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THỰC TRẠNG QUẢN LÝ CHUỖI CUNG ỨNG XANH (GSCM) TẠI VIỆT NAM: NGHIÊN CỨU TRƯỜNG HỢP CỦA VINAMILK VÀ HEINEKEN

Lương Tùng Chi[1], Hoàng Yến Chi, Nguyễn Hà Phương, Nguyễn Thị Hồng Anh, Lê Phương Anh

Sinh viên K61 - CLC Kinh tế đối ngoại - Viện Kinh tế & Kinh doanh quốc tế

Trường Đại học Ngoại Thương, Hà Nội, Việt Nam

Ngô Hoàng Quỳnh Anh

Giảng viên Viện Kinh tế và Kinh doanh quốc tế

Trường Đại học Ngoại Thương, Hà Nội, Việt Nam

Tóm tắt

Quản lý Chuỗi cung ứng xanh (GSCM) đang là một chủ đề được quan tâm do những mối lo ngại về môi trường ngày càng gia tăng. Do đó, việc hiểu biết toàn diện về GSCM là rất cấp thiết, ảnh hưởng không chỉ đến nền kinh tế mà còn đến xã hội nói chung. Phương pháp định tính đã được sử dụng để làm rõ việc áp dụng GSCM của các doanh nghiệp, thông qua thực tiễn hai công ty Vinamilk và Heineken. Dữ liệu của nghiên cứu này được thu thập từ các bài viết uy tín trong cùng lĩnh vực và báo cáo phát triển bền vững mới nhất của các doanh nghiệp. Nghiên cứu chỉ ra rằng độ lớn của doanh nghiệp và lịch sử hoạt động có tác động đáng kể đến việc áp dụng GSCM. Hơn nữa, việc áp dụng GSCM hiệu quả đòi hỏi sự tham gia của nhiều bên liên quan. Các kết luận này cũng là nền tảng để đưa ra đề xuất có giá trị cho chuỗi cung ứng của Việt Nam.

Từ khóa: GSCM, Heineken, chuỗi cung ứng, Vinamilk

CURRENT SITUATION OF GREEN SUPPLY CHAIN MANAGEMENT (GSCM) IN VIETNAM: CASE STUDIES OF VINAMILK AND HEINEKEN

Abstract

Green Supply Chain Management (GSCM) has been a topic of interest due to increasing environmental concerns, so gaining a comprehensive understanding of GSCM is considered a significant issue, impacting not only the economy but also society as a whole. A qualitative approach was applied to further analyze the GSCM practices of Vietnamese enterprises, with

[1] Tác giả liên hệ, Email: k61.2212150039@ftu.edu.vn

an in-depth analysis of two case studies from Vinamilk and Heineken Vietnam. Data for this paper was collected from prestigious research in the same field and the most updated Sustainable Development Report of enterprises. The case study inferences indicate that the firm's size and historical performance have a great impact on the GSCM adoption. Furthermore, effective and successful GSCM requires the involvement of multiple stakeholders. The inferences also serve as a foundation for relatable recommendations that this paper provides for the Vietnamese supply chain sector to adopt more environmentally friendly practices.

Keyword: GSCM practices, Heineken, supply chain, Vinamilk

1. Introduction

1.1. Background of the study

1.1.1. Overview of Vinamilk Vietnam

Vietnam Dairy Products Joint Stock Company (Vinamilk) is the largest Vietnamese dairy company that was established in 1976. It has made itself a household name by providing a wide variety of products including liquid and powdered milk as its main products and other dairy products such as condensed milk, ice-cream, yogurt, baby food, plant-based drinks, fruit juice and cheese. The company has 14 dairy farms to produce raw milk and all farms are Global G.A.P certified (Vinamilk Website, 2023).

Alarming environmental problems have necessitated more sustainable management in all sectors, especially in the dairy operations. According to the Food and Agriculture Organization of the United Nations, milk production is responsible for 2.9 percent of total human-induced greenhouse gas emissions. Moreover, dairy operations might be the main contributor to the environmental degradation, causing soil pollution, water pollution if manure and crop feed is poorly managed. In 2023, the production volume of fresh milk in Vietnam reached over 1.86 billion liters (Statista, 2023), with increasing consumption driven by a large young population and rising purchasing power. Therefore, orientation towards GSCM in intensive farming systems like Vinamilk could ensure minimum harm to the environment while simultaneously satisfying the domestic demands.

In this situation, Vinamilk has proved its determination by being the pioneer in applying GSCM. It has an annual sustainable development report so that consumers can be better informed of its GSCM. Vinamilk's GSCM model is applied in all steps of production including resources, farming, production, research and development, and supply and distribution.. The company focuses on evaluating the product life cycle and adopts the 3R approach: Reduce, Reuse, Recycle (Vinamilk Development Report, 2020). It has innovated continuously to provide consumers with products with superior quality while correspondingly minimizing the negative impacts that the production process exerts on the environment.

Vinamilk's efforts have made it currently the most sustainable brand in Vietnam and among the top 5 globally in the dairy industry (Brand Finance Food & Drink Report, 2023). Notably, it has publicly committed to the Pathways to Dairy Net Zero initiative, marking the first Vietnamese entity to join this global mission. Vinamilk's dedication to Net Zero is evident through the adoption of renewable energy to reduce greenhouse gas emissions in production, as well as initiatives including solar energy projects and energy-saving technologies.

1.1.2. Overview of Heineken Vietnam

Established in 1991, Heineken Vietnam is a joint venture between HEINEKEN and SATRA (Saigon Trading Group), making its name in the domestic market with a wide range of beverages, including Heineken®, Tiger, and many more. Over its 30 years, the company has grown from the very first brewery in Ho Chi Minh City in 1991 to 6 nationwide, contributing an equivalent of 1.04% of Vietnam's total GDP to the local economy and are among the country's top taxpayers (Heineken Sustainability Report).

