

Article

# Impact of supply chain agility on customer value and customer trust: Moderating effect of price sensitivity in healthcare industry

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**Abstract:** This study investigates the impact of supply chain agility on customer value and customer trust while investigating the role of price sensitivity as a mediating variable in the healthcare industry. A quantitative methodological approach was used. This was cross-sectional descriptive research based on a survey method, and data were collected using a structured questionnaire. The sample consisted of 384 respondents who had already used healthcare facilities. The sampling technique was convenience sampling and collected data were analyzed using structural equation modeling. The study indicated that supply chain agility positively impacts customer value and customer trust, while there is no moderation role of price sensitivity in the healthcare industry. Previous scholars revealed that there is a strongly available association between supply chain agility and customer value. But no attempt was undertaken to investigate the impact of supply chain agility on customer trust while moderating the role of price sensitivity.

**Keywords:** customer trust; customer value; healthcare industry; price sensitivity; supply chain agility

## 1. Introduction

The main purpose of any supply chain is to create and deliver a set of values to its customers (Gligor et al., 2020). Subsequently, supply chain management is practiced highly in modern business (Mathur, 2018). Using any firm's supply chain management practices, one hopes to maintain a balance between demand and supply in the process of value-adding to the customer (Aldrighetti, 2019). Importantly, the nature of most markets is volatile and uncertain in customer demand (Aslam et al., 2020; Khan and Wisner, 2019; Um, 2017). Consequently, the immediate increase in demand tends to create the risk of disruptions in the supply chain and might create production shutdowns in short periods (Aslam et al., 2020; Chen, 2019; Du et al., 2021; Khan and Wisner, 2019; Patel and Sambasivan, 2022). Furthermore, due to the increasing uncertainty in the business environment, especially service supply chains have faced trouble identifying and satisfying customer requirements appropriately (Mandal and Saravanan, 2019). These unprecedented market changes will lead to an increase in the requirements of customers (Aslam et al., 2018; Sharma et al., 2017).

Using traditional methods and tools cannot fulfill the market's volatility (Sharma et al., 2017). Among various practices, methods, or tools in supply chain management, supply chain agility is a more effective way of avoiding disruption in the short term (Dubey et al., 2019; Jermsittiparsert and Wajeetongratana, 2019; Khan and Wisner, 2019; Patel et al., 2017; Patel and Sambasivan, 2022; Tse et al., 2016; Um, 2017).

Presently, supply chain agility has emerged as one of the important concepts in the world-class supply chain (Aslam et al., 2018; Gligor et al., 2020; Gligor and Holcomb, 2014). Similarly, supply chain agility responds to the changing requirements of the customers can be labeled as a type of dynamic capability (Aslam et al., 2018). Because supply chain agility is a mechanism for providing a timely single to compatible with current behaviors in the marketplace (Aslam et al., 2018; Eckstein et al., 2014).

The healthcare system of Sri Lanka consists of Western allopathic and other health systems such as Ayurveda, Siddha, Unani, acupuncture, and deshiya chikitsa. The Western allopathic system of Sri Lanka consists of main two services as curative and preventive. Most parts of preventive care requirements and curative care requirements are provided by Sri Lankan government institutions free of charge (Sri Lanka Health System Review, 2021). Curatives include outpatient-only facilities and primary care institutions to tertiary care institutions and specialized hospitals. They mainly provide comprehensive health service packages but do not focus on specific benefits. It covers 95 percent of inward care and 50% of total ambulatory care on the whole island (Sri Lanka Health System Review, 2021). Therefore, the government healthcare sector is playing a major role in Sri Lanka. The government healthcare is controlled by a cabinet minister. The Ministry of Health led by a minister and a secretary who is a senior administrator from the Sri Lanka Administrative Service or sometimes a senior doctor who is a specialist administrator. Institutions such as the Ministry of Health, Nutrition, and Indigenous Medicine (MHNIM) are responsible for formulating policies and legislation on health, monitoring the health program of the country, management of healthcare technology, and human resources (Sri Lanka Health System Review, 2021). In Sri Lanka, the main two sources of health financing are government revenue and out-of-pocket spending (Sri Lanka Health System Review, 2021).

The Healthcare industry of Sri Lanka revealed that the healthcare industry has not responded to the demographic demand of the country. Furthermore, healthcare information flow is not properly circulated among relevant parties in the healthcare system (Sri Lanka Health System Review, 2021). At the same time, low purchaser-provider relationships and low strategic purchasing arrangements for entire institutions, patient or community health service delivery are maintained (Sri Lanka Health System Review, 2021). Consequently, it can be revealed that there is a lack of supply chain agility in the healthcare industry of Sri Lanka. However, proper coordination and collaboration among all the parties in the service supply chain from origin to end should be mandatory (Bilodeau and Potvin, 2018; Hietanen et al., 2018; Lee et al., 2017; Lusch et al., 2010; Ryfe, 2022; Tommasetti et al., 2016; Vargo and Lusch, 2017). Because it will lead to creating value and customer trust in the service supply chain (Lee et al., 2017; Pohlmann and Kaartemo, 2017; Vargo et al., 2020; Wilden et al., 2017). Furthermore, with the support of service dominant logic and network theory, they revealed that those theories have not explored the importance of the above connection that should happen within the service supply chain in advance.

