Sustainability Initiatives

Within the Pharmaceutical

Supply Chain

RUTGERS

Rutgers Business School
Newark and New Brunswick

In collaboration with

HDA RESEARCH FOUNDATION

Project Participants

HDA and HDA Research Foundation

Perry Fri
Executive Vice President,
Industry Relations,
Membership and Education, HDA
Chief Operating Officer, HDA Research Foundation

Rachel Newman
Associate Director,
HDA Research Foundation

HDA Panel Members

Jackie Bridge
Manager, Sustainability
AmerisourceBergen

Margaret Watt
Director, Supply Chain Strategy and Analytics
Henry Schein

Rutgers Team

Anthony Taitt
Assistant Professor of Professional Practice,
Supply Chain Management Department

SCMS IND CLNT Project

Team Anuj Luthra

Chengyi Liu

Jazib Khan

Yichen Jiang

Yining

Table of Contents

Introduction

Executive Summary

The HDA Research Foundation partnered with the Rutgers University Business School Supply Chain Management undergraduate program to benchmark the sustainability of pharmaceutical distribution within Healthcare Distribution Alliance (HDA) distributor-member companies. Regarding climate change and many environmental issues, sustainability within the pharmaceutical industry is necessary to combat future climate crises. The United States healthcare sector nationally is responsible for an estimated 8.5 percent of emissions.[1] A survey was conducted to research and gauge the level of sustainability initiatives of each distributor. The survey results indicate that HDA drives its members toward sustainability. However, despite their efforts, there is a considerable lack of awareness from member employees and departments. Therefore, advocating for a culture of operational excellence and sustainable supply chain management throughout the membership should reinstitute the importance of sustainability.

Background Information

Supply chain sustainability has become increasingly important for large companies or subcontractors due to new environmental regulations, labor standards, energy costs and competitive pressures from government and consumer demand. Sustainability in supply chain management refers to the macro view of how supply chain logistics, processes and technologies affect the supply chain's social, legal, economic and environmental components. Having a sustainable supply chain means identifying sources of raw materials, reducing carbon footprints and ensuring good conditions for workers.

The Rutgers team analyzed the supply chain sustainability of HDA distributor members, benchmarking ongoing pharmaceutical supply chain sustainability initiatives and measures, resulting in appropriate improvement suggestions and summaries.

Survey

A survey was conducted to gather data from HDA's distributor members, which shows how each company plays a role when it comes to sustainability. The goal of the survey was to understand how the industry is preparing to meet the sustainability requirements while gauging the level of sustainability of each distributor. Google Forms was used to create this survey and it consisted of multiple-choice, rating, short answer and "check all that apply" questions.

[1] Dzau, V. J., Author AffiliationsFrom the National Academy of Medicine (NAM) (V.J.D.) and the Department of Health and Human Services (R.L.) — both in Washington, McGarrity, T. J., Delgado, J. L., Graves, A. D. and J. L., R. P. Bhattacharyya and W. P. Hanage, G. Haidar and N. Singh, & M. B. Braga Neto and Others. (1970, February 10). *Decarbonizing the U.S. health sector - A call to action: Nejm.* New England Journal of Medicine. Retrieved February 10, 2022, from https://www.nejm.org/doi/full/10.1056/NEJMp2115675

Current Situation

According to the New England Journal of Medicine the U.S. healthcare sector alone is responsible for nearly 25 percent of worldwide emissions.[2] Further, “The Cost of Inaction” states that the overall health costs of climate change already exceed $820 billion each year.[3]

HDA is leading efforts related to environmental sustainability on behalf of its members and the distribution sector. As the vital link between distributors, manufacturers, pharmacies and other providers, HDA supports initiatives to reduce the healthcare ecosystem’s carbon footprint. By benchmarking the organization’s members, convening stakeholders and identifying best practices, HDA is driving meaningful change. In addition, HDA is actively participating in the National Academy of Medicine’s (NAM) “Action Collaborative on Decarbonizing the U.S. Health Sector,” a public-private partnership of leaders from across the health system committed to addressing the sector’s environmental impact while strengthening its sustainability and resilience.

Project Background

Project Scope

In Scope (Items to be included)

To provide insightful analysis about the industry's sustainability, our group decided to evaluate ongoing sustainability efforts of HDA distributor members. Some HDA members have publicly available data on how they are reducing greenhouse gas and energy under logistics and warehousing, packaging innovation and reducing waste generated during the warehousing and procurement process. According to the findings based on our research, the group would provide recommendations. The group will also assess the grocery industry and its specific initiatives for promoting sustainability to generate a recommendation to HDA members about sustainability in other industries.

