

## **Lean, Agile, and Green Supply Chain Practices for Superior Performance in Recommerce: An Empirical Study**

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### **Abstract**

Consumers today are becoming increasingly conscious and careful of their purchase decisions and firms are responding to the environment and corporate responsibility. These emerging purchase patterns are rapidly popularizing the recommerce industry, which recycles and refurbishes products to resell to consumers. As it is a relatively emerging industry, little to no research has been done on it on an industry level and much less from a supply chain perspective, especially in the case of Bangladesh. To understand the detailed nature and paradigms of the supply chain of recommerce, this article aims to explore the modalities of the supply chain of the recommerce industry, find traits and patterns among their practices, and explore the existence and intensity of lean, agile and green supply chain traits embedded in them. The study adopts a qualitative method building on empirical evidence and it relies on a mix of primary and secondary data. Key-informant interview (KII) tool and a semi-structured questionnaire method have been adopted to collect empirical data. Analyzing the in-depth interviews, the article examines how these recommerce firms have integrated lean, agile, and green supply characteristics into their supply chains to improve their operational efficiency.

# Chapter 1. Introduction

## 1.1 Background of the study

In this age of plummeting economy and rising climate concerns, consumers are becoming increasingly conscious and careful of their purchase decisions. Especially, the behavior of firms with regard to the environment and corporate responsibility plays an increasing role in determining consumer choice (Mohr and Webb, 2005; Hillenbrand et al., 2013). These emerging purchase patterns are rapidly popularizing the recommerce industry, which recycles and refurbishes products to resell to consumers.

End-consumer involvement in engaging in reusing activities of the circular economy is called “re-commerce,” coined by George F. Colony in his interview in The New York Times (2005). Over the last few years, recommerce has been growing at a rate that is 20 times faster than the broader retail market as the new generations of consumers become more and more budget- and eco-conscious and embrace the concept of reselling and reuse (Bhaumik, 2020). As it is a relatively emerging industry, not much research has been done on it on an industry level and much less from a supply chain perspective. We are yet to understand the detailed nature and paradigms of the supply chain of recommerce.

This article aims to explore the modalities of the supply chain of the recommerce industry across various integrated industries such as luxury goods, fashion, technology and such and consequently enrich understanding of the industry itself as well as the supply chains surrounding it.

The supply chain of the recommerce industry comprises products both mass-produced and custom-made. Before the act of reselling, some products also receive refurbishment or further

customization. Therefore the products have a combination of standard and customized traits, making them hybrid products. As a supply chain made of hybrid products, the supply chain showcases both agile and lean characteristics such as short product cycles, cost-effectiveness, flexibility and speed in terms of sourcing and delivering, low wastage etc, along with its general recycling, and green nature. This paper would investigate these characteristics to establish the recommerce supply chain as an agile, lean and green supply chain, additionally providing an overview of the supply chain in general. This paper will explore this field using experiences, observations and several case studies, implementing empirical models of study.

## 1.2 Problem statement

The structural paradigms of the supply chain of the recommerce industry have not been sufficiently explored. As a rising industry, recommerce requires adaptive strategies to retain its sustainability (Iannone, 2020). But due to the lack of understanding and research, this industry continues to operate in a scattered manner, missing the mark of its potential. Little to no research has been focused on this particular field and therefore no holistic overview has emerged. In essence, a need for a better understanding of the supply chain in recommerce exists to ensure further exploration and improvement of it. For which, the following research questions need to be investigated.

1. What are the traits and patterns of the supply chain in recommerce industry?
2. Do these patterns vary from each other amongst the integrated industries within recommerce?
3. How can the identified traits be used to classify the supply chain of recommerce as agile, lean and green?

### 1.3 Aims and Objectives

The long-term goal of this study is to provide deeper insight into the structure and its elements of supply chains of recommerce. The objective of the current study is to provide a comprehensive review of the literature and industry practices in relation to an analysis of supply chain concepts and outline the prevailing nature of recommerce supply chains. Particularly, the study has the following sub-objectives:

The long-term objective of this study is to offer a deeper understanding of the structure and components of recommerce supply chains. The current study aims to highlight the prevalent characteristics of recommerce supply networks in a thorough review of the literature as well as demonstrate the industry practices in connection to an analysis of supply chain concepts. In particular, the sub-objectives of the study are as follows:

1. To offer a thorough analysis of the sources and traits of supply chain networks generally found in Recommerce firms;
2. To outline the traits of recommerce supply chains for ease of modeling and identification;
3. To review current studies on the supply chain in recommerce as well as examine industry practices.

