Data: Journal of Information Systems and Management

E-ISSN: 3031-0008

Volume. 2 Issue 4 October 2024

Page No: 72-89



Evaluation of the Effect of Tracking System Quality on Customer Satisfaction: Evidence from Logistics Companies in Cameroon

Diangha Sylvanus Ngoata¹, Jervis Jomi Sambilla², Gablak Claudia Nwiyoh³ University of Yaoundé II, Cameroon^{1,2} University of Bamenda, Cameroon³

Correspondent: sdianghasylvanus@gmail.com 1

Received : June 26, 2024

Accepted : August 10, 2024

Published : October 04, 2024

Citation: Ngoata, D, S., Sambilla, J, J., & Nwiyoh, G, C. (2024). Evaluation of the Effect of Tracking System Quality on Customer Satisfaction: Evidence from Logistics Companies in Cameroon. Data: Journal of Information Systems and Management, 2(4), 72-89. https://doi.org/10.61978/data.v2i1

ABSTRACT: The purpose of this study was to analyze the role of tracking systems quality on customer satisfaction focusing on selected logistics companies in Cameroon. Specifically, it examines the influence of perceived ease of use, perceived value, and perceived usefulness on customer satisfaction. The study adopted a quantitative research design. Primary data was extracted using a self-administered questionnaire to 200 customers of logistic companies in Cameroon residing within the towns of Douala, Limbe, Buea, and Yaoundé. After cleaning the data and realizing the measurement model assessment, the regression analysis was employed to test the study hypothesis. The study findings reveal that the tracking system's perceived usefulness, ease of use, and perceived value respectively influenced logistics firms' customer satisfaction positively. Therefore, by developing a tracking system that adds value to customers in terms of convenience, time, and cost-saving and that is easy to use, logistics managers and operators can effectively boost consumer satisfaction with their service which could lead to loyalty, referrals, and will help increase firms' performance. The contribution of this paper is to examine a specific aspect of logistic service quality which is the tracking system service quality in Cameroon that has been given minimal attention. This is to help developers create adaptable systems, and improve customer satisfaction and loyalty.

Keywords: Tracking systems quality, Customer Satisfaction, Service Quality, Logistics companies, TAM



This is an open-access article under the CC-BY 4.0 license

INTRODUCTION

In today's global village marketplace, be it small and medium-sized enterprises or large corporate institutions, the need for a competitive advantage has become a lifeblood for firms' sustainability. Among the many strategic options, logistics excellence has become a powerful source of competitive differentiation within the diverse marketing offerings of world-class firms(Maeriyana & Rozi, 2019; Mazandarani & Royo-Vela, 2019). In the dynamic landscape of the global supply chain, logistics companies play a pivotal role in ensuring the efficient movement of goods from

Evaluation of the Effect of Tracking System Quality on Customer Satisfaction: Evidence from Logistics Companies in Cameroon

Diangha, Sambilla, Nwiyoh

manufacturers to end consumers. With the growth in electronic and mobile commerce, the strategic role of logistics services in a firm's overall performance has become indisputable. This is evident in that, transactions are completed through logistics, such as roads, railways, ships, and air. Part of a product's marketing offering is the company's ability to deliver the right amount of the right product at the right place at the right time in the right condition at the right price with the right information(Coyle et al.1992). This indicates that the logistics service creates part of the product's value perceived by a customer.

As businesses increasingly rely on logistics services, the quality of these services has become a critical factor influencing customer satisfaction (SINAY MARITIME Data Solution, 2023). One essential aspect of logistics operations that significantly impacts customer experience is the tracking system employed by these companies. For the companies to deliver the right quantity of the right product at the right place at the right time in the right condition with the right information, tracking the logistic activities is indispensable. A tracking system is very important to effectively manage integrated logistics networks and improve customer service(Shamsuzzoha & Helo, 2013). A track-and-trace system helps create end-to-end transparency within a logistics chain so that customers, business partners, and logistics companies can see the exact status of production or delivery at any time (Han & Ryu, 2009). The tracking system serves as a bridge between the customer and the logistics provider, providing real-time visibility into the movement of shipments. Consequently, the quality of the tracking system is paramount in shaping customer perceptions and satisfaction levels (Oliverira et al., 2013; Ngoata et al, 2021).

Chen and Paulraj (2004), emphasized the importance of logistics capabilities in enhancing customer satisfaction, and Mentzer et al. (2001), underscored the role of logistics service quality in achieving customer loyalty. Based on this, a good number of studies, have explored the link between logistic service quality in general and customer satisfaction in recent times (Lin et al., 2023; Hu et al., 2022; Tandon et al., 2016a; Thong et al., 2002). These studies reveal that improvements in logistic service quality contribute to customer satisfaction, and ensuring customer satisfaction with physical delivery services is a crucial objective for Logistic service providers. One of the aspects of ensuring customer satisfaction with the delivery logistic service is having an effective tracking system. Customers' experience and satisfaction with tracking system service quality are influenced by several factors including the tracking system interface design and accessibility (Tuzovic & Klobas, 2018), ease of use, and reliability of the tracking app, the tracking system accuracy (Chen et al., 2020; Smith et al., 2018), time-saving and efficiency, timelessness, and the accuracy of the information (Santos and Boaventura, 2020). These findings indicate, that the development or choice of tracking system service by a logistic firm requires a thorough understanding of consumers' perceptions of tracking system quality to ensure that the key characteristics that influence consumer satisfaction are considered.

