

Customer satisfaction with last-mile delivery in Kenya: An online customer perspective



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Dates:

Received: 28 Sept. 2022
Accepted: 23 Nov. 2022
Published: 28 Feb. 2023

How to cite this article:

Mogire, E., Kilbourn, P.J. & Luke, R., 2023, 'Customer satisfaction with last-mile delivery in Kenya: An online customer perspective', *Journal of Transport and Supply Chain Management* 17(0), a844. <https://doi.org/10.4102/jtscm.v17i0.844>

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Background: An effective and efficient last-mile delivery service plays a critical role towards the growth of global online retail sales. In Kenya, online customers have often been unwilling to shop online again, mainly because of delivery issues. However, the extent to which customers are satisfied with the last-mile delivery service remains unknown. This is despite the significant potential that the sector has, which remains unrealised in the country's economy.

Objectives: The key objective of this study was to establish the extent of customer satisfaction with the different elements of last-mile delivery service offered by online retailers in Kenya.

Method: A quantitative approach was utilised. An online survey collected data from 467 online customers ('users' and 'nonusers') in Nairobi. The data were subjected to descriptive statistics and the mixed model analysis of variance (ANOVA) to determine the outcome of the study.

Results: 'Users' were most satisfied with delivery options while 'nonusers' were most satisfied with delivery fees. However, both 'users' and 'nonusers' were least satisfied with returns. This study also found that 'users' were more satisfied with delivery options, delivery tracking and returns compared with 'nonusers'. There was a significant difference in satisfaction with delivery options for 'users' and 'nonusers'.

Conclusion: Online retail managers are advised to improve the way in which they offer returns to their customers. This involves offering more options for returning the ordered goods, making it easy to locate the returns procedure on their websites and having a clear returns policy.

Contribution: This study advances the understanding of last-mile delivery service, after comprehensive empirical evidence of customer satisfaction with the different elements of last-mile delivery service in Kenya.

Keywords: Customer satisfaction; service quality; last-mile delivery; order fulfilment; online retail.

Introduction

Online retailing has grown at an unprecedented level in recent years. Globally, online retail sales are expected to grow from \$4.248 trillion in 2020 to \$7.391 trillion in 2025 (eMarketer 2022:2). This is a 74% expected increase in online retail sales within a period of 5 years. The majority of global online retail sales are expected to be from China. In 2022, eMarketer (2022:6) expects China to contribute 50.2% towards global online retail sales. The incredible growth of online retail in China can be attributed to an effective and efficient delivery system, among other factors (Hongfei 2017:15; Zandi, Torabi & Mohammad 2021:11). Despite the existence of a good delivery system in China, customer complaints have been on the increase, necessitating the establishment of an Internet court to handle electronic commerce (e-commerce) disputes (Du & Yu 2018:2). The e-commerce complaints reported in China include refund issues, after-sales service problems, dispatch problems, receiving wrong products, difficulties with return and/or exchange, invoice problems and delayed delivery (Statista 2021:1). This shows that even though China's online retailers have a good delivery system, some customers were dissatisfied with the last-mile delivery. Nguyen, Leeuw and Dullaert (2018:9) define last-mile delivery as the final leg of a supply chain in which goods are delivered to customers.

In Kenya, Vision 2030 lists the retail sector among the six priority sectors that are expected to transform the country to middle-income status by the year 2030 (Government of Kenya 2007:24).

This was because retailers are found in different parts of the country, creating many job opportunities to citizens. It is estimated that Kenya's digital economy (i.e. e-commerce, digital media, e-services and e-travel) generated \$1.124 billion revenue, of which e-commerce contributed \$0.662 bn in 2019 (Statista 2020:63). This is a 58.8% contribution to the country's digital revenue. Furthermore, the e-commerce revenue in Kenya is projected to have an annual average growth rate of 25.5% to reach \$2056.7 million in 2024 (Statista 2020:65). This means that Kenya still has the potential to generate more revenue from e-commerce. Unlike China, Kenya's delivery service was found to inhibit the growth of the online retailing subsector (Communication Authority of Kenya 2015:27). The Nielsen report (2019) on beating the odds in the consumer and retail landscape in Kenya also concluded that 70% of Kenyan online shoppers are not willing to shop online again, mainly because of delivery issues. From the report by Nielsen (2019), of great interest to researchers is that there are fewer online customers willing to shop online again (i.e. 'users') compared with the ones who are not willing to shop online again (i.e. 'nonusers'). However, Nielsen (2019) did not investigate the extent to which online customers were dissatisfied with the delivery service in Kenya.

A search for journal articles on customer satisfaction with last-mile delivery service in Kenya failed to give useful results in the Emerald and Scopus databases. However, a further search on Google Scholar found two master's studies carried out in Kenya that addressed online service quality and customer satisfaction in online retailing (Indeche 2017:8; Onyango 2018:8). The studies consider online service quality to include all activities performed by an online customer on the online retail store before checking out. This means that the two studies did not examine customer satisfaction with the last-mile delivery service. Therefore, there is a need for this study to investigate the problem and more specifically: (1) to establish the extent of customer satisfaction with the different elements of last-mile delivery service offered by online retailers in Kenya and (2) to establish the difference between 'users' and 'nonusers' in levels of customer satisfaction with last-mile delivery service in Kenya.