The need for sustainable businesses, particularly in industries like beer production, is becoming critical in Vietnam. Vietnam's rapid economic growth comes at the cost of the environment, concerning water scarcity, pollution, and greenhouse gas emissions. The beer industry, while contributing greatly to the country's economy, can become significant resource users, as beer production can be water-intensive, requiring up to 7 liters of water to produce 1 liter of beer (Morgan et al., 2021). Sustainable practices in beer production, like those adopted by Heineken Vietnam, can make a real difference, as they can reduce their environmental footprint, contributing to a more sustainable future of Vietnam's manufacturing sector.

Heneiken has made considerable changes in its own production and distribution chain. This includes the use of renewable biomass energy across 6/6 breweries, reducing CO2 emissions significantly. The packaging follows a "circular" approach, minimizing waste through reuse and recycling. Wastewater is treated and even reused for non-drinking purposes. Upon partnering with WWF, they invest in water conservation efforts aiming for 100% water balance by 2025.

With all of the above attempts and many other more, Heineken Vietnam, for the past 7 years, maintains its place in the Top 03 most sustainable company in Vietnam (in the manufacturing sector) and Top 5 pioneering enterprises implementing circular economy and reducing carbon emissions (Vietnam Business Council for Sustainable Development), actively greening its supply chain, while at the same time managing to remain profitable.

This company has been, and is still, one of the few Vietnam's leading enterprises in the attempts to maintain green production, and further, the green supply chain. That is why the case of Heineken's practices towards green is deemed worth closer analysis, and it will serve as a valuable experience for other businesses operating in Vietnam to draw lessons from in their own steps achieving a sustainable supply chain.

1.2. Research objectives

Firstly, this study aims to identify the specific GSCM strategies adopted by Vinamilk and Heineken to address environmental concerns within their supply chains. Secondly, by examining the experiences of Vinamilk and Heineken, the study seeks to identify successful strategies, challenges faced, and lessons learned in implementing GSCM in the Vietnamese context.

1.3. Significance of the study

In developing countries such as Vietnam, Green Supply Chain Management (GSCM) is still a new concept with little attention, since profit is still the main determinant of companies' survival (Do et al., 2020). Therefore, it is crucial to conduct a study on the current situation of GSCM in Vietnam to gain deeper insight into this matter. Academically, this paper contributes

to the expanding literature on GSCM in Vietnam. Practically, this research could offer valuable insights for businesses wanting to implement GSCM in their production process. Through the successful stories of two Vietnamese enterprises in applying GSCM, other businesses can draw lessons from such cases and consider it as the foundation for their actions towards developing GSCM.

2. Literature Review

2.1. Review of previous studies on GSCM practices

2.1.1. In general

The applications and uses of theory in GSCM research have been the subject of various recent writings. This indicates that we are living in the GSCM growth stages as a society. An increasing variety of organizational theories are being explicitly applied by GSCM researchers. A portion of the research has also contributed to the development and reinforcement of some of these hypotheses. (Jafarzadeh-Ghoushchi, S., 2018).

The study by Aslam et al. (2018) used a quantitative approach to determine what factors influence GSCM practices in Pakistan, a developing country's manufacturing sector and to look at how GSCM practices affect businesses' financial and environmental performance. The results, surprisingly, contributed to society both empirically and theoretically. They provided a statement to the claim that supply chain companies' economic and environmental performance are both improved by GSCM.

Hijaz et al. (2015) carried out studies assessing the Jordanian market's existing situation in the context of practicing GSCM. Five interviews with SMEs were conducted in order to get qualitative data. As a result, the majority of businesses in the Jordanian SMEs sector are unwilling to implement GSCM principles and pay little attention to environmental risks or green sourcing. This suggests that to ensure effective GSCM practice, the government must update its rules and regulations to reflect the necessity of putting GSCM concepts into practice.

2.1.2. In Vietnam

The main purpose of the paper by Do et al. (2020) is to investigate how GSCM and its evaluative criteria have impacted GSCM practice and performance in industrial zones. The result is that GSCM performance and practice are significantly impacted by the internal knowledge of senior managers, middle managers, and functional managers. By raising and satisfying managers' and customers' awareness at all levels, internal awareness and customer awareness play a significant role in enhancing GSCM practice and performance. These authors made a similar suggestion to Hijaz et al. (2015), stating that managers, after learning about GSCM practice's advantages, should develop more successful campaigns to use the technique.

Nguyen and Sarker (2020), did not go into hypotheses but employed a case study of sustainable coffee SCM in Buon Me Thuot City, Daklak, Vietnam. Both quantitative and qualitative methods were utilized. The notable findings of the study are: Certified farmers adopt better production practices at higher rates. Coffee processing businesses are increasingly focused on environmental management, social development, and corporate social responsibility; yet, there is scant indication of their extensive support for local farmers. Thus,

collaboration between stakeholders in the public and private sectors is crucial to the improvement's success.

In the Vietnamese manufacturing sector, Le (2020) observed that GSCM implementation is essential. The results show that the economic and social performance was positively impacted by green procurement. These findings also demonstrate how businesses can successfully enhance economic outcomes through green procurement practices. The study recommends that businesses aggressively implement GSCM in their operations after thoroughly understanding the possible benefits of its adoption for sustainable performance.