Supply chain agility can be considered the capability of a supply chain (Dubey et al., 2019; Feizabadi et al., 2021). That capability will be emphasized the importance of response changes because the customer value portion will be increased (Bidhandi and Valmohammadi, 2017; Gligor et al., 2020; Kumar and Reinartz, 2016; Mandal,

2018; Naqvi et al., 2020; Udokporo et al., 2020; Woo et al., 2021). Service package development based on customer requirements will increase consumer trust in the service supply chain (Chen, 2019; Graciola et al., 2018; Patel et al., 2017). At the same time, recent studies have revealed the importance of investigating the impact of supply chain agility on customer trust (Avelar-Sosa et al., 2018; Biswas et al., 2022; Chen, 2019; Gligor et al., 2020; Graciola et al., 2018; Jermstiparsert and Pithuk, 2019; Paparoidamis et al., 2019; Rasiah et al., 2020; Sahin, 2017). From another point of view, there is a role in price changes between the consumer demand adjustment process (supply chain agility) and consumer behavioral outcomes such as customer revisit intention, customer value, and customer trust (Chen, 2019; Low et al., 2013; Wieland et al., 2012). At the same time, recent studies have revealed the importance of investigating moderating role of price sensitivity (Abdallah et al., 2021; Aslam et al., 2018; Ayoub and Abdallah, 2019; Bhutto et al., 2022; Fayezi et al., 2017; Gligor et al., 2020; Li et al., 2016; Manzoor et al., 2021).

Supply chain agility is an organization's capability that react to changes in consumers' requirements. Thereby, firms should enhance the flexibility and responsiveness among the supply chain parties in the service supply chain. Furthermore, previous scholars have already discussed the available strong association between supply chain agility and customer value. However, no attempt was undertaken to investigate the impact of supply chain agility on customer trust while moderating the role of price sensitivity. At the same time, this study will attempt to explain the importance of linking with the market and maintaining the proper relations from the origin to the end of the service supply chain by using service dominate logic and network theory. Finally, based on the explained performance, theoretical, and empirical gaps, and the above explanations, it can be revealed that this study focused on how supply chain agility impacts customer behavioral outcomes such as customer value and customer trust while the role of price sensitivity in the healthcare industry of Sri Lanka. Therefore, this study investigates the impact of supply chain agility on customer value and customer trust and the role of price sensitivity in the healthcare industry of Sri Lanka.

## **2. Literature review**

This section briefly discusses the variables of the study. Supply chain agility is the independent variable. Customer value and customer trust are the dependent variables and price sensitivity is the moderating variable. Furthermore, this section focuses on service-dominant logic and network theory as well. Service dominate logic engages with the sociological perspective, in which delivering service is a special exchange between the service provider and customers rather than the product. Network theory explains the importance of inter-relationships between the closely related parties in the supply chain through the exchange process.

### **2.1. Supply chain agility**

Supply chain agility is an operational ability to match the demand-side requirements with supply-side capabilities (Brusset, 2016). Furthermore, supply chain agility can be defined as the ability of a certain organization to respond to market

temporarily or supply chain changes in the short term (e.g., demand fluctuations, supply chain fluctuations, changes in suppliers' delivery times) and take immediate actions to respond to those changes quickly in a smother way (e.g., reducing replacement times of materials, reducing manufacturing throughput times, adjusting delivery capacities) (Eckstein et al., 2015). Based on the above different thoughts, supply chain agility can be considered as an ability to capture the needs of customers quickly while responding to those changes effectively and efficiently in the short term (Gligor et al., 2020).

Within the practical implementation of supply chain agility in the healthcare industry, people should deal with changes in demand patterns, such as dynamic customer requirements and behavioral changes in suppliers (Ex: delays in materials delivery) (Blome et al., 2013). Because healthcare is a service industry with greater uncertainty and difficulty forecasting customer (patients) requirements in advance (Chakraborty et al., 2019). In the sense of measuring supply chain agility in healthcare, using the ability to provide the facilities for customers (patients) in the complex market based on the available equipment, healthcare staff, and medicines (Chakraborty et al., 2019; Gope et al., 2021). From another perspective, the structure of the firm, the view of leaders, assumptions of hospital and patients, other supply chain management practices, and technological capabilities are the factors that affect firms in the healthcare industry, when they are going to adapt and maintain agility (Mittal et al., 2017; Sindhvani et al., 2019; Talib and Rahman, 2015; Tolf et al., 2011). Consequently, in establishing the agility concept in the healthcare supply chain, the firm should focus mainly on internal skills and resources such as staff availability, staff capabilities, instruments, and medicine (Chakraborty et al., 2019).

Due to the agility in the healthcare industry, it will be customer (patient) centric and proactively demand-driven (Ellis-Simon, 2020). Consequently, it will enhance the organization's flexibility and responsiveness (Abdallah et al., 2021). Furthermore, supply chain agility in healthcare will provide a set of values, mitigating the market risk, and continuing service components to the customers in healthcare (Dubey et al., 2019). Due to the agility of the healthcare supply chain, it could reduce inventories and manage product variations efficiently (Chen, 2019). Importantly, considering the supply chain agility in healthcare leads to flexibility and effective decision-making (Vaishnavi and Suresh, 2020). Consequently, supply chain agility in healthcare enhances the Experience of customers (patients) in advance (Vaishnavi et al., 2019). At the same time, due to the supply chain agility in healthcare, more information transparency can be found while establishing effective healthcare information systems (Gope et al., 2021).