Future academics and professionals in linked industries will benefit from the findings of this study in order to improve their knowledge, methods, and tools for supply chains in recommerce.

## 1.4 Scope of study and limitations

The study follows a qualitative empirical nature. The scope of the study is limited to the two firms operating in a recommerce set up that have been conducted for interviews and field visits and have been used as case studies. This study also observes global recommerce firms such as eBay and amazon, covering relevant literature analyzing their systems. Based on our experiences and observations, this study presents its findings.

The study is limited by the lack of operating recommerce firms, as well as the lack of previous studies and research on recommerce and its supply chains.

## Chapter 2. Literature review

### 2.1 Recommerce Supply Chain

Recommerce or reverse commerce is a recent term in the business world even though the idea behind re-commerce, which is shopping for second-hand products is not a new concept. In today's world, buying second-hand products is becoming more evitable and convenient for many people. Moreover, to combat negative impacts on the environment, many consumers are keen to reduce their consumption. Through recommerce, consumption of products can be reduced substantially. Recommerce has also created an opportunity to buy and sell pre-owned goods conveniently. Thus, the recommerce industry has the potential to change the existing supply chain structure. Through lean, agile, and green practices superior performance in recommerce can be gained.

After the pandemic, recommerce has grown substantially and challenged incumbent retailers' and branded goods manufacturers' traditional ways of selling in areas such as apparel, electronics, homewares, and luxury goods (Johnson, 2020). A good number of companies are investing in

recommerce while many start-ups are emerging based on recommerce. However, this puts pressure on the retailers as they are bound to offer a seamless shopping experience or platform to the consumers. Companies need to offer some methods to smoothen customer-to-customer or customer-to-business operations. This can be only done by considering the balance between customer responsiveness, efficiency, and cost necessary to provide it. The concept of the lean and agile supply chain can be useful in this regard.

## 2.2 Lean and Agile Supply Chain

Lean supply chain provides products at a competitive price while agile supply chain responds to customer needs. Depending on the nature of the product lean or agile supply chain must be applied. For example, the nature of chains can be defined through their respective strategies using the criteria of market presence and those of competing in it (Harrison and van Hoek, 2002). Agile or lean character to chains can be also determined depending on their resistance, ability to quickly reconfigure, and scheduling level (Naylor, Naim, and Berry, 1999).

Confirming both lean and agile supply chains might seem difficult to apply. Lean supply is defined as the elimination of all kinds of waste in the processes in the value chain and the development of an efficient process (Abdulmaleka and Rajgopal, 2007). Lean supply chains are focused on “fat” cutting, or wastage management in terms of costs and inventory. They have higher profit margins and lesser product variety, with little room to respond to sudden or rapid changes. However lean supply chains focus on profit and consistent production value. On the other hand, an agile supply chain maintains an agile character, flexibility, and responsiveness by sensing short-term, temporary changes that occur in the market during the supply chain process (Swafford et al., 2006; Dubey, Gunasekaran, Blome, Papadopoulos and Childe, 2018). Agile supply chains are flexible

and quick to source, manufacture and deliver, with the ability to respond quickly to change, and have relatively shorter product cycles, greater product variety and lower profit margins.

Different variables must be taken into consideration before applying these supply chains. For example, the level of customization and innovation can be very important factors in deciding which supply chain to be applied. Innovative products tend to have more options for customization and a shorter life cycle than standard products. For this reason, innovative products will need an agile supply chain while standard products must have a lean supply chain that can reduce costs and defects.

## 2.3 Green Supply Chain

Another important aspect for any supply chain that aims to have superior performance is to consider and prioritize green thinking. A green supply chain is a process of integrating environmental thinking to supply chain management, including product design, material sourcing, and selection, manufacturing processes, delivery of the final product to the consumers as well as end-of-life management of the product after its useful life. (Srivastava, 2007) Recommerce is inherently environmentally friendly as the process suggests lesser consumption of products. Companies need to adopt a green supply chain to respond to consumers ethically. Moreover, adopting a green supply chain can bring a competitive advantage to a company.