[2] Dzau, V. J., Author AffiliationsFrom the National Academy of Medicine (NAM) (V.J.D.) and the Department of Health and Human Services (R.L.) — both in Washington, McGarrity, T. J., Delgado, J. L., Graves, A. D. and J. L., R. P. Bhattacharyya and W. P. Hanage, G. Haidar and N. Singh, & M. B. Braga Neto and Others. (1970, February 10). *Decarbonizing the U.S. health sector - A call to action: Nejm*. New England Journal of Medicine. Retrieved February 10, 2022, from https://www.nejm.org/doi/full/10.1056/NEJMp2115675

[3] Limaye, V., & De Alwis, D. (2021, May 20). *The Costs of Inaction: The Economic Burden of Fossil Fuels and Climate Change on Health in the United States* . https://www.nrdc.org/resources/costs-inaction-economic-burden-fossil-fuels-and-climate-change-health-us. Retrieved from https://www.nrdc.org/sites/default/files/costs-inaction-burden-health-report.pdf.

Out of Scope (Items to be excluded)

This project focuses on benchmarking sustainability in the pharmaceutical industry by surveying and interviewing HDA distributor members, resulting in an analysis of how different distributors react to sustainability issues. Therefore, it is not necessary to get into the complexity of the pharmaceutical supply chain or finance.

Project Deliverable

We are evaluating HDA's effectiveness in their ongoing efforts of sustainability improvement while creating a survey with the help of the HDA's panel members, which will go out to 37 distributors. Through our findings from the survey, we will analyze what standard non-LEAN practices each distributor is doing and come up with an appropriate recommendation. We also assessed another industry and its specific initiatives for warehousing and distribution.