Literature review

This study is based on the expectation confirmation theory developed by Oliver (1977) to explain postpurchase behaviour of individuals. According to this theory, customer satisfaction (i.e. a postpurchase behaviour) is determined by the initial expectations of a service (e.g. last-mile delivery service) before purchase and the perceptions about performance following the use of that service. Furthermore, Collins (2015:16) argues that different last-mile delivery and pick-up alternatives provide different levels of utility, and consumers will choose the option that will maximise their utility. The expectation confirmation theory assumes that if the service performs at or above initial expectations (i.e. positive disconfirmation), the customer is likely to be satisfied. In contrast, if the service falls short of initial expectations

(i.e. negative disconfirmation), the customer is likely to be dissatisfied (Oliver 1980:1). However, initial studies conceptualised the construct of satisfaction differently. Some studies considered satisfaction in terms of attitude, while others considered it as experience-specific (Bhattacharjee 2001:5). The author asserts that attitude differs in terms of its ability to predict customer satisfaction. For this reason, this study considers last-mile delivery experience as a better predictor of customer satisfaction. In this manner, online customers are expected to be satisfied with the different elements of last-mile delivery service they experience if the service is performed at or above initial expectations or be dissatisfied if the service fall short of initial expectations.

Last mile delivery service

Last-mile delivery service refers to a service offered by an online retailer to their customers from the point when a product is released from the online retailer (e.g. manufacture site or fulfilment centre) to the point where a product is delivered to the customer (e.g. at the customer's home or at a collection point) (Cao, Ajjan & Hong 2018:6; Holdorf & Haasis 2014:2; Hu et al. 2016:2; Nguyen et al. 2018:9). This service facilitates both the forward and reverse flow of products. The level to which online customers are satisfied with elements of last-mile delivery service is expected to influence their future purchase decisions.

Prior studies have considered different elements when examining the concept of last-mile delivery service in online retailing. Holdorf and Haasis (2014:3) examined last-mile delivery concepts in Germany when distinguishing e-commerce competitors. Some of the elements used by the authors to distinguish e-commerce competitors include delivery time, delivery place and/or location, selection of carriers, and use of tracking and/or tracing. While exploring the customised logistics services that are used in online shopping in China, Hu et al. (2016:6) used two elements of delivery service, namely responsiveness and shipping time. Cao et al. (2018:5) used four elements of last-mile delivery service, namely customer service, shipping, tracking and returns, when examining postpurchase logistics services for e-commerce companies in China and Taiwan. Nguyen et al.'s (2018:9) systematic review identified four elements of last-mile delivery service, namely physical delivery, delivery information and options, shipping and handling charges and order tracking. This shows that there is a lack of a common way of classifying the various elements of last-mile delivery service in online retailing. Based on this literature, five elements of last-mile delivery service are identified for use in this study, namely (1) delivery options, (2) delivery timeliness, (3) delivery fee, (4) delivery tracking and (5) returns.

Customer satisfaction with last-mile delivery service

According to ISO 10004 (2018), customer satisfaction refers to a perception of the degree to which a customer's expectations have been fulfilled. It is important to measure customer

satisfaction because it has a significant impact on understanding customers' purchasing behaviour and the long-term performance of a firm (Ngo 2015:2). In addition, customer satisfaction is of great importance because of its significant effects on repeat sales, word of mouth, consumer loyalty and overall firm performance (Koufteros et al. 2014:4; Nguyen 2020:2; Oliver 2010:140). Increased sales arise from repeated buying of products or using the services of the firm whenever customers are satisfied (Nguyen 2020:2; Oliver 1993:1). Thus, it is possible to measure customer satisfaction for online customers, that is, both 'users' (repeat sales and loyalty) and 'nonusers' (word of mouth and reputation) for a given service (e.g. last-mile delivery service). This means that customer satisfaction can be understood by evaluating customer experiences concerning the different elements of last-mile delivery service they experience or what they hear from friends and relatives. Prasetyo and Fuente (2020:3) assert that satisfied customers are likely to continue buying from the retailer, use the retailer more often, recommend the retailer to others and have a better overall experience with the retailer.

For most retailers, ensuring a smooth and satisfactory last-mile delivery service is now more significant than ever (Capgemini 2019:3). However, the elements of last-mile delivery service translate to different levels of customer satisfaction and across different groups of customers. Recent studies suggest that delivery options positively impact customer satisfaction (Dholakia & Zhao 2010:8; Liu et al. 2008:11; Mofokeng 2021:15; Vakulenko et al. 2022:6). Satisfaction of online customers in South Africa was found to be influenced by product delivery (i.e. delivery mode) such as post, express delivery and home delivery (Mofokeng 2021:15). The author asserts that satisfaction with delivery mode, in turn, influences the loyalty of online customers to an online store. Dholakia and Zhao (2010:8) also found that having a variety of shipping options after checking out of an online store in the United States of America (USA) contributed positively to satisfaction. However, Vakulenko et al. (2022:6) established that even though the availability of different delivery options in Sweden led to satisfaction, online customers in urban residential areas were more satisfied compared with those in rural residential areas. This shows that delivery options positively contribute to customer satisfaction but differently so across different groups of customers.

