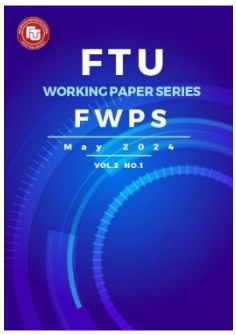

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CÁC QUÁ TRÌNH VĨ MÔ TRONG CHUỖI CUNG ỨNG HƯỚNG TỚI NỀN KINH TẾ TUẦN HOÀN: NGHIÊN CỨU TRƯỜNG HỢP CỦA HEINEKEN VIỆT NAM

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Tóm tắt

Trong những năm gần đây, việc tiếp cận nền kinh tế tuần hoàn (KTTH) đang trở thành xu hướng trong mọi khía cạnh kinh doanh trong đó có quản lý chuỗi cung ứng. Hiện nay, nhiều doanh nghiệp được mong đợi phải cam kết đầy đủ các nguyên tắc KTTH trong hầu hết tất cả các quá trình trong quản lý chuỗi cung ứng của mình. HEINEKEN Việt Nam là một trong những ví dụ điển hình về các doanh nghiệp thành công trong việc hoàn thành sứ mệnh này. Bài nghiên cứu này sử dụng phương pháp định tính và dữ liệu thứ cấp được thu thập từ nhiều nghiên cứu học thuật, sách đã xuất bản và các tổ chức quốc tế. Bài viết nhằm mục đích phân tích kỹ lưỡng các quá trình vĩ mô hướng tới KTTH trong quản lý chuỗi cung ứng của HEINEKEN Việt Nam, chỉ ra và đánh giá hệ thống các chiến lược, thành tựu và hạn chế. Các phát hiện chỉ ra rằng công ty có hiệu suất vượt trội trong hầu hết các quá trình được nghiên cứu nhưng vẫn cần thực hiện các biện pháp cụ thể để nâng cao hơn nữa các điểm mạnh và cơ hội đã đề cập, đồng thời giảm tác động của các điểm yếu và mối đe dọa tiềm ẩn.

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MACRO PROCESSES IN SUPPLY CHAIN TOWARDS CIRCULAR ECONOMY: THE CASE OF HEINEKEN VIETNAM

Abstract

In recent years, the approach toward a circular economy (CE) is becoming a trend in every aspect of business including supply chain management. Any firm is now expected by stakeholders to fully be committed to the principles of CE in most to all of its supply chain management's macro processes. HEINEKEN Vietnam is one of the prime examples of enterprises succeeding in fulfilling this mission. In this research paper, the authors use qualitative methods and secondary data collected from multiple previous academic studies, published books, and established international organizations. The paper aims to carry out a thorough analysis of macro processes toward CE of HEINEKEN Vietnam's supply chain management in each of which the strategies, achievements, and shortcomings are set forth and evaluated in a careful and systematic manner. The findings indicate that the company has remarkable performance in most of the processes studied but still need to take specific measures to further enhance the mentioned strenghts and opportunities whilst reducing the impacts of weaknesses and threats.

Keywords: Circular Economy, Macro processes, Supply chain, HEINEKEN Vietnam

1. Introduction

The conversation around sustainable and circular business practices has never been more popular in the modern global economy. Given the global difficulties posed by environmental degradation and resource scarcity, industries must reconsider their operational frameworks in order to bring them into compliance with ecological responsibility principles: "Development that meets the needs of the present while safeguarding Earth's life-support system, on which the welfare of current and future generations depends" (Griggs et al., 2013). In the area of supply chain management, where businesses are increasingly adopting circular economy (CE) concepts to promote sustainable development, this paradigm shift is especially noticeable.

Despite the increasing global emphasis on sustainable and circular practices in business, there remains a noticeable gap in research, particularly concerning the application of CE principles within supply chain processes (Masi et al., 2017). Furthermore, despite the existence of cases on sector-specific recycling, and closed loop supply chains, there is a lack of extensive practical instances of CE principles in specific large-scale industry supply chain operations (Bernon et al., 2018). Understanding this lack in literature, both papers introduced a framework for the circular supply chain and pointed out potential challenges for further discussion. However, almost 7 years after the first reviews of these subjects, the literature still has a shortage of thorough knowledge of how supply chain management processes might be used to further CE objectives. Notably, the scarcity of case studies examining businesses in the world, and more specifically in Vietnam further amplifies this dearth of literature.

This paper delves into the macro processes in Supply Chain towards CE and within the supply chain of one of the world's leading beverage companies, HEINEKEN, with a specific focus on its operations in Vietnam. HEINEKEN has long been recognized as a trailblazer in the integration of sustainable practices, the company's business in Mexico has contributed to the society by its humanistic management principles circular, and economy commitment though an efficient usage of raw materials, hydric resources (Aguiñaga, E., & Leal, A. R, 2021). And in this research, we aim to explore the case of HEINEKEN Vietnam as an illuminating study of how a multinational corporation navigates the complexities of the supply chain to foster a CE. By exploring HEINEKEN's practices and initiatives, we seek to understand the challenges, successes, and lessons learned in their pursuit of a more sustainable and circular operational framework. Finally, the culmination of this analysis will offer actionable insights and practical recommendations to guide HEINEKEN in further enhancing its commitment to CE principles.

2. Overview of Macro Processes In Supply Chain towards CE

2.1. The concept of CE

The CE is a sustainable economic model that aims to transform traditional production and consumption systems into closed-loop, regenerative systems, decoupling economic growth from resource depletion and environmental degradation by redesigning processes, products, and business models to prioritize sustainability and resource efficiency (Kirchherr et al, 2023).

Today, the topic of CE has also interested governments and supranational organizations. One example being the European Union, which in 2019, with its new European strategy, the Green Deal, embraces and embraces the principles of the CE to build a more resilient and sustainable Europe.

Among the several definitions, the Ellen MacArthur Foundation's is the most widely accepted by academics and organizations. According to which, the CE is an economy designed to regenerate itself, in which materials never become waste and nature is regenerated. Through three core principles (eliminate waste and pollution, circulate products and materials, and regenerate nature), it is able to offer systemic solutions to address global challenges such as climate change, biodiversity loss, waste and pollution.

Another noteworthy definition is that of the European Commission. According to it, in a CE, the value of products, materials and resources is maintained in the economy for as long as possible, and waste generation is minimized.

The European Parliament, on the other hand, defines the CE as a model of production and consumption that involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products for as long as possible. In this way, the life cycle of products is extended.

Tondo, a well-known organization that studies about CE, adheres to a definition that is the synthesis of these presented above, specifically referring to that of the Ellen MacArthur

Foundation. They clarify that CE is a regenerative system that promotes the sharing, reuse and recycling of materials, eliminating waste, promoting circularity of products and the regeneration of natural ecosystems. In this paper, the research team regards this interpretation of CE as the most comprehensive and appropriate to adopt.