2.2. Theoretical framework

2.2.1. Green concept in Supply Chain Management

Various definitions of GSCM have already been given in previous literature. According to Srivastava (2007), GSCM can be defined as the incorporation of environmental considerations into supply chain management across all stages, including product design, material sourcing and selection, manufacturing process, delivery of the final product to the end consumers, and the end-of-life management of the product after its useful life. When adding the "green" component to the supply chain management, it means to involve steps in understanding the relationship between supply chain management and the environment, as well as dealing with its influence on the natural settings.

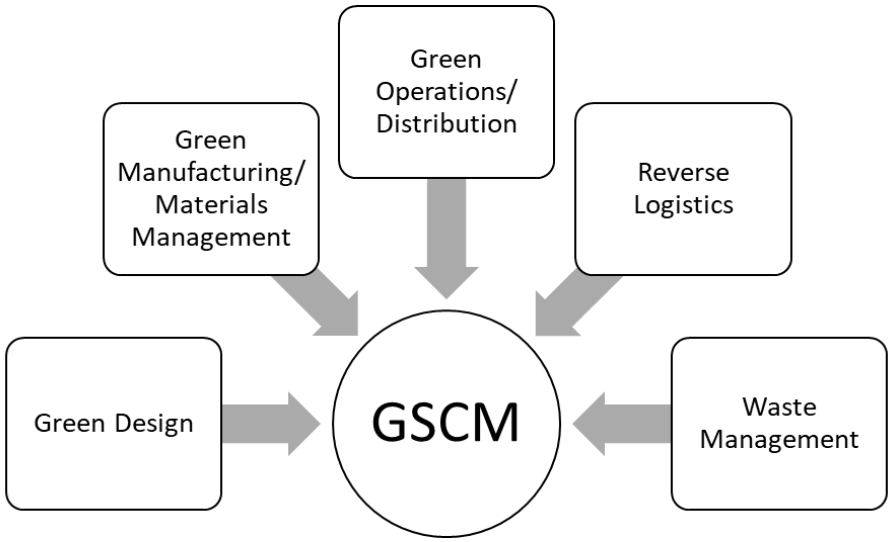

Figure 01: Five key concepts in GSCM

Source: Developed by the authors, based on Guide & Srivastava (1998) and Srivastava (2007)

The concept GSCM, as further developed by Guide & Srivastava (1998) and Srivastava (2007), revolves around 05 key features, namely green design, green manufacturing, green operations, reverse logistics (RL) and waste management.

It has become clear that in the current settings, it is important that environmental management be integrated with current operations of businesses. By doing this, businesses can achieve a greener supply chain and maintain their competitive advantage (Qin, 2019), while at the same time, increasing business profit and market share objectives.

2.2.2. Differences between Conventional and Green Supply Chain Management

Conventional supply chain management (CSCM) typically focused on costs and maintaining strict control over the final product, but often neglecting its environmental impacts. In contrast, Green Supply Chain Management (GSCM) is green and prioritizes eco-friendliness, integration, and ecological optimization, while also taking into consideration the human health impacts from toxic materials. Companies now regard environmental considerations as crucial factors in product design and manufacturing processes, aiming to ensure both economic viability and long-term sustainability. Table 1 illustrates key distinctions between Conventional SCM practices and the environmentally conscious principles of GSCM.

Table 1: Conventional SCM and Green SCM

No.	Characteristics	Conventional SCM	Green SCM
1	Objectives and values	Economic	Economic and Ecological
2	Ecological optimization	Integrated Approach High	Ecological Impacts
3	Supplier Selection Criteria	Price Switching Supplier Short Term Relations	Ecological Aspects Long Term Relations
4	Cost prices	Low	High
5	Speed and Flexibility	High	Low

Source: (Ashish & Hari, 2014)

2.2.3. Supply Chain Management practices

A research by Scott and Westbrook (1991) stated that Supply Chain Management (SCM) is the process that connects every component of the manufacturing and supply chain, from raw materials to final consumers, and views every company in the chain as a single, virtual corporate unit. SCM was further extended by Baatz (1995) to incorporate recycling. Then in later research, Supply chain management (SCM), an integrated approach that starts with the planning and management of the flow of information from suppliers to manufacturers or service providers to the final customer, as well as the logistics and materials used, was depicted as a significant shift in business management practices (Fantazy et al., 2010). According to Ou et al. (2010), SCM is also one of the best strategies for businesses to increase performance.

The validation of SCM practices has been attracting the attention of researchers. For these reasons, there are several SCM practices that have been constructed for a long period of time. For instance, Li et al. (2005, 2006) use a six-separate-construct SCM practices, consisting of strategic supplier partnership, customer relationship, information sharing, information quality, internal lean practices, and postponement. Besides, there is a research by Robb et al. (2008) that considered four constructs, which are customer relationships, supplier relationships,e-commerce, and enterprise software.

3. GSCM situational analysis and case studies

3.1. Current situation of GSCM in Vietnam

Although GSCM has become popular in developed countries for many years, especially in the US, the EU, and Japan, it is still a relatively new concept in Vietnam (Do et al., 2020). With the rise of environmental protection and sustainability, it is of great importance for Vietnamese firms to adopt green practices and reduce the negative environmental effect, especially manufacturing firms which cause a lot of problems to the environment.

The journey to sustainable development with GSCM of Vietnam still presents many challenges. One significant obstacle of developing GSCM lies in logistics which refers to the process and coordination of products, raw materials, and services across the supply chain. In Vietnam, road transport accounts for a high proportion of up to 74.4 per cent of the total transport volume, while other alternative means of transport such as railways and waterways are not promising, which poses a challenge for implementing intensive green logistics (Vietnam News, 2023). Moreover, according to Mr. Nguyen Quang Vinh - the prime president of Vietnam Chamber of Commerce and Industry (VCCI), with 96% of small and medium- sized enterprises, the application of GSCM to transition into a green economy is a challenging task.