## **2.2. Customer value**

Customer value is a behavioral intention that tends to measure the overall evaluation of the utility of the product package to the customers (Yrjola et al., 2019). Within their purchasing decisions, consumers are interested in a set of values (Mahmoud et al., 2018). Customer value can be defined as the difference between the benefits package obtained by customers and scarified bundles for the offering through the customer's perception (Gligor et al., 2020). Due to the value, it will result in

creating positive behavior responses toward the organization (Shah et al., 2021). Even in the healthcare industry, value is a curtail factor that will attract customers and enhance their satisfaction (Cepeda-Carrion et al., 2017; Martelo-Landroguez and Cepeda-Carrión, 2016; Rahmani et al., 2017). In other words, developing the service design and service delivery processes in the healthcare industry's focal point is recognizing customer value (Rahmani et al., 2017).

### **2.3. Customer trust**

Trust is an antecedent of consumer commitment (Baki, 2020). Customer trust plays a significant role in maintaining smooth interconnection between the service provider and the customer (Paparoidamis et al., 2019; Sun and Lin, 2010). Trust can be defined as belief between individuals and firms, individuals and events (Rasiah et al., 2020). Therefore, customer trust can be considered as the belief that customers hold towards the service provider that they will fulfill their needs appropriately (Boonlertvanich, 2019). In other words, customer trust is a desire of the customer to be biased on selected offerings in the marketplace (Alam et al., 2021). In another aspect, customer trust is consumers' ability to identify the machines of business organizations in advance (Biswas et al., 2022). Furthermore, trust can be viewed as the degree to which stakeholders in the process are plausible and generous to each other (Chen, 2019). Consequently, customer trust is essential for customer retention (Gokmenoglu and Amir, 2021). Due to the trustworthiness on the consumer (patients) side, subject to maintaining the long-term relationship between the service provider and the customer (Agyei et al., 2020). In treating the illness in the long term, promotions of healthcare services are at the firm level (Ruzanna et al., 2020). Therefore, to maintain the relationship in the long term or start a certain relationship, customer trust should be mandatory (Zheng et al., 2017).

### **2.4. Price sensitivity**

Price changes play an important role in purchasing decisions (Gao et al., 2016). Subsequently, price sensitivity can be defined as the degree to which consumer consciousness and response to the package prices by the target market consumers (Hsu et al., 2017). Price sensitivity might influence the loyal customer base of the health system (Graciola et al., 2018). Subsequently, price sensitivity tends to influence patients' satisfaction and their loyalty (Moser, 2016). Subsequently, higher price sensitivity will increase or decrease the satisfaction and loyalty of patients based on their quality evaluation (Wagner et al., 2018).

### **2.5. Service-dominant logic**

Among theories in the service area, service-dominant logic is used for clarity and managerial implications (Tommasetti et al., 2016). Importantly, service dominant logic can be considered consumer centered (Wilden et al., 2017). Furthermore, service dominant logic provides the foundation for all exchanges in the service supply chain (Hietanen et al., 2018; Wilden et al., 2017). In service-dominant logic can be described as progressive and predictable, service packages should be exchanged among all downstream parties and the service organization properly for the best service outcome

(Vargo and Lusch, 2017). Simply, service logic engages with the perspective of the sociological perspective, delivering service is a kind of special exchange between the service provider and customers rather than the product (Pohlmann and Kaartemo, 2017; Vargo et al., 2020; Wilden et al., 2017). This combined concept would facilitate a clear understanding and explanation of the real situation of the exchange (Lusch et al., 2010; Pohlmann and Kaartemo, 2017). Therefore, firms in the service supply chain can consider the coordination portal for this exchange process frequently (Brodie et al., 2019; Hietanen et al., 2018; Vargo et al., 2020).

## **2.6. Network theory**

In the modern business environment, understanding the relationship among parties in the supply is essential (Bencherki, 2017). Network theory revealed that interfirm interaction of network environment had been possessed (Gunawardana and Herath, 2020). According to the theory, sometimes the strong tie relationship while weak tie relationships are maintained (Gunawardana and Herath, 2020). Network theory can provide a basic understating for analyzing reciprocity among firms' relationships (Bilodeau and Potvin, 2018; Halldorsson et al., 2007). In particular, network theory mainly contributes to explaining the importance of having an inter-relationship between the parties through the exchange process. It will enhance the customer's trust and value (Lusch et al., 2010; Ryfe, 2022). In network theory, relationships between parties in the supply chain have developed among closely related two parties while exchanging raw materials, information, goods, and services (Halldorsson et al., 2007).

## **3. Hypotheses**

This section presents the explorations of previous scholars concerning four sub-sections. These are the impact of supply chain agility on customer value, the impact of supply chain agility on customer trust, the moderating role of price sensitivity within the impact of supply chain agility on customer value, and the moderating role of price sensitivity within the impact of supply chain agility on customer trust. At the end of each sub-section, relevant hypotheses will be presented.

