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# The new age of customer impatience: An agenda for reawakening logistics customer service research

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# The new age of customer impatience: An agenda for reawakening logistics customer service research

## **Abstract**

**Purpose** The purpose of this paper is to shed light on the body of logistics customer service (LCS) research published in leading logistics journals from 1990 to 2017. Specifically, the paper presents a call to arms for logistics and supply chain researchers to address new and emerging issues impacting customer service in the age of omnichannel and e-commerce retailing.

**Design/methodology/approach** The authors reviewed academic journals to identify articles focusing on LCS from 1990 through 2017. The authors noted trends in academic research activity/focus and supplemented the findings by examining more recent trends covered in trade publication articles.

**Findings** The authors observed a large amount of LCS research in the early 1990s and 2000s, but noticed a substantial decline in coverage within academic journals since the late 2000s while industry continues to give customer service issues even greater attention. The difference between the level of coverage within academic journals and the increased importance firms place on customer service represents a critical gap and opportunity for scholars. This research represents a “call to arms” to address this gap. With particular emphasis on observed customer impatience and escalating requests, within omni- and e-commerce channels of distribution, we suggest greater theoretical insights into customer service strategies and their role in successfully navigating today’s changing logistics service environment are needed.

**Originality/value** The review serves as a call for more attention to customer service issues within leading logistics journals. Suggestions for research into new and emerging topics are offered.

## **Keywords**

Customer experience, Customer service, E-commerce, Online retailing, Logistics service, Amazon effect, Customer impatience, Omnichannel

## **Disciplines**

Critical and Cultural Studies | Operations and Supply Chain Management | Public Relations and Advertising | Strategic Management Policy | Transportation

## **Comments**

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# THE NEW AGE OF CUSTOMER IMPATIENCE: AN AGENDA FOR REAWAKENING LOGISTICS CUSTOMER SERVICE RESEARCH

## Introduction

Higher expectations in terms of logistics customer service have become the norm rather than the exception in today's supply chains. Customers still want fast service; however, in the current era of omnichannel retailing and e-commerce, they also want flexible delivery options (Douglas 2013) that are customized and tailored to their individual needs (Terry 2014). In an editorial to the omnichannel logistics special issue of *International Journal of Physical Distribution & Logistics Management*, guest editors Saghiri et al. (2018) concisely captured the current business environment and continuing escalation in consumer expectations.

The last five years have seen one of the biggest disruptions in traditional retailing for a generation. This has, to a large degree been driven by technology and information systems enabling customers to interact differently with retailers and also the retailers themselves through the application of technology, be it within the final mile delivery or the warehouse facilities to create a supply chain that is highly responsive to customer needs. The customer no longer views the e-commerce channel of the business as separate and has started asking why can I not buy online and collect in store, or buy in store but get it delivered directly to home or buy online but get it delivered directly to home or buy online and return goods to the store? This has resulted in considerable challenges for logistics and supply chain managers.

Omnichannel refers to the development of “a truly integrated approach across the whole retail operation that delivers a seamless response to the consumer experience through all available shopping channels, whether it be on mobile internet devices, computers, in stores, on television and in catalogues” (Saghiri et al. 2017). Key concepts in that definition are the seamless response, positively influencing the consumer experience, and the high expectations of consumers. In an e-commerce, omnichannel era, the challenge is how to respond to not just customer requests, but *customer demands*, covering an array of service-related issues. Escalating service expectations place considerable pressure on logistics professionals. While it would be easy to place

responsibility for the customer experience on those individuals doing the front-line selling, the root cause of many service successes or failures can be attributed to logistical wins or losses. Considering the substantial rewards and risks involved, is current academic research placing sufficient emphasis on logistics customer service research in order to provide guidance for strategic service-related decisions and inform business practice? As Saghiri et al. (2018) noted, academics should not be observers in this arena. Rather, we should play a significant role in shaping and supporting the new service paradigm that is characterized by customer impatience.

To put it succinctly, today's consumers are different and extremely impatient. In the past, even online shoppers didn't seem to mind waiting for their deliveries (Beckwith 2017). That's no longer the case. As noted by Beckwith, "Consumers are looking for the immediate delivery option. This is especially true with millennials, who have grown up ordering on phones. They expect speed" (p. 44). Similarly Douglas (2015) proposed that logistics has the potential to play the role of a lifetime in helping retailers respond to new demands and escalating customer impatience. This can be accomplished by offering "amazing customer service" and "blisteringly fast fulfillment" (p. 43). No waiting!

In the following narrative, we provide a condensed overview of previous academic research covering logistics customer service. Primary emphasis is on research published in logistics journals; however, a few highly relevant articles published in other academic journals or popular press periodicals are discussed as well. We hope that our research will be viewed as a "call to arms" motivating academics to place a greater priority on conducting logistics customer service research. This is especially important in light of the increasing focus of business on omnichannel retailing. We introduce the concept of customer impatience and offer suggestions for specific

logistics customer service-related research topics. We suggest particular attention be given to the concept of customer impatience and the implications for customer service.

In a recent *DC Velocity* editorial, Lynch (2018) attributed much of the escalation in consumer service-related demands to the “Amazon effect.” The phrase has become synonymous with customers’ impatient demands of wanting their goods ASAP. While the term has become industry lingo, it’s typically used in reference to consumer expectations within an omnichannel or e-commerce world. As Lynch noted, “the e-tailing giant has reset consumers’ service and delivery expectations. Today’s online shoppers take speed and visibility for granted. We must adopt the mindset that we are living in a world of instant gratification and must manage accordingly” (p. 39). Few would argue the point. Logistics and supply chain professionals must therefore be able to meet consumer demands.

The remainder of the manuscript is organized in four sections. The first section focuses on identifying key trends and topics in the academic literature (with primary emphasis starting in the early 1990s). The second section discusses popular press coverage of logistics customer service-related issues. The popular press review was limited to recently published articles in order to assess current business practices and service issues that are now considered relevant or important. As discussed in the third section, our research provides topical guidance with the intent of making future logistics customer service research highly relevant and prescriptive. In their assessment of the managerial relevance of supply chain research, Thomas et al. (2011) concluded that, while much of our literature focuses on issues business considers important, a critical gap exists. Too often important topics are under-researched and seemingly ignored by academic researchers. Such appears to be the case with logistics customer service research. In the final section, we call for renewed and expanded coverage of logistics customer service by academic researchers.

## Overview of Previous Logistics Customer Service (LCS) Research Topics

Our overview of the academic literature is organized around key themes observed in academic journal articles. These themes are represented in the selected articles (summarized in Table 1) and provide a chronological review of logistics customer service academic research to date. The purpose of this overview is not to review all relevant literature related to the evolution of LCS. Readers are referred to Rao et al. (2011) and Leuschner et al. (2013) for comprehensive reviews. Our intent is to track academic topical coverage over the years – and to supplement this with an overview of key LCS coverage in recent logistics-related trade publications.

<<Insert Table 1 about here>>

### *Defining, Measuring, and Using Logistics Customer Service Information*

In the late 1980s, many companies began to utilize customer service to develop value for customers and proactively leverage logistics to gain differentiation.