Survey and Research Result

Survey Feedback and Analysis

Respondents' General Information

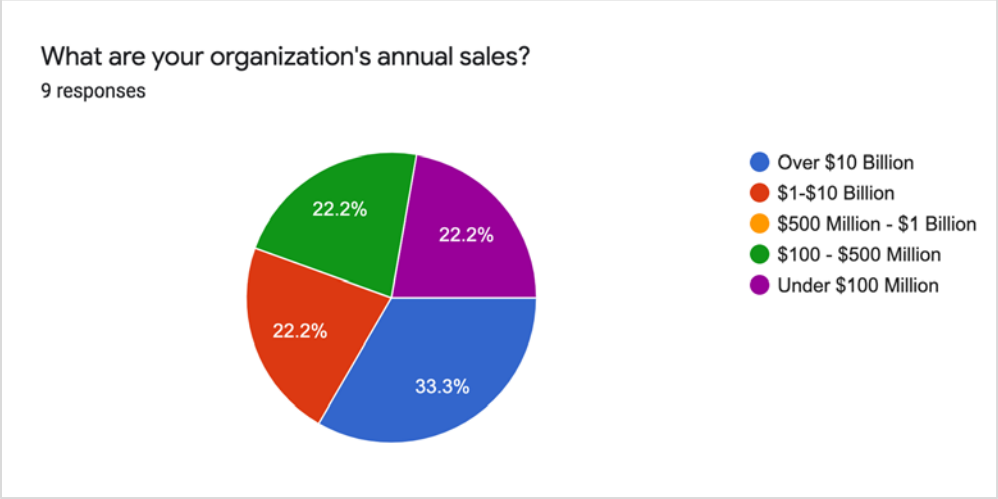


Figure 1

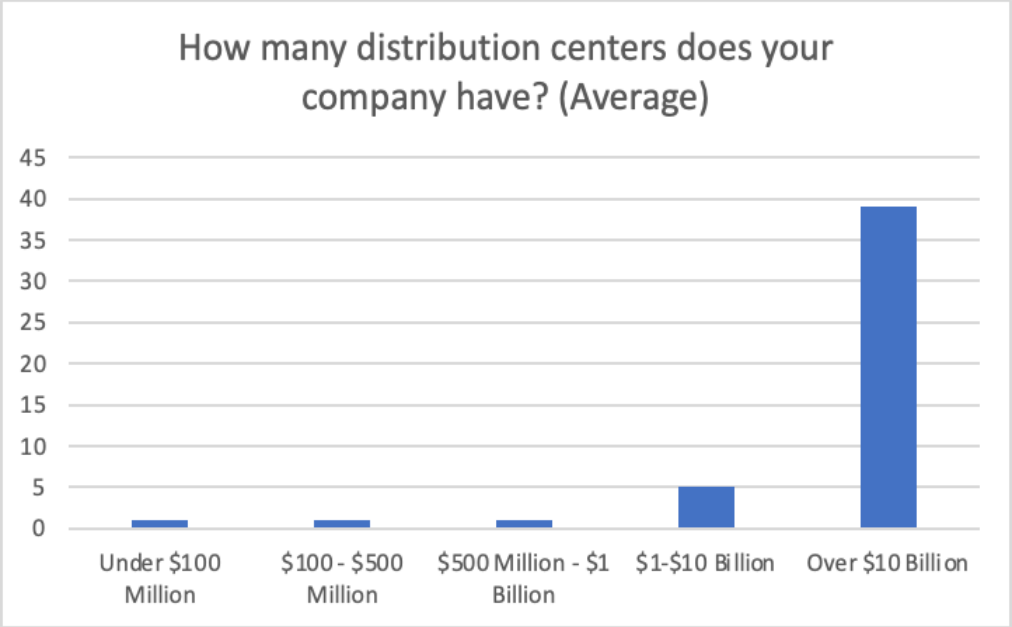


Figure 2

Organizations with over $10 billion revenue have an average of 35–40 distribution centers. While companies with revenue between $1–10 billion have an average of five distribution centers. Companies with revenue below $1 billion have an average of one or two distribution centers.

Awareness Toward Sustainability

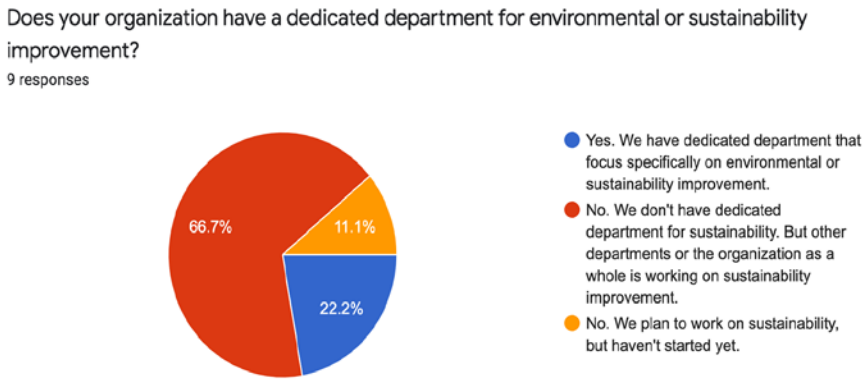


Figure 3

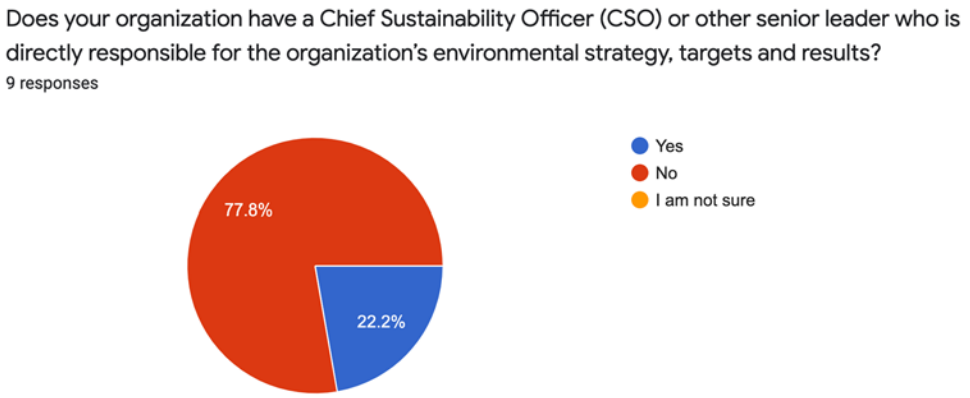


Figure 4

According to the survey, 67 percent of the respondents do not have a dedicated department for environmental or sustainability improvement (figure 3). This could lead to inefficiency when implementing sustainability, because there is not a focused team implementing this improvement.

Additionally, 78 percent of the respondents do not have a chief sustainability officer (CSO). This might lead to poor performance due to lack of authority from the senior level. Efficiency would increase if a senior officer focused on sustainability oversees the whole operation and leads the change.