2.2. Macro Processes In Supply Chain towards CE

2.2.1. Overview of Supply Chain

A supply chain consists of all parties involved, directly or indirectly, in fulfilling a customer request. The supply chain includes not only the manufacturer and suppliers, but also transporters, warehouses, retailers, and even customers themselves. Within each organization, such as a manufacturer, the supply chain includes all functions involved in receiving and filling a customer request. These functions include, but are not limited to, new product development, marketing, operations, distribution, finance, and customer service. (Chopra S. & Meindl P., 2013).

2.2.2. Macro Processes In Supply Chain

In their 2013 book "Supply Chain Management: Strategy, Planning, and Operation," Sunil Chopra and Peter Meindl define macro processes in a supply chain as the high-level activities that span across organizational boundaries and integrate multiple functional areas within the supply chain. These processes are crucial for aligning the activities of different supply chain participants and ensuring smooth flow of goods and information from the supplier to the customer.

Chopra and Meindl identify three main macro processes:

Customer Relationship Management (CRM): This process focuses on interactions with customers and understanding their needs. It encompasses marketing, sales, order management, customer service, and relationship building activities. Effective CRM helps align production and inventory with customer demand, leading to improved customer satisfaction and loyalty.

Internal Supply Chain Management (ISCM): This process is concerned with the internal operations of an organization. It includes activities like procurement, sourcing, production planning, inventory management, and logistics. Efficient ISCM optimizes resource utilization, reduces lead times, and minimizes costs within the supply chain.

Supplier Relationship Management (SRM): This process focuses on collaboration and negotiation with suppliers. It involves activities like design collaboration, sourcing, contracting, and supplier development. Strong SRM strengthens supply chain resilience, improves quality, and fosters innovation through co-creation with suppliers.

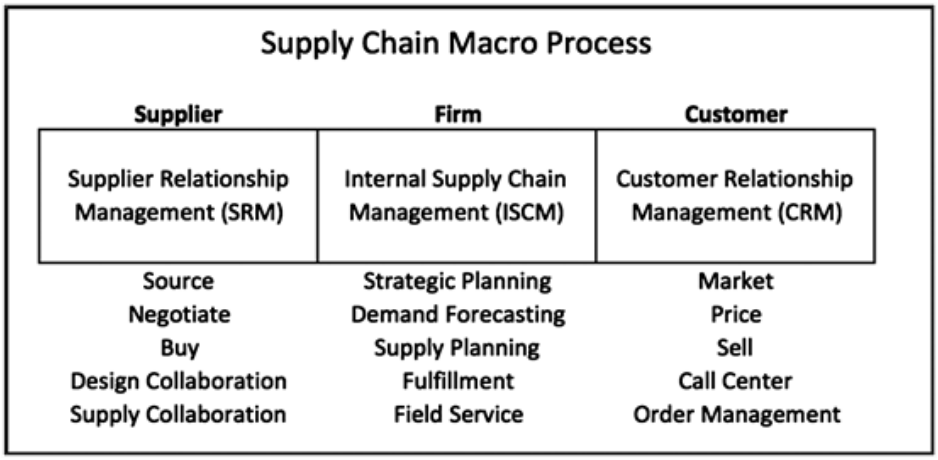

Figure 1. Supply Chain Macro Process

Source: Chopra S. & Meindl P., 2013

Chopra and Meindl's definition of macro processes highlights the importance of collaboration, integration, and customer focus in achieving competitive advantage through supply chain management.

Another definition of supply chain macro process came from the researchers and executive members of The Global Supply Chain Forum. Here, a supply chain can be defined as the network of relationships between different businesses (organizations) that are involved in the design, production, and distribution of a product or service. These relationships encompass the entire flow of materials, information, and finances, from the raw materials stage to the final customer.

The Global Supply Chain Forum identified eight key processes that make up the core of effective supply chain management:

Table 1. 8 processes of supply chain management

No.	Supply chain management process	Description
1	Customer Relationship Management (CRM)	Provides the structure of how relationships with customers are developed and maintained
2	Supplier Relationship Management	Provides the structure for how relationships with suppliers are developed and maintained
3	Customer Service Management (CSM)	Provides the firm's face to customers, a single source of customer information

4	Demand Management	Balances the customers' requirements with supply chain capabilities, forecasting and synchronizing
5	Order Fulfillment	Includes all activities necessary to define customer requirements, design a network, integrates firm's functions to meet customer requests while minimizing the total delivered cost
6	Manufacturing Flow Management	Deals with making the product and establishing manufacturing flexibility
7	Product Development and Commercialization	Provides the structure for developing new products and getting them, to the market jointly with customers and suppliers
8	Returns Management	Manages all activities related to returns, reverse logistics, gatekeeping and avoidance

Source: Lambert et al., 2005

From the table above, more specifically, we can understand that the realm of customer-centric business operations encompasses several key processes, each playing a crucial role in delivering value and satisfaction. Customer Relationship Management (CRM) forms the cornerstone, fostering strong bonds with clients by understanding their needs and expectations (Buttle, 2009). Customer Service Management (CSM) then translates this understanding into exceptional service throughout the purchase journey, from pre-sale inquiries to post-purchase support (Wilson et al., 2016).

Demand Management acts as the crystal ball, anticipating customer needs and guiding production and inventory planning to ensure smooth fulfillment (Krajewski & Ritzman, 2014). Once an order is placed, Order Fulfillment steps in, ensuring efficient processing and timely delivery (Mentzer, John T., 2001). For manufacturers, Manufacturing Flow Management orchestrates the seamless flow of materials and information within the production process (Gunasekaran & Yusuf, 2004).

Building strong relationships extends beyond just customers. Supplier Relationship Management establishes a collaborative framework with vendors, fostering mutually beneficial partnerships (Anon, 2012). Finally, Product Development and Commercialization bring innovative offerings to market, while Returns Management effectively handles product returns, minimizing disruptions and maintaining customer trust (Carter, Ellram and Ready, 1998).

By effectively weaving these processes together, businesses can create a customer-centric ecosystem that fosters loyalty, drives growth, and thrives in today's competitive landscape.

Compared to the Chopra and Meindl's framework, the 8-process definition from the Global Supply Chain Forum (GSCF) offers key advantages. Firstly, its wider scope encompasses the entire flow from customer relationship to returns, ensuring a holistic perspective. Secondly, its customer-centricity prioritizes understanding and fulfilling customer needs, driving value creation. Thirdly, the integrated nature of the eight processes fosters cross-functional collaboration and agility. Additionally, the GSCF definition's flexibility allows adaptation to diverse industries and business models. Finally, its practical focus, informed by both researchers and practitioners, translates well into actionable strategies. While Chopra and Meindl offer strengths like theoretical grounding and performance measurement, the GSCF definition provides a more comprehensive, customer-oriented, and adaptable foundation for navigating today's complex supply chain landscape. Based on the above analysis, our team adopts the GSCF definition as our theoretical framework.