“In times of tough competition when many organizations offer similar products in terms of price, features, and quality, customer service differentiation can provide an organization with a distinct advantage over the competition” (Lambert et al. 1998 p. 40)

The Lambert et al. quote embodies the nature of academic research in the 1990s that recognized logistics customer service as an intangible commodity – the actual user judges the value delivered and, more importantly, determines the most relevant dimensions of service (Hunt and Chandran 1991).

In response to changing business environments and in recognition of the strategic role of logistics service in enhancing customer value beyond the basic product, Fuller et al.’s (1993) *Harvard Business Review* article was among the first to emphasize the importance of tailored

logistics and related customer service solutions. Their study introduced the notion of “logistically distinct business methods” and suggested that these logistics services represent “an envelope around the product” (p.87). “Companies do not create value for themselves merely by offering varieties of tangible goods. Rather, they offer goods in distinct ways, presuming that consumers value convenience, reliability, and support.” (p. 87-88). Citing examples from organizations such as Procter & Gamble and the Coca-Cola Company, their study identified development of tailored logistics services as the recipe for value creation extending beyond the factory.

#### *Logistics Customer Service: Costs, Performance, and Revenue Effects*

Consistent with its marketing roots (Sterling and Lambert 1987; 1989), the customer service discipline evolved with specific emphasis on logistics-centric and firm-level antecedents and effects. Research provided confirmation of a link between logistics customer service and overall firm performance (Bowersox et al. 1999). The academic literature embraced the boundary-spanning nature of logistics while also highlighting how logistics resources can be employed to proactively improve firm performance. In order to highlight the effect of logistics customer service on sales and revenues, Ballou (2006) identified, categorized, and illustrated “methods of estimating revenues associated with various levels of logistics customer service offerings” (p. 21).

Research in logistics customer service in the late 1990s and early 2000s noted that -- in very competitive industries or during specific periods of time -- economic incentives such as trade promotions often dominate and are virtually unavoidable for selling firms. However, good customer service can encourage a firm to choose vendors with economic incentives who also offer the best customer service. (Daugherty et al. 2002).

### *Market Segmentation and System Design*

Recognizing that customer service may be the best way to gain a sustainable competitive advantage, Sharma and Lambert (1990), recommended an approach to segmenting markets based on customer service requirements. Their analysis indicated that, “. . . overall customer service was important, (but) they did not discriminate on the individual dimensions of customer service. Put another way, customers evaluated the entire bundle of customer service attributes, rather than individual dimensions” (p. 22). Later work extended understanding of logistical service segmentation and its relative costs, including the work of Zinszer (1997), Eckert and Goldsby (1997), and Sabath and Whipple (2007). These studies proposed that the objective in distribution system design should be to trade-off benefits and costs of alternate customer service policies in order to prioritize service elements.

### *Customer Convenience and Time-Based Delivery*

Customer service research in the 2000s has documented how customer service strategies are changing to better meet customer needs. For example, as noted by Rae-Smith and Ellinger (2002), customers expect on-line service systems that “enable instantaneous and continuous communication” (p. 5). Further, logistics service related to the multi-channel customer experience becomes especially important with on-line customer service expectations generally considered to be higher than that demanded by customers shopping in traditional brick-and-mortar channels (Bloomberg et al. 2002). There has also been a shift toward more consumer-oriented LCS research and dialogue (compared to a primary focus on business-to-business coverage) in both the academic and practitioner arenas (e.g., Ellinger et al. 2007; Frankel et al. 2008; PWC 2015; Ta et al. 2015).

Recent logistics customer service research places more focus on the consumer’s role as a driving force behind logistics strategies and expenditures. Academic research continues to evolve



in a time period characterized by increased growth in omnichannel retailing, e-commerce, and a power shift to consumers with many retailers increasing their focus on service convenience in the form of time-based delivery (Goebel et al. 2012; Griffis et al. 2012). Murfield et al. (2017) investigated the impact of logistics service quality in omnichannel retailing with particular emphasis on consumer satisfaction and loyalty. Recently, Esper and Peinkofer (2017) provided a comprehensive review of research on consumer issues. In their conclusions, they highlighted a number of “performance outcome categories (i.e., behaviors and perceptions) that are ‘underneath’ consumer purchases.” (p.421).

### **Observations from the Trade Press**

“Everybody's got a customer service story, and it's rarely a happy one. The surly or inattentive clerk. Pressing "1" on the handset over and over again in search of a human voice—with a recorded voice telling you just how important your business is to rub salt in the wounds. . . . (such) daily experiences illustrate that there aren't many players in business today who really get what customer service is about—or how it can translate into competitive advantage.” (van Bodegraven and Ackerman 2009, p. 47)

This quote represents a significant observation in the trade press in the mid-late 2000s. As the academic literature shifted to a greater focus on the end consumer, a similar trend is mirrored in the trade press. In April 2018, *Logistics Management* published a Special Issue titled “The E-commerce Logistics Revolution” contending that “software, technology, and processes that are helping today’s retail and manufacturing professionals exceed ever-increasing customer demands - whether in B2B or direct to consumers” (Levans 2018, p. 3). Just as customer power was recognized as the driver for LCS in the supply chain in the 1980s, consumer spending power is arguably becoming the ultimate supply chain disruptor. As the dominant force of commerce, specifically e-commerce, consumers’ purchasing behaviors are changing the face of LCS in recognition of the increased need for personalization of service configurations.

Recognizing this “demand-sensitive attitude ... manifesting itself in the way businesses embraced customer service” (Stratton 2008, p. 4), *Inbound Logistics* added an annual “customer service” issue to its editorial line-up. Featured each December since 2008, the annual issue epitomizes industry’s continued recognition of logistics customer service’ critical role in the supply chain. With the exception of the occasional 3PL-focused conversation about their role in service provision, we find no other regularly featured focus on LCS in other trade press publications, including *DC Velocity*, *Logistics Management*, *SupplyChain24/7.com*, etc. One area that has evidenced a boost in trade press coverage in the last 5 years however, is the omnichannel revolution (4 of 6 articles in the November 2014 issue of *DC Velocity* focused on omnichannel fulfillment!). Primary focus has been placed on omnichannel influence on retail logistics strategies. We note new descriptive terminology with the phrase “customer experience in the era of supply chain impatience” (Biondo 2017, p.6). As Melnyk and Stanton (2017) noted, Amazon has changed how customers shop and what they expect. They have done this by offering 24/7 customer service, i.e. Amazon’s customer service is always available. In a recent *Supply Chain Management Review* article, Melnyk and Stanton (2017) noted that, as ecommerce continues to take greater dominance in the marketplace, Amazon’s response has been “a relentless focus on improving customer service” (p. 33). Poor service and impatient customers can very easily translate to lost business. As e-commerce takes greater dominance within the retail sector, supply chain logistics challenges can impede the ability to achieve strategic customer service objectives. For example, performance on last-mile logistics is the ultimate determinant of the overall customer experience. Did it get there on time and in good condition?

