 44% of respondents, the most common reason for abandoning online shopping is high freight costs, which also lead buyers to choose higher-priced offline goods.

Faster Express provides professional logistics services such as aviation, express routes, warehousing, import and export of goods, and transportation for the Middle East region. And now incorporating value-added services into

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their operations to expand services, including the introduction of 'Ship Faster', which is developed in cooperation with AliExpress. This app aims to solve the limitations and inconveniences of shipping and purchasing products on the AliExpress app. By obtaining a personal mailing address, the service can reduce the cost of shipping goods from China to Bahrain. The app is based on "Shop and Ship", which is Aramex's existing global last-mile shipping app. The implementation of Ship Express will enable consumers and businesses to purchase essential goods at more affordable prices while providing Faster Express with the potential to expand the program across the MENA region.

However, with the increasing volume of online shopping, competition in the mobile transportation app space is getting more intense. To attract new customers and increase loyalty, the company must ensure that customers are satisfied not only with the products but also with the delivery procedures. Consumers consider the features and logistics services of the app when shopping, which means the app should be designed according to consumer preferences. Enhancing customer satisfaction and achieving reuse intentions are critical to the success and long-term competitive advantage of logistics service providers, such as Faster Express [1].

Therefore, this study will focus on the user experience aspects of applications, aiming to identify the most effective services and features to provide consumers with user-friendly experiences. The purpose of this study is to customize logistics services and applications to best fulfill customer expectations by applying the Kano Model in the survey. Capturing and evaluating potential customers' information will lead to a customer-centric supply chain. Then, this research will focus on developing the functions and services in demand and implementing the most efficient distribution, logistics, and transportation strategies to provide consumers with a diverse choice of services. In addition, it can also promote Ship Express to become the core of the online retail business between Bahrain and China.

In this study, section 1 introduces the background and research purpose. Section 2 reviews the existing research literature from three perspectives: the current state of e-commerce, customers' online shopping intentions, and the online shopping logistics process. Section 3 analyzes the operationalization of the Ship Express platform through the Kano Model. Section 4 analyzes the solution, and the last section provides the corresponding conclusion.

2 Literature Review

The aspects related to e-commerce, customer engagement in online shopping, and the logistics process of delivering online shopping products will influence the development process of the 'Ship Faster' application. Therefore, this study conducts a literature review and analysis from the following three perspectives.

2.1 The Perspectives of e-Commerce

The main views on e-commerce in the existing literature focus on business-to-consumer (B2C) interactions. Studies have found that e-tailers need to adapt their marketing mix to different consumer segments [2] and influence customers' decisions immediately [3]. Additionally, attitudes positively impact customers' behavioral intention to use live-stream shopping [4]. B2C e-commerce is cost-effective for businesses, and the uncertainty created by a culture of avoidance affects consumer behavior [5]. As for the business-to-business (B2B), research shows that professional customers expect specialized services and sales programs to meet their needs [6]. Customer behavior is based on knowledge and subjective norms that consider experience and beliefs, with mobile apps making B2B marketing more customer centric.

Trends in e-commerce highlight the need for transparency and traceability [7]. Customers value transaction security, and artificial intelligence will enhance consumers' sense of security [8]. In terms of the challenges of e-commerce, studies have found that the competitiveness and profitability of enterprises depend on security investments [9]. Although attacks are inevitable, enterprises can respond by strengthening their resilience. Optimizing parcel transshipment operations also faces the challenge of technology identity, with modern resource management tools and communication technologies that can enhance route planning and collaborative logistics operations [10].

E-commerce research also examines the impact of social media applications. Broadcast apps increase the stickiness of shopping, while narrowcast apps reduce usage time [11]. Customers use social media apps to evaluate and promote goods, and social media helps companies sell goods [12]. Electronic payment systems (EPS) are a key component of online applications. The most common EPS in the Arab world includes debit and credit cards, cash on delivery, store and shipping, mobile payments, and e-kiosks [13].

2.2 Customers' Intention While Making Online Purchases

According to research, customers' emotional comfort and optimism about e-commerce are influenced by gender and generation. This indicates that demographic characteristics alone cannot fully explain technology adoption. Both age and gender impact e-commerce behavior [14]. Additionally, technological readiness can influence user motivation [15].

Several factors like consumer trust and perceived value can affect transactions, and the performance of B2C websites depends on e-service quality [16]. Some customers show a significant impact on online shopping spend and specific categories [17]. Perceived usefulness, legal protection, and platform sales value significantly affect purchasing decisions [18].