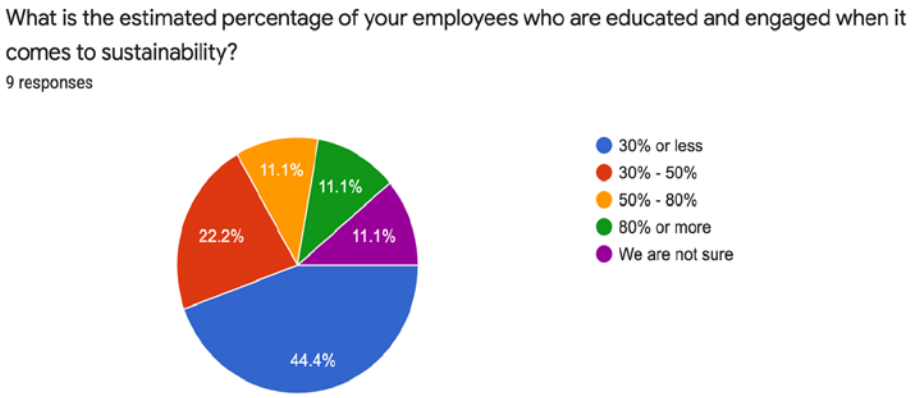


Figure 5

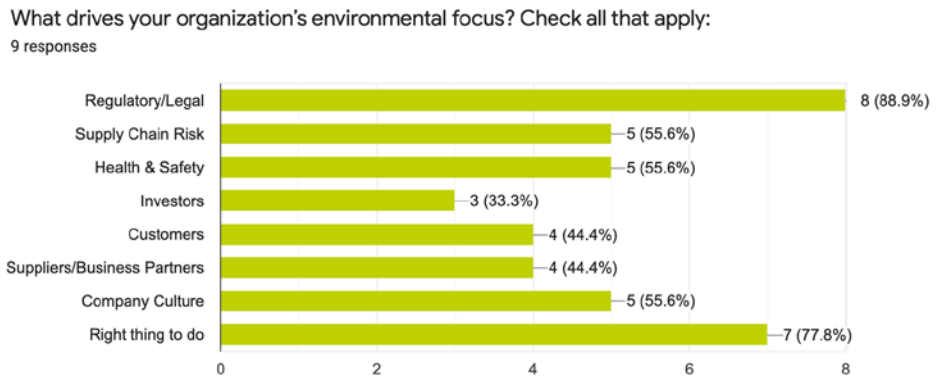


Figure 6

In Figure 5, we can see the percentage of educated and engaged employees when it comes to sustainability. Most of the responses fall into the “30 percent or less”; 22 percent of responses fall into the 30–50 percent range, with few respondents estimating 50–80 percent of educated and engaged employees. However, it is a good start; more improvement can motivate employees to work toward sustainability improvement.

From Figure 6, most companies focus on sustainability and environmental issues due to the legal requirements and regulations and because it is the right thing to do. Then, around 56 percent of respondents considered that improving sustainability could mitigate supply chain risk and help them reduce health and safety concerns. Approximately 56 percent of the companies consider improving sustainability as part of their company culture and value. This is positive to see, since having the right attitude and awareness of sustainability is the first step to improving sustainability.

Initiatives and Challenges

Figure 7 illustrates what initiatives and challenges the HDA members believe they are facing when implementing a sustainable supply chain. Most of these companies are concerned about carbon emission and waste and pollution. For most respondents, water usage is just moderately important. The issue of energy consumption is relatively average, but all companies think it is an important issue.