Unfortunately, insufficient attention has been paid to the relationship between tracking system quality and customer satisfaction in general. A handful of studies on this aspect have been mostly conducted in Asia, Europe, and America (Smith et al., 2018; Hwang et al., 2018; Santos and Boaventura, 2020; Guo, et al, 2023; Oetama et al., 2024). Very little research on this aspect has been conducted in the case of sub-Saharan Africa, particularly in the case of Cameroon despite

multiple logistic firms offering the service. Moreover, conflicting conclusion in the empirical evidence of the link between logistic service quality and customer satisfaction is witnessed. While researchers have revealed a positive relationship between service quality and customer satisfaction (Maeriyana et al., 2019; Restuptri et al. 2020; Fartika et al., 2021), others have rather evoked a negative relationship (Purwork et al. 2019; Lie et al. 2019; Fartika, 2021). This divide in literature is indicative of the need for further studies to better understand the determinants of customer satisfaction with the logistic service quality in general and in the specific case of tracking system quality.

In addition, given the variation in customer perceptions especially across cultures, and the absence of a one-size-fits-all solution, the development and effective utilization of tracking service quality largely depends on designing a tracking system that is specific to the context and the target population. Hence, without clear evidence of how tracking service quality in a specific context influences users' satisfaction, policymakers may likely make less informed decisions that might not produce the required outcome. Given that a comprehensive investigation into the specific role of tracking system quality on customer satisfaction remains scarce in Cameroon, this study is undertaken as an endeavor to contribute to the understanding of this aspect and equality to further advance the development and implementation of tracking systems adaptable to the Cameroon market. This paper seeks to examine how the tracking system quality offered by logistic companies in Cameroon influences customer satisfaction. Specifically, the paper draws from the technological acceptance model, to examine how, customers' evaluation of the perceived ease, perceived usefulness, and perceived value of the tracking system influence customer satisfaction.

This study contributes to the already existing literature in three ways, firstly, it provides evidence on the research issue in the context of an emerging economy like Cameroon for future scholars. Secondly, the findings of this research will provide logistic companies with managerial implications for enhancing their services to satisfy their customers most efficiently. Thirdly, the study gives insight into the factors that shape customer perception of tracking system quality regarding delivery. By understanding the link between these variables, logistics companies can tailor their tracking systems to meet customer expectations and ultimately enhance the overall customer experience(Colwell et al., 2008; Duman & Mattila, 2005; Fraimling & Nyman, 2009). The rest of this paper presents the literature review in the first section, followed by the research methods in the second section, in the third, data analysis and presentation of results, and in the fourth and last section, discussion of results, general conclusion, and managerial implication of the study.

Conceptual Review

1. Tracking System Quality

Tracking systems play a pivotal role in modern business operations in various domains, including logistics, transportation, healthcare, and retail, among others as it aids in the management and monitoring of various processes. According to Hassan et al. (2015), Track-and-trace refers to IT-supported systems for determining an object's processing or delivery status within the physical supply chain of a manufacturing or logistics company(Hassan et al., 2015). Främling and Nyman,

(2009), divide track-and-trace into one forward and One Backward tracking, where forward tracking focuses on determining the location of products throughout the supply chain process, while backward tracking focuses on identifying defective or lost items in the logistics network. Tracking systems encompass a range of technological solutions employed by logistics companies to monitor and trace the movement of goods throughout the supply chain. These systems can range from simple barcode scanners to complex GPS-enabled devices and RFID (Radio-Frequency Identification) technology. The tracking system varies according to domain. In logistics, tracking systems may involve GPS tracking for vehicle or package location, GPS (API), SIM, and mobile tracking to enable businesses to plan, schedule, and monitor their logistics processes at every stage (Alexia Inc., 2023). In healthcare, systems could include RFID tags for monitoring patient movement within a hospital, while in retail shops it could include barcode scanners for inventory monitoring, social media, and web analytics to track customers' experience and behavior. In the context of logistics and supply chain management, these systems provide real-time visibility into the location, status, and condition of shipments, facilitating transparency and communication between customers and logistics providers (Elahi et al. 2009; *Bollore Group*, 2023).

The tracking system quality in the context of logistics and its impact on customer satisfaction is multi-dimensional and integral to understanding the dynamics of supply chain management. At its core, tracking system quality refers to the effectiveness, responsiveness, reliability, ease of use, and accuracy of systems designed to monitor and trace the movement or status of objects, assets, or processes and to meet customer expectations. The quality of these systems has a significant impact on customer satisfaction, as they influence the efficiency, accuracy, and reliability of service delivery (Rane, Achari, and Choudhary, 2023). Conceptually, high-quality tracking systems enable businesses to gather real-time -data, analyze trends, and offer personalized and timely services, leading to enhanced customer satisfaction. Conversely, poor tracking system quality may result in data inaccuracies, delays, and errors, leading to customer dissatisfaction (Smith et al., 2018).