Because of the current market size and the purchasing nature of the consumers, recommerce has the potential to emerge as an attractive industry. But to have superior performance, recommerce companies need a proper combination of lean, agile, and green supply chain management.

## 2.4 Supply Chain Practices of Global Recommerce companies

The global companies selected for this analysis are Cashify, Amazon, and eBay. A brief discussion about the supply chain practices of these companies is discussed below:

### Cashify

Cashify is an Indian online recommerce platform that allows the purchase of old electronics. Services are provided to both individual customers and businesses such as Flipkart. The platform assists in determining the appropriate price for the device being sold based on many criteria such as age, damage, and functioning. The company primarily focuses on selling smartphones. laptops, tablets, desktops, wearables, and gaming consoles are also sold. The firm was founded with the goal of making the selling of obsolete electrical gadgets as simple as possible for clients by assisting them with price discovery and cash in hand.

The supply chain structure of Cashify is similar to any typical recommerce platform which focuses on selling gadgets. The supply chain consists of individual buyers, individual sellers, vendors, and retail stores. Individual sellers can sell their products by clicking the sell option on their website. The buyers can see those products and place orders. Sellers can get instant cash based on the condition of the product. If we compare it to a Bangladeshi company, Zingo has the same practices in the supply chain.

Since the company is primarily based on an online platform, it is trying to create a presence in the offline market. For this reason, the company is heavily investing in offline infrastructure like stores. The company has the vision to reach globally and develop an Omni retailing channel for

the products. ("Cashify to go Omnichannel to Cater to Rising Digital Requirements of Customers", 2021)

## Amazon

Amazon is currently the world's leading platform in e-commerce. The supply chain of its e-commerce platform of Amazon has been working as its core component of competitive advantage against other online retailers. The company also launched a program for selling refurbished products. This program is called "Amazon renewed". This program is an exclusive program and sellers have to follow strict criteria to be able to sell their products on this platform.

Products offered on Amazon Renewed are thoroughly examined and tested by an Amazon-qualified and performance-managed supplier to function and look like new. A detailed diagnostic test, replacement of any problematic parts, and a thorough cleaning procedure take place as a part of the inspection and testing process. This cleaning is done by the approved supplier or by Amazon. The refurbished products have a warranty of 90 days. ("Amazon Renewed - Amazon Customer Service", 2022)

Amazon sources refurbished products from third-party sellers. Inspection and testing are also done by third-party sellers. These sellers are registered sellers for Amazon. Individuals who want to sell products on Amazon renewed must also register and apply for being a registered Amazon seller. Suppliers must be certified manufacturers or specialist third-party refurbishers. Every supplier must fulfill strict standards in order to sell on Amazon Renewed and meet continuous performance objectives.

Amazon's registered sellers have a variety of fulfillment options to select from. Sellers have the option of handling fulfillment themselves or allowing Amazon to sort, package, and ship items through their own fulfillment facilities. (Johnson, 2020)

## eBay

eBay is one of the top leaders in online retail around the world. The company launched a refurbished program in 2020 and expanded the program to tackle supply chain disruptions during holidays. Like Amazon, eBay also follows a rigorous method for selecting sellers. Sellers have to meet some criteria before selling the products. Every product must be sourced from authentic manufacturers.

During the pandemic, eBay launched a service called managed delivery. Managed Delivery is a service that allows high-volume merchants to store, pack, and transport goods through a network of pre-approved third-party vendors. ("eBay to launch end-to-end fulfillment service for sellers", 2019) The concept allows sellers to keep products closer to customers in strategically situated warehouses resulting in shorter delivery times and lower transportation costs. The usage of third parties allows eBay to link online merchants to end-to-end solutions without the marketplace having to construct a large-scale e-commerce fulfillment mechanism from the ground up. This initiative helps eBay have more control over its supply chain activities.

## Chapter 3. Methodology

The subject of the research is the existing up-and-coming small and medium-sized re-commerce platforms. Since re-commerce is a relatively new term in Bangladesh, there are still no classified

organizations under state policies. However, as per the globally recognized definitions, two Bangladesh-based re-commerce firms have been identified namely Zingo and SWAP and Zingo, which are going to be the primary subject of this study. The respondents have direct involvement in decision-making practices in the supply chain management of the respective re-commerce enterprises. On the basis of the review of literature, characteristics of lean, agile, and green supply chains in their activities as well as the intensity of these components in the operational performance of these firms have been explored.