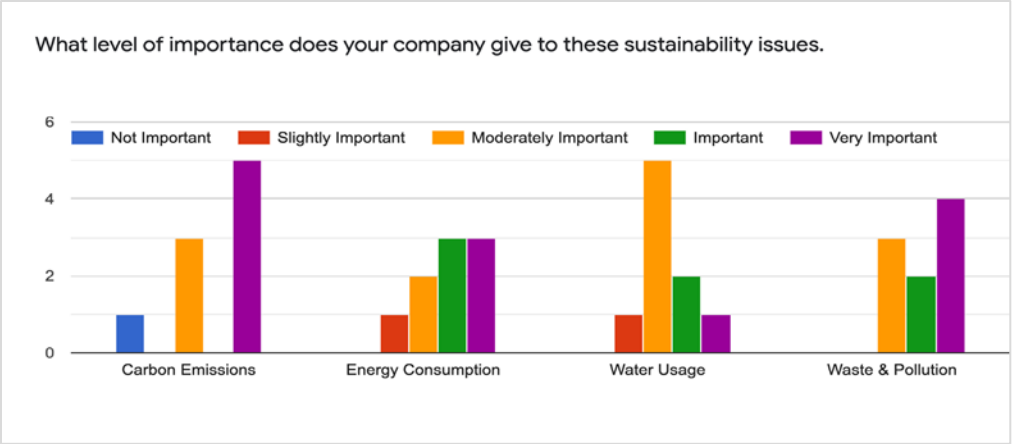


Figure 7

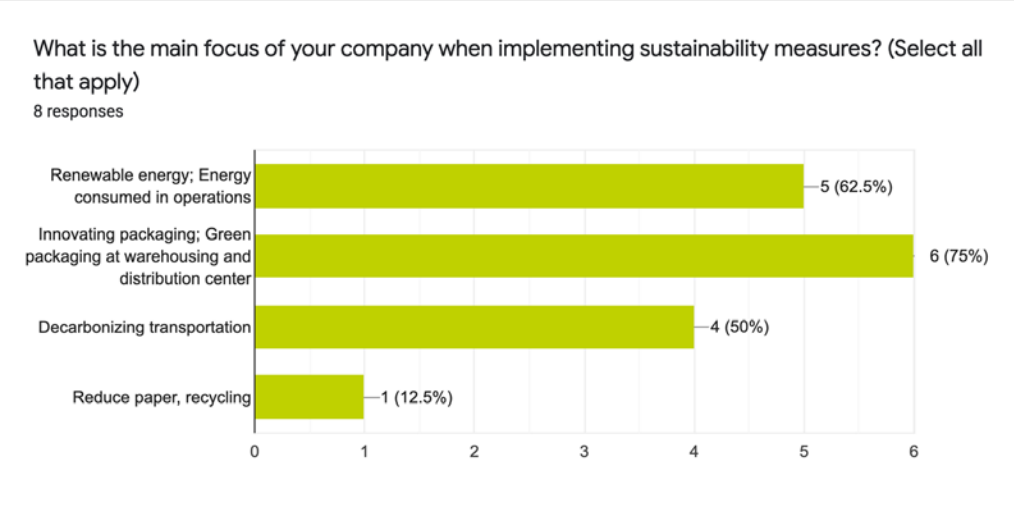


Figure 8

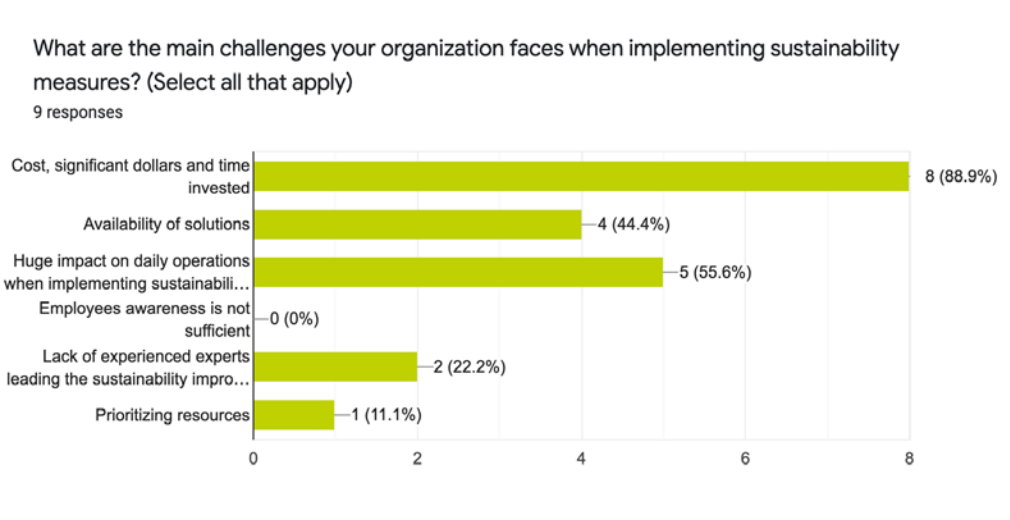


Figure 9

Figure 8 shows what factors companies pay more attention to when implementing sustainable development measures. Most companies will pay attention to using innovative packaging, green packaging at warehousing and distribution centers. They are more willing to focus on renewable energy use and energy consumed in operations and transportation, while only a few companies will focus on reducing paper usage and recycling.

Figure 9 shows the challenges that these companies consider preventing them from achieving a sustainable supply chain. Ninety percent of the respondents cited the cost as the most significant obstacle. Over half of respondents believe that there will be a considerable impact on daily operations when implementing sustainable measures. Forty-five percent of companies believe that they lack solutions to achieve a sustainable supply chain, and 22 percent do not have experienced experts leading the sustainability improvement within their companies.