It has equally been noted that there exist different types of tracking system software in Cameroon logistics companies such as GoTrack by Gocomet, Ocean Insight, Safecube, and MarineTraffic just to name a few. GoTrack is tracking software used by Gocomet a leading company in logistics solutions. With GoTrack end users can monitor all their shipments across various carriers through a unified dashboard guaranteeing real-time visibility. Beyond monitoring shipping containers, the software includes advanced analytic functionalities, enabling data-driven decisions and cost savings. These combined features enhance customer experience by fostering high levels of transparency and accuracy. Ocean Insight is a tracking software used by Logistics Companies. GoTrack Ocean Insight offers a consolidated view of any container and historical data from various ocean carriers' lines and seaports. With its intelligent filters, quick identification of the shipments that need immediate/special attention is facilitated. Auto alerts and notifications ranging from delays and discharges to rollovers and extended wait times ensure customers are constantly in the loop.

Safecube contrary to GoTrack and Ocean Insight, Safecube Easytrack is a solution for multimodal tracking shipments from door to door. All shipments added to the watch list are displayed on a dynamic map with the most important information highlighted, including the ETA predicted. Real-

time alerts and notifications enable smooth cargo management and accurate supply chain planning on the go. In addition, a powerful analytic dashboard gathers information from different sources to provide insight into the supply chain performance, benchmark with others, and identify areas for improvement. As compared to the other tracking software listed above, Marine Traffic is a ship and container tracking platform. This innovative solution goes beyond conventional geolocation of goods, providing carrier-independent, precise, and reliable data regarding estimated arrival times at every waypoint until the shipment reaches its final destination. This is a powerful tool to optimize supply chain management. That said, there isn't a universally superior tracking software. Every company must carefully consider its unique requirements when selecting an appropriate solution.

2. Customers Satisfaction

Customer satisfaction is a multidimensional concept reflecting customers' perceptions of their experiences with a product, service, or brand. According to Oliver (1980), it is the emotional response of customers when they perceive a distinction between their past expectations and the real performance of a product or service that they have used. It reflects the degree of fulfillment or contentment a customer experiences when interacting with a particular product or service(Rane, Achari, and Choudhary, 2023). Customer satisfaction in the logistics industry context indicates the customers' delightfulness, well-matching services with expectations, and positive or better feelings towards the logistics service provider for choosing them(Lin et al., 2023). Customer satisfaction is measured in terms of the customer's intention to recommend the service to others, repurchase the service, continue doing business with the company, and customer reviews or complaints. Concerning the tracking system quality, Customers' perceptions and satisfaction levels are influenced by tracking systems' accuracy and timeliness of information provided, reliability, ease of use, and the extent to which the system meets their specific needs and expectations. Customers expect tracking systems to provide accurate and real-time information, enabling them to track their orders, assets, or shipments seamlessly. Ease of use, accessibility, and the ability to customize tracking preferences also contribute to customer satisfaction.

Theoretical Review

To examine the link between user perceptions of tracking system quality and customer satisfaction, researchers have used several theories drawn from the field of marketing and information communication technology. The most prominent of these theories include the Technology Acceptance Model (TAM) by Davis (1989), which stipulates that users' behavioral intentions to use a given technology and their satisfaction are influenced by the perceived usefulness and perceived ease of use of the technology which in turn influences the perceived usefulness. Applied to tracking systems, this model suggests that users are more likely to be satisfied if they perceive the system as useful for their tracking needs and easy to navigate. Similarly, the SERVQUAL model suggests that service quality is determined by the gap between customers' expectations of the service and the service performance(Parasuraman et al., 1985). This theory emphasizes that consumers' satisfaction with service quality depends on their evaluation of the service dimensions such as tangibility, reliability, responsiveness, empathy, and assurance. In the context of tracking

systems, these dimensions translate to the accuracy, timeliness, and accessibility of tracking information based on which consumers' expectations are formed. The perceived quality of the tracking system is then evaluated based on how well it meets or exceeds these expectations, which ultimately influences customer satisfaction (Santos and Boaventura, 2020).

Empirical evidence

Several studies reviewed in Lin et al., (2023), have examined the link between logistic service quality in general and customer satisfaction. These studies reveal that improvements in logistic service quality contribute to customer satisfaction, and ensuring customer satisfaction with physical delivery services is a crucial objective for Logistic service providers. In the specific case of tracking system quality, several researchers have provided empirical evidence that supports the notion that tracking system quality significantly influences customer satisfaction across various industries(Chen & Paulraj, 2009; Choi & Lee, 2016; Jones et al., 2019; Pantano et al., 2017; Santos & Boaventura, 2020; Smith et al., 2018;). This highlights the importance for logistics companies to build reliable, user-friendly, and value-added tracking systems to please customers and render them loyal.

Conceptual Model and Hypothesis Development

Given that the tracking system is technologically oriented, this paper applied the TAM model to assess the relationship between users' perceptions of the tracking system quality and their satisfaction. This model is suitable for the study as it expresses the relationship between consumers' perceptions of technological characteristics and their behavior including satisfaction. The study hypothesis is therefore based on three dimensions: Perceived ease of use, perceived usefulness, and perceived value as presented below.

