

# UNDERSTANDING REVERSE SUPPLY CHAINS

ESTIMATED READ TIME: 5 MINUTES

# AGENOA KEY TAKEAWAYS

A reverse supply chain is a network of activities, processes, and resources involved in the movement of goods from the end user back to the original production source for the purpose of recapture, reuse, or disposal There are a number of economic, environmental and legal benefits associated with RSCs, but the Caribbean faces several challenges when it comes to their implementation.

reverse supply chain (RSC) is a network of activities, processes, and resources involved in the movement of goods from the end user back to the original production source for the purpose of recapture, reuse, or disposal. This type of supply chain is often associated with the return of goods for repair, refurbishment, recycling, or disposal in an environmentally responsible manner.

Those RSCs that closely coordinate with their respective forward supply chains create what we call a closedloop system. This happens when product design and manufacturing decisions are made with eventual recycling, reuse and reconditioning in mind.

RSC management involves coordinating the various activities

involved in this process, such as logistics, inventory management, and disposal. While reverse logistics (RL) primarily concerns itself with transportation and storage of materials, reverse supply chain management takes a wider and more holistic perspective and deals with products returning to manufacturer or third parties. Figure 1 shows a simple reverse supply chain.



Figure 1: Reverse Supply Chain

#### RETURNS TO MANUFACTURERS, OR PRODUCTS RETURNED TO THIRD PARTIES, MAY BE NECESSARY FOR A VARIETY OF REASONS, INCLUDING:



Products 'as new' where too much of one item were ordered, or wrongly delivered. With new products being introduced (a feature of the linear economy), the excess new stock becomes obsolete



Used or faulty/damaged products, where manufacturing faults, wear, tear and damage occur during shipping or over the product's lifetime, requiring repair or overhaul



Products at the end of their life, which are no longer useful or wanted

### WHY USE RSCs?

For companies, there are several main factors that encourage the use of RSCs, one or more of which may be in play: economic drivers, corporate citizenship, legislative requirements, and risk reduction due to better data protection. Economic drivers for RSCs are related to initiatives around cost minimisation, the generation of revenues or cost savings from remanufacturing, reuse of materials, and product refurbishing. This also includes enhanced return on investment, as units being depreciated add to the bottom line in time for a profitable ROI. Reuse and recycling as a result of implementing reverse supply chains to reduce excess waste in a production process also lead to improved competition in manufacturing.

Companies might also be interested in RSCs due to their awareness of the benefits of positive corporate citizenship and the will to co-initiate voluntarily sustainable approaches to community development, according to environmental and social principles and best practice. Companies that genuinely embrace "green" concepts and processes around sustainability are often held in higher esteem by customers and the general public.

RSCs can be a crucial part of a company's sustainability efforts, as it helps to reduce the amount of waste that is sent to landfills and reduces the need for raw materials to be extracted from the environment. With a general impetus toward sustainability initiatives, well implemented RSCs are poised to play their part. Finally, RSCs offer increased data protection, as recycling - when done in accordance with international best practices - helps ensure that company data on their equipment is removed in its entirety, further reducing business risks. As concerns about cybersecurity increase, any initiative that protects consumer data as part of a RSC improves company perceptions.

### **CHALLENGES**

That said, developing countries have challenges in implementing RSCs to reduce waste and improve the useful life of products, compared to more developed countries, especially as most processes in the supply chain are not under their control.



Developing countries tend to have less integrated supply chains than their developed country counterparts, which suggests that there are greater inefficiencies along the primary supply chain, never mind the reverse chain.

While a product can get to a customer, it is significantly more difficult for that consumer to send

the product back up the chain for reprocessing or disposal. The integrated systems (information technology, logistics and otherwise) simply do not exist or are not cost competitive.

#### OTHER PROBLEMS INCLUDE:



Documentation issues (different language and otherwise)

Web of distrust

between

supplier and

local agent/

consumer



Quality assurance issues

Specifications

of products



The inadvertent procurement of counterfeit products

Import

clearance

procedures



Quantity demanded by foreign suppliers making local sales not practical



Failures to meet delivery time



Payment methods/ currency issues



The use of outdated technology in the domestic market



Value added tax imposed on imported goods or excise duties which make reverse supply chain goods more expensive than traditional linear economy goods

Finally, the distance of Caribbean economies from developed markets and related logistical difficulties has militated against RSCs. However, over the years, there have been initiatives to reuse end-of-life products (clothing, scrap iron) as inputs in new products.

More significantly, certain economic sectors have restructured themselves to minimise waste and maximise repair, refurbishment, and recycling. One example is the secondhand car market in Trinidad and Tobago and other Caribbean islands. "D Bamboo" has become a centre for repurposing, recycling and reuse of secondhand and end-of-life car parts and cars, and the model has even been extended to other countries such as Barbados.

With the ongoing thrust towards sustainability, other economic sectors would do well to make their products more sustainable, using RSCs wherever feasible. Effective RSCs provide a sustainable way to reprocess products, whether reused, refinished, refurbished, recycled into new product, or disposed of as waste. This maximises the value of returned goods and minimises the environmental impact of disposal. For manufacturers in industries as diverse as carpets to computers, RSCs are now an essential part of business.