Apart from delivery options, delivery timeliness impacts customer satisfaction. Online customers in developed countries have reported dissatisfaction when online retailers deliver the ordered products late or lack same-day delivery (Capgemini 2019:8). In addition, several studies have revealed that delivery timeliness positively impacts customer satisfaction (Capgemini 2019:8; Hu et al. 2016:8; Jones 2017:17; Mofokeng 2021:15). Satisfaction of online customers in South Africa was found to be influenced by product delivery, measured in terms of the promised time of delivery (Mofokeng 2021:15). Globally, Jones (2017:17)

found that delivery performance, measured in terms of the speed and on-time performance of a retailer's forward delivery, relate positively to customer satisfaction for online customers in USA. Furthermore, the author found that delivery performance had a stronger positive effect on customer satisfaction compared with returns convenience. This implies that delivery timeliness has a larger impact on customer satisfaction compared with returns management for online customers in USA. Thus, improving delivery timeliness is likely to contribute to customer satisfaction. However, the level of customer satisfaction differs depending on the group of customers. Cao et al. (2018:11) found that customer service (i.e. receiving prompt service) played an important role in determining customer satisfaction in China, even though the role was not as important for online shoppers in Taiwan. Nguyen et al.'s (2019:15) study in the Netherlands also found that there exists a group of customers (referred as 'value for money-oriented' customers) who value price and convenience during delivery. The author indicates that convenience collectively considers delivery speed, timeslot, daytime and/or evening delivery and delivery date, which is referred to as delivery timeliness in this study.

Customer satisfaction is also influenced by the delivery fee charged by online retailers. Online customers in developed countries have reported dissatisfaction when online retailers charge high delivery prices (Capgemini 2019:8). While the author investigated the number of online customers in developed countries who were satisfied with last-mile delivery services, the extent of customer satisfaction with delivery fees was not investigated. Other studies suggest that delivery fees positively impact customer satisfaction (Cao et al. 2018:11; Nguyen et al. 2019:17). Customer satisfaction for online shoppers in China and Taiwan was found to be partially predicted by the shipping service, measured as either free shipping or discounted shipping (Cao et al. 2018:11). Furthermore, shipping for online shoppers in China and Taiwan was positively associated with customer satisfaction. In Netherlands, Nguyen et al. (2019:15) found that a group of customers (referred as 'price-oriented' customers) consider delivery fees as the most critical delivery attribute. This shows that to some online customers, delivery fee significantly contributes to their online shopping activities.

Although customer satisfaction is influenced by delivery tracking offered by the online retailer, the level of significance varies across different groups of customers. Dholakia and Zhao (2010:10) found that order tracking had a significant contribution to customer satisfaction in 2003 but lost its significance in 2004. The authors concluded that the ability to track orders did not contribute to the measurement of customer satisfaction in the second set of data used in 2004. Thus, it can be deduced that order tracking may either contribute significantly to customer satisfaction or not depending on the group of customers under consideration. However, Cao et al. (2018:11) found that customer satisfaction

for online shoppers in China and Taiwan was partially predicted by tracking, which relates to the way customers track their delivery using multichannels, such as e-mail and/or text delivery alerts. Furthermore, tracking for online shoppers in China and Taiwan was positively associated with customer satisfaction.

Returns were also found to contribute to customer satisfaction (Javed & Wu 2019:4; Jones 2017:17). Jones (2017:17) found that returns convenience had a positive impact on customer satisfaction for online customers in USA. The author examined returns in terms of the performance of a product return, including whether the retailer takes care of the product returns or offers quick returns. Furthermore, the author found that returns convenience had a less positive effect on customer satisfaction compared with delivery performance. This implies that even though returns convenience has an impact on customer satisfaction, there might be other elements of last-mile delivery service that have a more significant impact on customer satisfaction. However, Javed and Wu's (2019:4) study in China to examine the influence of 'after delivery services' (i.e. refunds, returns and/or product exchanges) on customers' perception of satisfaction, trust and repurchase intention found that the 'after delivery services' had the strongest positive impact on satisfaction compared to the impact on trust, and repurchase intention.

From the given literature review, research on customer satisfaction with the different elements of last-mile delivery has been conducted. However, little is known of similar research conducted in Kenya. In addition, prior studies have categorised customers into various groups, such as urban or rural customers (Vakulenko et al. 2022:6); Chinese or Taiwanese customers (Cao et al. 2018); 'value for money-oriented' or 'price-oriented' customers (Nguyen et al. 2019:15); and year one (2003) or year two (2004) customers (Dholakia & Zhao 2010). However, this study attempts to examine customer satisfaction with the different elements of last-mile delivery service categorising customers as either 'users' or 'nonusers'. Little is known of a comparative study that has been conducted examining the difference between 'users' and 'nonusers' in levels of customer satisfaction with last-mile delivery service.

Research methodology

This study intended: (1) to establish the extent of customer satisfaction with the different elements of last-mile delivery service offered by online retailers, and (2) to establish the difference between 'users' and 'nonusers' in levels of customer satisfaction with last-mile delivery service in Kenya. To achieve this, a quantitative approach was utilised. A descriptive survey was used to provide numeric description of opinions of a population by studying a sample (Creswell & Creswell 2018:245). The target population was divided into two categories, consisting of the 258 353 'users' and an unknown number of 'nonusers' (Kenya National Bureau of Statistics 2019). The targeted population were residents in

Nairobi County, whereby the 'users' have access to the Internet and have bought goods online within the last 12 months, and the 'nonusers' have access to the Internet but have not bought goods online within the last 12 months. A sample of 384 'users' and 384 'nonusers' was obtained from the target populations of 258 353 'users' and the unknown number of 'nonusers', respectively. This was based on Saunders, Lewis and Thornhill's (2019:300) assertion that for most studies in business and management, researchers estimate the target population characteristics at 95% certainty to within $\pm 3\%$ to 5% of its true value. Social media influencers were used to recruit the targeted 'users' and 'nonusers' because they have a huge number of online followers. This was because of the online retailers' unwillingness to provide access to the contact details of their online customers in Nairobi County, citing confidentiality reasons. In addition, the use of social media influencers to recruit the targeted 'users' and 'nonusers' was because of the coronavirus disease 2019 (COVID-19) pandemic. The government had banned physical interactions in Kenya, making it impossible to physically identify the online customers through street intercepts (Government of Kenya 2020:2).