2.2.3. Macro Processes in Supply Chain towards CE

a. Customer Relationship Management (CRM):

As customers become more conscious of environmental issues, businesses must act more responsibly and recognize the significance of transparent communication with customers (Lambert, 2014; Espíndola et al., 2022). Behaviors include educating clients and consumers about their part in eco-friendly operations, and co-creating value through recycling, remanufacturing, and reuse techniques with them, allowing them to have an active role in CE procedures. Additionally, companies tailor marketing strategies to actively promote circularity, adjusting or repositioning marketing and corporate tactics to identify new ways to stand out in the competition (Hazen et al., 2020).

b. Supplier Relationship Management (SRM):

In SRM, the focus should be on selecting sustainable suppliers and fostering a collaborative approach to circular practices as it would positively impact environmental and social issues like gas emissions, water management, waste reduction, skill enhancement, and workplace safety (Theeraworawit, 2022). Companies should prioritize updating supplier selection procedures that align with sustainability goals (Lambert, 2014). In practice, businesses may also want to consider providing incentives for projects that increase the supplier base's eco-efficiency, and utilizing old materials more often, which can help to lower the volatility of raw materials and the overall exposure to operational hazards (Hazen et al., 2020). Such proactive engagements ensure a shared commitment to CE principles throughout the supply chain.

c. Customer Service Management:

CE principles should be applied to customer service management to gather data and maximize profits through beneficial social effects (Lambert, 2014; Malhotra, 2023). Businesses should focus

on customer education on product recycling and provide support for sustainable practices for customer approvals. This behavioral approach is complemented by practical measures, including servitization and service dominance as cornerstones to increase the durable products' life cycle, as well as renting, leasing, and reuse methods for durable items. Furthermore, the same with the CRM part above, considering consumers' roles in supply chain strategy enhances the company's relationship with environmentally conscious customers, fostering a culture of sustainability (Hazen et al., 2020).

d. Demand Management:

In terms of demand management, as we are in the digitalisation world, businesses can create more precise plans for the allocation of inventory, human resources, matching the demand and supply of goods and services by using the explicit demand prediction provided using big data analysis, which help reducing potential wastes which could be harmful to the environment and society as a whole (Giudice et al., 2020). In addition, companies should try to push recycling, reduction, and reuse strategies in stock management models, along with bringing demand management up to the supply chain level to coordinate resources in practice (Lambert, 2014; Hazen et al., 2020).

e. Order Fulfillment:

The procedures of order fulfillment involved in receiving, processing, and delivering orders (Croxton, 2003). It is advised by several studies that businesses committed to circularity should emphasize environmental sustainable practices in their logistics management, also known as green logistics or order fulfillment processes, notably suggested in the study of Lambert in 2014. Behaviors include implementing cutting-edge last-mile delivery methods for urban transportation, and switching out more ecologically friendly procedures for zero-impact ones in distribution, transportation, and storage (Hazen et al., 2020). These practices contribute to a more sustainable and circular supply chain, aligning with global efforts towards environmental conservation.

f. Manufacturing Flow Management:

Manufacturing or ensuring product availability is considered the most important part of the supply chain processes (Kruger, 2022), thus if businesses are committed to sustainable practices, they should prioritize eco-friendly methods in manufacturing flow management (Lambert, 2014). Practical implementation involves transitioning from resource conservation to practices of resource recapitalization and reutilization, and establishing a shared framework of measures and benchmarks to reconcile environmental and economic considerations (Hazen et al., 2020). Furthermore, adopting lean manufacturing and/or six sigma, businesses can streamline their production processes, reduce lead times, errors and enhance overall productivity, product quality (Hazen et al., 2020). Another practice companies should consider is the manufacturing flow paradigm, which revolves around creating a seamless and efficient flow of materials, information, and processes throughout the production cycle. By designing processes that minimize disruptions and delays, businesses can contribute significantly to the CE goals while simultaneously enhancing

their operational efficiency and resilience (Hazen et al., 2020). These practices underscore the commitment to sustainability and circularity across all facets of operations, contributing to a more resilient and environmentally responsible supply chain.

f. Product Development and Commercialization:

Cooperation between many scientific disciplines to promote resource regeneration and reduction is a key behavioral aspect in the product development and commercialization endeavors of businesses (Lambert, 2014) as after all, it is essential to develop products with high durability and minimize raw material consumption in addition to preventing and limiting waste formation (Cerqueira-Streit et al., 2021). Which means, companies should consider putting into practice product modularity and value recovery/recapture techniques, in collaboration with designing products, creating goods that are long-lasting and have a high value recovery (Hazen et al., 2020).

g. Returns management:

Businesses should embrace all of the supply chain processes in the journey towards CE and sustainability. As the products in this process of return management may be returned from the users to the other parties in the process, or more crucially the case of returns from end users to retailers or the manufacturer, which is also known as the reversed logistics, is widely seen as an important part of CE adoption (Lopes de Sousa Jabbour et al., 2019). The key practices would include designing products for easy disassembly, optimizing reverse logistics, efficient sorting and inspection processes, as well as implementing refurbishment and repair programs to extend product life, while remanufacturing reduces the environmental impact of manufacturing new items (Amir, 2022). CE also requires scalable techniques to return management, even with significant economic costs associated with resource recapturing, taking into account higher returns volumes and more nodes in the supply chain (Hazen et al., 2020). Besides, it is advised in the case studies of Amir to be customer-centric, educating customers on the environmental benefits of returning products and implementing centralized return centers, incentive programs to encourage sustainable behaviors.

3. HEINEKEN Vietnam's Macro Processes in Supply Chain towards CE

3.1. Overview of HEINEKEN Vietnam

HEINEKEN Vietnam is a successful joint venture between HEINEKEN and SATRA (Saigon Trading Group), a subsidiary of HEINEKEN, the world's largest international beer producer (HEINEKEN Vietnam, 2024). Originating from the Netherlands with a history spanning over 150 years, the family-owned enterprise manufactures and distributes more than 300 beer and cider brands in over 190 countries.

In 1991, following the joint venture with the Food Company (later a member of the Saigon Trading Group SATRA), HEINEKEN Vietnam officially inaugurated the Hoc Mon Brewery (1991-1993). Two years later, Tiger beer, brewed for the first time, became the most popular beer

in Vietnam, marking the initial success for HEINEKEN Vietnam. In 1994, meeting international quality standards, the Hoc Mon Brewery produced the first HEINEKEN beer in Vietnam. At this point, HEINEKEN Vietnam operated with two main breweries in Hanoi and Ho Chi Minh City. Building on the success achieved in the beverage market, in 2007, HEINEKEN Vietnam expanded its facilities, acquiring three additional breweries in Da Nang, Quang Nam, and Tien Giang (HEINEKEN Vietnam, 2022).