To conduct this empirical study, both primary and secondary data have been used. Primary data has been collected through administering semi-structured interviews and secondary data has been collected from credible and reliable literature. The basic source of empirical materials has been collected through using the KII technique supported by a semi-structured questionnaire. The questions developed for the semi-structured interview are mostly open-ended seeking elaborative responses. As one of the core objectives of the study is to describe the entire supply chain system in a business, It was required that participants provide us with more in-depth answers through two-way communication. This semi-structured interview method is better suited for deriving such analysis as it allows much more flexibility. Therefore, this method has been chosen keeping the necessity of the study in mind. The qualitative study, hence, has not used any particular sampling technique. Since the overall number of enterprises is significantly small, the supply chains of all of the identified enterprises qualify to be studied for final analysis.

## Chapter 4: Findings

### 4.1 Supply Chain of Zingo

#### 4.1.1 The Business Model of Zingo

Zingo is one of the pioneers in recommerce industry in our country. The Dhaka-based recommerce company has successfully built a second-hand smartphone marketplace and believes in offering a complete solution wherein customers can sell old or used gadgets hassle-free. Going forward with the motto "one man's waste could be another's resources", Zingo enables the customers to sell their old gadgets online and get instant cash along with free home pick up. From picking up a customer's call to making the final payment, everything at Zingo is aimed at providing the best, most convenient, and secure solutions to sell old gadgets online.

In the simplest form, Zingo's business model is buying used smartphones from individual sellers and reselling those to the second-hand smartphone market. Zingo particularly deals with smartphones of particular brands that have high resale value. As bar phones are of relatively lesser value, Zingo focuses on smartphones of big brands including, Apple, Samsung, Xiaomi, Oppo, Realme, Oneplus, and such. A potential seller can go to their website, find the specific phone brand and model, answer 11-17 questions depending on the model, and can generate an estimated price for the phone. The phones are bought from these individual sellers by Zingo and are sold in bulk to vendors across 44 districts in the country. The revenue is generated from the sales made to these vendors. Zingo, thus, essentially serves as an intermediary between individual smartphone sellers and existing vendors in the mobile market.

#### 4.1.2 Illustration of Zingo Supply chain

In this section, the overall supply chain procedures will be demonstrated as well as the design of the distribution network will be illustrated. In this business model, the final product as in the smartphone is moving backward from customers to sellers. This particular supply chain practice is similar to the “reverse logistics” supply chain management, where goods move back from customers to sellers, typically as returned products. The supply chain stages at Zingo have been exhibited in the following.

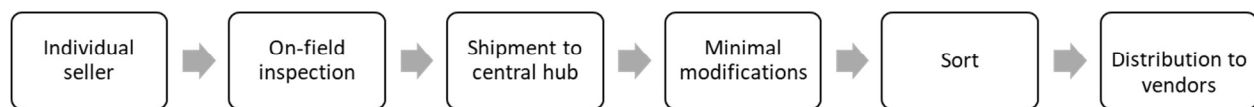


Figure 1 Supply chain stages of Zingo

The supply chain starts with individual sellers asking for a value for their pre-owned phones. Upon their request, field executives visit the potential sellers to inspect their phone conditions on-spot and offer them a revised price as consulted by the pricing department. If the seller agrees on the price, the phone is collected and shipped to the headquarters where further inspections take place. Zingo then prepares the phones for reselling, sorts them as per vendors’ orders, and distributes them accordingly.

At Zingo, the supply chain involves three core cycles; procurement cycle, replenishment cycle, and customer order cycle.