With online retail sales in 2016 “representing a 15.6 percent increase, according to the US Department of Commerce” (Douglas, 2017b, p. 45), greater recognition of and reaction to the

challenges of e-commerce and omnichannel fulfilment is noted. For example, with respect to measuring and defining customer service, Douglas (2016) argued that many companies take too narrow of a view of customer service in that they don't consider the "softer" factors. She noted, "Given the importance of customer service in logistics, you might expect shippers to measure the quality of service their partners provide and use that data in performance evaluations. Shippers do that to some extent. But not everyone scrutinizes those 'softer' factors (such as effective and relevant communication, ease of doing business, etc.), the same way they do easy-to-define performances measures" (p. 41). If a company masters the fundamentals (on-time delivery, high fill rate) and wants to do an even better job, the soft issues or people-related issues offer a way to gain greater advantage. A halo effect may emerge: "Doing exceptionally well at a handful of these soft issues gives the impression to the shipper that you're doing exceptionally well on the others" (Douglas 2016, p. 42).

Our examination of the trade press articles indicates that information is needed on both hard and soft measures. On-going monitoring of service can provide an "early warning system" on problem issues. Citing cases of what customer service personnel can do when supply chains do not run according to plans, Stratton (2015) highlighted the role of service personnel who "take 24/7 ownership of customer service issues. They exhaust every possible concept and idea. They do whatever it takes to keep their customer commitments" (p. 4).

Regardless of whether a firm focuses/prioritizes hard or soft dimensions of customer service, Terry (2012) pointed out that customer service is "a soft benefit that defies uniform definition" (p. 36). It is also likely to differ by customer given that the definition of satisfactory customer service depends on the customer's perspective and is a moving target. Metrics change over time, e.g. how many companies offered a 2-hour delivery promise in urban areas 15 years

ago? These observations from the trade press underscore our call for greater academic research focus on logistics customer service.

### **Where Do We Go from Here – Refocusing and Reimagining Customer Service**

Although academic coverage specific to LCS has declined somewhat in recent years, we see an increased emphasis on service in the realm of omnichannel fulfillment strategies. As such, the importance of logistics customer service should not be assumed to be diminished in today's business environment. The reality is that, in the age/era of customer impatience, it's more important than ever.

#### *Omnichannel and Online Retailing*

Much of the coverage on customer service in recent years has related to delivery and, more specifically, the last-mile challenges of e-commerce. Amazon is often the topic of conversation. In 2013, Douglas noted: "Some say Amazon's true market dominance lies in its ability to distribute, but it doesn't . . . It's in continuing to improve the customer experience. And in this, most retailers have been trying to play catch-up" (p. 42). A more recent *Inbound Logistics* story (Douglas 2017a) indicated that not much has changed – focus is still on the last mile delivery and being fast. Now "all eyes seem to be trained on the final stretch of that journey from the point of manufacture to the customer's hands" (p. 40). Thus, logistics service is vitally important. As noted by Bhattacharjya et al. (2016), "Shipping and delivery are usually the primary post-purchase services that are of concern to most customers during the purchasing process" (p. 661).

The "Amazon effect" refers to the escalation of customer expectations (Melnik and Stanton 2017). The continuous commitment to customer centricity defines (and contributes to) the Amazon effect and we believe that it has created a new breed of impatient customers. Also,

it should be noted that what we are calling the Amazon effect should not be limited to Amazon.com (or other domestic retailers). The shift to e-commerce and escalating consumer expectations is global. Innovative service provision developments in China exemplify the global transformation in traditional retailing as captured by the following quote: “. . . while many U.S. retailers and brand-owners that I speak with remain fixated on Amazon (which is important), they are blissfully unaware of the innovations coming thick and fast from companies like Alibaba and JD.com in China. If you truly want to understand the future of retail, it’s as important to look to Shanghai as it is to Seattle” (Bird 2018). Each of these retail giants has adopted diverse, innovative approaches for serving their customers. For example, Alibaba offers a physical retail experience in which its mobile application allows customers visibility to the origins and history of each product and simplifies the ordering, payment, and delivery of goods from the store – including a thirty-minute delivery guarantee in some cases (Bird 2018). In contrast, JD.com’s approach is resource intensive. JD.com “differs from Alibaba with its asset-heavy platform model, relying on its own logistics unit to handle the delivery of goods from the warehouse to the end-consumers (TMTPOST February 2018). JD.com has also invested in improving the in-store shopping experience with robotic carts and detailed informational displays for many products (Bird 2018).

### *The Age of Customer Impatience*

This rapid growth of digitization has certainly contributed to a supply chain environment of empowered consumers. However, the rapid rise of omnichannel and its need to provide seamless and consistent consumer experience is being challenged by impatient consumers. Customer impatience represents an emerging supply chain service paradigm synonymous with customers’ wanting their goods ASAP. Those consumer demands are “pushed back” and typically have a ripple effect throughout the supply chain. Have most consumers become so accustomed to an

informed, fully visible, and on-time delivery process that the notion of customer impatience has become the new normal in today's supply chains? Such escalating service expectations place considerable pressure on logistics professionals and represents a unique opportunity for future academic research.

We suggest that future academic research investigate the extent to which there are spillover effects of consumer impatience into traditional business relationships. Do business-to-consumer (B2C) customer expectations lead the way in predicting a change in business-to-business (B2B) customer expectations? Future research should explore the extent that current customer service models need to evolve to better reflect today's customer's needs. Previous research has confirmed the importance of good logistics customer service, but – for the most part – has not been sufficiently forward looking or prescriptive with respect to strategic responses for omnichannel and multi-channel retailers or even for traditional brick-and-mortar retailers who also face the changing environment and escalating demands.

We offer suggestions for topical coverage and encourage academic response commensurate with the impact that excellent logistics customer service can have on business success, particularly in the omnichannel environment. Pellathy et al. (2018) used middle-range theory to develop a framework and agenda to guide logistics customer service research. They identified opportunities in the areas of human and behavioral factors, time-based competition, supply chain complexity, and digitization and technological innovation. The majority of our proposed topics related to future research on omnichannel and e-commerce LCS share commonalities with those four areas. For example, our suggested focus on the omnichannel customer experience and segmentation is related to Pellathy et al.'s (2018) emphasis on human

and behavioral factors while the identification and prioritization of logistics customer service elements are critical to successfully dealing with supply chain complexity.

Identifying and prioritizing logistics customer service elements. Online shoppers are said to be different from in-store shoppers. They are more informed. They are likely to have “shopped around” by looking at various web-sites and, thus, can easily make comparisons. As a result, logistics-related issues such as availability of product, time to delivery, cost of delivery, and guarantees covering damaged products are important. But how important are they? Early research on logistics customer service focused on identifying key dimensions of customer service and the relative importance of each (Lambert and Harrington 1989). As an example, Stank et al. (1998) looked at the importance of logistics/distribution service elements and identified differences in ranking and levels of importance by industry (personal products industry and food service industry). New research is needed to identify the appropriate “customer service package” for omnichannel and online sales.

As has already been discussed, today’s shoppers are generally more demanding; however, there may be trade-offs they would consider. For example, with respect to delivery, many retailers offer tiered service – overnight, 2-day delivery, 5-7-day delivery, etc. A multi-option strategy is commonplace, but how important is it (from the consumer perspective) and what’s the impact on the bottom line? Are sales significantly higher with fast delivery – and do the associated sales margins more than cover premium shipping costs? These issues deserve rigorous examination. As Marino et al. (2018) noted, for the most part our previous “SCM studies consider the value of delivery time anecdotally and have neglected empirical estimations of the magnitude of the effects of delivery time on consumer demand” (p. 610). Terms such as “white-glove deliveries”, “last

mile”, and “urban” logistics are frequently associated with omnichannel and e-commerce retail logistics customer service.