A structured questionnaire was administered to online customers aged 18 years and above (i.e. 'users' and 'nonusers'). The questionnaire had a screening question asking online retail customers the last time they shopped online to distinguish 'users' from 'nonusers'. A link to the online research questionnaire that was developed using Google Forms was distributed by the social media influencers through their social media applications, such as Twitter and Facebook, for a period of 8 weeks, starting from 01 July 2021 to 25 August 2021. The online research questionnaire comprised 13 items on satisfaction with the different elements of last-mile delivery service used in this study.

Validity was ensured in this study by pretesting the structured questionnaire on 10 online customers to ensure all instructions and questions were clear (Leedy, Ormrod & Johnson 2019:130). Furthermore, the structured questionnaire was developed from prior similar studies for purposes of comparison (Mentzer, Flint & Hult 2001:8; Nguyen 2020:8; Wolfenbarger & Gilly 2003:6). Cronbach's alpha was used to test the reliability of the analysed data, whereby the preferred value is at least 0.70 for multi-item constructs (Pallant 2016:23; Saunders et al. 2019:518). The Statistical Package for the Social Sciences (SPSS) version 28 was utilised to generate descriptive statistics for objective one. Composite means, an independent sample *t*-test and the mixed model analysis of variance (ANOVA) approach were used to compare the satisfaction scores between 'users' and 'nonusers' required for objective two.

Ethical considerations

Ethical clearance was sought from the University of Johannesburg ethics committee (reference number 2021-

TSCM008). A research permit required when conducting research in Kenya was also sought from the National Commission for Science, Technology and Innovation in Kenya (reference number NACOSTI/P/21/10267). Informed consent was obtained by informing the respondents about the objectives of this study, then making them aware of their rights to voluntarily agree or disagree to participate, as well as their withdrawal at any stage of the data collection process. Anonymity of the respondents was assured, and they were told that all the information would remain confidential.

Findings

A total of 407 'users' and 60 'nonusers' responded to the online research questionnaire. This translated to a 105.99% and a 15.63% sample response rate for 'users' and 'nonusers', respectively. It was observed that the response rate for 'nonusers' was very low in the first 4 weeks compared with the response rate of 'users'. This can be attributed to the fact that 'nonusers' are no longer shopping online because of various reasons; thus, they were not attracted to anything to do with online shopping, which was the aim of this study. The initial low response rate forced the researcher to extend the data collection period from 4 to 8 weeks, which ensured achievement of a 15.63% response rate for 'nonusers', whereas the response rate for 'users' surpassed the targeted sample size. In comparison, the response rates in this study are more favourable than those of other similar studies. For instance, Griffis et al. (2012:6) study in the USA reported a 47.3% response rate, and Brink's (2018:53) study in South Africa reported a response rate of 15.64%.

The 13 items on the online research questionnaire were ticked by each respondent based on a five-point Likert-type scale, ranging from 1 = very dissatisfied to 5 = very satisfied. Table 1 shows Cronbach's alpha for all the scales with values above 0.70. In addition, the interitem correlation was inspected, and none was below 0.3, indicating that each item had a high correlation with the total score (Pallant 2016). This implies that the questions combined in the scale are internally consistent in their measurement.

To establish the extent of customer satisfaction with the different elements of last-mile delivery service offered by online retailers, most 'users' were satisfied with options for delivering items (54.4%). In addition, most 'users' were dissatisfied with the ease of locating the returns procedure on the retailer's website (41.5%). Most 'nonusers' were satisfied with the accuracy of the bill from the retailer (6.9%). Moreover,

TABLE 1: Scales measuring satisfaction with elements of last-mile delivery service scale.

Item	Number of items	Cronbach's alpha	Mean interitem correlation
Satisfaction with delivery options	3	0.923	0.801
Satisfaction with delivery timeliness	2	0.847	0.735
Satisfaction with delivery fee	3	0.893	0.736
Satisfaction with delivery tracking	2	0.889	0.801
Satisfaction with returns	3	0.931	0.819

most 'nonusers' were dissatisfied with the clarity of the returns policy, for example, refunds and/or replacements (7.3%), as shown in Table 2. This implies that many 'users' were satisfied with delivery options, whereas a majority of 'nonusers' were satisfied with delivery fees. However, a majority of both 'users' and 'nonusers' were dissatisfied with returns.

The mixed model ANOVA was used to establish the difference in the levels of customer satisfaction with elements of last-mile delivery service for 'users' and 'nonusers'. The results in Table 3 reveal that 'users' were most satisfied with delivery options (mean of 3.5545) and least satisfied with returns (mean of 2.8731). However, 'nonusers' were most satisfied with delivery fee (mean of 3.2389) and least satisfied with returns (mean of 2.6056). In addition, 'users' were more satisfied with delivery options, delivery tracking and returns compared with 'nonusers'. In contrast, the 'nonusers' were more satisfied with delivery timeliness and delivery fee compared with the 'users' (Table 3).

Table 4 shows an independent-samples *t*-test conducted establishing that there was a statistically significant difference

TABLE 2: Customer satisfaction with different elements of last-mile delivery service.