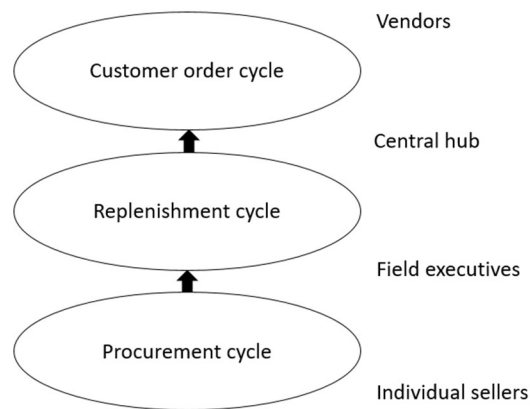


Figure 2 Supply chain process of Zingo from cycle view

### Procurement Cycle

Zingo uses three ways of procuring smartphones from individual sellers, while the fourth is in the pipeline. The first process includes individuals independently finding Zingo's website and putting up requests to generate a fair price for their phones. Basic contact information is collected through the website and the telesales department contacts them for further procedures. However, the process is lengthy and procurement from this particular sourcing method is often uncertain as sellers may ultimately decide not to sell their phones to Zingo. This leads Zingo to the second process of procuring, which involves intensive analysis of advertisements.

For reselling smartphones, individuals typically post advertisements on multiple online marketplaces including bikroy.com, cellbazar.com, Facebook marketplace, etc. Zingo has a dedicated team located in Rajshahi for analyzing these advertisements and finding potential leads as per Zingo's brand and model requirements. This team is responsible for analyzing large data

sets of six to seven lacs advertisements daily to generate leads who are further contacted by the telesales department to continue the procuring procedure.

Zingo also has ties with an Indian company with a similar business model that allows Zingo to have access to an AI system for finding leads. This system generates leads from all over the world for second-hand phone ads and Zingo uses data filtering technique data to find existing leads in Bangladesh.

#### Replenishment cycle

The field executives and the telesales department work hand-in-hand to meet specific targets. As smartphones are relatively fast-moving products and the trend shifts rapidly, Zingo focuses on its power of time management to use it as a competitive edge. Once the phones are bought from individual sellers, they are shipped to the central hub in Dhaka through Sundarban Courier Service. Phones are sold in bulk to vendors, therefore, Zingo needs to have stocks ready for particular brands and models. The maximum time a phone stays at the hub is a week.

#### Customer order cycle

The second-hand phone sellers are mostly located outside Dhaka, and have access to the list of phones being shipped to the central hub. As per the list, they make order requests and Zingo distributes the phones to the respective vendors with the help of its logistics team.

## 4.2 Supply Chain of SWAP

### 4.2.1 Business Model of SWAP

SWAP, the Dhaka-based startup, is a combination of e-commerce and re-commerce marketplace. SWAP works with a diverse product portfolio as it serves as a one-stop solution for buying, selling or exchanging smartphones, laptops and vehicles (motorbikes and cars), etc. SWAP's digital platform is aimed at providing the customers with a secure, hassle-free and haggle-free buying or selling or exchanging experience in the shortest possible time. The recommerce company buys products from individual sellers or suppliers and sells them to individual customers through its 2 outlets as well as the 27 outlets of its sister concern, Livewire's. SWAP, therefore, adopts a C2B2C business model.

#### 4.2.1 Stages of the Supply Chain

The supply chain of SWAP consists of multiple stages, which start with sourcing products from multiple channels. SWAP has OEM partnerships with multiple shops that carry parts of different products and supply them to SWAP. Individual sellers, agents and partner shops play the role of suppliers at SWAP. The products are received through SWAP employees or directly brought to outlets, where the preparation for reselling them takes place. Lastly, products are sold to individual customers either online or directly from outlets.

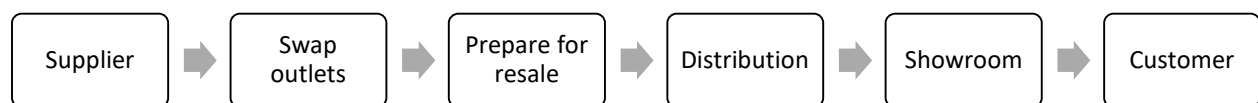


Figure 3 Supply chain stages of SWAP

## Procurement Cycle

SWAP procures products essentially in four ways. Individual sellers can send selling requests through the SWAP website and SWAP employees reach them for collecting the products. Retailers are another way through which SWAP frequently collects products from trusted retailers. The process takes place directly within partner shops and SWAP without the use of SWAP's digital platform and the partner shops can be regarded as OEM partners. Agents are an important source of products in SWAP. SWAP has trained agents across the country, who act as their trusted representatives, and collect phones from individual sellers in exchange for commissions. B2B partners are a major source for procuring products for SWAP, where brands collaborate with SWAP for cross-category exchange programs with buyback agreements. Through these campaigns and products come in bulk.