Based on the data, these companies have positive views on the sustainable supply chain and want to implement within their organization in the future. However, the potential cost and negative impact on their enterprise operation are the main challenges they face when implementing sustainable supply chain management.

Implementations

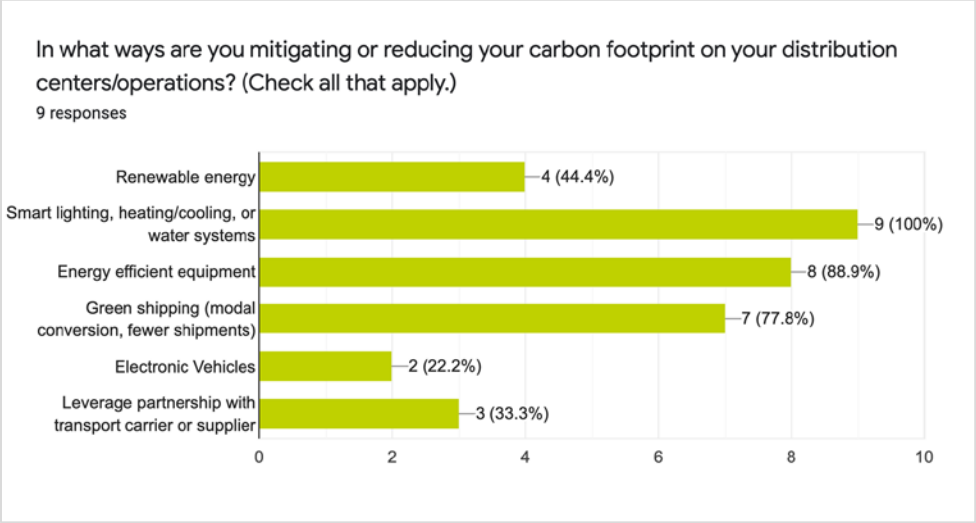


Figure 10

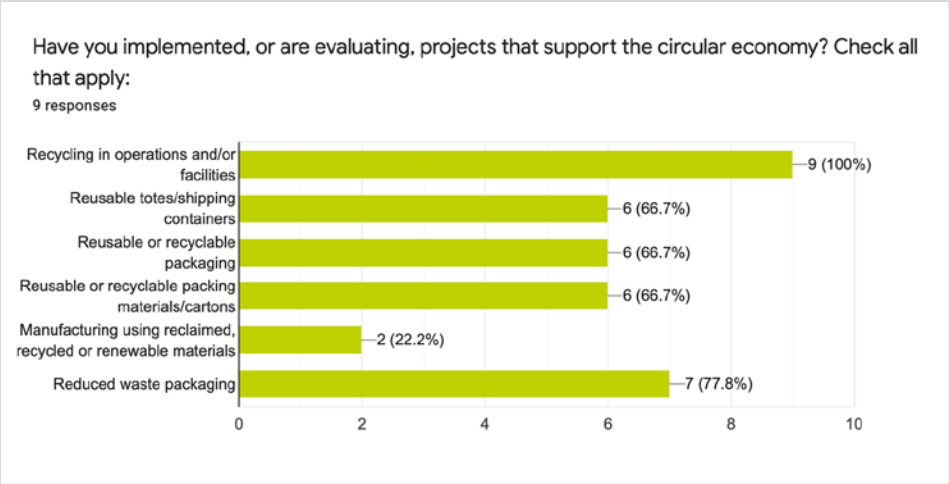


Figure 11

These two questions cover what HDA's members are currently implementing to reduce their carbon footprint. Figure 10 shows that all nine of the respondents are taking steps toward reducing their carbon footprint. All respondents (100 percent) recycle within their distribution centers.

Figure 11 shows that all respondents use smart and energy-efficient lighting, water, heating and cooling systems. The larger companies mainly use renewable energy sources like solar energy and electric vehicles to reduce their footprint.

Overall, many distributors are taking pronounced steps to diminish their carbon footprint. All distributors surveyed invest in energy-efficient lighting and utilities, and use renewable energy and recyclable material.

Successful Initiatives

From our short answer questions, many companies shared successful initiatives that help them promote sustainability in different ways. One of the companies has started reducing waste by donating the surplus to clinics in need and offering greener options using sustainability-sourced materials. Another company participates in the tote exchange program, which delivers products in reusable totes rather than cardboard boxes. Lastly, another company diverted 513 metric tons of unused products from landfills by providing nonprofit organizations with supplies that fill a crucial gap for healthcare facilities in low-resource countries.