Last-mile delivery service	Type of user	Level of satisfaction (%)		
		Dissatisfied	Neutral	Satisfied
Options for delivering items, e.g. at home, office, pick-up station, etc.	Users	24.8	7.9	54.4
	Nonusers	4.5	2.8	5.6
Ease of reaching the order pick-up points	Users	25.7	12.8	48.6
	Nonusers	5.1	2.4	5.4
Trustworthiness of delivery personnel	Users	25.3	11.1	50.7
	Nonusers	3.4	3.9	5.6
Delivery time slots, e.g. weekends and evening	Users	29.3	13.5	44.3
	Nonusers	3.4	2.8	6.6
Delivery lead time, e.g. time taken between order placement and order delivery	Users	35.1	13.5	38.5
	Nonusers	4.7	2.8	5.4
Delivery fee structures, e.g. fees based on weight, distance, etc.	Users	36	14.8	36.4
	Nonusers	4.7	3.2	4.9
Delivery charges presented before order submission	Users	35.3	12.4	39.4
	Nonusers	3.4	3	6.4
Accuracy of the bill from the retailer	Users	24.4	11.8	51
	Nonusers	3.2	2.8	6.9
Availability of delivery tracking service	Users	34.7	13.5	39
	Nonusers	5.6	2.4	4.9
Options for delivery tracking, e.g. e-mail and SMS	Users	30.4	14.1	42.6
	Nonusers	5.6	2.4	4.9

TABLE 3: Descriptive statistics.

Satisfaction with elements of last-mile delivery service	Type of user	Mean	Std. deviation	N
Satisfaction with delivery options	User	3.5545	1.37127	407
	Nonuser	3.1111	1.16391	60
Satisfaction with delivery timeliness	User	3.1769	1.32405	407
	Nonuser	3.1833	1.14967	60
Satisfaction with delivery fee	User	3.2179	1.3189	407
	Nonuser	3.2389	1.12511	60
Satisfaction with delivery tracking	User	3.2076	1.39731	407
	Nonuser	2.975	1.24678	60
Satisfaction with returns	User	2.8731	1.35592	407
	Nonuser	2.6056	1.14568	60

TABLE 4: Independent samples *t*-test.

Satisfaction with last mile delivery	Equality of variances assumed/not assumed	Levene's test for equality of variances		<i>T</i>	<i>T</i> -test for equality of means			95% Confidence interval of the difference
		<i>F</i>	Sig.		<i>Df</i>	Sig. (2-tailed)	Mean difference	Lower
Satisfaction with delivery options	Equal variances not assumed	5.718	0.017	2.688	85.099	0.009	0.44335	0.11546
Satisfaction with delivery timeliness	Equal variances not assumed	4.835	0.028	-0.04	83.862	0.968	-0.00643	-0.32916
Satisfaction with delivery fee	Equal variances not assumed	7.324	0.007	-0.132	84.819	0.895	-0.02103	-0.33775
Satisfaction with delivery tracking	Equal variances assumed	3.352	0.068	1.22	465	0.223	0.23262	-0.14216
Satisfaction with returns	Equal variances not assumed	4.877	0.028	1.647	85.353	0.103	0.2675	-0.0555

in the score of satisfaction with delivery options for 'users' ($M = 3.5545$, $s.d. = 1.37127$) and 'nonusers' ($M = 3.1111$, $s.d. = 1.16391$; $t [85.099] = 2.688$, $p = 0.009$ (two-tailed). The magnitude of the differences in means (mean difference = 0.44335 CI: 0.11546 to 0.77125) was very large (Table 4). However, there was no statistically significant difference in the score of satisfaction with the other elements of last-mile delivery service.

Discussion

Collins (2015) argues that different last-mile delivery and pick-up alternatives provide different levels of utility, and consumers will choose the option that will maximise their utility. This study revealed that most 'users' were satisfied with delivery options. This implies that the delivery options (e.g. at home, office, pick-up station) offered by online retailers in Kenya meet or exceed the expectations of online customers who have bought goods online within the last 12 months. This finding supports Mofokeng's (2021) study, which found that satisfaction for online customers in South Africa was influenced by delivery mode. Dholakia and Zhao's (2010) study in the USA also found that having a variety of shipping options after checking out from an online store contributes positively to satisfaction. The prior studies were conducted in countries that are e-commerce leaders in their respective regions. Thus, ensuring that online customers are satisfied with delivery options will likely lead to increased online shopping in Kenya.

The results that most 'users' and 'nonusers' were dissatisfied with returns imply that online retailers in Kenya have failed to meet or exceed the returns expectations of online customers. This means that the returns policies offered by online retailers either lacked clarity or customers find it very difficult to locate the returns procedure on the retailers' portals. In addition, customers are dissatisfied with the options for returning items. This finding supports the results of Statista (2021), which found that refund issues and difficulties with return or exchange were among the e-commerce complaints reported in China, despite the existence of an effective and efficient delivery system. Thus, online retailers in Kenya should improve the way they offer returns to online customers. This can be justified by Jones's (2017) study, which established that returns contribute to customer satisfaction for online customers in the USA.

The mixed model ANOVA revealed that the difference in satisfaction with elements of last-mile delivery service between 'users' and 'nonusers' was largest on delivery options and least on delivery timeliness. This means that the online customers' expectations of delivery options are very different between 'users' and 'nonusers' as compared with the expectations on delivery timeliness. This result supports the study by Vakulenko et al. (2022) in Sweden, which found that even though the availability of different delivery options can lead to satisfaction, the degree of satisfaction may vary across the different groups of customers. The authors found that online customers in urban residential areas in Sweden were more satisfied with delivery options compared with those in rural residential areas. This study also found that 'users' were more satisfied with delivery options, delivery tracking and returns compared with 'nonusers'. Therefore, online customers in Kenya continue buying from online retailers who meet or exceed expectations on delivery options, returns and delivery tracking. This is validated by a study by Cao et al. (2018) that found customer satisfaction for online shoppers in China and Taiwan was partially predicted by tracking. However, this contradicts the Dholakia and Zhao (2010) study in the USA that found order tracking failed to significantly contribute to customer satisfaction in the second year as compared with the first year.