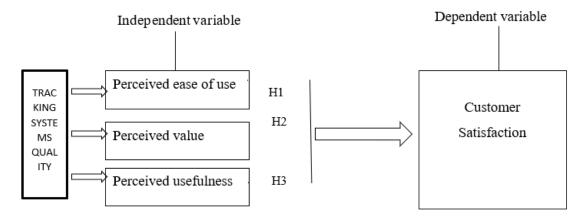


Figure 1: Conceptual Framework

Source: Author's Conception (2024)

Hypotheses Development

Relationship between ease of Use and customer satisfaction

Mazandarani and Royo-Vela (2019), in confirmation of Davis (1986), defined perceived ease of use as the extent to which a person believes that using a particular system would be free of effort. One of the most relevant factors in the adoption of technology by users is the ease of use (Huang et al., 2020). Perceived ease of use describes the rate at which the customers believe that the technology or system can be used easily and without difficulties(Iriani & Andjarwati, 2020). A more widely used system implies that it is more known, easier to operate, and easier for its users to use. People use an information technology system that does not require much effort and is not difficult to use (Islami et al., 2021). Empirical evidence suggests that the user-friendliness of tracking systems plays a crucial role in shaping customer satisfaction. For instance, in the domain of mobile payment, Ngoata et al. (2024), found a positive significant effect of effort expectancy on consumers' intentions to use mobile payments. Chen et al. (2020), examined the relationship between CRM system usability and customer satisfaction in the retail sector. Their findings revealed that customers were more satisfied when the CRM system was user-friendly, allowing for easy access to order tracking and personalized recommendations. Similarly, in the banking sector, Chen et al. (2020), examined the impact of mobile banking app quality, including tracking features, on customer satisfaction. The results showed that customers who perceived the tracking features of the app to be reliable and easy to use had higher levels of satisfaction with the overall banking experience. In the same vein, a study by Tuzovic and Klobas (2018), indicates that intuitive interface design and mobile accessibility play an important role in enhancing customer experience with tracking systems. Based on these findings, this study makes the hypothesis in the context of Cameroon that:

H1: Perceived ease of use of tracking system positively influences customer satisfaction

Relationship between perceived value and customer satisfaction

In the management literature, value is defined as the overall consumer assessment of the benefit of a product based on the perception of what is received and what is given (Ryu et al., 2008). The consumer's judgment of value is based on three elements, the quality of the service received, its cost, and delivery time. This is known as the customer value triangle. These values may be considered essential, product, or technical aspects of a technology or service (Singh et al., 2021). Therefore, perceived value is critical in business relationships (Zietsman et al., 2020).

The value of a tracking system is significant in customer satisfaction, and customer satisfaction significantly impacts customer loyalty (Han and Ryu, 2009). In determining the value of a cruise service, the findings of Duman and Mattila (2005) indicate that influential factors like happiness and joy are strongly linked to understanding the value of a cruise ship vacation and behavioral intentions. Similarly, studies in healthcare have demonstrated that RFID-based tracking systems can improve patient satisfaction by reducing wait times and enhancing the efficiency of care delivery (Hwang et al., 2018). This falls in line with the findings of Smith et al. (2018), on the link

Evaluation of the Effect of Tracking System Quality on Customer Satisfaction: Evidence from Logistics Companies in Cameroon

Diangha, Sambilla, Nwiyoh

between shipment tracking systems accuracy and customer satisfaction. This gave us the impetus to formulate the hypothesis that:

H2: Perceived value positively affects customer satisfaction

Relationship between perceived usefulness and customer satisfaction

Mazandarani and Royo-Vela (2019), define perceived usefulness as the degree to which a person believes that using a particular system would enhance his or her job performance. It is also considered the perception by consumers that the technology they adopt will improve the quality of their work or activity (Keni, 2020). One of the requirements for user acceptance of a technology and their satisfaction is its usability. Loan and Hung (2018) agreed that customer satisfaction is positively influenced by the perception of usability. Thus, Perceived use and utilization positively affect customer satisfaction (Tandon et al., 2016b). In the specific case of tracking systems quality, Santos and Boaventura (2020), evaluated the quality of online tracking information for customer satisfaction and revealed a positive relationship between timelessness, the accuracy of the information, and customer satisfaction, this finding confirms that Chen and Zhang (2009), in the context of e-commerce logistics, Choi and Lee, (2016) in the logistic sector, and Smith et al. (2018) in the retail sector focused on the inventory tracking system. Based on this empirical evidence, this study suggests that:

H3: Perceived usefulness is positively associated with customer satisfaction.

METHOD

Research Design

This paper applies a quantitative research method given that it is based on objective reality and seeks to test a set of hypotheses generated through a thorough literature review(Zikmund, n.d.). This is done using numerical primary data sourced via a questionnaire distributed to respondents on the field to establish a causal relationship between tracking system quality and customer satisfaction and illustrate theories. A simple cross-sectional survey strategy is adopted to collect primary data used to test the study hypothesis. This implies the data related to customers' perception of the tracking system service quality and their satisfaction is collected from the group of respondents once.