Since its establishment, HEINEKEN Vietnam has committed to "Improving the quality of life in Vietnam through the beer manufacturing industry." Furthermore, in 2016, after acquiring a brewery in Vung Tau, the company initiated the construction of the largest and most environmentally friendly brewery in Vietnam. For six consecutive years, from 2016 to 2021, the company has been recognized by the Vietnam Chamber of Commerce and Industry (VCCI) as one of the top three sustainable companies in the manufacturing sector. After several years as two separate entities, HEINEKEN in the North and HEINEKEN in the South, the companies merged to form ONE HEINEKEN Vietnam with the goal of "Achieving great victories together." The significant success in 2020 marked a milestone in the HEINEKEN Vietnam journey, winning the Quality Award for the 12th time since the first award in 2002. Additionally, the company introduced Bia Viet to the market, aiming to honor the diversity and shared values of the Vietnamese people. As of December 2023, HEINEKEN Vietnam has been recognized as one of the top three most sustainable companies in Vietnam for the eighth consecutive year in the Corporate Sustainability Index (CSI) 2023 program. The company was honored as the second most sustainable company in Vietnam in the manufacturing sector and among the top five pioneering companies in circularity and carbon reduction in Vietnam in 2023. (HEINEKEN Vietnam, 2023)

Up to now, the company boasts a proud history of over 30 years, evolving from its first brewery in Ho Chi Minh City in 1991 to six breweries nationwide, employing over 3,000 staff and creating 152,000 jobs across the entire value chain (Hieu, 2023).

3.2. CE practice in HEINEKEN's Macro Processes in Supply Chain

3.2.1. Customer Relationship Management

In addition to general strategies on product demand and marketing to the public, HEINEKEN Vietnam always tries to propagate campaigns suitable to the purpose of "Green" development in Vietnam. A case in point is the cooperation program with WWF (Wild Nature Conservation Fund) Vietnam with an investment of 30 billion VND to conserve water resources in key river basins of Vietnam, aiming to compensate for 100% water recovery by 2025 (Diep Chi, 2023). With the involvement of notable ministries and local authorities, this cooperation program serves as a clear declaration of HEINEKEN regarding its commitment to act more responsibly towards the consumers, and to the community at large.

Furthermore, the company actively promotes campaigns and events for recycling and remanufacturing. In addition to creativity in carton design, the Water Conservation Project in Lai Chau and Quang Nam is a typical project of HEINEKEN Vietnam (Nhip Song Kinh Te To Quoc,

2022). Clean water projects are mainly implemented in remote areas, where people do not have the opportunity to access safe water sources and often do not have good awareness of waste treatment The program received positive feedback and participation from local people. By providing local people with garbage collection tools and waste treatment instructions, HEINEKEN succeeded in engaging the community in a joint effort to protect the environment with the company.

With the purpose of co-creating value with customers and consumers, HEINEKEN Vietnam has adopted product remanufacturing and recycling activities alongside local residents to further underpin the sustainable development it is aiming for. Currently, 5 out of 6 HEINEKEN Vietnam breweries use thermal energy from renewable energy and biomass fuel, with no carbon emissions. This biomass fuel is created from using agricultural by-products such as rice husks and sawdust from the local (often considered worthless waste and burned) as raw materials to create steam for cooking beer (HEINEKEN Vietnam, 2022). In that spirit, Larue beer - HEINEKEN's long-standing beer line - together with local people, collected used beer cans to create a recycled work of art called "Breaking Dawn". Recycled artwork made from more than 36,000 Larue beer cans shaped like waves and the sun is displayed in Da Nang city (Dieu Phi, 2022).

Another outstanding event is in June 2019, when HEINEKEN worldwide and HEINEKEN Vietnam enthusiastically chose to launch the "We Choose Green" campaign, which aims to educate customers and consumers about their role in implementing the CE for environmentally friendly growth. The company wants #Wechoosegreen to be a truly long-term sustainable approach with value creation as the main goal because these activities aim to be autonomous and long-term in benefiting the whole community. Additionally, in an effort to make the campaign's message more accessible to the general public, HEINEKEN Vietnam collaborated with singer-songwriter Kimmese to create the Rap-inspired song "Green House" for the first time. The song made a significant impact in motivating and encouraging the community as a whole, including HEINEKEN’s customers, to adopt #Wechoosegreen through everyday activities (HEINEKEN Vietnam, 2019).

At HEINEKEN Vietnam events, customers, consumers, and attendees are urged to utilize personal water bottles instead of disposable plastic cups as a way to actively promote the sustainable development of a CE. Instead of using plastic bags to wrap event-related products like hats and tees, eco-friendly recycled paper packets are used (Chi, 2022). For example, in HEINEKEN Refresh Your Music and HEINEKEN Countdown on New Year's Eve in 2022, a side event called Greener Bar welcomed and collected more than 50,000 used cans from the participants for recycling (HEINEKEN Report of Sustainability, 2022). HEINEKEN's staff are also strictly adhered to the mindset of limiting waste and actively recycling pine trees from recycled materials. They are also encouraged to participate in exchange programs, buying and selling used items to collect money for charity (Vietnam Circular Economy, 2021).

3.2.2. Supplier Relationship Management

HEINEKEN believes that “As a world-leading company, it is not only our responsibility, but also our shared responsibility with our suppliers, to use our resources wisely and reduce environmental impact”. By launching programmes like Future Packaging and Cool Conference, the company encourages their key partners to join hands in becoming carbon neutral. HEINEKEN believes that decarbonising the application chain around it in addition to the company’s operating business is vital to achieve net-zero (HEINEKEN Supplier Code, 2019).

The business also supports initiatives aimed at raising supplier facilities' eco-efficiency. To ensure the quality of the supply chain and enhance the capabilities of suppliers, HEINEKEN applies the Supplier Code of Conduct to all its suppliers globally, including those in Vietnam. This code provides specific guidelines and minimum standards for environmental compliance. As a plastic crate supplier to HEINEKEN Vietnam for over 20 years, a representative from Long Thành Plastic Company stated, "The company always sets the goal of continuously improving its systems and technology to meet the increasingly high demands of HEINEKEN." The business has made recent investments in advanced machinery and technology, such as Industry 4.0 robots and automated machines. Dynamization. Advanced, energy-efficient, and environmentally friendly technologies, like the Orbiter Automatic Racking System (SOS) and fire prevention system, are also installed in production lines and warehouses (Hong, 2021). With the support of modifications and enhancements to the production cycle, Long Thanh Plastic has become the only company in Southeast Asia to receive HEINEKEN certification for the production of beer barrels and keg molds.

3.2. 3. Customer Service Management

HEINEKEN Vietnam operates within the F&B industry, a sector where the implementation of a servitization strategy for products poses unique challenges and is comparatively more complex than in industries such as automotive. The nature of the company's primary product, beer, makes it unsuitable for the policy of repair and periodical maintenance services aimed at extending product lifespan.