The findings also revealed that 'nonusers' were more satisfied with delivery timeliness and delivery fee compared with the 'users'. This implies that the last-mile delivery expectations of online customers in Kenya differ across the different groups of online customers. This result concurs with the Nguyen et al.'s (2019) study in the Netherlands that found the existence of clusters of customers who value different delivery attributes. Some customers, referred to as 'price-oriented' customers, considered delivery fees as the most important delivery attribute, while the 'value for money-oriented' customers value price as well as the convenience of shopping goods online (Nguyen et al. 2019). This justifies the need for online retailers in Kenya to understand the last-mile delivery expectations of all groups of online customers to satisfy their needs. An independent-samples *t*-test found that there was a statistically significant difference in the score of satisfaction with delivery options for 'users' and 'nonusers'. The difference in scores of satisfaction on the other elements of last-mile delivery service was not statistically significant. Thus, it can be deduced that there is a known difference in

the levels of satisfaction on last-mile delivery options for 'users' and 'nonusers'.

Conclusion

The purpose of this study was to establish the extent of customer satisfaction with the different elements of last-mile delivery service offered by online retailers in Kenya. In addition, it was meant to establish the difference between 'users' and 'nonusers' in levels of customer satisfaction with the last-mile delivery service. This follows the report by Nielsen (2019) that indicated there are fewer online customers willing to shop online again (i.e. 'users') compared with the ones who are not willing to shop online again (i.e. 'nonusers'), mainly because of delivery issues. However, the report failed to indicate the extent to which the online customers were satisfied or dissatisfied with delivery. Therefore, this study provides online retailers in Kenya with a better understanding of the last-mile delivery expectations of online customers. In a country where the majority of online customers are not willing to buy online again because of delivery issues (Nielsen 2019), it is required that online retailers focus on providing the different elements of last-mile delivery service that are excellent to retain current customers as well as attract new ones. This study revealed that most 'users' and 'nonusers' in Kenya are dissatisfied with returns. In addition, it was revealed that there is a statistically significant difference in the level of satisfaction with delivery options for 'users' and 'nonusers'.

The finding that most 'users' and 'nonusers' are dissatisfied with returns justifies the need for online retailers to improve the way they offer returns to their customers. This may include offering more options for returning the ordered goods, making it easy to locate the returns procedure on the retailer's website, and having a clear returns policy. The finding that there is a significant difference in satisfaction with the delivery options between 'users' and 'nonusers' requires online retailers to understand the specific expectations of online customers in relation to the last-mile delivery options. This may include offering a wide variety of delivery options, making it easy for online customers to reach the order pick-up points and using trusted delivery personnel. Thus, it is important for online retailers to selectively offer delivery options that meet the needs of 'users' and 'nonusers'. The online retailers should further investigate the specific delivery option needs of 'users' and 'nonusers'. This will ensure that there is continued growth in the online retail subsector in Kenya.

This study advances an understanding that last-mile delivery service comprises various elements, including delivery options, delivery timeliness, delivery fee, delivery tracking and returns (Cao et al. 2018; Holdorf & Haasis 2014; Hu et al. 2016; Nguyen et al. 2018). Little is known of prior research that has comprehensive empirical evidence of customer satisfaction with the identified elements of last-mile delivery service. Furthermore, little is known of any comparative study done before that examines the difference between 'users' and 'nonusers' in levels of customer satisfaction with last-mile delivery service.

Although this study provided new perspectives on customer satisfaction with elements of last-mile delivery service in Kenya, it has some limitations. For instance, online customers from other parts of the country were excluded from this study. Future research can consider expanding the geographical scope to include other counties in Kenya, as well as rural areas, to determine customer satisfaction with the different elements of last-mile delivery service. The elements of last-mile delivery service were also limited to delivery options, delivery timeliness, delivery fee, delivery tracking and returns. This was based on the review of prior similar studies. Thus, future research can be extended to include other emerging elements of last-mile delivery service. Findings were also limited to the online customers, following a quantitative approach. Future research may apply a mixed-methods approach incorporating both online customers and online retailers to investigate customer satisfaction with elements of last-mile delivery service to gain more insights into the concepts in this study. This study was also limited by the low response rate for 'nonusers'. Future research may be extended to include more 'nonusers' by either considering those located in other parts of the country or using alternative methods of data collection.

Acknowledgements

The authors are grateful to the Department of Transport and Supply Chain Management for granting permission to conduct this research.

Competing interests

The authors have declared that no competing interest exist.

Authors' contributions

E.M., P.J.K. and R.L. made a significant contribution in writing this research.

Funding information

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Data availability

This research does not have any restrictions on data availability.