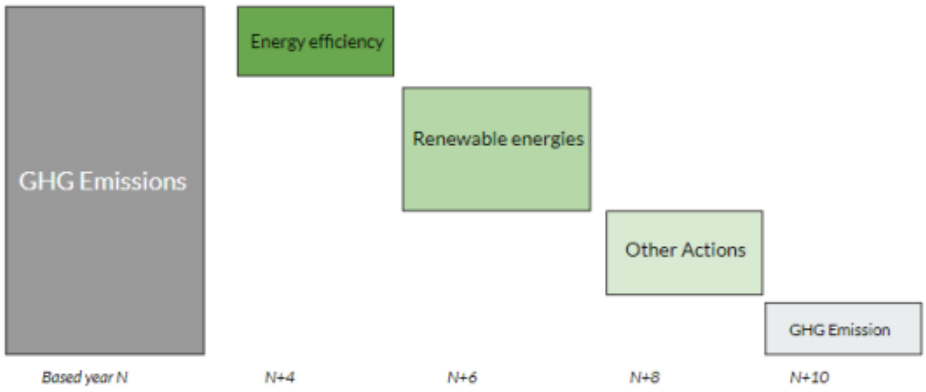
Food Marketing Institute (FMI) Analysis

Background

The pharmaceutical industry's supply chain is similar to the grocery industry supply chain. Our team interviewed with FMI to better understand the similarities and differences between these two industries. FMI helps conduct food safety, handle public affairs and research industrial relations. FMI works on behalf of the entire food industry to ensure a healthier, safer and more efficient food supply chain.

Our team interviewed Marjorie DePuy, Sr. Director of Supply Chain & Sustainability. Marjorie stated that the grocery industry is susceptible to waste production. As opposed to any other industry, the grocery industry produces a lot of waste which must be dealt with before its expiration date. Many hurdles lead to the food industry's high waste production. FMI members try to limit the overproduction problem by donating food surplus to food banks rather than throwing it away.

FMI Interview



From the chart above, FMI has a long-term goal to reduce its members Greenhouse Gas (GHG) emissions. Over a 10-year project focused on energy efficiency and renewable energy to reduce 70 percent of GHG emission.

The FMI mainly focuses on three parts, which are transportation, food waste and packaging. Transportation is a big part of carbon emissions. Some of the FMI members have electric cars and charging centers. It is not very hard for the FMI to manage the cold chain if the cooling devices and other equipment can keep operating.

The food waste reduction is aligned with the United States regulations enforced by FDA and EPA. Meanwhile, FMI committed to reducing 50 percent of their members' food waste in 2030 under United States regulation. Sustainable packaging, using eco-friendly throughout the packaging lifecycle is one of its goals within the scope. FMI focuses on two divisions: using recyclable and reusable material and encouraging minimal packaging. When FMI members use

recyclable materials, it reduces the amount of packaging waste at the end of the package by recycling and then reusing the package for many products. FMI encourages minimal packaging by investing in a minimalistic packaging design that does not require much packaging material.

FMI believes that company sustainability practices vary. FMI members are concerned about two significant factors: carbon emission and energy efficiency. They reduce carbon emissions by carefully analyzing their scope from one to three. By analyzing which scope the member has the most emissions, they can develop practices to reduce their emissions to promote sustainability. From the energy efficiency perspective, each member's material priority depends on different factors.

Like HDA, FMI also has members that include large companies and small companies. Small companies may face lack of time and labor, supply chain challenges, relatively old equipment, driver shortages and relatively low initiative to promote sustainability. For the large company, although there are many employees in the company, the actual percentage working on sustainability is small. Most of the work related to sustainability is outsourced to external partners where FMI assists those companies in promoting their sustainability. Therefore, with the help of large organizations' experiences, FMI can educate small organizations on promoting sustainability.

Recommendations

Recommendation 1

Companies need to be aware and motivated about sustainability to achieve their emission reduction targets and other sustainability goals. Also, the survey indicated that around 89 percent of the respondents considered "cost, significant dollars and time invested" as their "main challenges organization faces when implementing sustainability measures." We believe that increasing awareness and motivation throughout the whole enterprise will be the most cost-efficient way to work on sustainability. We could utilize supply chain management concepts and tools to drive changes and realize excellent sustainability improvements. Here, we have a recommendation to establish a strategic position for green supply chain management in enterprise and operation management. This can be done in three parts:

First, increasing awareness and motivating employees. This could be done by introducing lean culture, making it part of the company culture, eliminating all wastes and non-value-adding activities, only doing what is necessary to do and introducing the concept of operational excellence to employees. The more efficient and lean operation will consume less energy and generate fewer emissions.