Population and Sampling

This study is undertaken within four major cities Douala, Limbe, Buea, and Yaoundé in Cameroon. These cities are marked by a high concentration of logistics companies and businesses in general given the multimodal transport network facilities and high population. The target population here involves, all physical and moral persons who have received or used any logistic tracking services including IT-supported systems for determining the location of their products throughout the supply chain process, identifying defective or lost items in the logistics network, determining an

object's processing or delivery status within the physical supply chain system. Recent studies have indicated that in most cases, a sample size of 150 respondents should be sufficient to obtain an accurate solution in exploratory factor analysis as long as item intercorrelations are reasonably strong (Hinkin, 1995). As stated by Saunders et al. (2009), the larger the absolute size of a sample, the more likely they are to be representative of the population from which they are drawn. Based on this, a purposive simple random sampling technique was used to select 250 respondents for the study. This sample size was determined based on the sample size formulae commonly used when the population size is unknown and is given as: $n_0 = \frac{s^2xz^2}{D^2}$. This sample size was judged sufficient for the study given that it exceeds that used by the majority of past studies including Sobaih et al., (2023), Zaydatus et al., (2023), Kania et al., (2021).

Research Instrument

The study used closed-ended questionnaires to collect primary data. The questionnaire contained 21-item questions used to capture the independent and the dependent variable constructs (perceived ease of use, perceived value, perceived usefulness, and customer satisfaction respectively). These item questions were drawn from previous researchers including Loan and Hung (2020a), Colwell et al. (2008), and Davis (1989), and were adapted to fit the specific case of a logistic tracking system quality in Cameroon. They were then subjected to a validity and reliability test to ensure the credibility of the instrument. Credibility refers to how well a tool measures the concept of a researcher (Ferguson et al. 2003). All constructs were measured using the five-point Likert scale ranging from 1 strongly disagree to 5 strongly agree with a middle point value of 3 neutral.

Data Collection Process

A total of 250 questionnaires were distributed through a street interception approach for physical persons, a drop and pick up later approach was also used for moral persons within the selected towns for this study. Out of the 250 questionnaires, 230 were retrieved among which 30 were discarded due to incomplete information. This narrowed down our usable sample size to 200.

Data Analysis

The complete data set was coded and subjected to a measurement model assessment using KMO and battler test of sphericity to check for data adequacy. A factor analysis based on the KMO model threshold of ≥ 0.5 -factor loading was used to check the validity of item questions, to ensure that the items were measuring the constructs, meanwhile, alpha Cronbach was employed to test the construct's reliability at the minimum cutoff threshold of ≥ 0.5 , to ensure that future researcher using this item can have similar results. Multiple regression analysis (MRA) was then undertaken to investigate the effects of tracking systems on customer satisfaction in logic companies in Cameroon.

RESULT AND DISCUSSION

The result in Table 1 below indicates that all items were valid measures of the constructs and that the constructs were all reliable

Table 1. Mean, Standard Deviation, Factor Loadings, and Cronbach's Alpha.

Variables	Factor Loadings	Cronbach's Alpha	Mean	Std. dev.
Perceived ease of use		0.621	2.5250	.62249
Learning to operate the logistics tracking system is easy	0.848			
The logistics tracking system service is pretty simple to use	0.843			
The logistics tracking system service is user-friendly	0.831			
I feel confident using the logistics tracking system	0.817			
Perceived value		0.638	3.1750	.58546
The benefits I get from using the logistics tracking system outweigh the costs associated with it	0.864			
The notification system of the tracking service permits a safe, timely delivery, and quick location of my shipments	0.883			
The logistics tracking system provides me with valuable information regarding my shipments	0.871			
The logistics tracking system enhances the overall efficiency of my logistics operations.	0.848			
Perceived usefulness		0.598	3.4750	.46524
The tracking system services allow me to track my goods more conveniently.	0.833			
The tracking system helps me save time	0.804			
The tracking system helps me effectively monitor the movement of goods	0.841			

I find the information provided by the tracking system to be useful in making decisions related to my shipments	0.869			
Customer satisfaction		0.662	3.0250	.57868
I enjoy the tracking system service in my logistic operations	0.865			
The tracking system service meets my expectations.	0.834			
I intend to reuse these services in my future transactions	0.855			
I will advise my friends, relatives, or colleagues to use this tracking service.	0.830			

Source: Author's Conception (2024)

To test the link between tracking system quality and customer satisfaction, regression analysis is used. The model summary as well as the analysis of the variance tables are presented accordingly. This permits us to explain the overall contribution of the dependent variable on the dependent variable.

Table 2. Model Summary

Model	R	R Square	Adjusted R Square		Std. Error of the Estimate
1	.897ª	.805	.797		.80893

a. Predictors: (Constant), Perceived ease of use, PerceivedValue, Perceived usefulness

Source: Author Field data SPSS output (2024)

The findings in Table 2 depict that, Perceived value, perceived ease of use, and perceived usefulness globally predict customer satisfaction by R=80.5% adjusted to 79.9%.