Furthermore, our research team has found that, as of the present moment, HEINEKEN Vietnam has not formulated any initiatives to engage in renting or leasing its facilities, factories, or equipment. This absence of plans hinders the potential contribution of the company to the ‘‘sharing economy’’, the extension of the life cycle and optimization of its equipment, especially during off-peak seasons such as in 2023, beer sales decreased by 10 - 20% said by Chairman of Vietnam Beer and Alcohol Beverage Association (Hieu, T. , 2023).

3.2.4. Demand management

The most frequently discussed demand forecasting strategy employed by HEINEKEN involves the integration of a "data-driven company" approach into demand forecasting. This strategy rests on three primary pillars: standardized data, distillation of data products to support

prompt decision-making in various departments on a weekly/monthly/yearly basis, and the incorporation of AI and Machine Learning (data analytics) (Nhu, 2023). These data-driven decisions effectively support production processes, minimizing waste resulting from overproduction.

No specific news articles or publications were found that explicitly mention HEINEKEN's demand management, considering factors such as the decline in demand for disposable products or the dynamic (and often unknown) demand patterns influenced by reuse, reduction, and recycling. Nevertheless, it can be inferred that the company's data-driven strategy establishes a groundwork for future considerations of more precise demand patterns, particularly in connection to customers' environmental consciousness.

3.2.5. Order fulfillment

In terms of fast and efficient deliveries, HEINEKEN Vietnam pleasantly surprised its customers in 2020 by introducing a 60-minute delivery service for beer and cold-fermented apple juice (Ngoc, 2020). Seizing the opportunity presented by the Covid-19 isolation measures and the growing trend of digitalization, the company collaborated with online food delivery platforms such as Grab Food and Delivery Now to provide a swift and effective delivery service within a remarkably short time frame. This partnership resulted in a transformation of HEINEKEN's fulfillment process and distribution facilities, establishing a faster and more efficient system as a foundation for resource optimization under CE.

Green logistics, a pivotal mechanism for achieving CE objectives, is clearly evident in HEINEKEN's commitment to sustainable and efficient transportation, as well as alternative packaging and warehousing approaches. As one of the largest brewers in Vietnam, HEINEKEN distributes beer and cider across the country, involving intricate logistics and transportation. Recognizing the significance of reducing its carbon footprint, according to its 2022 Sustainability Report, HEINEKEN has taken significant steps to enhance sustainability. The Report recorded significant carbon reduction efforts, for example initiatives such as increasing truck sizes for more efficient deliveries led to a 1.4kT reduction in CO2 emissions; Warehouse rearrangement and a strategic reduction in deliveries contributed to an additional 0.3kT reduction in CO2 emissions; The optimization of the supplier network, particularly in shortening transportation distances to breweries in Da Nang and Vung Tau, resulted in a noteworthy 1.63kT reduction in CO2 emissions; material optimization efforts, including reducing paper lining thickness in cartons and aluminum rolls, successfully cut down 35 tons of aluminum and 999 tons of paper.

Moreover, HEINEKEN focuses on optimizing warehousing and utilizing materials in packaging production. With carton packaging, HEINEKEN Vietnam has switched from B-wave to T-wave carton made from 100% recycled paper, which is thinner, saving 273 tons of packaging paper per year, helping to increase transportation efficiency by 17% (Hong, 2021). Additionally, the company has introduced innovations such as electricity-saving green refrigerators, which contribute to a 63% reduction in CO2 emissions, and the integration of lithium electric forklifts in

logistics operations, leading to a reduction of 0.2 thousand tons of CO2 emissions (Sustainability Report, 2022).

3.2.6. Manufacturing Flow Management

In the area of manufacturing flow management, there is no clear publication on whether HEINEKEN adopts lean manufacturing and/or six sigma supply chain practices. Nonetheless, it is evident that the company embraces a manufacturing flow paradigm that incorporates considerations for circular flows or natural resources, thereby further supporting the achievement of CE goals.

In terms of energy in manufacturing, the company currently operates its brewing and production processes using 96% renewable energy. HEINEKEN has successfully reduced total carbon emissions by 87% compared to 2018. HEINEKEN®, one of HEINEKEN Vietnam's premium brands, is now brewed with 100% renewable energy, signifying that the thermal energy and electricity utilized in the production of HEINEKEN® products are sourced from renewable sources (HEINEKEN Vietnam, 2023). As a specific example of renewable energy usage, at HEINEKEN Vung Tau Brewery, the oil boiler has been replaced with an energy-saving high-pressure 100% biomass-fueled boiler, resulting in a cost reduction of more than 30% (Ministry of Industry and Trade, 2022). Furthermore, HEINEKEN even established a third unit to buy rice husks, sawdust left from production to process them to create biomass fuel (Vietnam Circular Economy, 2021). Looking ahead, HEINEKEN Vietnam is exploring more comprehensive renewable electricity solutions, such as Direct Power Purchase Agreements (DPPA) and solar energy systems.

Concerning water conservation and treatment in manufacturing, in 2015, the total water saved from HEINEKEN Vietnam's breweries was 60,000 cubic meters (m3), equivalent to the water volume in 24 Olympic swimming pools (HEINEKEN Vietnam, 2015). Another notable example is HEINEKEN's ambition to position the Vung Tau Factory as a symbol of a green brewery. The company has invested in an advanced wastewater recycling system (ERP) to increase the water recycling rate and consequently reduce overall water consumption. As a result of this initiative, in 2022, 15% of treated wastewater will be reused in non-product-related stages, making a substantial contribution of 6.5% to the total water consumption of the Vung Tau factory (Sustainability Report, 2022).

In the management of manufacturing waste and CO2, all six HEINEKEN Vietnam breweries have achieved the commendable milestone of sending zero waste to landfill, surpassing the circularity maximization goal set until 2023 (HEINEKEN Vietnam, 2023). The HEINEKEN Vung Tau Brewery has also invested in a system to recover and produce liquefied CO2 from boiler exhaust gasses, with a recovery rate of nearly 100%. Another HEINEKEN factory in Tien Giang has adopted the solution of recovering gas from biogas crates to fuel small capacity boilers. Additionally, the Vung Tau factory utilizes heat to dry fresh beer wort recovered at the end of the

beer production process to sell it as animal feed (Ministry of Industry and Trade, 2022), successfully closing the loop in a circular manner.

3.2.7. Product Development and Commercialization

In HEINEKEN, it is evident that products are meticulously designed with a circular lifecycle and a focus on resource reduction and regeneration. Ms. Le Thi Ngoc My, the Director of the Sustainable Development Department at HEINEKEN Vietnam, emphasized the early attention given to the design of glass bottles. This attention is crucial because a bottle that is prone to breakage or scratching cannot be reused multiple times. Presently, an impressive 97% of HEINEKEN glass bottles are successfully reused, with a typical HEINEKEN Vietnam glass beer bottle being capable of undergoing up to 30 reuse cycles (Nhip Song Kinh Te To Quoc, 2022).