Online shopping and Internet marketing offer advantages such as reduced cost, time efficiency, and convenience [19]. Website design and security significantly impact the growth of online shopping, while the convenience of the internet promotes consumerism [20]. Different digital marketing strategies can attract and convert customers but also face challenges such as the digital talent gap, security, and privacy issues.

2.3 Logistical Procedures

For major trading countries, containers play a crucial role in reducing variable costs by approximately 20%, although their fixed costs are 50-100% higher than bulk options [21]. Notably, the international welfare benefits of hub infrastructure investment are significant, being ten times greater than those of other investments [22]. Currently, third-party logistics (3PL) distribution is on the rise. Due to 3PL and random arrival issues caused by order consolidation, deep learning frameworks can optimize inventory and improve operational efficiency [23]. The growing importance of deep learning in inventory management decisions [24] and the ongoing development of blockchain technology are needed to deploy such frameworks, which will enhance Ship Faster's platform for effective inventory management.

In last-mile delivery for e-tailers, order consolidation strategies can reduce delivery trips and expenses [25], enhance delivery networks, and optimize operations [26]. However, this approach is only effective for bulk purchases and cannot avoid multiple deliveries to the same customer [27]. When delivery time becomes critical, consumers are willing to pay more for same-day delivery [28]. Last-mile parcel transfer services struggle to reach critical scale due to differences in destination and parcel characteristics, resulting in a poor value proposition for operators [29]. Additionally, urban congestion reduces the efficiency of both standard and green vehicles and increases delivery delays.

2.4 Literature Review Summary

The aspects related to e-commerce, customer engagement in online shopping, and the logistics process of delivering online shopping products will influence the development process of the Ship Faster application from four perspectives like Table 1: the theoretical framework, the logistics procedures required for the operation of the application, the success factors necessary for the implementation of the application, and the common challenges present in e-commerce. Designing the application by considering these perspectives will help improve customer satisfaction and enhance competitive advantage.

Table 1 Summary of the Identified Literature

Author	Year	Categories			
		Theoretical framework	Logistical process	Success factors	Existing issues
Huseynov & Yıldırım	2019	✓			
Pawłowski & Pastuszak	2016	✓			
Choi et al.	2023	✓			
Liu et al.	2022				✓
Premkumar et al.	2021				✓
Pang et al	2021			✓	
Al-Adwan et al.	2022			✓	
Yoon et al.	2022			✓	
Rouibah	2015			✓	
Gupta et al.	2013			✓	

Author	Year	Categories			
		Theoretical framework	Logistical process	Success factors	Existing issues
Coşar & Demir	2018		✓		
Ren et al.	2020		✓		
Zhang et al.	2019		✓		
Perboli and Rosano	2019				✓

3 The Operationalization of the Kano model for the Ship Faster Platform

The purpose of this study is to provide a foundation for developing features on the 'Ship Faster' application through surveys and Kano model analysis. The questionnaire is related to customer satisfaction, and respondents' answers can identify the inefficiency sections of the application. The Kano model analysis can reflect customers' perceptions of these services and help understand respondents' needs.

3.1 Questionnaire Inquiry

206 respondents in total are surveyed for this research. Before starting the survey, some personal questions are asked to determine the respondents' demographics or target audience. Most participants are female, accounting for 57.8%, while males accounted for 42.2%. Over 50% of the respondents are between 18 and 24, with a significant portion earning approximately 250 Bahraini Dinars or less. Additionally, the majority (52.9%) had used the Shop and Ship app or similar applications.

3.2 Kano Analysis

The Kano questionnaire consists of a set of questions, each corresponding to a specific feature or function. Each question offers five possible responses: "I like it that way," "It must be that way," "I am neutral," "I can tolerate it that way," and "I dislike it that way".

(1) Frequency Distribution

By analyzing the frequency of a feature's placement in a specific category (the most common customer reaction), it can determine whether it is seen as a threshold, performance, or excitement characteristic by the target market group. The table below presents the 10 characteristics examined in the survey, along with the corresponding responses. To categorize the replies, the highest response rates for the functional and dysfunctional questions are cross-referenced by using the Kano assessment chart. The responses are then organized in chronological order to determine the proportion of other potential categories.