In the e-commerce age, service across the last mile has replaced the point-of-purchase salesperson as the point of differentiation. “The last mile is about the customer experience,” (Douglas 2017a, p. 41) and in the omnichannel environment, logistics providers are often tasked with creating these experiences. For example, J.B. Hunt’s “Final Mile” service specializes in white-glove home delivery services of appliances, furniture, mattresses, etc. When doorstep deliveries and customer receipt are not convenient options, services like “Amazon Key,” and “UPS My Choice” offer consumers further post-purchase delivery conveniences (Douglas 2017a). Future research should explore the implications of logistics’ changing boundary spanning role, essentially serving as the “face” of the vendor and a potentially major influencer of customers’ perceptions of vendors’ brand and service quality.

Returns management. Handling returns is just as important as the original delivery of product – for both traditional retailers and online or omnichannel retailers. Returns management has become a top priority for many retailers. The increased focus is prompted because of the costs incurred in managing returns and the potential for reclaiming value as well as the impact that returns have on customer satisfaction and repurchase intentions.

Returns management research is a promising area because of its importance to businesses and because relatively little academic research has been done in the area. However, readers are referred to Wang et al.’s (2017) bibliometric analysis of reverse logistics research and suggestions for future research; returns management is a component of reverse logistics. Since so little has been done, there are many avenues to explore. For example, how can companies better manage the returns process? Identification of the capabilities needed could make an important



contribution. Earlier research has identified processes needed to support a returns management program (Rogers et al. 2002). Capabilities are needed to support each process area. For example, relevant areas include -- but are not limited to -- processing/receiving the merchandise, distribution and asset recovery, and customer interface. How can a company develop the necessary skills and efficiencies in each area?

Other areas to consider are the resource support needed for effective returns management, particularly in the areas of technology and personnel training. Return rates have escalated over the years and are typically even higher for e-commerce purchases than for products purchased in traditional brick-and-mortar stores. What options are customers given – buy-on-line return-to-store, buy-on-line and ship the return back to the seller, etc.? How easy is it for consumers to return products? The ease of the return process and how customers are treated have a substantial impact on repeat sales (Burnson 2014; Starbuck 2017). Many companies are taking a proactive stance by placing greater emphasis on returns avoidance – through better design of products, user-friendly instructions, more informative and realistic product descriptions, etc. The area of returns avoidance offers many opportunities for customer service research.

What impact do returns policies have on decisions to buy? Retailers would prefer more stringent policies limiting returns. Even Amazon has closed customer accounts due to excessive use of the retailer's return policy (Safdar and Stevens 2018). The reality is that consumers want just the opposite – liberal policies involving easy return and fast credit authorization. How can retailers accommodate customer requests in the most cost-effective way? Shamiss (2018) summarized the critical nature of effective returns policies and development of comprehensive returns programs: “. . . returns policies create a costly and growing challenge for retailers, e-tailers, and manufacturers. Companies without optimized return management programs are forced to sell

distressed inventory for pennies on the dollar through liquidation. In both cases, sellers and manufacturers are losing out in two ways; they are failing to be socially responsible and they are leaving money on the table” (p. 10).

Customer experience. Topics previously discussed such as defining/measuring customer service elements and effectively handling returns have an underlying theme – it’s important to know your customers, what their expectations are, and to create a *customer experience* that matches customer needs. Customer experience “includes every point of contact at which the customer interacts with the business” and, ideally, should result in “a win-win value exchange between the retailer and its customers” (Grewal et al. 2009, p. 1). Superior customer experiences can be created by leveraging any of the traditional marketing mix elements (e.g. promotion, price, product, supply chain, and location). A considerable body of evidence supports the view that customer service increasingly provides a potential means of differentiation. The “place” element - logistics customer service - is increasingly considered the most important element of the firm’s marketing mix because of its ability to provide the distinctive difference between one company’s offer of customer experience and that of its competitors.

As Grewal et al. (2009) noted, “For decades retail supply chain and logistics issues seemed somehow less important than other activities . . . But this erroneous perception no longer exists. Supply chain issues, from the more managerial partnering side and the more technical operations side, have proven important sources of competitive advantage for many retailers, particularly low-cost providers such as Wal-mart and Zara” (Grewal et al. 2009, p. 7; Ganesan et al. 2009).

Christopher (2011) suggested that the measurable outcomes of such logistics-derived customer value typically fall into the categories of “Better, Faster, Cheaper, Closer” (p. 228), referring to a “quartet of interconnected [service] goals” (p. 240) that emphasize “superior service

quality, achieved in shorter time-frames at less cost to the supply chain as a whole, built on strong relationships with supply chain partners” (p. 239). Logistics customer service is foundational to the customer experience. In spite of this, Bagdare and Jain (2018) commented that previous studies have given very little attention to the retail customer experience. Bagdare and Jain developed measures of the retail experience; however, their research was centered on brick and mortar lifestyle retail stores.

Part of the challenge of moving to an omnichannel distribution model is to ensure that each channel complements the other in providing a consistent customer experience. Further research is encouraged looking at how LCS influences the customer experience related to omnichannel and online retailers and across a wider variety of products. Rose et al. (2012) provided one of the few studies focusing on online customer experience. Their study focused on the antecedents and outcomes of the online experience. One of the critical outcomes they identified is the take-away impression. How does the customer feel about the experience? Contacts with a retailer’s service providers are remembered and influence the customer’s future buying behavior.

A major component of creating the customer experience is communicating with the customer. Websites, various social media platforms, and direct contact with retailers are only a few examples of effective communication methods. Research by Stank et al. (1997) represents one of the earliest examples of research focusing on level of satisfaction with distribution/logistics service in a business-to-business setting. Stank et al. (1997) surveyed buyers for brick-and-mortar retail stores. The focus of the research was voice of the customer, i.e. actively soliciting input from customers/buyers. They concluded that “. . . the use of personal meetings with customers was found to impact customer satisfaction to a greater extent than the use of formal feedback

mechanisms (surveys or telephone calls). . . . it appears as though firms are not fully exploiting the potential to be gained from listening to customers” (p. 2)

Much has changed with respect to technology and communication mediums in recent years and, undoubtedly, impacts buyer-seller relationships and e-commerce retailers in particular. In spite of this, little research has been published exploring different types of interactions/connections and their impact on customer service evaluations. As noted by Bhattacharjya et al. (2016), e-commerce retail success is intrinsically linked to the effectiveness of their logistics processes (which often involve third party service providers). Customers expect e-commerce retailers to answer their queries, particularly resolving delivery issues, in a way that is convenient for the customer. Bhattacharjya et al.’s research investigated “the effectiveness of e-retailers’ logistics-related service interactions on Twitter with a view towards identifying effective and ineffective social media customer service strategies” (p. 659). Future research should examine other forms of retailer-customer communication.