Table 3. Analysis of variance

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	12.46	3	4.15	7.079	.003 ^b
	Residual	9.39	196	.048		
	Total	21.85	199			

a. Dependent Variable: customer satisfaction

Source: Author Field data SPSS output (2024)

Table 4. Coefficients

		Unstandardized Coefficients		Standardized Coefficients	Т	Sig.
		В	Std. Error	Beta	_	
1	(Constant)	1.319	.203		6.505	.000
	Perceived Value	.270	.054	.247	4.983	.000
	Perceived ease of use	.330	.051	.320	6.452	.000
	Perceived usefulness	.407	.059	.352	6.625	.000

a. Dependent Variable: Customer satisfaction

Source: Source: Author Field data SPSS output (2024)

Based on Tables 3 and 4, we observed that perceived usefulness had the most significant influence on customer satisfaction (β = 0.407), followed by perceived ease of use (β = 0.330) and perceived value (β = 0.270), respectively at a 1% confidence interval.

b. Predictors: (Constant), perceived usefulness, perceived ease of use, perceived value

Table 5. The Summary of Hypothesis Testing Results

Hypo thesis	Statement	Sig.	Standardized coefficients	Decision Rule	Impact ranking	
H_1	Perceived ease of use plays a positive role on customer satisfaction	0.000	0.330	Accepted	Second	
H_2	Perceived value plays a positive role in customer satisfaction	0.000	0.270	Accepted	Third	
Н ₃	Perceived usefulness plays a positive role in customer satisfaction	0.000	0.407	Accepted	First	
	PV, PEU, PU -> CS R squ	are = 0.	805	Perceived		
	value (PV), Perceived ease of use (PEU), and Perceived usefulness (PU) Predict customer satisfaction by about 80.5%.					

Source: Author Field data SPSS output (2024)

The findings showed that customers' perceptions of perceived value, perceived ease of Use, and perceived usefulness of tracking system quality provided by logistics companies in Cameroon significantly affected their satisfaction. These findings support Sureshchandar et al. (2002), opinion that there is a strong link between tracking systems and customer satisfaction. The findings confirm that of Loan and Hung (2018), Duman and Mattila (2005), Han and Ryu (2009), and Han and Ryu (2009). Therefore, when users perceive the tracking system to be user-friendly, useful, and add value to the logistic operations their level of satisfaction is likely to increase. Thus, in light of Ngoata et al. (2021), giving personalized service and rapidity in provision remains a major area of concern for managers to further improve client satisfaction and repeat purchases.

CONCLUSION

This paper has explored the influence of tracking system quality on the satisfaction of customers in some selected logistics companies in Cameroon. In a particular manner, the paper analyzed the effects of perceived ease of use, perceived usefulness, and perceived value. To achieve these, we employed an ordinary least square method of estimation with the help of primary data obtained from 200 customers of selected logistics companies in Cameroon. The results showed that perceived ease of use, perceived usefulness, and perceived value were all positively associated with customer satisfaction validating the study research hypothesis. This is therefore an indication that improved tracking system quality is more of an opportunity for logistics companies that adopt it. The results reinforced the conceptual framework according to which customer satisfaction is largely predicted by perceived usefulness, perceived ease of use, and perceived value. This analysis allows marketers and logistics providers to understand the effects of perceived usefulness, perceived ease of use, and perceived value. This can help information system marketers design and

develop cargo-tracking software service strategies that get closer to customers' needs and expectations.

Therefore, to increase customer satisfaction and by extension possible reuse of the logistics company's services, logistics company managers should emphasize building tracking systems that are less complex in usage, affordable, convenient to users, timely, and reliable in providing information on the location and status of shipments. This implies adapting the tracking system service to meet customers' needs and expectations. If this is successful, the firm market performance will increase. Also, it will be relevant for the state to facilitate this need by providing an enabling environment in terms of access to technical know-how. This is critical given the Cameroon government's vision of digitalizing the economy by 2026 and guaranteeing its emergence by 2035.

Suggestions for Future Research

This study was quantitative-oriented in nature. Qualitative research may help provide a deeper understanding of this phenomenon. Furthermore, this research only examined the effects of tracking systems quality online and for shipments on customer satisfaction among Cameroonian logistics companies limiting just to four major cities. A more inclusive study with a higher sample size will help provide a better view of the reality. Moreover, this paper focused on the TAM, future studies could engage a combination of theories including the SERQUAL model employing mediation variables like the nature of shipments being tracked, and the source and destination of the shipments. This model can also be employed to examine tracking system quality effects on customer satisfaction in other industries.

Declaration

Conflict of interest: We wish to confirm that there are no known conflicts of interest associated with this publication and that there was no substantial financial support for this work that could have influenced the results. We confirm that all listed authors have read and approved the manuscript. The order of authors listed in the manuscript has also been approved by all of us.

REFERENCE

Alexia Inc, A. (2023). The importance of real-time tracking and visibility in delivery management software. *LinkIn.Com*.

C Bollore Group, all rights reserved. (2023).

- Chen, I. J., & Paulraj, A. (2009). Towards a theory of supply chain management: the constructs and measurements. *Journal of Operations Management*, 22(2), 119–150.
- Chen, Y., Zhang, L., & Hu, Y. (2020). The Effect of Website Tracking System Usability on Online Customer Satisfaction: The Mediating Role of Perceived Value. *Journal Of Theoretical and Applied Electronic Commerce Research*, 15(1), 47–62.