## Replenishment Cycle

SWAP analyzes extensive market data acquired from Livewire to make supply-demand forecasts. To minimize the supply-demand gaps, SWAP keeps its replenishment policies flexible. Situation-based strategies are adopted for managing the lead times for products at SWAP. Oversupply of products leads SWAP to focus on promotion and sales. Contrarily, sales opportunities drive SWAP to focus on sourcing more products to meet the demands.

## Customer Order Cycle

Products are sold through showrooms of SWAP and Livewire to individual customers and online. To ensure the quality of used products, SWAP has expert engineers, adequate technology and secured transportation. Customers can order products through websites or buy directly from outlets

nearest to their locations. Customers can order and track their orders online using the app developed by SWAP.

## Chapter 5: Discussion and analysis

### 5.1 Lean Supply Chain Characteristics in Recommerce

Zingo's supply chain and distribution model shows a focus on rapid fulfillment via ensuring that all orders are processed swiftly, without flaws and sent using the quickest means of delivery available. The amount of waste is reduced to a minimum by procuring only the products complying with a standard quality check to optimize inventory, which is then recycled minimally by in-house specialists and sold in bulk to vendors. Their focus on waste management provides an edge of compliance and visibility as well, along with sustainability at the forefront. The combination of these characteristics allows Zingo's supply chain to be identified as a lean supply chain model.

Zingo's method of sourcing allows them to optimize their inventory to meet the demand forecasts. The demand for pre-owned or recycled phones in bulk buyers remains predictable, which also serves as a means for Zingo to optimize supply at a consistent pace throughout. This formats the supply chain to reduce wastage in terms of inventory and costs. The cost-effective, wastage-free, rapid fulfilling and optimized traits of the Zingo supply chain allow it to be detected with characteristics of a lean supply chain model.

Swap, on the other hand, has heavily focused on achieving operational efficiency through the utilization of its OEM partnerships and agents, which ensures rapid fulfillment of the products. The usage of Livewire outlets across the country allows SWAP to stock a large number of

inventories at a time, making it cost-effective. However, sometimes this also leads to oversupply problems, which require to be addressed with suitable promotional campaigns to empty the stock.

## 5.2 Agile Supply Chain Characteristics in Recommerce

Zingo's primary concern with its supply chain is to ensure that its procurement, replenishment and customer order cycles all move very fast. The maximum time to complete one cycle is 14-15 days, with the replenishment cycle taking a maximum week. Their procurement and replenishment cycle is a pull method, while the customer order cycle is a push method. In all these cycles, end-to-end collaboration is ensured with carriers, suppliers, and logistics providers to understand better opportunities to improve business flexibility, and demand management and capacity, and business continuity planning. This end-to-end system provides visibility or transparency and allows for planning across the entire process versus individual business units. The distribution network is designed for a quick response with minimal customization.

In all the primary purpose units of a supply chain, namely sourcing, manufacturing (in this case preparing for recommerce), and delivery, Zingo prioritizes speed. The cycle moves very fast, however, also leaves room for flexibility. Zingo ensures that products are always available by using forecasting methods to manage demands, giving them the ability to respond to rapid changes if they occur. Their use of AI responsive systems in lead generation gives them the edge needed to produce precise and accurate demand forecasting. The swiftness, adaptability and quick efficiency of the supply chain model give it its agile characteristics.

SWAP, however, focuses relatively less on the resource and waste management aspects of the supply chain as it frequently keeps shifting its focus from sourcing and product releasing.

Oversupply of products is handled by shifting the focus from sourcing to selling, which sometimes obstructs SWAP to make the fullest utilization of the human resources. This practice reveals its reliability in situational strategies, indicating the practice to be relatively more responsive to sudden changes in the market. However, the use of extensive market data acquired from Livewire, which has been predominant in the market for the last thirteen years, allows SWAP to achieve agility in this competitive arena.