Profiling/Segmenting customers. A recent article in *SupplyChainBrain.com* (McBreath 2018) suggested that companies are not capitalizing on customer experience strategies to the degree that they should. As was noted, “Despite customer experience maturing as an accepted, even foundational business practice, brands still have significant blind spots when it comes to truly understanding their customers” (p. 23). They reported that nearly one-third of customers responding to their study indicated they did not have a positive memorable experience with a brand/company in the previous year. Further, “Forget price and selection -- strong emotions like anger and feeling special are what turn a simple experience into fuel for future behavior” (p. 23). A case could certainly be made that excellent logistics customer service could play a big role in avoiding anger-inducing reactions and creating the “special” feeling. In order to do this,

companies must know more about their customers which explains why more companies are profiling customers, segmenting customers, and generally making decisions about products and services (particularly customer service) based upon differential profiles/needs.

Segmenting customers based on customer service requirements is not new (Sharma and Lambert 1991), but the approaches are much different today. Technology allows the collection and analysis of data yielding much richer, more insightful information to guide service-related decisions and communications with customers. Examples of such big data-driven customer segmentation strategies include applications in behavioral targeting through predictive analytics, and applications of established artificial intelligence (AI) technologies to boost 3PL customer engagement levels. Target's use of predictive analytics to determine when retail customers are expected to be pregnant (Duhigg 2012) is a well-known example of the former, while IBM and DHL's recent partnership aimed at exploring AI use for predictive ordering, and inventory management purposes to enrich customers experience (Henderson 2018) is an illustration of a focus on customer engagement.

Many companies also routinely mine information from customer phone calls, online comments, and social media. This can yield an unprecedented level of transparency and communications to help "shippers and logistics providers understand each other's operations and collaborate in ways unimaginable in the past" (Terry 2014, p. 33). Yet, while many companies use social media (and other types of contact) for promotional efforts, they often overlook its potential as a customer service tool (Terry 2014). Mega retailers can generate targeted coupons for customers as they check-out because they have a database on the customer and know his/her buying habits. Omnichannel and e-commerce retailers certainly have the capability to track service and collect feedback from customers in order to avoid future problems and make

adjustments to better meet customer needs. Many are probably already doing this; however, little is known about the “how” they are going about it or what data are deemed important. This represents substantial research potential for academics if they can gain access to such data.

Retailers often segment customers by spending level and buying habits. Again, omnichannel and e-commerce retailers typically have the data at hand and many use it to develop loyalty or membership programs. Amazon’s Prime membership (that recently went over 100 million members) is probably the best-known example. However, many other programs are in place, including Target REDcard, JCPenney’s JCP Rewards, Gap Rewards Program, Best Buy Reward Zone, Macy’s Star Rewards, and DSW Rewards.

Loyalty programs give some type of reward (cash back, frequent flyer miles, etc.) to encourage continuing patronage. Such programs became so common over the years that some argue that “they are considered business as usual now or are sometimes taken as a pricing strategy” (Padhy 2017). Reduced effectiveness of the programs encouraged introduction of enhanced versions of the basic loyalty program format. Amazon Prime is the most prominent example; it has been characterized as “one of the best loyalty programs that there is” (Padhy 2017).

A CBS News story asked, “What do Restoration Hardware, Land’s End, and Postmates have in common? They all want you to shell out money in exchange for an annual membership, a la Amazon Prime” (Picchi 2016). Why are they copying Amazon? The numbers tell the story. Amazon Prime members are reported to spend 4.6 times more money on Amazon as non-Prime members do. The average Prime member spends about \$2,500 a year at Amazon which is nearly 5 times more than non-Prime members spend (Clarus Commerce Blog 2018). It should also be acknowledged that much of Amazon’s success relates to very high customer service levels with respect to product availability and speed of delivery.

More retailers are launching premium customer loyalty programs (Ankeny 2016). It's too soon to speculate as to whether most will be successful or if there will be substantial fall-out. The relationship between retailer subscription programs and customer service would seem to offer substantial research opportunities for academics. The common wisdom is that speed of delivery is the determining customer service dimension. Perhaps a return to the approach of early logistics customer service research recommending starting with determining exactly what customers expect and value is in order. Omnichannel and e-commerce retailing are not going away, but we also know that customer expectations rise over time. What strategies will help to insure on-going success in the age of customer impatience?

Advanced technologies/digitization. In a recent TechCrunch article titled, "In the age of disintermediation, the battle is all for the customer interface", author Tom Goodwin (2015) stated that "Uber is the world's largest taxi company, yet it owns no vehicles. Facebook, the world's most popular media owner, creates no content. Alibaba, the most valuable retailer, has no inventory. And Airbnb, the world's largest accommodation provider, owns no real estate. Something interesting is happening .... In recent times, the power of the Internet, especially the mobile phone, has unleashed a movement that's rapidly destroying the [traditional supply chain] layers and moving power to new places – customer, or better yet, consumer interfaces through the application of technology that matches willing buyers with sellers who have something to offer." These examples (Uber, etc.) reflect a new business model characterized by no inventory, but facilitated by customer service excellence- and the ability to leverage information capturing and processing capabilities to influence value creation.

Digitization refers to the human-technology interactions that support information processing (Cecere 2017). Pellathy et al. (2018) provide examples of previous research on various

ways that increased digitization has affected logistics consumer and service segmentation; however, they also note that “For the most part, though, neither the academic nor practitioner literature has advanced substantive narratives about the specific steps companies need to make in order to succeed in a digital environment” (p. 11).

Technology trends will inevitably challenge and change many paradigms in the supply chain. Most people think of e-commerce only in the business-to-consumer (B2C) world. Yet technology’s disruptive effects in e-commerce is of equal importance in the business-to-business (B2B) world as evidenced by the facilitated collaboration between 3PLs, retailers, and suppliers for the purpose of sharing information in vendor-managed inventory arrangements. In the LCS arena, physical as well as information technology is changing the landscape of material handling and transportation protocols. Physical technology deployments include the applications of advanced robotics and drone technology for yard management and warehouse inspections, as well as recent industry conversations around electronic logging devices (ELDs). Information technology deployment includes the cross-channel, omnichannel platforms shared between manufacturers, retailers, and logistics providers. In an age of customer impatience, these solutions are essential to gain complete visibility of customer interactions and a global overview of inventory.

Technology and social media can also yield an unprecedented level of transparency and communications to help “shippers and logistics providers understand each other’s operations and collaborate in ways unimaginable in the past” (Terry 2014, p. 33). Simply stated, they can be used to get closer to customers and aid in the development of customized or tailored customer solutions. Yet, while many companies use social media for promotional efforts, they often overlook its potential as a customer service tool (Terry 2014). An active social media engagement strategy can



allow a firm to publicly solve customers' problems. Such exposure can lead to greater customer satisfaction.

Understanding how technology influences consumer behavior and expectations regarding service performance is crucial. As supply chains evolve from traditional linear models to more harmonized networks of trading partners, logistics must also evolve to deliver real-time solutions to supply chains that are increasingly digital and "always-on". In the age of impatience, customer's expectations include fast, cheap service as well as full traceability and tracking capabilities. Academic research should address how technology enhances customer power through greater transparency and flexibility of event resolution.