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

References

Bhattacharjee, A., 2001, 'Understanding information systems continuance: An expectation-confirmation model', *MIS Quarterly* 25(3), 371–370. <https://doi.org/10.2307/3250921>

- Brink, B., 2018, 'Challenges faced in last mile e-grocery delivery: A consumer perspective', MCom dissertation, University of Johannesburg, Johannesburg, viewed 06 September 2019, from https://ujcontent.uj.ac.za/vital/access/manager/Repository/uj:32211?site_name=GlobalView
- Cao, Y., Ajjan, H. & Hong, P., 2018, 'Post-purchase shipping and customer service experiences in online shopping and their impact on customer satisfaction: An empirical study with comparison', *Asia Pacific Journal of Marketing and Logistics* 30(2), 400–416. <https://doi.org/10.1108/APJML-04-2017-0071>
- Capgemini, 2019, *The last-mile delivery challenge: Giving retail and consumer product customers a superior delivery experience without impacting profitability*, viewed 07 March 2020, from <https://www.capgemini.com/wp-content/uploads/2019/01/Report-Digital-%E2%80%93-Last-Mile-Delivery-Challenge1.pdf>
- Collins, A.T., 2015, 'Behavioural influences on the environmental impact of collection/delivery points', in B. Fahimnia, M. Bell, D. Hensher & J. Sarkis (eds.), *Green logistics and transportation. Greening of industry networks studies*, vol. 4, pp. 15–34, Springer, Cham.
- Communication Authority of Kenya, 2015, *Facilitation and adoption of e-commerce via the postal/courier networks*, viewed 06 November 2019, from <https://www.ca.go.ke/wp-content/uploads/2018/02/White-Paper-on-E-Commerce-Adoption-in-Kenya-April-2015.pdf>
- Creswell, J. & Creswell, J., 2018, *Research design: Qualitative, quantitative, and mixed methods approaches*, 5th edn., Sage, Thousand Oaks, CA.
- Dholakia, R. & Zhao, M., 2010, 'Effects of online store attributes on customer satisfaction and repurchase intentions', *International Journal of Retail & Distribution Management* 38(7), 482–496. <https://doi.org/10.1108/09590551011052098>
- Du, G. & Yu, M., 2018, *China establishes three internet courts to try internet-related cases online: Inside China's internet courts series -01*, China Justice Observer, viewed 15 November 2020, from <https://www.chinajusticeobserver.com/a/china-establishes-three-internet-courts-to-try-internet-related-cases-online>
- eMarketer Report, 2022, *Global ecommerce forecast*, viewed 13 June 2022, from <https://on.emarketer.com/rs/867-SLG-901/images/eMarketer%20Global%20Ecommerce%20Forecast%20Report.pdf>
- Government of Kenya, 2007, *Kenya vision 2030*, Republic of Kenya, Government Printer, Nairobi.
- Government of Kenya, 2020, *The public health (Covid-19 restriction of movement of persons and related measures) rules*, viewed 25 November 2021, from https://ambnairobi.esteri.it/ambasciata_nairobi/resource/doc/2020/04/kenya_gazette_-_06.04.2020.pdf
- Griffis, S., Rao, S., Goldsby, T., Voorhees, C. & Iyengar, D., 2012, 'Linking order fulfillment performance to referrals in online retailing: An empirical analysis', *Journal of Business Logistics* 33(4), 279–294. <https://doi.org/10.1111/jbl.12002>
- Holdorf, S. & Haasis, H.-D., 2014, 'Last mile delivery concepts in e-commerce: An empirical approach', in *The 8th International Conference on Software, Knowledge, Information Management and Applications (SKIMA)*, Dhaka, December 18–20, viewed 07 June 2022, from <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7083550>
- Hongfei, Y., 2017, *National report on development of e-commerce in China*, United Nations Industrial Development Organization Working Paper: No. 17, viewed 11 August 2020, from https://www.unido.org/sites/default/files/2017-10/WP_17_2017.pdf
- Hu, M., Huang, F., Hou, H., Chen, Y. & Bulysheva, L., 2016, 'Customized logistics service and online shoppers' satisfaction', *Internet Research* 26(2), 484–497. <https://doi.org/10.1108/IntR-11-2014-0295>
- Indeche, A., 2017, 'Role of online service quality on customer satisfaction: Case of online retailing sites in Nairobi, Kenya', MBA dissertation, United States International University – Africa, Nairobi, viewed 16 December 2019, from <http://erepo.usiu.ac.ke/bitstream/handle/11732/3612/ANDREW%20INDECHE%20MBA%202017.pdf?sequence=1&isAllowed=y>
- ISO 10004, 2018, *Quality management – Customer satisfaction – Guidelines for monitoring and measuring*, ISO, viewed 20 April 2020, from <https://www.iso.org/obp/ui/#iso:std:iso:10004:ed-2:v1:en>
- Javed, M. & Wu, M., 2019, 'Effects of online retailer after delivery services on repurchase intention: An empirical analysis of customers' past experience and future confidence with the retailer', *Journal of Retailing and Consumer Services* 54, 101942. <https://doi.org/10.1016/j.jretconser.2019.101942>
- Jones, A., 2017, 'Multichannel service offerings: Determinants and consequences of fulfillment and returns experiences', PhD dissertation, Michigan State University, East Lansing, MI, viewed 15 June 2020, from <https://www.proquest.com/openview/3ecb978d802785451683b11c1cc13b3/1?pq-origsite=gscholar&cbl=18750>
- Kenya National Bureau of Statistics, 2019, *2019 Kenya population and housing census. Distribution of population by socio-economic characteristics*, viewed 26 April 2020, from https://www.knbs.or.ke/?page_id=3142