Besides presenting challenges, Vietnam has made positive changes regarding adopting GSCM. This can be attributed to the requirements and standards set by the demanding markets such as the EU that we do business with (Le, 2022). To adapt with their new regulations, Vietnamese enterprises must orient themselves towards sustainable development, or else they would be eliminated. Some enterprises in the manufacturing industry have pioneered projects to develop GSCM and sustainable development such as: Vinamilk, Masan, Trung Nguyen, SamSung, … Similarly, many organizations in Bac Ninh, Vietnam have also undertaken efforts towards establishing GSCM practices (Do et al, 2020).

The establishment of GSCM is predicted to become more popular in the near future. Many opportunities would create favorable conditions to foster the development of GSCM in Vietnam. After The 2023 United Nations Climate Change Conference (COP28), Vietnam has committed to take actions to reduce the issue of climate change and is oriented towards sustainable development. Therefore, the Vietnamese government has facilitated sustainable development by supporting enterprises to implement GSCM. The actions include reducing the hassle involved in paperwork, providing funds for enterprises and supporting enterprises in adopting technology to reduce waste. Moreover, the attention to GSCM of enterprises and consumers has also improved. According to Logistics Report Vietnam 2022, more than 73,2% of companies surveyed responded that they have put green logistics strategies in their business plan, which indicates the increased awareness of the importance of GSCM. 30% of consumers showed their preference for eco-friendly products and 10% stated their willingness to pay more for green products (Logistics Report Vietnam, 2022).

3.2. Case study: GSCM of Vinamilk and Heineken Vietnam

3.2.1. Vinamilk Vietnam's GSCM practices

In 2013, Vinamilk proposed its commitments associated with five issues including human nutrition, environment, energy, local economic development, employee support, and

community development (Ho & Truong, 2017). Vinamilk has gained success and increasing popularity with its successful GSCM involving multiple stakeholders (Wang et al., 2020).

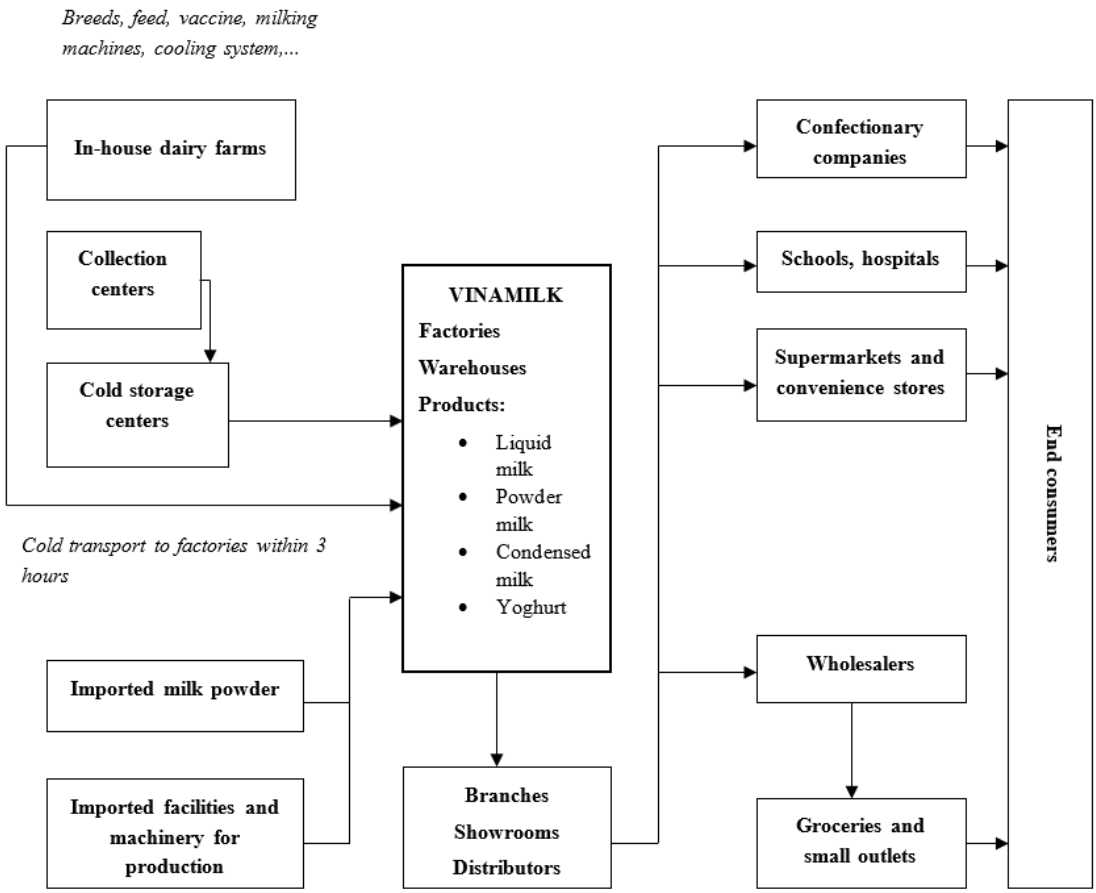

Figure 02: Vinamilk's supply chain in the domestic market

Source: Redeveloped by authors based on (Luc, 2016)