- Chen, Y., Zhang, L., & Hu, Y. (2020). The Effect of Website Tracking System Usability on Online Customer Satisfaction: The Mediating Role of Perceived Value. *Journal Of Theoretical and Applied Electronic Commerce Research*, 15(1), 47-62
- Choi, Y., & Lee, H. (2016). The impact of delivery service quality on online shopping customer satisfaction: A moderated mediation model. *Sustainability*, 8(9), 9.
- Cochran, W. G. (1963). Sampling Techniques. Willy.
- Colwell, S. R., Aung, M., Kanetkar, V., & Holden, A. L. (2008). Toward a measure of service convenience: Multiple-item scale development and empirical test. *Journal of Services Marketing*, 22(2), 160–169. https://doi.org/10.1108/08876040810862895
- Coyle, J. J., Bardi, E. J., & Langley Jr, C. J. (1992). *The Management of Business Logistics* (5th ed. St). West Publishing Company.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 319–340.
- Duman, T., & Mattila, A. S. (2005). The role of affective factors on perceived cruise vacation value. *Tourism Management*, 26(3), 311–323.
- Elahi, M.A., Malkani, Y.A., Fraz, M. (2009). Design and implementation of real-time vehicle tracking system. 2009 2nd International Conference on Computer, Control, and Communication 1 5
- Fartika. (2021). Pengaruh Kualitas Layanan dan Ketepatan Pengiriman Terhadap Loyalitas Pelanggan dengan Kepuasan Sebagai Variabel Intervening pada Siba Cargo Cabang Tanjung pinang di Masa Covid-19.
- Ferguson, S. A., Gallagher, S., & Marras, W. S. (2003). Validity and reliability of sincerity test for dynamic trunk motions. *Disability and Rehabilitation*, 25(4), 236–241.
- Fraimling, k, & Nyman, J. (2009). From tracking with RFID to intelligent products. 14th IEEE International Conference on Emerging Technologies and Factory Automation, 122–132.
- Guo, J., Zang, w., and Xia, T. (2023). Impact of Shopping Website Design on Customer Satisfaction and Loyalty: The Mediating Role of Usability and the Moderating Role of Trust. *Sustainability*, 15(8), 6347.
- Hakim, C. (2000). Research Design: Successful Designs for Social and Economic Research (2nd ed.). Routledge.
- Han, H., & Ryu, K. (2009). The roles of the physical environment, price perception, and customer satisfaction in determining customer loyalty in the restaurant industry. *Journal of Hospitality & Tourism Research*, 33(4), 487–510.
- Hassan, M., Ali. Aktas, E. & A., & K. (2015). Factors affecting selection decision of auto-identification technology in warehouse management: an international Delphi study. *Production Planning and Control*, 26(12), 1025–1049.
- Huang, F., Teo, T., & Scherer, R. (2020). Investigating the antecedents of university students' perceived ease of using the Internet for learning. *Interactive Learning Environments*, 1–17.

- Hu, M., Chaudhry, P.E., and Chaudhry, S.S. (2022). Linking customized logistics service in online retailing with E-satisfaction and E-loyalty. *International Journal of Engineering Business Management* 14 (12), 2-12
- Hwang, W. J., Lee, J. H., Yoon, S. J., & Choi, H. S. (2018). Analysis of factors influencing hospital service satisfaction using the American Customer Satisfaction Model and the logarithmic structural model. *International Journal of Environmental Research and Public Health*, 15(3), 479.
- Iriani, S. S., & Andjarwati, A. L. (2020). Analysis of perceived usefulness, perceived ease of use, and perceived risk toward online shopping in the era of the COVID-19 pandemic. *Systematic Reviews in Pharmacy*, 11(12), 313–320.
- Islami, M. M., Asdar, M., & Baumassepe, A. N. (2021). Analysis of Perceived Usefulness and Perceived Ease of Use to the Actual System Usage through Attitude Using Online Guidance Application. *Hasanuddin Journal of Business Strategy*, 3(1), 52–64.
- Jones, R., Smith, T., & Brown, K. (2019). Usability of Inventory Management Systems and Its Effect on Customer Satisfaction: A Case Study in the Manufacturing Sector. *International Journal of Operations Management*, 35(4), 447–456.
- Keni, K. (2020). How Perceived Usefulness and Perceived Ease of Use Affecting Intent to Repurchase? *Jurnal Manajemen*, 24(3), 481–496.
- Lie, D., A. Sudirman, E., & Butarbutar, M. (2019). Analysis of Mediation Effect of Consumer Satisfaction on The Effect of Service Quality, Price and Consumer Trust on Consumer Loyalty. *International Journal of Scientific and Technology Research*, 8(ue 08, August), 421–428.
- Lin, X., Mamun, A. A., Yang, Q., & Masukujjaman, M. (2023). Examining the effect of logistics service quality on customer satisfaction and re-use intention. *PLoS ONE*, *18*(5), 286382. https://doi.org/10.1371/journal.pone.028638.
- Loan, N. T. Q., & Hung, N. Q. (2018). Factors Affecting Satisfaction and Reuse Intention of Customers Using Online Motorbike Service. *Economics and Business Administration*, 8(2), 30 46.
- Maeriyana, Es., & Rozi, F. (2019). The Influence of Service Quality on Loyalty with Satisfaction, Trust and Corporate Image as Intervening Variables in Rukun Tani Village Cooperative Unit in Pageruyung District Kendal Regency. *Journal of Economic Education (JEE*, 8(1), 30 38.
- Mazandarani, M. R., & Royo-Vela, M. (2019). The perceived time value importance for enrolment in online masters' courses: an extension of the Technology Acceptance Model. *Esic Market Economics and Business Journal*, 475–494. https://doi.org/10.7200/esicm.164.0503.1
- Ngoata, D.S., Mbah, F. A., Suiven, C. C., Urich, Y. N. P. (2021). Perceived Service Quality and Customers Repeated Purchase Intentions in Cameroon Restaurants. *Journal of Marketing and Consumer Research*, 82, 75–89.
- Ngoata, S.D., Ndeme R.K., & Ngambi. M. G. (2024). Modeling the determinants of consumers' intentions to use mobile payment services: evidence from Cameroon. Les Cahiers du CEDIMES Volume 19, Hors-série n° 2024/HS2, 50ème anniversaire CEDIMES