Moving from glass bottles, the focus shifts to plastic bottle crates. Similarly, from the design phase, the company has set a goal for plastic crates to have a usability span of 5-10 years. Consequently, an outstanding 98.5% of plastic crates are reused (Nhip Song Kinh Te To Quoc, 2022). These plastic crates are slated for recycling into various products such as plastic pallets, plastic corrugated iron, or other items based on specific usage requirements (Hong, 2021).

Next in line are the beer cans. Once again, the design stage is optimized to minimize materials while ensuring adequate thickness, preventing distortion during transportation. Aluminum cans are crafted from 40% recycled aluminum, which is aimed to increase to 80% contributing to more than a 90% energy saving compared to the use of new aluminum (Nhip Song Kinh Te To Quoc, 2022). The company has also made a 9% reduction in the thickness of the can, moving from 0.270 mm to 0.245 mm. Additionally, lightweight aluminum has been selected for the can lid, resulting in a reduction of 0.3g per lid. This weight reduction, while maintaining packaging quality, has led to an overall decrease in aluminum usage by over 4,000 tons annually (Hong, 2021).

Furthermore, HEINEKEN’s product modularity, a key success for CE, is highly reflected through its The Tiger Cap Recycling initiative. By collecting bottle caps, which the consumers discard when using, but then were turned into iron by the factories, the company changed them into the components of new bridges for the community. Having started in 2018, this project has already resulted in 2 bridges made from recycled caps in Tien Giang and An Giang province in 2019 and a third bridge, located in Ho Chi Minh City, completed in early 2020 (HEINEKEN Vietnam, 2019).

Such initiatives along with many other campaigns like " HEINEKEN® Greener Bar’’, "Be a Hero, Go Plastic Zero" or "Plastic-Zero Borrow Stations" (as highlighted in the Sustainability Report 2022) are pivotal in the commercialization of HEINEKEN's products. The company's extensive promotion of sustainability commitments across various social media platforms enhances consumer awareness and encourages circular habits. Collectively, these efforts contribute to a substantial transformation in the way products are used.

3.2.8. Returns management

HEINEKEN does not publicly disclose its return policies in connection with CE. However, a closely related aspect worth noting is the company's dedication to the recycling of its products after they are discarded. Almost 100% of HEINEKEN Vietnam's glass beer bottles are reclaimed for reuse before being recycled at the glass factory at the conclusion of the product life cycle. Similarly, materials like cardboard, aluminum, plastic, and paper are all either reused or recycled (HEINEKEN Vietnam, 2019). Unfortunately, information regarding the company's reverse logistics practice is not readily available on other media platforms, making it challenging to collect and analyze their connection with CE practices.

3.3. SWOT Evaluation of CE practice in HEINEKEN's Macro Processes in Supply Chain

3.3.1. Strengths

CE strategies are creative and adaptive to local market

Circularity is one of the multiple pillars in HEINEKEN sustainability commitment - "Brewing a better Vietnam", which is the adaptation of its global motto "Brewing a better world" . To complete that mission, HEINEKEN Vietnam developed a dedicated strategy towards two main goals:zero waste to landfill and turn waste into value - close the materials loop. They apply the ReSOLVE model from the Ellen MacArthur Foundation specifically for the Vietnamese market, in which Re stands for Regenerate; S for Share; Optimize; L for Loop; V for Virtualize; and E for Exchange. This model appears to be effective in Vietnam as there were a lot of achievements in each aspect of it, ranging from the major use of biogas in brewing, 98% of beer bottles were returnable and reused up to 30 times to reductions in emission from fridges (HEINEKEN Vietnam, 2022).

There are many examples to show the creative adaptation of HEINEKEN in carrying out supply chain management processes towards CE. The company's Sustainability report 2022 highlights 3 exceptionally successful ideas. The "Greener Bar", which was made from recycled materials and is where customers can return bottles. "Breaking Dawn" was the public art work specifically made from Larue cans, for New Year festivals in Da Nang and Quang Nam , and carried Asian features which attracted people's attention. Last but not least, "Be a Hero, Go Plastic Zero Campaign" was launched with the aim to raise employee awareness about single-use plastics in office which is still currently a major issue and being planned to be eliminated entirely in Vietnam (Turk, 2022).

CE strategies act as a competitive edge

In general, companies often incur significant costs in researching and implementing processes within the supply chain aimed at achieving CE objectives. However, companies with substantial scale and a leading market position, such as HEINEKEN Vietnam, demonstrate that despite the initial high costs, long-term benefits are substantial, resulting in positive outcomes and

improvements in the company's supply chain. This leads to cost savings and enhances operational efficiency over time (HEINEKEN Vietnam, 2022).

HEINEKEN Vietnam's commitment to CE practices not only brings economic benefits but also positively impacts various stakeholders. For employees, the integration of CE processes creates a healthy and safe working environment. For customers, the assurance that waste from the products they use will be managed responsibly, without causing harm to the environment, fosters trust. Additionally, the community benefits from a cleaner environment and gains support for infrastructure projects. The company aids in alleviating pressure on scarce resources such as water, electricity, and metals, contributing to sustainable community development (HEINEKEN Vietnam, 2022).

In addition to environmental accountability, the integration of CE into the supply chain process helps build a positive image and reputation for a company. This commitment can appeal to the audience so that it may possess a longstanding competitive advantage (Berlepsch et al., 2022).

3.3.2. Weaknesses

Idle production facilities

Utilization of collaborative approaches like resource sharing or renting programs can highly minimize the adverse impact on the environment caused by production processes (Hazen et al, 2020). However, the production model used by HEINEKEN gives an indication that facilities might be underused during slack seasons as demand patterns for beer are seasonal oriented. Furthermore , such idle capacity does not only deprive the supply chain of cost saving, but also causes the wear and tear process in machinery and equipment that influences overall sustainability. For example, due to low demand, HEINEKEN production lines will be run at below efficient level leaving much idle energy which means ineffective procedures and higher maintenance costs.

Lack of transparency in returned good handling process

Companies with well-defined and transparent processes for reverse logistics, which includes handling returns, contribute significantly to the development of a circular supply chain. Such companies are better positioned to close the loop on materials, reducing waste and environmental impact (UNECE, 2023). Therefore, a lack of transparency in handling returns and waste materials may impact HEINEKEN's relationships with external partners.

3.3.3. Opportunities

Government incentives

The Vietnamese government is actively promoting green initiatives and CE practices, providing a favorable environment for businesses like HEINEKEN Vietnam to enhance their sustainability in the supply chain process. Government incentives include financial support packages, policy framework improvements, infrastructure development, and public awareness

campaigns. For instance, HEINEKEN Vietnam can capitalize on financial incentives, such as tax breaks or subsidies for adopting eco-friendly technologies in their production processes. The government's commitment to improving infrastructure aligns with HEINEKEN's supply chain efficiency, ensuring smoother transportation and logistics. Furthermore, educational outreach initiatives can enhance public awareness of sustainable practices, creating a positive image for HEINEKEN Vietnam. These measures have significantly contributed to the country's progress in sustainable development, with a notable increase in green investments (Minh Ha, 2023). By leveraging these government-driven opportunities, HEINEKEN Vietnam can further integrate CE principles into its supply chain, fostering both environmental and economic benefits.