The "green" concept has been incorporated throughout Vinamilk's supply chain. To put it more simply, in the initial phase of research and development, Vinamilk focuses on assessing the product life cycles, nutrition, and adopting the 3R approach - Reduce, Reuse, and Recycle. During the farming phase, the company emphasizes sustainable, organic farming, and transparency. In the production stage, the company aims to lead in clean production by reducing waste and by-products, using responsible water sources, optimizing with high-tech and automated technologies throughout the value chain, and applying green energy in manufacturing plants. Additionally, Vinamilk utilizes advanced technology applications, optimizes transportation routes, reducing waste in the final stage of distribution. (Vinamilk Sustainable Development Report, 2020)

a. Vinamilk's GSCM practices in raw materials

Low-emission and eco-friendly raw materials are prioritized by Vinamilk to minimize the impacts on natural resources. 100% are strictly free of substances harmful to consumer's health. Vinamilk prioritizes sourcing key ingredients from regions with advanced agricultural economies that adhere to international standards for food quality and safety (such as the U.S., New Zealand, Germany, Poland, and other European countries). Raw material selection and

management follow a rigorous system of conformity testing. (Vinamilk Sustainable Development Report, 2023)

b. Vinamilk's GSCM practices in farming and production

GSCM has been adopted transparently throughout Vinamilk's phases of farming and production. Vinamilk owns a high-tech regenerative farming system. A premium farming system is crucial for milk production, with raw fresh milk being a key ingredient. Their emphasis is on modern, efficient, and automated facilities to ensure the highest standards in milk production.

Animal welfare is central to Vinamilk's sustainable livestock farming practices. Ensuring the well-being of dairy cows is not only a moral obligation but also essential for achieving high production efficiency and quality. They ensure proper nutrition, water, and a balanced diet for dairy cows. The cows are housed in environments that cater to their needs at different stages of development. The green coverage ratio is maintained at over 70%. Trees are planted around to create a biological belt, helping to protect the ecosystem and mitigate external impacts. Healthcare includes vaccination, disease prevention, and strict antibiotic control. (Vinamilk Sustainable Development Report, 2023)

Vinamilk is famous for its modern waste treatment systems, along with the effective use of renewable energy to reduce CO2 emissions. Waste is converted into resources, such as organic fertilizers for pastures, methane for milk pasteurization for calves, or hay drying for cow feed. In addition, to conserve soil and water, Vinamilk employs organic farming methods that avoid chemical fertilizers and pesticides. They focus on soil regeneration cycles to manage resources effectively. They also practice efficient water use by recycling water for irrigation and ensuring proper treatment of wastewater to mitigate environmental risks in nearby areas. (Vinamilk Sustainable Development Report, 2023)

For packaging, Vinamilk's vacuum packaging technology not only preserves the nutrition and genuine flavor of fresh milk but also makes a lasting impact on discerning judges. Also, new packaging methods for environmental protection are employed, like eliminating plastic security rings on water bottle caps, reducing the use of spoons in yogurt product packaging, minimizing shrink wrapping and plastic packaging, and adding recycling symbols to their packaging. Furthermore, 100% paper packaging is declared to be made from sustainably sourced wood. (Vinamilk Sustainable Development Report, 2023)

c. Vinamilk's GSCM practices in distribution

Vinamilk optimizes the distribution channels and leverages the network of modern factories across Vietnam to shorten the time it takes for products from factory to retailer, and then to reach consumers, thereby preserving product freshness and maximizing shelf life. The most outstanding achievement of Vinamilk is the adoption of the LGV system, which helps to reduce 62% of CO2 emissions compared to conventional forklifts, thanks to the fastest route calculated by robots. (Vinamilk Sustainable Development Report, 2023)

3.2.2. *Heineken's GSCM Practices*

Heineken uses the SCOR3 model for its supply chain. This model helps manage everything from where materials come from to where products go, covering main processes as presented in the figure below:

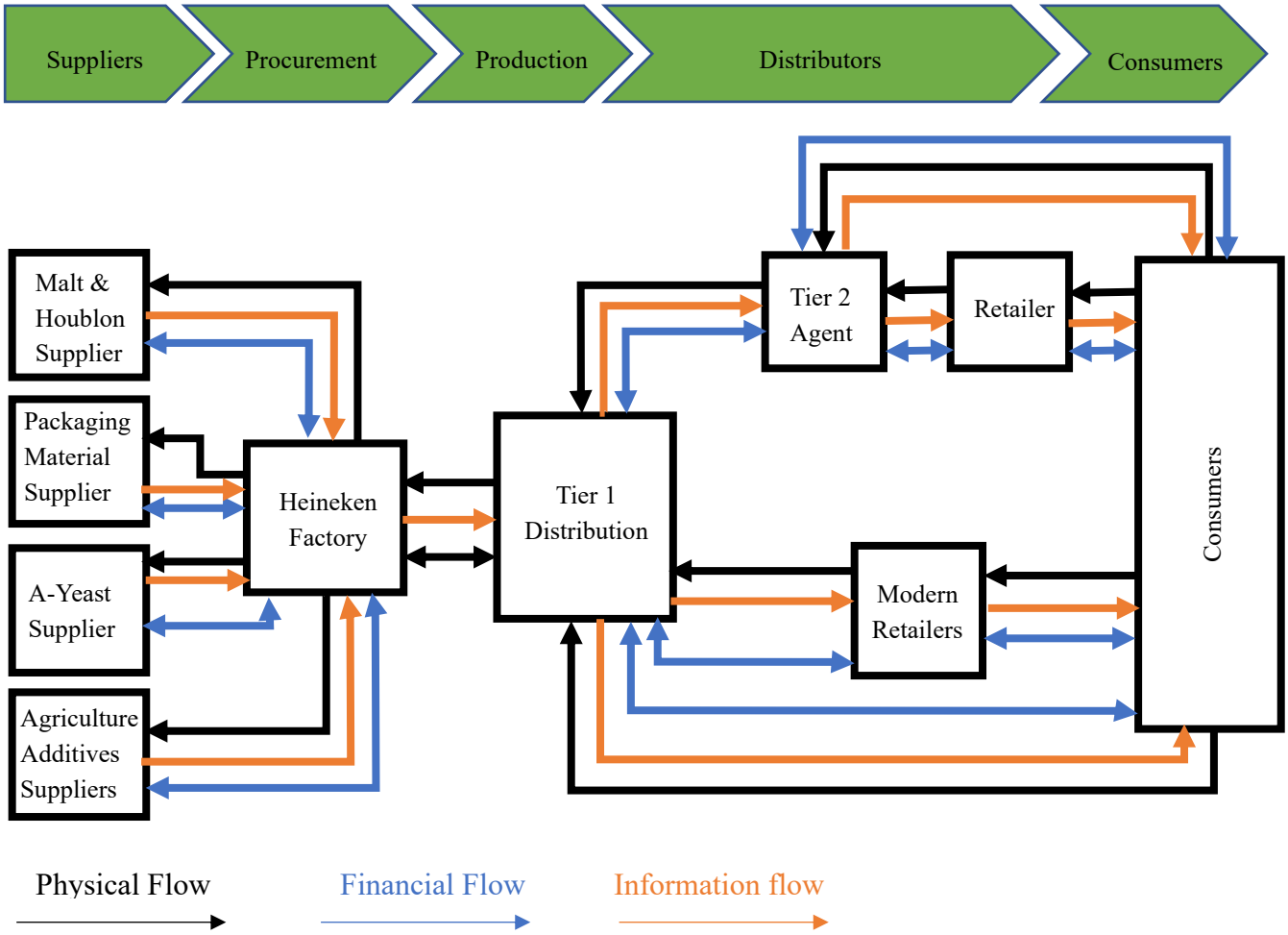

Figure 03: Heineken's supply chain model

Source: Redeveloped by authors based on (Heijden, 2018)

a. Heineken's GSCM practices in raw materials

Heineken has decided to buy materials for its beers from all over the world. Up to 50% of Heineken Vietnam Brewery's raw material purchase contracts are signed by the parent company, giving the company an advantage in input costs (Cafef, 2016). Heineken will work with multiple suppliers and give them codes to understand what standards they need to meet. They will check if suppliers follow these codes and can audit them. If the supplier is unable to remedy the non-conformity, Heineken reserves the right to terminate the relationship with the supplier.

For packaging products, Heineken uses 75% of local packaging materials like paper, plastic, and metal, which helps create jobs locally (Heineken Sustainable Development Report, 2015). They also reuse a lot of their glass bottles and plastic containers for 5 - 10 years and recycle at the end of its life, around 98% respectively (Heineken Sustainable Development Report, 2022). They are using more renewable energy, like biomass, which they

buy from local suppliers. In addition, Heineken creates renewable thermal energy from agricultural by-products, specifically 98% of beer bottles are returned and reused more than 30 times (Heineken Sustainable Development Report, 2022).

b. Heineken's GSCM practices in production

Heineken's beer brewing process is a continuous process. Continuous production is defined as an enterprise's production process, which includes production systems that simultaneously work on a product, or group of products. The company's beer follows the MTS (Make-To-Stock) strategy, meaning it is made and sold as a final product directly to customers.

Heineken Vietnam's breweries are using more and more renewable energy, mainly biomass energy from a local supplier called Green Energy. They also buy agricultural by-products to produce biomass energy, which also helps farmers by giving them extra income. In 2017, Heineken Vietnam bought a lot of rice and used over 52,800 tons of rice husks to generate energy. Moreover, Heineken has innovated in beer brewing by generating biogas from wastewater treatment processes, resulting in 32,578,278 MJ of biogas being reused, contributing 4.64% of total thermal energy consumption (Heineken Sustainable Development Report, 2022)

In addition, in 2022, all 100% of the electricity consumed by all 6 breweries has been guaranteed to come from renewable electricity. Overall, total renewable energy consumption at Heineken breweries has increased by 96%. In the roadmap to achieving net zero emissions, Heineken Vietnam aims to gradually eliminate and replace EAC certificates with more radical solutions such as direct power purchase agreements (DPPA) and system installation of rooftop solar in the following years, to further support Vietnam's renewable energy transition. Specifically, Heineken Vung Tau brewery ranks first among HEINEKEN factories in the Asia Pacific region in terms of water use efficiency and emission efficiency. In 2022, the factory also reused 15% of treated wastewater for non-product related stages such as floor cleaning and refrigeration (Heineken Sustainable Development Report, 2022).

c. Heineken's GSCM practices in distribution

In Vietnam, in order for its products to cover the entire country, Heineken has been taking advantage of both the popular distribution channels today: modern and traditional. For traditional distribution channels, also known as local consumption channels, they will be responsible for bringing manufactured goods to consumers in the following stages: manufacturers → distribution intermediaries → final consumers. In this channel, Heineken will distribute in the form of immediate use (on-site use) in locations.

With the GSCM orientation, Heineken Vietnam has focused on optimizing goods distribution activities with its central focus on the supplier network. It has shortened the distance to breweries in Da Nang and Vung Tau, leading to a 1.63kT reduction in CO2 emissions as well as reducing the thickness of the paper lining the inside of the barrel: carton and aluminum coil (used to produce aluminum cans) (only 35 tons of aluminum and 999 tons of paper). In addition, for innovation in logistics, Heineken has upgraded trucks to high-performance diesel - EURO4 and switched to using lithium electric forklifts, thereby reducing CO2 emissions by 0.2 thousand tons. (Heineken Sustainable Development Report, 2022).

