MIT SCALE RESEARCH REPORT

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This reprint is intended to communicate research results of innovative supply chain research completed by faculty, researchers, and students of the Global SCALE Network, thereby contributing to the greater public knowledge about supply chains.

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Sustainability in Latin American Supply Chains
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SUSTAINABILITY IN LATIN AMERICAN SUPPLY CHAINS

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Summary:
This project identifies the most important insights of Latin American (LatAm) companies’ actions in relation to Sustainability in supply chain. A comparison to a sample of the biggest companies (Leaders) in the world from different industries help to understand that Latin American companies are modifying some aspects of their supply chain toward sustainability; however, a supply chain integral view is still needed for innovative actions.

KEY INSIGHTS

1. Latin American companies need a holistic view of the supply chain to define sustainable strategies.
2. Latin American companies have started integrating supply chain business partners in their supply chain for integral sustainable responsibilities.
3. Latin American companies have identified advantages from sustainable strategies as well as differentiators among competitors.

Introduction

Environmental awareness has increased in the last decade. Companies are facing pressure from society to prevent nature depletion and environmental degradation. The responsibility companies face is not only with the environment, but also with all- that is impacted by their operations.

Companies face pressure to become greener and to protect nature, which gives us more than just water to drink or food to eat. Nature provides benefits by being a body formed by ecosystems that balance the climate and adequate temperature, interactions and dependencies to provide quality of life to human beings. However, that balance is being interrupted by continuous processes of humans trying to satisfy their needs regardless cost and implications.

Companies have been acquiring a better understanding of the complexity of ecosystems and their interactions and dependencies in order to be part, instead of interrupt them. Population has been growing as well as people concern to preserve nature. “Consumers want green without compromise or sacrifice.” (Makower 2008), they want to be green with the comfortable option of having the same products and services. Companies are challenged to do more to protect the environment, not only to develop and launch products manufactured with renewable materials, but also to revise their manufacturing, transportation and warehousing processes as well as energy and water source utilization.

Sustainability has led companies to face the challenge to be profitable at the same time be in harmony with nature and society. Some of them are finding competitive advantages from this effort, while some see it as a regulatory obligation. The supply chain plays an important role for a company, first, because it is responsible for guaranteeing the right products at the right place in the quantities needed
by the final consumer. Second, it is capable of integrating all external and internal actors to respond to those consumer necessities by sustainable means.

The goal of this project is to understand the current status of sustainability among Latin American companies and their impact in the supply chain by comparing the actions of the Leaders, or biggest companies in the world, to the actions of LatAm companies regarding this issue.

**Supply Chain Framework**

The analysis of these companies was done according to the stages in the supply chain framework in Figure 1.

LatAm companies have started to make public a sustainability report and measure emissions in recent years. They have focused their sustainability efforts mainly on measuring their impact in” Production, Facilities, Transport, and Reverse Logistic stages. Companies’ actions address those operations they are able to change. In cases where companies are not able to change or redesign the operation, they usually assign financial resources to rehabilitate lands or reforest them, reducing climate change.

LatAm companies’ main findings from their sustainable efforts in every supply chain stage are:

1. **Consumers:** No evidence was found in this projects of LatAm companies performing studies *to identify consumer’s sustainable preferences. Some Leaders have a profile of consumers, helping them to define a sustainable offer of products and services.

2. **Products:** LatAm companies’ actions have been focused on packaging design, in guaranteeing sustainable sources or in protecting nature biodiversity. Companies are offering organic products and/or with a FairTrade seal. Leader companies have similar actions, but they are innovating with new sustainable products. More R&D resources are address towards product and packaging design.

3. **Production & Facilities Stages:** Like Leaders, LatAm companies measure GHG Emissions, water waste, solid waste, recycle efforts, water/energy usage and consumption reduction. Companies invest in new and more efficient equipment, helping reduce emissions and the use of utilities, decreasing operation costs.

4. **Transport:** Some of the LatAm companies are using vehicles under the European standard (Euro 2 and 3) which help reduce emissions and reduce fuel consumption. Companies are also experimenting with biofuels. Some Leaders use information technology software to optimize routes and at the same time reduce emissions. These companies are running pilots to experiment with new non fossil fuels, hybrid cars, electric cars and mixing the mode of transportation to reduce emissions.

5. **Reverse Logistics:** In general, companies measure waste disposal, recycling or materials reuse. For example, Grupo Modelo from Mexico use organic waste to produce electricity and steam; Samsung uses “Environmentally – Friendly” technology to easily recycle or reuse

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**Figure 1: Supply Chain Framework**

Leaders have done studies to understand consumers’ preferences, using life cycle assessment processes to understand the products behavior from its design until its disposal or recycle at the end of its life. The information these companies get from this assessment helps them to identify in their supply chain the critical stages impacting nature and society. Then, companies decide to design new sustainable products or/and packages, transform or redesign processes across the supply chain, and employ the latest technologies to minimize emissions, and therefore nature degradation. Innovative ideas have risen from this analysis to offer products that not only reduce emissions in the supply chain, but also help consumers to reduce their footprint and in some cases save money.

Most of the biggest companies have a holistic view; many of them work hand-in-hand with main suppliers to have a sustainable supply chain and invest financial and human resources to develop technologies, materials, and components to be more sustainable, and at the same time, guarantee a green variety of products or services.
components and materials, helping them save the equivalent of $400,000 in 2008 only from LCD waste glass. Toyota has come up with "easy to dismantle structures" improving recyclability at the end of the vehicles’ life cycle. More of these initiatives are needed from LatAm companies to create alternative business and opportunities to reduce cost while taking advantage of waste.

6. **Procurement:** LatAm as well as Leaders companies are including sustainable variables to evaluate or choose suppliers. Some of them evaluate not only regulations fulfillment, but also additional sustainable initiatives and actions toward supply chain integration. Companies buy raw materials from certified sustainable sources.

Graph 2 shows these companies’ decisions about research and development, new and more efficient technologies, and process certification, demonstrating their desire for sustainable innovative solutions and the reliance on structured procedures.

**Conclusions**

1. A holistic view is needed from up-stream the supply chain to down-stream to the product itself. It is important spread the concept of Life Cycle Assessment to innovate in terms of supply chain processes, products, packaging, and technology.

2. Latin America does not have a sustainability consumers profile in order to understand actual consumer preferences in relation to products, services and sustainability. The challenge is to offer Latin American consumer products that satisfy its needs with the same performance, but conceived in a sustainable way.

3. LatAm * companies are showing progress in their responsibilities towards sustainability. Companies understand that by having long-term relations with suppliers, they will experience similar development as companies have. However, there is still a lack of inclusion in the strategic aspects of the business, like sustainable product design, to create innovative alternatives.

4. It is possible to obtain benefits across the supply chain from sustainability, and some of the Latin American companies are already experiencing cost reductions by using alternative fuels, efficient technologies, or new packaging designs. Innovative and sustainable ideas help decrease overall costs and at the same time, satisfy the needs of an increasing number of consumers willing to reduce their footprint on nature.

Graph 1: Rated Reasons to Include Sustainability in Companies’ Strategy

The Project ran a survey to know the non public information regarding sustainability from LatAm companies. Graph 1 above shows the main reasons why companies include sustainability in their strategies. Apart from complying with public policies and laws and reducing impact on the environment and society, it is interesting to find companies recognizing advantages from sustainability as well as risk reduction.

Graph 2: Investment Priorities in Sustainability

Companies were asked about their investment priorities in sustainability for the following years, and