Furthermore, feature one is considered a threshold attribute or a "must-be" (M) feature. This means that buyers often expect and overlook feature one. Without this functionality, the app may face significant challenges in achieving success. Product sharing via social media has significant potential for gaining customers and increasing profits for Faster Express. When consumers share a specific product, it can direct others to the app, potentially attracting more customers for that product. Features two, three, four, six, and seven are classified as performance attributes or "one-dimensional" (O) features. These functionalities enhance consumer satisfaction when included in the app and diminish it when they are missing. These features often interconnect in the context of online shopping apps. For example, the app might notify the consumer about shipping updates and provide the driver's personal information when items are out for delivery. Similarly, features five, eight, and ten are classified as exciting attributes or "attractive" (A) features, their presence in the app brings a sense of joy. For instance, some users prefer chatting with customer service agents rather than talking on the phone, so offering multiple forms of customer service can enhance customer satisfaction. Lastly, feature nine is classified as indifferent (I). This means it has no substantial impact on the users' experience, whether positive or negative. For example, delivery time does not significantly affect customer satisfaction, whether it takes longer than intended or is exactly on time, if the customer receives the correct product.

Table 2 Categorization of App Features

	A	O	M	I	R	Q
Feature 1 Product sharing via social media	61 (29.6%)	60 (0%)	84 (40.8%)	50.5 (24.5%)	10.5 (5.1%)	0 (0%)
Feature 2	0	105.5	0	92	8.5	0

	A	O	M	I	R	Q
Drivers' personal information	(0%)	(51.2%)	(0%)	(44.7%)	(4.1%)	(0%)
Feature 3 Real-time tracking	0 (0%)	90 (43.7%)	0 (0%)	63.5 (30.8%)	52.5 (25.5%)	0 (0%)
Feature 4 Consolidation	0 (0%)	130 (63.1%)	0 (0%)	58 (28.2%)	18 (8.7%)	0 (0%)
Feature 5 Previous purchases' recommendations	73 (35.4%)	0 (0%)	61.5 (29.9%)	35 (17%)	36.5 (17.7%)	0 (0%)
Feature 6 Return process	0 (0%)	120 (58.3%)	0 (0%)	65 (31.5%)	21 (10.2%)	0 (0%)
Feature 7 App notifications	0 (0%)	101.5 (49.3%)	0 (0%)	55.5 (26.9%)	49 (23.8%)	0 (0%)
Feature 8 Customer service options	80.5 (39.1%)	0 (0%)	58 (28.2%)	16 (7.7%)	51.5 (25%)	0 (0%)
Feature 9 Delivery time	0 (0%)	0 (0%)	18 (8.7%)	82.5 (40%)	32 (15.5%)	73.5 (35.7%)
Feature 10 Repacking service	78 (37.9%)	0 (0%)	54 (26.2%)	52.5 (25.5%)	0 (0%)	21.5 (10.4%)

(2) Category Strength and Total Strength

To further support the survey analysis, additional criteria such as 'category strength' and 'total strength' can be included. Category strength measures the distinctiveness of a category relative to others and is equal to the percentage of the most frequent response minus the percentage of 2nd most frequent response. A category strength must exceed 5% to clearly demonstrate that a feature belongs in a certain area. Total strength is the sum of percentage A, percentage O, and percentage M, indicating the overall significance respondents attribute to a characteristic. Table 3 below shows that all characteristics, except feature nine, are correctly categorized. Features three and seven have a category strength percentage greater than 5%, indicating correct categorization. However, both features have overall strength percentages below 50, suggesting that customers may not perceive these characteristics positively. Furthermore, feature nine exhibits' deficiencies in both category strength and total strength, indicating incorrect categorization and that it may not be regarded as a favorable attribute. At this stage, equilibrium and weighting methods will be used to address these uncertain results.

Table 3 Calculation of Category Strength and Total Strength

	Category strength	Total strength
Feature 1 Product sharing via social media	11.2%	70.4%
Feature 2 Drivers' personal information	6.5%	51.2%
Feature 3 Real-time tracking	12.9%	43.7%
Feature 4 Consolidation	34.9%	63.1%
Feature 5 Recommendations based upon previous purchases	5.5%	65.3%
Feature 6 Return process	26.8%	58.3%
Feature 7 App notifications	22.4%	49.3%
Feature 8 Customer service options	10.9%	67.3%
Feature 9 Delivery time	4.3%	8.7%
Feature 10 Repacking service	11.7%	64.1%

(3) Equilibrium Technique

To determine the classification for feature nine, two approaches may be employed: the equilibrium technique and weighting. Using the equilibrium method to make comparison between positive and negative assessments. The term 'positive' comprises the traits of excitement,

performance, and threshold, while the classifications of indifferent, rejection, and questionable are considered 'negative'. If the sum of A, O, and M is greater than the sum of I, R, and Q, choose the greatest value among A, O, and M. However, if the sum of A, O, and M is less than the sum of I, R, and Q, choose the largest value among I, R, or Q.