### **3.1. The impact of supply chain agility on customer value**

Agility in the manufacturing sector tends to increase performance in terms of cost efficiency, quality, and speed of delivery (Li et al., 2016). In other words, agility will result in customer value (Blome et al., 2013). When a firm is unable to deliver a set of values, consumers tend to end the relationship with the firm (Gligor et al., 2020), the ability of the supply chain to be agile will increase the value of partners in the supply chain (Naqvi et al., 2020). In another aspect, agile supply chains have competitive advantages in low cost, quality, speed, reliability, product range, volume versatility, and leadership in emerging technology products (Udokporo et al., 2020). Consequently, firms could enhance their revenue and market share (Manzoor et al., 2021). Indirectly, customer value enhancements are subjected to enhancement due to mentioned revenue and market share (Yrjola et al., 2019). Due to the agility in the supply chain, it would be possible to improve the product package from time to time

based on the already-established customer relationship (Naqvi et al., 2020; Vakulenko et al., 2019). The responsiveness is very high in firms that follow agility (Naqvi et al., 2020). Subsequently, customer value is created through satisfaction (Udokporo et al., 2020; Yang, 2014). Furthermore, if there is a higher level of addressing and adjusting to consumers' requirements, changes will be subjected to create consumer satisfaction (Udokporo et al., 2020). Finally, it will lead to create a set of values for customers (Naqvi et al., 2020). Therefore, the satisfaction of customers in the target market is increasing. Finally, the value set possessed by customers tends to increase at a greater level than previously (Mahajan, 2020).

Supply chain agility is a capability that a certain firm possesses to recognize and respond to changes in demand patterns (Kumar and Reinartz, 2016). However, if a certain firm could have that capability, it will make customer value (Hwang and Kim, 2019). Due to the impact of digitalization on the business context, several incremental innovations have occurred to respond to the dynamic market requirements (Naqvi et al., 2020). Due to these innovations, integration among downstream and upstream parties in the supply chain increases and tends to increase the collaboration of the supply chain properly (Naqvi et al., 2020). Finally, it would be beneficial to increase the set of values for the customers by identifying their requirements at the right time (Naqvi et al., 2020). The major characteristics of an agile supply chain are higher sensitivity to the market, based on the network, virtual, and higher integration (Baah et al., 2022). Consequently, it will align with dynamic customer preferences in terms of taste, price, and product differentiations (Mahajan, 2020; Yrjölä et al., 2019). Furthermore, in agile supply chains, higher information sharing happens from origin to end and end to origin (Blome et al., 2013; Yang, 2014). Therefore, it is a higher advantage that the firms can obtain by improving the supply chain's performance (Baah et al., 2022; Blome et al., 2013). Subsequently, those supply chains utilize resources more efficiently while distributing the product package at the right time. Finally, customer value creation occurs by correctly fulfilling customers' demands (Baah et al., 2022; Blome et al., 2013; Yang, 2014). Therefore, supply chain agility impacts customer value (Gligor et al., 2014).

The main objective of the healthcare supply chain agility is to provide suitable service to their patients while increasing their value proposition (Yrjola et al., 2019). Therefore, it is mandatory to identify and respond to patients' requirements quickly and in a cost-effective manner (Kumar and Reinartz, 2016). Ultimately, it is possible to deliver value-added service to customers (Mandal, 2020). Expert knowledge and experiences of employees in the healthcare supply chain could capture customer requirements on time (Vakulenko et al., 2019). It will be the key to delivering an efficient service package (Woo et al., 2021). Finally, consumers could possess values within their service package (Mandal, 2018; Woo et al., 2021). Due to the supply chain agility, enhancing the possibility to react to market changes, could increase customer value creation in the service supply chain of health care (Naqvi et al., 2020).

Furthermore, coordination among healthcare supply chains will enable a faster response rate. Consequently, patients' value portions through the supply chain of healthcare tend to increase by fulfilling their dynamic requirements at the right time (Kumar and Reinartz, 2016; Woo et al., 2021). Based on the above findings, H1 is suggested as follows:

- H1: There is an impact of supply chain agility on customer value in the healthcare industry of Sri Lanka.

### **3.2. The impact of supply chain agility on customer trust**

Customer trust is highly affected by each component supply chain of any organization (Civelek et al., 2017). In the manufacturing context, supply chain agility will lead to higher strategic performance within the supply chain of the firm (Sahin, 2017). Consequently, creating a great product package will increase customer trust (Wieland et al., 2012). Due to the supply chain's agility, responding to customer requirements can be executed at the right time (Rasiah et al., 2020). It increases customer trustworthiness while minimizing the risk of switching off from the firm (Charles et al., 2010). A proper supply chain with an agility mechanism will increase, establish, and maintain the proper relationship (Gligor et al., 2020). Furthermore, within their studies, Chen (2019) has explored that supply chain agility makes the proper relationship among parties in the service supply chain. Those collaborations also indicated higher customer trust on the customer side (Jermittiparsert and Pithuk, 2019). Proper relationships received and created will generate trustworthiness within the customers' minds (Riedl et al., 2013).

On the other hand, some scholars argued that greater cooperation and flexibility in the service supply chain are highly concerned with customer communication (Alam et al., 2021; Biswas et al., 2022). Therefore, automatically, customer trust is created (Chen, 2019). Investment in supply chain agility tools and techniques within the service industry will enhance the performance of the firm in terms of customer trust (Wieland et al., 2012). Importantly, abstaining from responding to demand volatility, demand and supply mismatches in the supply chain, and disruptions in product package distribution will negatively impact customer trust (Wieland et al., 2012). Therefore, right-time responsiveness is the major factor in enhancing customer trust (Wieland et al., 2012). Therefore, it will lead to mitigate the risk of customers' switching behavior from the product package (Wieland et al., 2012).