### 5.3 Green Supply Chain Characteristics in Recommerce

Zingo and SWAP's model of the supply chain is what is known as a recommerce model that constructs a circular economy. A circular economy is shaped when instead of completely abandoning or scrapping materials or products; they are returned to the consumer cycle, refurbished and reused. With a rising base of climate-conscious customer base looking for green and cost-friendly alternatives, supply chains that add value to a circular economy possess great potential. Circular economy models in the supply chain by default give supply chains green characteristics. Therefore Zingo's supply chain can be claimed as a green supply chain.

Distinctively, both Zingo and SWAP's supply chain model show sustainable collaboration between suppliers and the firm, where the suppliers provide materials, in this case, mobile phones, that are recommerced by the firm. This process ensures that cellphones are not placed in landfills to be burnt, which would have released toxic chemicals such as lead, mercury and arsenic into the environment. Even if the phones end up at a landfill, they pollute the soil and water with their hazardous materials, as well as plastic pollution.

The act of pre-owned phones being reintroduced to the circular economy also initiates an energy conservation process and reduces mineral mining, both of which contribute to the conservation of the environment. Zingo's cellphone-based recommerce supply chain, and SWAP's diversified portfolio with used products, therefore, can be evaluated to be a Green model of the supply chain that does not produce extra carbon footprint, rather to some extent curbs it.

#### 5.4 Comparative Analysis with Global Contemporaries

The supply chain practices of such global companies are quite difficult to pinpoint. This section will attempt to draw a comparative analysis with the supply chain practices of Bangladeshi recommerce companies. In our country, re-commerce platforms Zingo and SWAP have a similar approach to Amazon to procure products. Both companies source products from individual and third-party sellers. While Zingo does not use registered sellers like Amazon, SWAP's OEM partnership model can be compared to Amazon's exclusive and sophisticated process of selecting sellers. Amazon's process of securing products from sellers requires a solid infrastructure and demand. It also gives much more control over the quality of the products. This process seems difficult to replicate for Zingo, as it predominantly focuses on procuring products from one-time sellers.

SWAP also stays ahead in comparison to Zingo in terms of concepts like managed delivery as Zingo focuses on single sellers more where SWAP focuses on high-volume merchants. SWAP has multiple warehouses (Liveware outlets) at strategic locations, unlike Zingo, which sheds light on Zingo's scope for scaling up their business and has more control over the supply chain activities in order to make their initiative beneficial.

## Chapter 6: Conclusion

Recommerce supply chains, in general, show tremendous potential to be a hybrid model of a supply chain consisting of both lean and agile characteristics, along with the added benefit of sustainable and environment-conscious green characteristics. Bangladesh is yet to step out of tech-based recommerce firms, let alone flourish in the recommerce sector. However, in the Bangladeshi context, the untapped growth trajectory for recommerce is massive given our economic and environmental landscape. The existing firms that are operating within the recommerce sector in Bangladesh are currently creating the market space for recommerce and thus, have not flourished the way global recommerce has. There are steps to be taken in the Bangladeshi firms, such as further optimization of inventory, improved verification process, quality control, business scaling, stable procurement processes and investing heavily in the information structure of recommerce. If done, recommerce supply chains will gain more agility, resilience, competitiveness and profitability, shaping greater value addition abilities to the circular economy they are catering to serve and put into the forefront of economic advancement.

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# Appendix

## Structured Questionnaire

1. Briefly describe your company's business model as re-commerce is a relatively new concept in Bangladesh.
2. What are the procurement policies in place for sourcing products from individual sellers? Elaborate on the process of taking personalized orders for used products from customers.
3. What are the procurement policies in place for sourcing products in bulk from organizations?
4. Since your company deals with an extensive product portfolio, does the procurement practice vary from product to product? (Smartphones, wearables, furniture, etc.) Please elaborate.
5. Which practices are followed by your company to forecast supply and demand for each category of product?
6. Which practices are followed by your company to minimize waste of resources?
7. What is the replenishment frequency for each product category at your company? How does your company ensure an effective replenishment cycle?
8. Which practices are followed by your company to reduce lead time from its supply chain stages?
9. Which supply chain actors are involved in exchanging products? Please elaborate on how the process works.

10. Which supply chain actors play roles in the refurbishment process of each product category?

Please elaborate.

11. How many refurbishment/inventory facilities does your company use? How many districts are they located in?

12. Please elaborate on the distribution network of your company for each category of product.