## **Conclusion**

Over 40 years ago, Heskett (1977) pointed out that "Logistics can spell the difference between success and failure in a business" (p. 85). Similarly, in one of the early investigations of what firms can do when customers change what they value, Flint and Mentzer (2000) reminded us that "understanding how customers' logistical needs change over time is a key component to predicting what customers may value in the future" (p.41). These statements are still true today. In fact, logistics customer service is more critical than ever in support of retailing in an omnichannel and e-commerce era. Logistics can provide the coordination to integrate supply chain activities. Such integration is essential to handling the complexity and time pressures associated with omnichannel and online retailing. Customers demand more and they are impatient. They don't want to wait – "Consumers are looking for that immediate delivery option" (Beckwith 2017, p. 44). This is unlikely to change. "One thing is certain, though: e-commerce and omnichannel

retail leaders have trained their customers to expect more options and better service . . . they want to order a product this morning and receive it this evening” (Douglas 2017b, p. 45).

The business community recognizes the importance of dependable, high quality logistics customer service. We as academics need to also recognize how relevant and value-adding logistics customer service research findings can be and focus more of our research on the area. Galipoglu et al. (2018) provided a state-of-the-art review of omnichannel retailing research and noted that, to date, academic researchers have given only limited consideration to the topic.

Sterling and Lambert’s (1989) work acted as a catalyst for the large amount of subsequent LCS research we observed in the 1990s and 2000s. However, there has not been a “call to arms” to logistics and supply chain scholars on issues relevant to LCS since then. Our paper provides that call to arms. We have highlighted the age of customer impatience and the associated potential magnitude of research contributions. We have also proposed a wide range of topics that can be addressed in logistics customer service research, particularly with respect to changes in customer and consumer expectations of service brought about by omnichannel and online retailing (as well as traditional brick-and-mortar retailing). The broad range of topic areas present abundant opportunities - from inventory management to after-sales support and returns management. In this age of customer impatience, we encourage greater attention in the academic literature to the vital areas of logistics services to customers within omnichannel and e-commerce supply chains.

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**Table 1: Summary of the Academic Literature on Logistics Customer Service**

Logistics Customer Service Research Topics	Description	Example Studies	Study Summary
<i>Emergence of the Customer Service Concept</i>	Prompted by industry forces challenging traditional ways of meeting customer needs, the Council of Logistics Management (CLM) sponsored two of the earliest known studies on customer service	La Londe and Zinszer 1976 and La Londe et al. 1988	These studies examine how successful firms remain customer-driven in spite of environmental challenges of escalating costs of capital, increasing transportation costs, global competition, and an expansion of supply chain technology options. As far back as Sharman’s (1984) <i>Harvard Business Review</i> article, customer service has been recognized as a point of differentiation that provides firms with a distinct advantage over competition. These example studies acknowledge that beginning in the mid-late 1980s, many companies utilized customer service to develop value for customers and proactively leveraged logistics to gain differentiation in dealing with customers’ increased expectations regarding logistics service. These studies act as a springboard from the late 1980s into the 1990s, as academic research signified a strategic shift in the way that firms defined appropriate customer service levels from a cost centered approach to one of being proactive through using customer service for “customer keeping” (Langley and Holcomb 1991).
<i>Defining, Measuring, and Using Customer Service Information</i>	Concerning the definition and measurement of logistics customer service and its performance. These series of studies recognize the “perceptual” (intangible) nature of Logistics Customer Service (LCS) and acknowledge the challenges firms face when trying to accurately measure and adequately define customer expectations. Over time, research acknowledging the multi-dimension nature of LCS embrace the use of multiple measures to	Sterling and Lambert 1989	One of the earliest published academic research on LCS, study reviews past customer service research with a view to developing its future as an integrated part of the marketing mix and logistics/marketing interface. This seminal piece represents a key catalyst for majority of LCS research studies that took place in the 1990s. Study identifies - amongst other things - the need for further investigations of how LCS contributes to overall customer satisfaction and firm performance; segmenting markets based on their service requirements; understanding the importance of LCS vis-a-vis the other components of the marketing mix; and educating firms on the strategy effects and implications of LCS.
		Pisharodi and Langley 1990	Based upon the classical stimulus-response model, study suggests that marketing variables and physical distribution service variables act as stimuli on customers who then respond to the stimuli (favorably or unfavorably). A “customer service package” can be designed to influence such customer responses.
		Marr 1990	Study notes that in the early 1990s, many companies only used a single measure of customer service, reflecting a global measure of how well they were doing. Study represents the beginning of the field’s acknowledgment the multi-dimension nature of customer service.
		Hunt and Chandran 1991	Study acknowledges that while service offerings must match needs and priorities of individual users, the intangible nature of service delivery (compared to physical products) can make maintaining consistent performance levels difficult. With a focus on service failures, this study highlights the importance of staying in touch with user perceptions since actual users (customers) judge the value delivered, level of services performed, and more importantly, determine the most relevant dimensions of service.
		Sharma and Lambert 1991	Study examines the use of salespeople to collect customer service information and concludes that the salesforce is an inexpensive source for service related information but recommends that it be used with caution. Specifically, the authors’ empirical study demonstrates “that salespeople are inaccurate when providing information about customers’ importance weights, customers’ performance evaluation, and customers’ absolute levels of customer service expectation” (p. 31).

	define LCS and we start to see multiple scale-development studies emerge.	Livingstone 1992	Utilizing a case study approach, this study recommends that the first step in developing a customer service measure is to establish the customer's exact expectations. "Customer service does not materialize merely through the dedicated efforts of front-line staff, although 'people power' can work miracles. To provide excellent customer service continuously, the order management cycle must have service built into the total process." (p.4)
		Sarel and Zinn 1992	Study notes that customer service surveys were becomingly increasingly popular and recommends that surveys should include customers <u>and</u> non-customers, as important insights can be gained from examining non-customer input. Study also concludes that, "while it may be more difficult and more expensive to collect data from non-customers, their perspective is essential" (p. 20).
		Rogers et al. 1992	Study measures service capabilities at warehousing firms on ten areas ranging from accommodating special customer service requests to handling returned goods.
		Chow et al. 1994	Illustrating that the definition and measurement of logistics is necessarily multidimensional, this study reviews relevant literature to identify a variety of constructs that can be used to conceptualize, operationally define, and measure logistics performance. While hard performance measures such as net income are typically accurate and easy/inexpensive to collect, "soft", perceptual measures of service are typically subject to the inherent limitations of self-reported standards which create comparability problems where LCS is concerned. This study is indicative of similar works in the early-mid 1990s (Rhea and Shrock 1987; Cooper et al 1990; Daugherty et al. 1998) which focus on measuring logistics (cost and service) performance, demonstrating its impact on overall firm performance.
		Holcomb 1994	Based on original dissertation thesis work, the author develops a "comprehensive method for designing, assessing, and improving customer service offerings, from both a quality and cost perspective" (p.29). This study applies the Taguchi methods and strategies of parameter design in a logistics context to demonstrate that higher quality service can sometimes be achieved at no additional costs to the customers through the reduction and elimination of variability.
		Closs and Savitskie 2003	Study uses five measures – delivery speed, responsiveness to key customers, order fill capacity, delivery time flexibility, and customer satisfaction. These measures had previously been used by Bowersox et al. (1999).
		Zokaei and Hines 2007; Smith and Eroglu 2009	These studies identify that up to this point, much of the customer service research in logistics had been done in a business-to-business context, recognizing the importance of seeking input from the ultimate consumers. Smith and Eroglu's (2009) research develop a scale for the assessment of off-site customer service, identifying factors important in the evaluation of off-site customer service contact method, e.g. website or telephone.
		Boon-itt and Wong 2011	Study uses four measures of customer delivery performance – on-time delivery, right quantity, short lead time, and reliable delivery to customers. These measures had previously been developed by Ward and Duray (2000).
<b><i>Cost-Service Trade-Offs and the Logistics – Marketing Interface</i></b>	In addition to identifying specific measures of customer service and different ways to collect customer service information, researchers	O'Neil and Iveson 1991	Study addresses the complexity of determining the real needs of customers, i.e. the most important elements of service and the respective desired levels of service. Auditing processes common at that time required substantial statistical knowledge and, thus, were often performed by third parties specializing in customer service design. As an alternative to outsourcing, the authors present "an operational procedure that would prioritize customer service elements in a simple and inexpensive manner so that it could be performed in-house by most companies" (p. 158).