Furthermore, in designing the service supply chain in healthcare, designers should consider the strength of the supply chain to respond to market changes (Kumar and Reinartz, 2016). Consequently, it also tends to reduce the risk associated with a particular supply chain. Finally, customer trust in the firm will be increased (Zheng et al., 2017). There is a relationship between the speed of service package development and consumer trust in the service healthcare supply chain (Gligor et al., 2020). In other words, service package development based on customer requirements will increase consumer trust in the service supply chain (Chen, 2019). Through the higher level of supply chain agility would be able to create close relationships with downstream and upstream partners in the supply chain (Paparoidamis et al., 2019; Rasiah et al., 2020).

Consequently, it will enhance consumers' trustworthiness in the healthcare supply chain (Chen, 2019). However, during the agility in the supply chain, it is revealed that controlling the ability of complex market changes and unpredictable expectations from customers' sides (Alam et al., 2021). Subsequently, it is directly associated with creating customer trust in the healthcare supply chain (Minnaar et al., 2017). Based on the above findings, H2 is suggested as follows:



- H2: There is an impact of supply chain agility on customer trust in the healthcare industry of Sri Lanka.

### **3.3. Moderating effect of price sensitivity**

Consumers are highly concerned about price fluctuations regarding their product packages (Ayoub and Abdallah, 2019; Eckstein et al., 2015). If service providers could segment their customers by their ability to pay (price discrimination), it would enhance customer value and trust in advance (Hsu et al., 2017; Low et al., 2013). In another aspect, if consumers tolerate price changes with the service provider, it can be considered reasonable for them, and it will enhance customer value (Li et al., 2016). The higher consumer value will enhance the repurchasing intention (Fayezi et al., 2017). There is a role in price changes between the consumer demand adjustment process and consumer outcomes such as customer value and customer trust (Low et al., 2013). Based on the evidence provided by previous scholars such as Fam et al. (2020) and Ha-Brookshire and Yoon (2012) revealed that the price sensitivity of customers is impacted when determining the intention to purchase. Consequently, to increase the intention to purchase, prior customer value and customer trust in the product package should be mandatory (Bhutto et al., 2022). Therefore, customers' price sensitivity moderates the relationship between the intention to purchase and its factors (flexibility, higher response rate in the supply chain) (Bidhandi and Valmohammadi, 2017; Fayezi et al., 2017). Within their study, Bhutto et al. (2022) confirmed further that in the supply chain, the value creation process and trust, which happened due to agility, will be moderated by price. Subsequently, price sensitivity tends to increase purchasing intention due to the enhancement of customer value and customer trust during the service delivery process (Abdallah et al., 2021; Aslam et al., 2018; Ayoub and Abdallah, 2019).

Importantly, in determining effective pricing strategies for product packages, understanding price sensitivity in the healthcare industry is more beneficial for parties in the service supply chain (Dubey et al., 2019; Feizabadi et al., 2021). Furthermore, within their studies, Eckstein et al. (2015) revealed that consumers are highly sensitive in the nature regarding the price of the product package. Advertising the value of product packages will enhance price searching to match the perceived usefulness of certain product packages (Irfan et al., 2020). In this sense always, they would like to evaluate the set of values obtained from the product package with the price (Moser, 2016). Sometimes, they are highly interested in comparing the product package's price analysis with competitors' product packages (Abdallah et al., 2021). Finally, suppose consumers decided to pay the surplus price for a service package that comes from an agile nature. In that case, it will reveal that consumers got higher value within the product package or that consumers have trusted that the service provider will maximize their utility (Manzoor et al., 2021; Patel et al., 2017). Consequently, it is confirmed that supply chain agility is mandatory to create customer value and trust, but the package's pricing component impacts those associations (Hsu et al., 2017). Based on above findings, H3 and H4 are suggested as follows:

- H3: Price sensitivity moderates the impact of supply chain agility on customer value in the healthcare industry of Sri Lanka.

- H4: Price sensitivity moderates the impact of supply chain agility on customer trust in the healthcare industry of Sri Lanka.

#### **4. Methodology**

This study aims to examine the impact of supply chain agility on customer value and customer trust while moderating the impact of price sensitivity. Customers who consumed the healthcare facilities in Sri Lanka were the study population. In selecting a suitable sampling technique, there was no population framework because it was exclusive to find the exact list of customers who have consumed the healthcare facility in Sri Lanka. Consequently, a non-probability sampling technique was used. Based on that, the convenience sampling technique was adopted (Saunders et al., 2019). Subsequently, considering the sample size, according to the Krejcie and Morgan table, when the population is unknown, sample size would be 384 (Bougie and Sekaran, 2019; Krejcie and Morgan, 1970; Saunders et al., 2019). The study focused on both primary data and secondary data. But mainly focused on primary data using a structured questionnaire. The questionnaire was divided into four sections which included supply chain agility, customer value, customer trust, and price sensitivity in the first section, and the second section included the respondent's demographic profile. The items were evaluated on a 5-point Likert scale ranging from "strongly disagree" to "strongly agree." The unit of analysis of this study was the individual consumers who have already consumed healthcare facilities in Sri Lanka. The questionnaire was distributed through an online method to identify individuals. After two weeks, a reminder was instituted for all senders who received the questionnaire.