3.3. Case studies inference and discussion

In general, by applying the green practices to the supply chain, Vinamilk and Heineken demonstrate a commitment to reducing their environmental footprint through sustainable practices. Both of them have effectively reduced raw material waste, minimized waste, improved production processes, reduced costs, gained competitive advantages, and contributed to environmental protection efforts.

The common point of Vinamilk and Heineken is that they are both strong and influential market leaders. This can be considered as a prerequisite and motivation for these two companies to focus on developing GSCM practices, thereby creating differentiation from various other businesses. This inference is supported by (Labonne, 2006) and (Guido et al., 2020), in which "Firm size", "Position of the firms within the supply chain" and "Past performance" serve as key motives for effective adoption of GSCM.

It is also worth noting that community and stakeholder engagement plays an important role in the success of GSCM practices for companies like Vinamilk and Heineken Vietnam. Engaging with stakeholders such as farmers, suppliers, and local communities goes beyond mere corporate responsibility - it fosters collaboration, mutual benefits, and long-term sustainability. Collaborative approaches encourage knowledge sharing and innovation, enabling continuous improvement in sustainability practices.

Through 2 case studies of Vinamilk and Heineken Vietnam, it is evident that although GSCM in Vietnam has not been widely and effectively implemented, there are still pioneering businesses that lead the way and achieve notable successes. The adoption of GSCM not only brings reputation, trust, and customer loyalty to the company but also has a genuinely positive impact on the environment.

4. Recommendations for Vietnamese enterprises

Based on the aforementioned inferences from the case studies of Vinamilk and Heineken Vietnam, this paper attempts to put forward several recommendations for Vietnamese enterprises in the process of going green, reaching for a green supply chain management as follows:

Firstly, to grow green, businesses need to combine applying green supply chains and their goals in order to create strategic value. Accordingly, firms need to orient their business goals, including creating product differentiation such as using natural materials or products designed to reduce environmental pollution (which follows the solution from Vinamilk's case), reducing costs or focusing on risk management.

When the green supply chain program matches the firms' goals, firms need to use some indicators to evaluate the success of the business. For example, making use of some environmental indicators (waste generation, air quality, etc within the firm's active zones) can be a reference of the motivation for innovation activities as well as the aim to receive support from relevant organizations.

Secondly, another opportunity that firms need to take into account in the today context of implementing GSCM is to enter collaborations with relevant stakeholders. These can be

government agencies, industry associations, and NGOs. This level of engagement allows firms to acquire external support in terms of law compliance, approaching methods, efficiency evaluation, and most importantly, spreading the impact to individuals and other organizations to join hands. A typical example of this collaboration is Heineken Vietnam's strategy to partner with WWF (World Wide Fund For Nature) Vietnam, local governments and institutions to restore and preserve water resources used in the SCM process.

Thirdly, when implementing green measures in the SCM process, it is also important that firms be transparent - meaning that they make their information about the current environmental performance and progress available to everyone. This can be done via regular reporting, as can be seen from Heineken Vietnam's annual Sustainability Report, or Vinamilk Developmental Report of Vinamilk. By doing this, businesses can not only improve accountability and build trust with stakeholders - namely their investors and partners, but also present a positive brand image to their customers, thus making way for more collaboration opportunities and sales boost.

Lastly, practices towards bio-waste management are procedures enterprises should bear in mind when modifying their SCM to be greener. However, this level of waste management is not commonly seen, as in Vietnam, especially for small businesses, the methods used in the process of waste management are still limited in choice and require more attention from the firms themselves. Specifically, firms should hold responsibility for all the waste generated from producing goods and when the goods reach their end of life. There is another approach, which is to "catch it at the source", called waste prevention or reduction. This is relatively crucial, as enterprises can act proactively in the attempt to limit waste from the very beginning in natural settings, before letting waste take its toll on the environment and human beings.

By following these recommendations and coming up with insights from the successful GSCM practices of Heineken Vietnam and Vinamilk Vietnam, Vietnamese enterprises can enhance their sustainability and contribute to a greener supply chain.

References

Al-Hujran, O. *et al.* (2015), "Green supply chain management and SMEs: a qualitative study", *Int. J. Business Information Systems*, Vol. 18 No. 2, pp. 198–220.

Aslam, H. *et al.* (2018), "Drivers of Green Supply Chain Management Practices and their Impact on Firm Performance: A Developing Country Perspective", *Journal of Quantitative Methods*, Vol. 2 No. 1, pp. 87–113.

Baatz, E.B., (1995), "CIO 100} Best practices: the chain gang.", *CIO*, Vol. 8 No. 19, pp. 46-52.

Brand Finance Food & Drink Report | The Annual Brand Value Ranking | BranDirectory (2023), Available at: https://brandirectory.com/rankings/food/.

Deshmukh, A.J. and Vasudevan, H. (2014), "Emerging supplier selection criteria in the context of Traditional VS Green Supply chain management", *International Journal of Managing Value and Supply Chains*, Vol. 5 No. 1, pp. 19–33.

Do, A.D. *et al.* (2020), "Green Supply chain Management in Vietnam Industrial Zone: Province-Level evidence", *The Journal of Asian Finance, Economics, and Business/the Journal of Asian Finance, Economics and Business*, Vol. 7 No. 7, pp. 403–412.

Fantazy, K., Kumar, V. and Kumar, U. (2010), "Supply management practices and performance in the Canadian hospitality industry", *International Journal of Hospitality Management*, Vol. 29 No. 4, pp. 685–693.

Guide, V.D.R. and Srivastava, R. (1998), "Inventory buffers in recoverable manufacturing", *Journal of Operations Management*, Vol. 16 No. 5, pp. 551–568.