Partners collaboration

HEINEKEN Vietnam has also received support from different interested parties willing to contribute towards promoting sustainable practices in a CE within its supply chain. Of particular note are relationships with suppliers that do not deteriorate as in the case of Long Thanh Plastics Ltd., that reflects how HEINEKEN seeks to maintain long term partnerships. Besides, the firm makes connections with local farmers on the fact that they cannot burn their agricultural residues such as rice husks and straws and instead sell these by-products to HEINEKEN in order for them to utilize biomass energy production. This strategic partnership does not only help with the reduction of waste but also supports the formation of a closed-loop system. (VCCorp, 2021).

3.3.4. Threats

Lack of clear standards or metrics toward CE

The absence criteria and metrics for self-assessment and comparison with other partners poses a significant threat to the CE strategy of HEINEKEN Vietnam within its supply chain processes. The lack of standardized evaluation tools may lead to inconsistencies in different supply chain processes, impacting the overall effectiveness of the CE strategy and collaboration among partners.

4. Recommendations for HEINEKEN Vietnam in Advancing Macro Processes in Supply Chain Towards CE

4.1. Commitments and Goals of HEINEKEN Vietnam towards CE

Integration of CE principles at the heart of HEINEKEN Vietnam’s corporate ethos will help cultivate a collective sense of responsibility and heightened awareness of sustainability among its workforce. Implement consistent training initiatives across all organizational tiers to educate employees on the significance of CE, elucidating their individual roles in advancing the company's sustainability objectives. This strategic approach aims to instill a pervasive commitment to CE within the organizational culture, ensuring that employees are well-informed contributors to HEINEKEN Vietnam's broader sustainability goals.

Through open communication channels, the company articulates its steadfast dedication to CE principles, emphasizing a commitment to sustainable practices that extend beyond internal

operations. As part of this commitment, HEINEKEN Vietnam pledges to regularly release a comprehensive annual sustainability report. This report will serve as a detailed account of the company's achievements, challenges confronted, and forthcoming strategies pertaining to CE practices. By consistently providing this transparent insight, HEINEKEN Vietnam endeavors to showcase its accountability and illustrate the progressive strides made in aligning its supply chain with sustainable principles, fostering trust and awareness among its stakeholders.

To bolster its commitment to CE principles on an international scale, HEINEKEN Vietnam should align its practices with globally recognized sustainability standards and actively seek certification from reputable bodies. This initiative aims to validate the company's dedication to CE principles and showcase its adherence to high sustainability standards recognized worldwide. Additionally, establishing a continuous improvement framework is essential for HEINEKEN Vietnam to ensure the ongoing evolution and adaptability of its CE strategies. This framework will enable the company to stay abreast of evolving industry standards and incorporate valuable insights from stakeholders, fostering a dynamic and responsive approach to sustainability within its supply chain. Moreover, HEINEKEN Vietnam should prioritize green logistics through the refinement of transportation routes, exploration of alternative packaging materials, and investments in advanced inventory management technologies. By optimizing transportation routes, the company can minimize its carbon footprint and contribute to environmental conservation. Exploring alternative packaging materials aligns with eco-friendly practices, promoting resource efficiency and reducing the environmental impact of packaging. Furthermore, strategic investments in advanced inventory management technologies will not only streamline operations but also contribute to overall sustainability efforts. In parallel, adopting lean manufacturing and Six Sigma approaches is crucial for minimizing resource use and increasing operational efficiency. These methodologies will help HEINEKEN Vietnam reduce waste, conserve resources, and create a more sustainable and resource-efficient manufacturing process. Environmental factors and green consumer behavior should also be put into considerations. By incorporating these factors, the company can align its demand management strategies with broader sustainability goals, ensuring that product demand and consumption patterns are in harmony with environmental considerations and consumer preferences for eco-friendly products. Furthermore, in an effort to optimize resource utilization and operational efficiency, HEINEKEN Vietnam should explore shared resource opportunities. This involves assessing the feasibility of sharing or leasing facilities during periods of underutilization, maximizing production capacity, and fostering resource-friendly production practices. Through these initiatives, HEINEKEN Vietnam can not only enhance its environmental stewardship but also achieve operational excellence in a manner that aligns with the principles of Circular Economy and responsible resource management.

Additionally, HEINEKEN Vietnam can significantly advance its sustainability agenda by strategically leveraging government incentives and fostering partnerships with key stakeholders. Capitalizing on government incentives that support green initiatives and CE practices will not only enhance the company's commitment to sustainability but also provide financial support for eco-

friendly technologies and initiatives. Strengthening partnerships with stakeholders, particularly through long-term collaborations with suppliers and local farmers, is essential for promoting sustainable practices throughout the supply chain. These partnerships will not only support HEINEKEN Vietnam's sustainability goals but also contribute to the development of a more sustainable and responsible ecosystem within the beverage industry. By aligning with government initiatives and building robust partnerships, HEINEKEN Vietnam can amplify its impact on sustainable practices and further solidify its position as a leader in the pursuit of a circular and environmentally conscious supply chain.

4.2. Recommendations for HEINEKEN Vietnam in Advancing Macro Processes in Supply Chain towards CE

To strengthen the Customer Relationship Management strategy of HEINEKEN Vietnam, we suggest launching targeted sustainability campaigns encouraging more consumers to participate in circular initiatives. It involves designing purpose-led initiatives that meet the environmental values and make the connection between the brand and consumer stronger. Furthermore, we advise that some new efforts aimed at the strategic increase of data analysis concerning the unexploited markets of consumers be conducted. Through the use of big data analytics, HEINEKEN can personalize marketing campaigns to specific target groups and in doing so create higher sales and promote sustainable consumption behavior. This analytical approach enables a more detailed perception of consumer behavior which is a foundation for subsequent development of environmentally conscious marketing programs. All strategic implementations in this regard are intended not only to strengthen customer loyalty but also to support HEINEKEN Vietnam in implementing its wider sustainability and responsible business policy within the supply chain.

In the area of Supplier Relationship Management, HEINEKEN Vietnam can elevate its sustainability efforts through strategic initiatives. First, we recommend intensifying collaboration with existing suppliers to augment the integration of recycled materials into packaging. This proactive measure aims to establish a closed-loop system, promoting the recycling and reutilization of materials within the supply chain. Furthermore, we propose a strategic investment in circular innovations, specifically the development of reusable packaging options, in collaboration with key suppliers. By fostering innovation in packaging design and materials, HEINEKEN Vietnam can reduce its environmental footprint while simultaneously aligning with emerging consumer preferences for sustainable and reusable packaging solutions. This dual-pronged approach not only solidifies supplier relationships but also positions HEINEKEN as a pioneer in sustainable practices within the beverage industry supply chain.