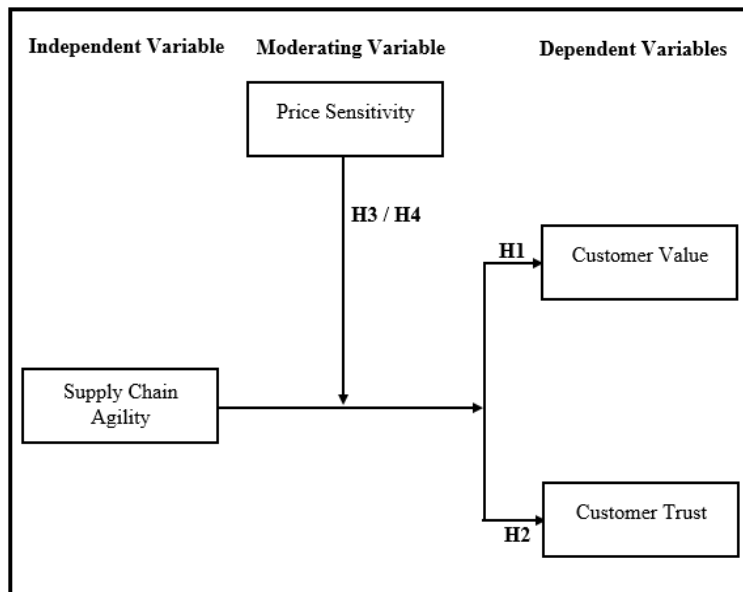
The measurement scale for supply chain agility was adopted from Gligor et al., (2020). This scale consisted of six question items. Those indicators are, "This service provider can quickly reconfigure its supply chain resources to respond to changes in product availability", "This service provider can quickly reconfigure its supply chain resources to respond to changes in my orders", "This provider can quickly reconfigure its supply chain resources to respond to changes in its environment", "As compared to its competitors, this provider is usually quicker to respond to changes in product package availability", "As compared to its competitors, this provider is usually quicker to respond to changes in my orders", and "As compared to its competitors, this provider is usually quicker to respond to changes in its environment".

The measurement scale for customer value was adopted by Rasmahafi and Wulandari (2020). This scale consisted of seven question items. Those are "I feel proud to be a customer of my service provider", "I have a feeling of fulfillment as a result of using the service package of my service provider", "Service provider meets the needs of my lifestyle", "Service package could able to fulfill my social needs", "I obtain quality in accordance with costs I paid", "I obtain benefits in accordance with costs I paid", and "Service provider performance is in line with my expectations".

Soliha et al. (2021) adopted the measurement scale for customer trust. This scale consisted of four question items. Those are "Service firms care about the security of transactions that happen", "The promises made by the service firm are reliable", "I could obtain a consistent quality services package", "Employees in service delivery show a sense of care for me", "All in all, I have complete trust in the service provider",

and “I have trust in the services provided by the service firm”.

The measurement scale for price sensitivity was adopted from Zheng et al. (2017). This scale consisted of five question items. These are “If the price goes up, I will stop using this service package”, “If the price goes up, I will think about whether this service is necessary”, “If this service package price goes up, I will shop around for the cheapest service provider”, “If the price goes up, I will ask my service provider if the prescription is necessary”, and “If the price goes up, I will switch to a cheaper service provider”. **Figure 1** presents the developed conceptual framework. Statistical Package for the Social Sciences (SPSS) software 26 version and SPSS Amos 26 version were used for the data analysis.



**Figure 1.** Conceptual framework.

## 5. Results

### 5.1. Sample profile

The study sample consists of customers who consumed the healthcare facilities in Sri Lanka. 53.5% of consumers are female, while other consumers are male. Regarding the respondents’ age category, the majority were aged between 20 and 29 years. It accounts for 91.1% of the sample. 5.7% of consumers are aged between 30 to 39 years. 2.1% of consumers are between 50 to 59 years. 0.8% of consumers aged between 40 to 49 years. Furthermore, 0.3% of consumers are above 60 years old. Consequently, the highest two age categories of respondent’s percentage deviate between the ages of 20 to 39. Therefore, it was summarized that most of the time in Sri Lanka, younger consumers engage with healthcare services. In general scenarios, on behalf of elderly people and children in the families, the mentioned age category engages with the healthcare service in Sri Lanka. Regarding the income level of respondents, most respondents earned less than Rs. 30,000 per month. It accounts for 48.8% of the sample. 27% of respondents reported that annual income ranging from Rs. 31,000 to Rs. 50,000 per month. Among the sample, 11.7 percent of consumers earned between Rs. 51,000 and Rs. 70,000 per month, while 12.5% of consumers

earned more than Rs. 71,000 per month. In general, most of the respondents belong to the lower income level. Whatever the percentage of income category, based on the previous demographic variables, it can be confirmed that engagement with healthcare services is mandatory for human well-being.

In the attention of service providers to the customers' requirements, 79% of customers believed that their healthcare providers attempted to identify their requirements while 21% did not. Furthermore, it revealed that many respondents believed that healthcare service providers promptly identified their requirements. In the extension view, among the customers who believed that their healthcare providers attempted to identify their requirements, 74.5% of consumers further believed that healthcare providers attempted to fulfill identified requirements, while 25.5% of consumers did not believe as well. Moreover, more respondents have confirmed their service providers' attempts to fulfill their identified requirements as well. Consequently, the majority of respondents have thought that their healthcare service providers identify their requirements while responding to those requirements appropriately in Sri Lanka.

## 5.2. Structural model and hypotheses testing

Initially, four multivariate assumptions of normality, linearity, homoscedasticity, and multicollinearity were satisfied. Subsequently, reliability was checked. If values of Cronbach's alpha were greater than 0.6, it revealed that the measures were all lying above the range of acceptability (Bougie and Sekaran, 2014). Based on the below-mentioned **Table 1** presents the reliability test results for all study variables. Therefore, it is ensured that all measures of the study were reliable in higher nature.