	also started to look at cost-service trade-offs in order to prioritize customer responsiveness and service elements, signaling the field's recognition of customer orientation quality logistics customer service performance.	Manrodt and Davis 1992	Noting that companies were faced with dramatic challenges due to customers' increased expectations regarding logistics service, this study introduces the notion that LCS is evolving to become more responsive to individual customers and note three phases and time periods to illustrate the dynamics of logistics: the total cost concept; the systems concept; and the customer service concept.
		Lancioni and Gattorna 1992	In their study regarding quality standards for logistics customer service, the authors highlight consistency of standards as critical issues for firms are attempting to develop an approach to achieving quality service.
		Sharma et al. 1995	Study explores the customer satisfaction/logistics interface and builds on practitioner research by A. T. Kearney to confirm that even in competitive markets where firms can achieve product and price parity rather easily, firms can still have a positive impact on customer satisfaction by providing outstanding logistics services. Based on customer expectation disconfirmation principles, the study suggests that since high levels of logistics service are not so easily copied and are even sometimes ignored as a competitive tool, these strategies can be successfully used to develop firms' sustainable advantage.
		Emerson and Grimm 1996	This study extends and empirically tests the conceptual model of customer service/satisfaction suggested by Mentzer et al. (1989) which included three logistics service dimensions – availability, timeliness, and delivery quality – by adding a fourth dimension: communication. Recognizing the limitations of viewing customer service from a single functional perspective, the study suggests that achieving outstanding customer service levels “involves interfunctional co-ordination, especially between the logistics and marketing functions.” (p.29)
		Bookbinder and Lynch 1997	Study provides advice “to help a shipper decide which of many service options should be given (offered), considering both costs to the company and satisfaction of the customer” (p. 540). Noting that Sterling and Lambert (1989) had previously found that management too often would set customer service levels too high, not realizing that customers have different needs, this research uses a utility function approach and calculated optimal service levels for specific situations.
		Emerson and Grimm 1998	In order to assist firms with decisions of what resources to devote to the most critical customer service elements, the study investigates the environmental conditions under which each dimension become relatively more important.
<b>Logistics Customer Service: Costs, Performance, and Revenue Effects</b>	Establishing a link between logistics customer service and overall firm performance has been portrayed as one of the logistics discipline's most important challenges (Bowersox et al. 1999). These studies illustrate the evolution of LCS from the marketing	Haessler and Talbot 1991	With an emphasis on, and goal of, developing a system to improve logistics customer service through load planning, this study introduces the notion of customer “delight” – firms need to “go beyond what is expected and provide service that is unexpected in a positive way and provides value to the customer.” (p.115)
		Daugherty et al. 1995	Study examines the relationship between responsiveness and a firm's operating performance, and recognizes firms' increasing motivation to be customer oriented, citing that “changes ... in the forces shaping competition, and in customer and supplier demands all increase the necessity for companies to work more closely with their customers. . .” (p.4). The authors suggest that “focused responsiveness is critical” (p.14) and that responsive firms are those that have leveraged information to improve operating performance by “responding to what customers want rather than speculating” (p.15)
		Dresner and Xu 1995	Study examines the effect of on-time performance; mishandled baggage; and ticket over-sales on customer satisfaction, and in turn on profitability for US airlines and suggests that increasing customer service raises customer satisfaction which in turn improves corporate performance.

<p>discipline into a bona-fide logistics-related construct. Specifically building off of the work of Sterling and Lambert 1987; Langley and Holcomb 1992, these studies establish that LCS impacts and is influenced by a number of important factors, emphasizing logistics-centric and firm-level antecedents and effects. In later time periods, authors begin to explore the notion of viewing logistics customer service from a process perspective. This recognizes the boundary-spanning nature of logistics while also highlighting how logistics resources can be employed to proactively identify and recover from service failures that originate within the logistics department or from other sources.</p>	<p>Lemmink et al. 1996; Bookbinder and Lynch 1997; Daugherty et al. 1997</p>	<p>These studies recommend the use of a non-price dimension to gain loyalty with key accounts and differentiation. Specifically, customer service quality is suggested as a way to generate customer loyalty, showing why key accounts – deserve to be treated differently. While identifying that high-quality customer service increases a customer’s dependence and the likelihood that a partnership will emerge between the firms, these studies acknowledge however that, “once the relationship has been established and has reached maturity, the impact of high quality service will wear out” (Lemmink et al. 1996, p. 39). Daugherty et al.’s (1997) research suggests that the extra services and commitments given to key accounts are warranted as “buyers for key accounts indicated significantly higher levels of customer satisfaction and customer loyalty in relation to distribution service than did the buyer respondents at all other accounts” (p. 83).</p>
	<p>Daugherty et al. 1998</p>	<p>Recognizing the effect of LCS on firm performance this study extends the seminal idea of the role of LCS beyond the basic product, exploring the relationship between LCS and market share with the intermediary linkages of logistics service, customer satisfaction and loyalty emphasized.</p>
	<p>Daugherty et al. 2002</p>	<p>Recognizing the popularity of trade promotions in the 1990s, this study surveys independent grocery retailers and concludes that “high quality customer service positively influences independent grocery retailers’ decisions regarding vendor promotional offers. Superior customer service is another selling point or differentiator for marketers” (p. 53).</p>
	<p>Bolumole et al. 2003</p>	<p>Authors present a model of the customer service management process including strategic and operational elements as well as providing examples of successful implementation. The study addresses the importance of considering customer service as an essential supply chain management process, noting that the process “is the key point of contact for administering product and service agreements (PSAs) developed by customer teams as part of the customer relationship management process. The goal is to provide a single source of customer information, such as product availability, shipping dates and order status” (p. 15).</p>
	<p>Stank et al. 2003</p>	<p>Study examines the 3PL sector to explore the impact of logistics customer service performance on market share and overall business performance. Authors adopt structural equation modeling (SEM) to simultaneously assess the structural paths among the among core dimensions of logistics service performance, satisfaction, loyalty, and market share.</p>
	<p>Tracey 2004</p>	<p>Study emphasizes the importance of transportation service performance as a source of competitive advantage. Author empirically investigates the impact of inbound and outbound transportation performance on manufacturing firms’ ability to achieve sales growth and improved return on assets through improved product variety, product quality, manufacturing cost reduction, and satisfactory delivery services.</p>
	<p>Dadzie et al. 2005</p>	<p>Study “extends the existing research on logistics customer service-loyalty relationships to the online logistics supply chain environment by examining potential website determinants of logistics customer service quality” (p.52) “As the consumer market segment of the Internet economy continues to grow, the role of customer service in the emerging logistics supply chain systems will continue to change.” (p.53). With this justification, this study represents one of the early works to suggest ways for firms to create a consumer-oriented online logistics customer service strategy. Authors examine the factors that determine the level of perceived LCS quality in Internet-enabled supply chains, and relatedly, the impact of such quality on customer website loyalty.</p>
	<p>Ballou 2006</p>	<p>Study proposes that revenue generation is just as important to an effective logistics strategy as cost reduction. Recognizing that little research had been done to precisely determine the degree to which LCS affects sales and generates revenues, the author’s research identifies, categorizes, and illustrates “methods of estimating revenues associated with various levels of logistics customer service offerings” (p. 21). The pragmatic value</p>