- Koufteros, X., Droge, C., Heim, G., Massad, N. & Vickery, S., 2014, 'Encounter satisfaction in e-retailing: Are the relationships of order fulfillment service quality with its antecedents and consequences moderated by historical satisfaction?', *Decision Sciences* 45(1), 5–48. <https://doi.org/10.1111/deci.12056>
- Leedy, P., Ormrod, J. & Johnson, L., 2019, *Practical research: Planning and design*, 12th edn., Pearson Education, Boston, MA.
- Liu, X., He, M., Gao, F. & Xie, P., 2008, 'An empirical study of online shopping customer satisfaction in China: A holistic perspective', *International Journal of Retail & Distribution Management* 36(11), 919–940. <https://doi.org/10.1108/09590550810911683>
- Mentzer, J., Flint, D. & Hult, T., 2001, 'Logistics service quality as a segment-customized process', *Journal of Marketing* 65(4), 82–104. <https://doi.org/10.1509/jmkg.65.4.82.18390>
- Mofokeng, T., 2021, 'The impact of online shopping attributes on customer satisfaction and loyalty: Moderating effects of e-commerce experience', *Cogent Business & Management* 8(1), 1968206. <https://doi.org/10.1080/23311975.2021.1968206>
- Ngo, M.V., 2015, 'Measuring customer satisfaction: A literature review', in *The Proceedings of the 7th International Scientific Conference Finance and Performance of Firms in Science, Education and Practice*, Zlin, April 23–24, viewed 20 March 2022, from <http://hdl.handle.net/10563/45975>
- Nguyen, D., Leeuw, S. & Dullaert, W., 2018, 'Consumer behaviour and order fulfilment in online retailing: A systematic review', *International Journal of Management Reviews* 20(2), 255–276. <https://doi.org/10.1111/ijmr.12129>
- Nguyen, D., Leeuw, S., Dullaert, W. & Foubert, B., 2019, 'What is the right delivery option for you? Consumer preferences for delivery attributes in online retailing', *Journal of Business Logistics* 40(4), 299–321. <https://doi.org/10.1111/jbl.12210>
- Nguyen, T., 2020, 'Developing and validating five-construct model of customer satisfaction in beauty and cosmetic e-commerce', *Heliyon* 6(9), e04887. <https://doi.org/10.1016/j.heliyon.2020.e04887>
- Nielsen, 2019, *Nielsen sets the scene for beating the odds in consumer and retail landscape in Kenya*, viewed 26 October 2019, from <https://www.nielsen.com/ssa/en/press-releases/2019/nielsen-sets-the-scene-for-beating-the-odds-in-consumer-and-retail-landscape-in-kenya/>
- Oliver, R., 1977, 'Effect of expectation and disconfirmation on postexposure product evaluations: An alternative interpretation', *Journal of Applied Psychology* 62(4), 480. <https://doi.org/10.1037/0021-9010.62.4.480>
- Oliver, R., 1980, 'A cognitive model of the antecedents and consequences of satisfaction decisions', *Journal of Marketing Research* 17(4), 460–469. <https://doi.org/10.2307/3150499>
- Oliver, R., 1993, 'Cognitive, affective, and attribute bases of the satisfaction response', *Journal of Consumer Research* 20(3), 418–430. <https://doi.org/10.1086/209358>
- Oliver, R., 2010, *Satisfaction: A behavioral perspective on the consumer*, 2nd edn., Routledge, New York, NY.
- Onyango, C., 2018, 'Service quality of Kenyan online shopping services and customer satisfaction', MBA dissertation, University of Nairobi, Nairobi, viewed 02 August 2019, from https://erepository.uonbi.ac.ke/bitstream/handle/11295/77729/Kimani_Service%20Quality%20and%20Customer%20Satisfaction%20in%20certified%20public%20accountant%20training%20institutions%20in%20Nairobi%20Kenya.pdf?sequence=3&isAllowed=y
- Pallant, J., 2016, *SPSS survival manual: A step-by-step guide to data analysis using IBM SPSS*, 6th edn., McGraw-Hill Education, London.
- Prasetyo, Y. & Fuente, D., 2020, 'Determinant factors affecting customer satisfaction among Filipinos in Lazada online shopping during covid-19 pandemic: A structural equation modeling approach', in *The 7th International Conference on Frontiers of Industrial Engineering (ICFIE)*, Singapore, September 27–29, pp. 48–52.
- Saunders, M., Lewis, P. & Thornhill, A., 2019, *Research methods for business students*, 8th edn., Pearson Education, New York, NY.
- Statista, 2020, *Statista county report: Kenya*, viewed 28 August 2020, from <https://www.statista.com/studies-and-reports/countries-and-regions?idCountry=404&idBranch=0&idLanguage=0&reportType=0&documentTypes%5B%5D=ppt&documentTypes%5B%5D=pdf&documentTypes%5B%5D=xls&sortMethod=idRelevance&p=1>
- Statista, 2021, *Share of the most common e-commerce complaint issues in China in 3rd quarter of 2021*, viewed 14 May 2022, from <https://www.statista.com/statistics/1066658/china-share-of-most-popular-e-commerce-complaint-issues/>
- Vakulenko, Y., Arsenovic, J., Hellström, D. & Shams, P., 2022, 'Does delivery service differentiation matter? Comparing rural to urban e-consumer satisfaction and retention', *Journal of Business Research* 142, 476–484. <https://doi.org/10.1016/j.jbusres.2021.12.079>
- Wolfinbarger, M. & Gilly, M., 2003, 'eTailQ: Dimensionalizing, measuring and predictingetail quality', *Journal of Retailing* 79(3), 183–198. [https://doi.org/10.1016/S0022-4359\(03\)00034-4](https://doi.org/10.1016/S0022-4359(03)00034-4)
- Zandi, G., Torabi, R. & Mohammad, M., 2021, 'Customer's satisfaction via online shopping environment: The case of China', *Journal of Information Technology Management* 13(3), 16–32. <https://10.22059/jitm.2021.83110>