**Table 1.** Cronbach's alpha values for study variables.

Variables	Cronbach's alpha
Supply chain agility	0.756
Customer value	0.815
Customer trust	0.805
Price sensitivity	0.757

Considering the theoretical and empirical basics, this study suggested four hypotheses of which one is engaging to investigate the direct impact of supply chain agility on customer value and customer trust while the other two test the moderating effect of price sensitivity. Initially, the measurement model was validated and three structural models were developed to test these hypotheses. The corresponding GOF indices of the model are presented. Subsequently, CIMIN/DF should be less than 3, RMSEA should be below 0.08, and PRATIO should be 0.9. GFI and AGFI values should be closer to 0.9, and IFI, TLI, and CFI have met 0.9. Therefore, the GOF of the measurement model and three structural models were acceptable. Consequently, it could be appropriate to test the four hypotheses of the study (Hair et al., 2009). **Tables 2 and 3** presented the results of the hypotheses testing. Results revealed that the initial two hypotheses are significant at the 95 percent confidence level (Direct paths) while the last two are not at the 95 percent confidence level (Indirect paths).

**Table 2.** Results of the hypotheses testing on direct paths.

Hypotheses	$\beta$	P	Result on hypotheses
H1: There is an impact of supply chain agility on customer value in the healthcare industry of Sri Lanka	0.82	0.000	Supported
H2: There is an impact of supply chain agility on customer trust in the healthcare industry of Sri Lanka	0.83	0.000	Supported

**Table 3.** Results of the hypotheses testing on indirect path.

Hypotheses	Result on moderation	Result on hypotheses
H3: Price sensitivity moderates the impact of supply chain agility on customer value in the healthcare industry of Sri Lanka.	Not Significant	Not Supported
H4: Price sensitivity moderates the impact of supply chain agility on customer trust in the healthcare industry of Sri Lanka.	Not Significant	Not Supported

## 6. Discussion and implications

### 6.1. Discussion

Based on the outcomes of structural model one, it revealed that there is an impact of supply chain agility on customer value. At the same time, previous scholars revealed that supply chain agility will result in creating higher customer value as well (Baah et al., 2022; Brusset, 2016; Chen, 2019; Du et al., 2021; Gligor et al., 2020; Khojasteh, 2018; Manzoor et al., 2021; Mikalef and Pateli, 2017; Rotter et al., 2017). It can be argued that previous empirical findings aligned with this study’s results. Recurrently, based on the outcomes of structural model one, it revealed that there is an impact of supply chain agility on customer trust. Furthermore, several studies stated that there is a significant and strong association between supply chain agility and customer trust (Avelar-Sosa et al., 2018; Boonlertvanich, 2019; Chavez et al., 2016; Jermsittiparsert and Pithuk, 2019; Paparoidamis et al., 2019; Sahin, 2017). It can be argued that previous empirical findings aligned with this study’s results. Based on the above discussion, it was confirmed that supply chain agility impacts customer value in the healthcare industry of Sri Lanka. This means that healthcare providers who can adapt their health systems to meet changing demands are more likely to deliver the service package that their customers need when they need it. This can lead to increased customer satisfaction, loyalty, and willingness to recommend the provider to others. Furthermore, it was confirmed that supply chain agility impacts customer trust in the healthcare industry of Sri Lanka. When customers know that a healthcare provider can reliably deliver the medications, equipment, and other supplies they need, they are more likely to trust that provider to deliver high-quality care. This trust is essential for building strong relationships between healthcare providers and their patients.

Considering the outcomes of structural models two and three, it revealed that price sensitivity doesn’t moderate the impact of supply chain agility on customer value and supply chain agility on customer trust. In addition to that, there is a role of price sensitivity between the consumer demand adjustment process in the supply chain and consumer outcomes such as customer value and customer trust (Hsu et al., 2017; Li et al., 2016; Low et al., 2013). Customer demand adjustment or forecasting indicates that modifications are made to the base forecast to account for upcoming events or trends that might impact buying habits of customers. It can be argued that previous empirical

findings do not align with the results of this study. Therefore, this study extends the supply chain agility literature by opening a new path. However, Yang (2017) stated that patients in the process of engaging in healthcare services decide on the well-being of their lives. Therefore, patients are highly concerned about the value and the trust without considering the price changes. The findings of Yang (2017) aligned with this study's results because, in those two studies, the young respondents' rate (respondents aged below 40 years) is higher than other age categories. It can be argued that price sensitivity does not play a moderation role in the process of creating customer value and customer trust through supply chain agility.

## **6.2. Implications of the study**

In the process of designing the service supply chain, designers should consider the ability of the service supply chain to respond to market changes quickly. Because it will lead to minimizing the risk while increasing customer trust in the service package. However, there is no attempt to investigate the impact of supply chain agility on customer trust. Therefore, the proposed conceptual framework contributed to fulfilling the available empirical gap. Furthermore, the findings of the study revealed that supply chain agility impacts on customer trust in the healthcare industry of Sri Lanka. Importantly, the price fluctuations process plays a major role in the consumer demand adjustment process (supply chain agility) and consumer behavioral outcomes such as customer re-visit intention, customer value, and customer trust. However, there is a lack of investigation for testing the moderation role of price sensitivity. Therefore, the proposed conceptual framework contributed to fulfil this empirical gap as well. Furthermore, the findings of the study revealed that price sensitivity does not moderate the value creation process and the trust-building process happens through supply chain agility.