Secondly, senior-level management involvement, the establishment of governance and implementing dedicated departments for CSO will efficiently drive sustainability.

Finally, the third part will review the company's value chain and eliminate all unnecessary activities using lean tools, such as value stream mapping, to identify waste, reduce process cycle times and implement process improvement.

Implementing operational excellence enables companies to reduce GHG and carbon footprint, reduce water consumption footprint, reduce fossil-based energy consumption, and minimize or eliminate solid, hazardous and other wastes. It also helps to optimize the productivity of employees, equipment, and machines; it optimizes the use of alternative and renewable energy generation sources and employees' ingenuity for continuous improvement. Lastly, it legitimizes and passes on tangible and quantifiable energy, environmental, economic and value-added benefits to customers, vendors and the local community.[4]

In conclusion, operating lean and implementing operational excellence will reduce unnecessary and non-value-adding activities. It will reduce emissions from activities and save energy, a broader term that helps the company meet its sustainability target in a cost-efficient manner.

Recommendation 2

According to the findings and the interview with FMI, our group provided a method that can help improve the overall sustainability within the organization.

First, it is necessary to establish a long-term sustainability goal within the organization and measure the current process each year to see whether the company achieves the goal every year. If the organization fails to achieve the goal, analyze the failure and adjust the goal if necessary. The long-term goal could look similar to what FMI has implemented with their members.

The second step is to examine members' annual sustainability report that includes Environment, Social and Governance (ESG) goals and provides the current company's progress toward these goals. Each effort from the member is necessary to improve the overall sustainability so that HDA would better analyze its members' sustainability reports, regardless of company size. Since some small companies may not have enough time or resources for sustainability, HDA can help these small organizations generate new goals to help the members promote sustainability each year. In the perspective of sustainability, there are no large or small companies. Each company should provide efforts as one of its social responses to increase sustainability. Like FMI, the HDA can form a sustainability task team to help members start promoting sustainability, record the processes members have as a reference, and use the task team as a link to connect companies to increase sustainability responsibility.

[4] "Using Operational Excellence to Achieve Sustainability and a Competitive Advantage." Thomasnet® - Product Sourcing and Supplier Discovery Platform - Find North American Manufacturers, Suppliers and Industrial Companies. Accessed January 26, 2022. https://www.thomasnet.com/insights/using-operational-excellence-to-achieve-sustainability-and-a-competitive-advantage/.

Challenges and Lessons Learned

Working directly with the HDA Research Foundation taught us a substantial amount about working with various stakeholders. During our time with HDA, we learned how to construct an efficient meeting schedule to obtain the information required to complete this project. In addition, we learned to adapt to the obstacles of not meeting other member companies' schedules. Our group expected to meet with five member companies but ended up meeting with only two. In addition, we learned how to work through our internal challenges of having group members from different time zones.

The most important skill that our group learned throughout this project was applying supply chain concepts to address actual industrial problems. After the survey analysis, our group took on the role of a supply chain consultant and identified the sustainability issues that current HDA members have within their distribution centers. After recognizing the problem, our group researched the proper supply chain concept that would best fit the current situation of HDA distributors.

Conclusion

This report has touched on some potential areas to improve for HDA and its distributors in terms of sustainability. The data from the survey show that the companies surveyed are working toward sustainability. Distributors are recycling, using smart and efficient energy sources and implementing renewable energy sources within their distribution centers. The majority of the respondents are very supportive of sustainable supply chain business models. However, their potential cost and negative impact on their enterprise operations make these practices economical. Internal awareness about sustainability within these companies is low; only 22 percent of respondents have a dedicated department toward sustainability. About half of the respondents stated that less than 30 percent of their employees are educated about sustainability.

Lastly, the Rutgers team provided some recommendations on how the distributors could achieve sustainability within their organization. The first recommendation would be implementing operational excellence as it would help reduce unnecessary and non-value-adding activities, which will cause a reduction in emissions. Another recommendation would be to spread awareness about sustainability within their organization and educate their employees on the benefits and importance of sustainability.

Our group also developed actions that can apply to HDA based on FMI's past experiences through small changes to improve distributors' sustainability.