Heineken Sustainability Report (2022), Available at: https://heineken-vietnam.com.vn/images/ptbv2022/pdf/HNK-EN.pdf.

Heineken Sustainable Development Report (2015), Available at: https://heineken-vietnam.com.vn/images/sustainability/vbl_sustainability_report2015_130716_viet.pdf.

Heijden, T., (2018), "HEINEKEN Flexbrewery: Analysis of the impact of small batches on the supply chain and simulation of different replenishment strategies.", Available at: https://www.semanticscholar.org/paper/HEINEKEN-Flexbrewery%3A-Analysis-of-the-impact-of-on-Heijden/0ee1319a08cc156aca61a8e67f314486f7e6990e

Ho and Truong (2017), "THE EFFECTS OF CORPORATE SOCIAL RESPONSIBILITY PROGRAM AND PRODUCT QUALITY ON CUSTOMER LOYALTY WITH THE MODERATING ROLE OF CORPORATE IMAGE. THE CASE OF VINAMILK.", Available at: https://mba.nida.ac.th/files/Conference%202018/NIDA_Conference_Proceedings_Final2017.pdf#page=79.

Jafarzadeh-Ghoushchi, Dorost and Hashempour (2018), "Qualitative and quantitative analysis of Green Supply Chain Management (GSCM) literature from 2000 to 2015", *International Journal of Supply Chain Management*, Vol. 7 No. 1, pp. 77–86.

Le K.D. (2022), "Evaluating the green supply chain management.", Available at: https://tapchicongthuong.vn/evaluating-the-green-supply-chain-management-of-electronics-and-components-manufacturers-in-vietnam-by-using-the-ahp-model-89432.htm.

Le, T.T. (2020), "The effect of green supply chain management practices on sustainability performance in Vietnamese construction materials manufacturing enterprises", *Uncertain Supply Chain Management*, pp. 43–54.

Li, S. *et al.* (2005), "Development and validation of a measurement instrument for studying supply chain management practices", *Journal of Operations Management*, Vol. 23 No. 6, pp. 618–641.

Li, S. *et al.* (2006), "The impact of supply chain management practices on competitive advantage and organizational performance", *Omega*, Vol. 34 No. 2, pp. 107–124.

Logistics Report Vietnam (2022), Available at: https://valoma.vn/wp-content/uploads/2022/12/Bao-cao-Logistics-Viet-Nam-2022.pdf.

Luc, H.T.T. (2016), "Vinamilk's supply chain and the small farmers' involvement.", Available at: https://js.vnu.edu.vn/EAB/article/view/4060.

Micheli, G.J.L. *et al.* (2020), "Green supply chain management drivers, practices and performance: A comprehensive study on the moderators", *Journal of Cleaner Production*, Vol. 259, pp. 121024.

Morgan, D. R., Styles, D. & Lane, E. T. (2021), "Thirsty work: Assessing the environmental footprint of craft beer.", *Sustainable Production and Consumption*, Vol. 27, pp. 242–253.

Nguyen, G. and Sarker, T. (2018), "Sustainable coffee supply chain management: a case study in Buon Me Thuot City, Daklak, Vietnam", *International Journal of Corporate Social Responsibility*, Vol. 3 No. 1.

Ou, C.S. *et al.* (2010), "A structural model of supply chain management on firm performance", *International Journal of Operations & Production Management*, Vol. 30 No. 5, pp. 526–545.

Qin, Z. (2019), "A Literature review of the impact of green supply chain management on firm performance", *Journal of Service Science and Management*, Vol. 12 No. 07, pp. 872–879.

Robb, D.J., Xie, B. and Arthanari, T. (2008), "Supply chain and operations practice and performance in Chinese furniture manufacturing", *International Journal of Production Economics*, Vol. 112 No. 2, pp. 683–699.

Scott, C.R. and Westbrook, R. (1991), "New strategic tools for supply chain management", *International Journal of Physical Distribution & Logistics Management*, Vol. 21 No. 1, pp. 23–33.

Simpson, D. and Power, D. (2005),'Use the supply relationship to develop lean and green suppliers", *Supply Chain Management*, Vol. 10 No. 1, pp. 60–68.

Srivastava, S.K. (2007), "Green supply-chain management: A state-of-the-art literature review", *International Journal of Management Reviews*, Vol. 9 No. 1, pp. 53–80.

Vietnam Business Council for Sustainable Development (2023), Available at: https://vbcsd.vn/upload/attach/vbcsd-2023122015552.pdf.

Vietnam News (2023), "Green logistics remains challenging for Vietnam", *Vietnam News* [Preprint], Available at: https://vietnamnews.vn/economy/1550571/green-logistics-remains-challenging-for-viet-nam.html.

Vinamilk's Sustainable Development Report (2020), Available at: https://www.vinamilk.com.vn/static/uploads/article/1618816520-d81a593920bb76205f92770d36e54f2a14d7f124f481609fac1a85a0ddf1469a.pdf.

Vinamilk's Sustainable Development Report (2023), Available at: https://www.vinamilk.com.vn/static/uploads/article/1713856139-0d209c698f1b78671211b2ae0adee1a8b5af07e44573a12b6fb520d0b8d146d7.pdf.

Wang, C., Zhang, Q. and Zhang, W. (2020), "Corporate social responsibility, Green supply chain management and firm performance: The moderating role of big-data analytics capability", *Research in Transportation Business & Management*, Vol. 37, pp. 100557.

"Xây dựng chuỗi cung ứng xanh" (2023), *WTO* [Preprint]. Availablet at: https://trungtamwto.vn/tin-tuc/24275-xay-dung-chuoi-cung-ung-xanh.