Considering the service dominant logic, service is an exchange among downstream parties in the service supply chain. Therefore, service dominant logic has not explored the importance of proper coordination and collaboration among both downstream and upstream parties in the supply chain in advance from origin to end with the proper flow of materials, products, finance, and information in an effective manner. Furthermore, network theory should maintain relationships between parties among closely related two parties for exchanging raw materials, information, goods, and services. Therefore, network theory has not explained the importance of proper integration among all parties in the service supply chain, and especially the collaboration with the market on time. Concerning the above clarifications, these theories have not explored the importance of proper coordination and collaboration among all the parties in the supply chain in advance from origin to end with the proper flow of materials, products, finance, and information in an effective manner. Based on the findings of the study, it can be argued that for the creation of value and customer trust in the service supply chain, supply chain agility can be mandatory. To execute the supply chain agility in the service supply chain properly, proper integration among all parties in the service supply chain and especially the collaboration with the market on time ought to be necessary. Otherwise, capturing the dynamic requirements of customers on time and fulfilling those requirements appropriately would not be

possible promptly. At the same time, this study indicated that customer value and trust can be created through supply chain agility. Therefore, considering the findings of the study, the available theoretical gap is fulfilled.

Enhancing the set of value portions through service packages and building a long-term relationship by enhancing trust are major objectives of any healthcare service firm. Subsequently, leaders, directors, firm owners, and top managers in the healthcare industry should be aware that one of the major weapons that can be used for ensuring those objectives is supply chain agility. Therefore, the findings of this study revealed the importance of executing the concept of supply chain agility. In addition to that, when parties in the healthcare supply chain are incorporated with supply chain agility, there are primarily two main steps. Firstly, parties and firms in the healthcare supply chain should identify dynamic customer requirements immediately. Later, by quickly adjusting to internal supply chain and external supply chain procedures, deliver updated service packages into the market on time. Consequently, to implement supply chain agility effectively, parties in the service supply chain should identify customers' updated requirements through social media, direct contacts, complaints, etc while immediately adjusting the supply chain by implementing integration strategies such as internal and external integration while implementing collaboration strategies such as supplier development and aggregate procurements. At the same time, the findings of this study revealed that supply chain agility resulted in customer value and customer trust. Therefore, implementation of the supply chain agility within the healthcare supply chain would be able to create customer value and ensure customer trust in advance. Furthermore, in the process of creating customer value and building customer trust through supply chain agility, one of the crucial factors is price fluctuation. However, the findings of this study indicated that whatever the price of the service package fluctuation happens, through supply chain agility, it would be possible to ensure customer value and customer trust. Therefore, in the process of crafting strategies within the service supply chain for enhancing customer value and ensuring customer trust, price sensitivity does not need to be considered highly. Therefore, parties in the service supply chain do not need to consider price sensitivity in advance.

### **6.3. Conclusion, limitations, and future research directions**

This study could able to identify some limitations that lead to direct research in the future. This study only focused on the healthcare industry in the context of Sri Lanka to investigate the supply chain agility on behavioral outcomes such as customer value and customer trust while the moderating role of price sensitivity. Therefore, to improve generalizability, it is suggested to consider other service industries such as education, insurance, entertainment, etc. Moreover, this study has chosen the consumers who have already consumed healthcare facilities in Sri Lanka as the target population. However, within the healthcare industry in Sri Lanka, there are several segments such as pharmaceuticals, public and private hospitals, medical insurance, healthcare equipment manufacturers, and healthcare equipment suppliers, etc. Therefore, future studies should consider whether a different outcome could be generated using the same study variables based on the mentioned segments. Furthermore, this study has carried out a cross-sectional study. Subsequently, data

were gathered within a specific period. It will not be led to reveal the difference in effects over time in advance. Consequently, for obtaining more reliable study outcomes and findings, conducting a study based on a longitudinal study would be beneficial.

However, SEM was used for testing the hypotheses. These methods generalize study outcomes but do not engage with more descriptive details regarding the established study relationships. Therefore, it is suggested to consider a mixed-method research approach in the future. Due to the supply chain agility, several behavioral outcomes might result such as customer value, customer trust, customer satisfaction, customer loyalty, business performance and brand image, etc. However, within this study, only customer value and customer trust were investigated. It is suggested to investigate how supply chain agility impacts other behavioral outcomes as well. In addition to that, this study revealed that there was no moderation role of price sensitivity in the process of creating customer value and customer trust through supply chain agility. However, in enhancing customer value and customer trust due to supply chain agility, the level of income and age of the customer can be strong or weak in the above associations. Subsequently, the role of income level and age should be investigated. Importantly, this study mainly evaluated the supply chain agility from the customers' (patients') perspective. However, an investigation of supply chain agility from the perspective of parties in the supply chain (Organizations' perspective) would expose more ways to utilize the agility within the service supply chain. Furthermore, this study only discussed the concept of supply chain agility, it is suggested that a review of the practices and techniques of supply chain agility would be needed in future studies. Furthermore, in the process of creating supply chain agility factors such as the ability to collaborate, integration, and information sharing are impacted. Therefore, considering those factors as independent variables while supply chain agility is a mediating variable, the modified model should be tested in future research. The findings of previous studies indicated that there is a relationship between customer value and customer trust with supply chain agility. This should be investigated within the healthcare system in future studies.

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