For the optimization of Order Fulfillment, HEINEKEN Vietnam should continue and expand its commitment to green logistics. This entails further refining transportation routes to minimize carbon emissions and exploring alternative packaging materials that align with sustainable practices. By prioritizing environmentally conscious logistics, HEINEKEN can not only reduce its ecological impact but also appeal to a growing consumer base increasingly focused

on sustainable choices. Additionally, we recommend a strategic investment in advanced technologies for efficient inventory management. This entails adopting cutting-edge tools and systems to streamline the supply chain, minimizing overstock situations and reducing waste. This data-driven method ensures optimal inventory levels, improving overall operational efficiency and sustainability. By integrating these advanced technologies, HEINEKEN Vietnam can enhance its supply chain resilience, responding more effectively to market fluctuations and contributing to its long-term commitment to CE principles.

HEINEKEN Vietnam can make significant strides in the field of Manufacturing Flow Management towards its sustainability goals through the implementation of key strategic initiatives. To begin with, we advise to adopt lean manufacturing and Six Sigma approaches. Through the implementation of these methodologies, HEINEKEN will be in a position to minimize the number of steps taken during the process of production, conserve the use of resources, and increase the overall level of efficiency of operations. This methodology leads to a more resource-friendly manufacturing stream that is in line with the principles of CE. Moreover, we recommend researching other renewable energy sources and allocating funds to lead-edge eco-friendly technologies in manufacturing plants. By changing the energy source and using the latest sustainable technologies, HEINEKEN can drastically cut down its carbon footprint. Not only does this approach with the global environmental targets but also makes the company the leading force in adoption of cutting-edge, sustainable manufacturing practices. These collaborative actions hence manifest the willingness of HEINEKEN Vietnam to carry out CE goals in its production systems.

The Product Development and Commercialization area will allow HEINEKEN Vietnam to advance its sustainability agenda by adopting some specific strategies. First, we suggest that the continuous innovation that targets minimizing the use of material and working towards recyclability is crucial. Through the use of lightweight and environmentally-friendly materials, HEINEKEN will not only be able to lessen its carbon footprint, but will also be able to meet the changing demands of the consumers for sustainable packaging solutions. Moreover, partnering with local communities and artists can also help boost the innovative Art projects that are meaningful and sustainable because of the recycled materials. The supported social engagement is not only the community involvement but also elevates the brand image of HEINEKEN as a responsible brand. With such collaborations, HEINEKEN will have an opportunity to exploit recycled materials innovatively, positioning the business as an environmentally conscious entity that is also adhering to the CE principles. All of these initiatives contribute to the sustainability initiative by HEINEKEN Vietnam in product development and commercialization in the chain of supply.

In the field of Customer Service Management, HEINEKEN Vietnam can become more efficient in operations and focus more on environmental sustainability through the implementation of some strategic initiatives. For starters, we suggest detailed research into the feasibility of sharing or leasing facilities on periods when they are underutilized. This anticipatory approach is aimed at

maximizing capacity for production in the sense that it is a strategy that seeks to make optimal use of resources by minimizing the environmental costs due to underutilized facilities. In addition, we would like to recommend investigating the opportunity to introduce an equipment renting or leasing process during the off-peak periods. By engaging in the sharing economy, HEINEKEN can promote its agility in terms of production resources management. This direction does not only reflect current trends in sustainable business operations, but it also allows HEINEKEN to be recognized as a responsible participant in the CE. All these recommendations together are the issue of HEINEKEN Vietnam's goal to achieve operational excellence and sustainability in the supply chain.

As for the scope of Demand Management, HEINEKEN Vietnam can support its sustainability efforts through key practices. In developing the sustainability agenda, as we see it our suggestion is for environmental and green consumer behavior factors to be incorporated into the demand management strategy. One integral action is the creation of a demand forecast system that takes sustainable issues as explanatory factors.Through the seamless integration of demand management with environmental factors, HEINEKEN can anticipate the recently emerging consumer behavior of eco-mindedness. We suggest developing a demand forecasting model which includes green consumer preferences, sustainability of the packaging, etc., besides environmentally relevant variables. This method is not only in accordance with sustainability goals but also helps to maintain a demand-management strategy that corresponds with the dynamically changing demands of environmentally mindful consumers. In addition, the collaborative approach using sustainability experts and market researchers might help to improve the quality of demand estimation. This cooperation can offer beneficial prospects, which will influence the emergence of new ecological patterns and enable the adaptation of demand management strategy. By including the environmental aspect in predicting the demand for HEINEKEN Vietnam's products, the company will pave the way for a better future where more companies will adopt its sustainable practices in the beverage industry and at the same time give customers what they want – beverages that are friendly to the environment.

For Returns Management, the activities of HEINEKEN Vietnam can be enhanced through some important strategic actions. To this end, we suggest beginning with a well-defined and intuitive process for dealing with returns and by-products, so that transparency is provided as to how these assets will be recycled or used as substitutes within the supply chain. Transparency not only helps to build trust between the consumer and producer but also serves as a CE component, steering the industry towards creation of a closed-loop system. In addition, to improve productivity in the process of handling returned goods, we recommend establishing cooperative relations with specialists in reverse logistics. Working with the reverse logistic specialists will help HEINEKEN Vietnam capture value by efficient reuse of materials, minimizing resource losses. This method not only makes it easier to address the returns but also allows HEINEKEN to be in the lead in the domain of sustainable supply chain strategies. Together all these recommendations are supportive of sustainability goals that HEINEKEN Vietnam has for itself, that is making demands and their

management strategy in line with environmental parameters as well as the rising trend of green behaviors among consumers.

5. Conclusion

The research paper analyzed the macro processes in the supply chain towards CE at HEINEKEN Vietnam. Drawing on the theoretical foundation of existing conceptual research and principles of CE, the authors of this article found that among the eight processes identified towards CE, HEINEKEN Vietnam performs well in the majority of them, including Customer Relationship Management, Supplier Relationship Management, Manufacturing Flow Management, Product Development and Commercialization, and Order fulfillment.However, for the remaining three macro processes, the company still faces limitations in implementation and has not achieved optimal efficiency.

The analysis of each process has allowed the researchers to provide some recommendations for HEINEKEN Vietnam in improving the well-performed processes and modifying the unsuccessful ones to realize its commitments toward CE in its supply chain . The solutions consist of a variety of strategies, such as initiating campaigns, utilizing data analysis, developing innovative reusable packaging choices, embracing lean and six sigma methodologies, collaborating with local artists, sharing facilities, incorporating eco-friendly behavior in demand forecasting, and aiming for transparency.

Finally, it is important to note that this research has limitations in the narrow scope of application for the analysis and recommendations, confined solely to HEINEKEN Vietnam. Future research can be developed to expand the generalization and offer recommendations applicable to HEINEKEN as a global company or the F&B as an entire industry in the pursuit of supply chain management towards CE.

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