			of this study is to suggest that it is “possible to show in a measurable way the extent that logistics customers service variables affect sales rather than just be satisfied with the notion that customers appreciate good service and that service generally affects sales in a positive way” (pp. 35-36).
		Davis and Mentzer 2006	Dyadic exploration of the differences in perceptions about what constitutes a “loyal’ relationship. As a result of the “increasing importance placed on logistics service as a differentiating competitive tool” (p.54), study offers an empirical exploration of the heretofore assumption that building and maintaining relationships with customers leads to long-term customer retention.
		Germain and Iyer 2006	Study measures logistics performance in three areas: delivery lead-times, inventory turnover rates, and on time deliveries to customers, and empirically investigates its effect on firm financial performance. Their study demonstrates that “financial performance is not directly predicted by integration: rather logistical performance transmits the effect of integration on financial performance.” (p.49)
		Nyaga et al. 2007	Study empirically examines the impact of flexible production systems on customer service performance in a configure-to-order (CTO) environment. Authors claim study is first of its kind to examine the “simultaneous impact and interaction of demand variability, demand skew and configuration capacity in a CTO environment” (p.84)
		Johnston 2015	Study investigates the cost of improving service to a motor carrier in the intermodal market in order to validate the existence of two dimensions of logistics customer service, while emphasizing their differential impacts on costs: a physical capacity dimension and a human performance dimension.
<b>Market Segmentation and System Design</b>	Recognizing that customer service may be the best way to gain a sustainable competitive advantage, these series of studies recommended an approach to segmenting markets based on customer service requirements	Sharma and Lambert 1990	With an introduction suggesting that customer service had not received sufficient attention from marketers, this study offers a methodology for the segmentation of markets based upon insights gained during in-depth interviews with 30 buyers of high technology products and a survey rating the importance of 48 customer service attributes. The authors’ analyses indicates that, “. . . overall customer service was important, (but) they did not discriminate on the individual dimensions of customer service.” (p. 22). Sharma and Lambert (1990) subsequently utilize cluster analysis to identify buyers with similar needs.
		Robinson and Satterfield 1990	Study proposes that the objective in distribution system design should be to trade-off the benefits and costs of alternative customer service policies and a firm’s network and transportation strategy. Two distinct strategies are examined: distribution network strategy (the number and location of distribution facilities and assignment of customers to facilities) and transportation strategy (mode and/or method of product movement).
		Eckert and Goldsby 1997	Noting a need for a practical tool for firms to use to separate customers willing to pay for improved logistics service from those that are not, this study utilizes the elaboration likelihood model (ELM) to identify feasible, profitable customer segments willing to consider “the improved service offering and demonstrate increased commitment and loyalty on purchase” (p. 600).
		Zinszer 1997	Study applies the buygrid model to examine multiple segments of service offerings and performance levels. The study’s approach “provides explanation for categories of customer service packages in order to meet the diverse needs of the firms’ customers” (p. 588).
		Braithwaite and Samahk 1998	Authors introduce a variant of the logistics total landed costs model - “The Cost-to-Serve Method”. Study suggests that in addition to the cost differences that exist between large and small customers, there is generally a service expectation difference, with a fundamental suggestion to segment the service objectives of different customer channels in order to balance low cost production with market leadership.

<p><b>Customer Convenience and Time-Based Delivery</b></p>	<p>Beginning in the early 2000s, we start to see specific applications of the customer service notion of time-based delivery and its importance to supply chain competitiveness. Recognizing the advent of omni-channel retailing and e-commerce, these studies highlight how customer service strategies are changing to better meet unique customer needs that define these emerging channels.</p>	<p>Autry et al. 2001</p>	<p>Study examines the relationship between customers' satisfaction levels and performance of firms' reverse logistics programs and generally identified that "firms are only somewhat satisfied with the reverse logistics service being provided by their trading partners" (p.30), reflecting the "challenges and enormity of the reverse logistics task." (p.35). Study suggests that "there may be a ``gap" between the expectations held by the retailers in terms of service quality and the actual performances of their trading partners." (p. 35)</p>
		<p>Dadzie et al. 2005</p>	<p>Study explores factors that determine the level of perceived logistics customer service in an internet-enabled supply chain, and the impact of logistics customer service quality on customer loyalty towards a retailer's website. Their study provides "empirical validation of the logistics customer service-customer loyalty linkage in the online environment" (p. 54).</p>
		<p>Oloruntoba and Gray 2009</p>	<p>Conceptual study exploring the application of logistics customer service in emergency relief chains, suggesting a "link between customer service and non-profit, non- repetitive, non-routinized supply chain." (p.486). Authors originality statement claim to be the "first to apply the terms "customer" and "customer service" systematically in a humanitarian context and thereby propose a customer service perspective in emergency relief chains." (p. 486)</p>
		<p>Goebel et al. 2012</p>	<p>Study investigates the revenue potential of time-based delivery services of parcels and offers guidance on whether the adoption of time-based delivery to firms' service portfolio is worthwhile. Highlighting the importance of the "just-in-time" nature of logistics customer service, this study investigates companies that allow consumers to choose a preferred time slot for delivery and found that the level of availability at home and the working hours per week (of purchasers) are important antecedents of the perceived attractiveness of the service. Authors conclude that "consumers who perceive this convenience-enhancing service as attractive, represent a market segment that has significant revenue potential" (p. 584).</p>
		<p>Griffis et al. 2012</p>	<p>Study examines the relationship between order fulfillment cycle times and referral behavior, identified by authors as "two key dimensions of online retailing" (p.279). Authors find order fulfillment performance is an instrumental requirement for generating online retail referrals.</p>
		<p>Murfield et al. 2017</p>	<p>With its emphasis on at consumer satisfaction, this study investigates the impact of logistics service quality on consumer satisfaction and loyalty in an omni-channel retail environment</p>