The frequency distribution for feature nine is as follows: A + O + M = 0% + 0% + 8.7% = 8.7%, and I + R + Q = 40% + 15.5% + 35.7% = 91.2%. This showcases that the sum of I, R, and Q is bigger than the sum of A, O, and M. Therefore, feature nine is classified as indifferent (I), since it has the greatest value among categories I, R, and Q.

3.3 Feature Results

Based on the research findings, these characteristics can be concluded into five features that are attractive to online shoppers. Last-mile tracking is crucial for logistics companies. Feature 1 provides information about the goods and enhances customer satisfaction, but the tracking solutions are not sufficient to address all last-mile delivery challenges. Feature 2 indicates that social media can influence the use of mobile shopping apps. However, the impact of social media on mobile shopping has always been challenging. Given that most people spend time online, promoting shopping apps through social media is sensible. Especially when these apps offer low-priced, high-quality products, people of all ages may download the app and make purchases due to attractive advertisements. Before implementing changes related to Feature 3, it is necessary to address any potential issues. Adding image-based search functionality to the search page could bring significant improvements, as it would allow customers to find information faster and more easily. In Feature 4, we can showcase products offering free shipping on the homepage. Besides encouraging customers to become repeat buyers, Feature 4 can also incentivize them to purchase specific products. The fifth feature should be available on the checkout page, as many customers prefer to pay after receiving the product and confirming its condition.

4 Solutions

4.1 Feature 1 Solution

To prevent the loss and theft of goods and ensure timely delivery, establishing a cargo tracking system is essential. These systems can also be used to collect and analyze historical data, thus assessing and optimizing supply chain performance. Additionally, Feature 1 can enhance supply chain security by integrating with other safety measures, such as digital identity management and cybersecurity protocols.

Customers should ensure they provide clear and accurate delivery addresses to minimize the risk of issues with cash on delivery. To ensure timely delivery, it is important to require customers to provide complete addresses before preparing orders for shipment, which is crucial in ensuring timely delivery, especially when handling first-time customer orders. Implementing these systems requires significant investment in technology and infrastructure. Furthermore, ensuring interoperability and data sharing is necessary.

4.2 Feature 2 Solutions

Social media advertising for shopping apps requires accurate advertisements and effective marketing strategies to avoid negative consequences. The app should feature high-quality products. Collaborating with influencers can help the app gain customers' trust while identifying their needs. To increase social media promotions, Ship Faster can establish partnerships with companies and provide cost estimates for annual subscriptions to various social media apps to expand its audience. Investing significant amounts in partnerships with other companies can also benefit the app.

4.3 Feature 3 Solutions

It is essential to provide users with complete access to their camera roll on the research page to ensure that data can be securely stored and maintained. The app must be highly secure and allow users to halt access to the camera roll when necessary. Additionally, the app should notify customers if any access to the camera roll has been made.

4.4 Feature 4 Solutions

Attracting customers is crucial for any business. One effective strategy is to offer suggestions for similar, higher-quality products at a lower price, or regular products that are currently on sale. The fourth feature allows customers to explore other products, potentially encouraging them to make a purchase. Additionally, a drop-down help center can assist in answering any customer questions. Consider offering gift certificates to customers who pur-

chase large quantities of products as an incentive.

4.5 Feature 5 Solutions

To ensure full payment for the product, the company can inform customers during checkout that a higher shipping fee may be charged. Additionally, our app provides a solution for returned or damaged products. For instance, if a customer cancels their order, Feature 5 will not appear at checkout during their next purchase. It may also be beneficial for the company to establish a physical store in the region with different pricing options to reduce losses and expand its customer base. Additionally, it could hold a clearance sale at its warehouse to offer lower prices. However, health and safety concerns may limit the feasibility of this option.

5 Conclusion

In the context of online shopping, it is crucial for the Ship Faster application to identify the most effective services and features in terms of user experience. This will improve consumer satisfaction and enhance the app's market competitiveness. This study utilized questionnaire surveys and Kano model analysis to investigate the feature preferences of 206 respondents when engaging in online shopping and using logistics services. The results indicated that last-mile tracking, the influence of social media on online shopping, image search functionality, free shipping services, and cash-on-delivery services are particularly important. Therefore, this study proposes corresponding improvements to the app's services and features, making Ship Faster more attractive and competitive. In future research, it is recommended to build upon this study by exploring additional application features that can further enhance user satisfaction and consumer loyalty. Moreover, incorporating consumer usage habits can help analyze the impact of the cross-utilization of these features.

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