- Oetama, S., Susanto, H., & Rizwannur, W. (2024). Effect Of Online Tracking System and Delivery Timeliness on Customer Satisfaction (Case Study on J & T Express Sampit. *International Journal of Science, Technology & Management*, 962–969.
- Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal Public Policy& Marketing*, 17(4), 460–469. https://doi.org/10.1177/002224378001700405.
- Oliverira, N., Costa, Barbasa, & Prado. (2013). An Intelligent Model for Cargo Tracking based on Off-the-shelf Mobile Devices. *ELSEVIER Expert Systems with Applications*, 40, 2031.
- Pantano, E., Pizzi, G., Scarpi, D., & Dennis, C. (2017). Competing through service quality: The role of bricolage and entrepreneurship capabilities in retail small shops. *International Journal of Retail & Distribution Management*, 45(2), 217–234
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985.). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12–40.
- Purwork, S., Haryana, A., & Tamba, M. (2019). Pengaruh Kemasan, Kualitas dan Harga Produk Susu Terhadap Kepuasan dan Loyalitas Pelanggan PT. *Dwimitra Usaha Global. Jurnal Administrasi*Dan Manajemen, 117–126. http://ejournal.urindo.ac.id/index.php/administrasimanajemen/index,
- Rane, N., Achari, A., and Choudhary, S. P., (2023). Enhancing customer loyalty through the quality of service: Effective strategies to improve customer satisfaction, experience, relationship, and engagement. *International Research Journal of Engineering Technology and Modernization in Science*, 5(5), 427–453.
- Rahmat, A. K., and Faisol, N. (2016). Manufacturers Satisfaction on Logistics Service Quality: Operational, Relational, and National Culture. *Procedia Social and Behavioral Sciences*, 224, 339 346.
- Restuputri, D. P., Masudin, I., & Sari, C. P. (2020). Customers perception on logistics service quality using Kansei engineering: Empirical evidence from Indonesian logistics providers. *Cogent Business & Management*, 7(1), 1751021. https://doi.org/https://doi.org/10.1080/23311975.2020.1751021
- Santos, A. L., & Boaventura, J. M. (2020). Evaluating the quality of online tracking information for customer satisfaction. *Computers in Human Behavior*, 105, 106220.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). Research Methods for Business Students (5th ed.). Pearson Educational Limited.
- Shamsuzzoha, A., & Helo, P. T. (2013). Real-time tracking and tracing systems: Potential for the logistics network. *International Conference on Industrial Engineering and Operations Management*, 22–29.
- SINAY MARITIME data solutions, top container tracking solutions. September 12, 2023, c SINAY SAS-All Rights Reserved. (2023).

- SINAY MARITIME tracking data solution, how new technologies are revolutionizing container tracking. (2023). *November*.
- Singh, S., Singh, N., Kalinić, Z., & Liébana-Cabanillas, F. J. (2021). Assessing determinants influencing continued use of live streaming services: An extended perceived value theory of streaming addiction. *Expert Systems with Applications*, 168, 114241.
- Smith, J., Johnson, M., & Wang, H. (2018). Impact of Inventory Tracking System Accuracy on Customer Satisfaction in Retail Industry. *International Journal of Information Systems and Supply Chain Management (IJISSCM*, 11(1), 40–56.
- Sureshchandar, G. S., Rajendran, C., & Anantharaman, R. N. (2002). The relationship between service quality and customer satisfaction—a factor specific approach—Journal of services marketing.
- Tandon, U., Kiran, R., & Sah, A. N. (2016a). Analyzing the complexities of website functionality, perceived ease of use, and perceived usefulness on customer satisfaction of online shoppers in India. *International Journal of Electronic Marketing and Retailing*, 7(2), 115–140.
- Tandon, U., Kiran, R., & Sah, A. N. (2016b). Customer satisfaction with website functionality, perceived usability, and usefulness fords online shopping in India. *Information Development*, 32(5), 1657–1673.
- Thong, J. Y., Hong, W., & Tam, K.-Y. (2002). Understanding user acceptance of digital libraries: What are the roles of interface characteristics, organizational context, and individual differences? *International Journal of Human-Computer Studies*, 57(3), 215–242.
- Tuzovic, S., & Klobas, J. (2018). Service quality and customer satisfaction with a web-based cross-border e-commerce platform. *Information Systems Frontiers*, 20(3), 617–631.
- Yang, Z., Jun, M., & Peterson, R. T. (2004). Measuring Customer Perceived Online Service Quality. International Journal of Operations & Production Management, 24(11), 1149–1174.
- Zietsman, M. L., Mostert, P., & Svensson, G. (2020). A multidimensional approach to the outcomes of perceived value in business relationships. *European Business Review*.
- Zikmund, W. G. (2003). Business research methods (2nd ed.). The Dryden Press.

.