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# The lesson of value chain concept from SMEs to achieve UN SDGs

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**Abstract:** The food and beverage industry is linked to several SDGs. Companies around the world are currently considering the 17 SDGs in their operations. However, there is a scarcity of research on how small and medium businesses might contribute to these global goals. This research presents a case study from the top ten companies for SMEs as a type of qualitative research. This study aims to study how the top 10 food and beverage companies for SMEs use the value chain concept to achieve the UN SDGs. According to the findings, most food and beverage companies achieved UN SDGs Goal in SDG13: Climate change and they operate activities by the value chain concept in technology development. The value chain concept contributed to the competitive advantage with the success that an organisation has worked to create value for its customers.

**Keywords:** 17 sustainable development; value chain; SMEs; food and beverage.

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## 1 Introduction

Placet et al. (2005) defined sustainability along with these three goals: social responsibility, economic prosperity, and environmental stewardship, which focuses on the natural environment like air, water, land, and ecosystems as well as effectively

manage the earth’s natural resources, these three goals will be inter-related and supportive of each other. The United Nations has published the Sustainable Development Goals (SDGs) in September, which consist of 17 goals that cover environmental, social, and economic sustainability issues (Jones et al., 2018). UN calls on governments to pursue these goals and acknowledges that the business community has an essential role in supporting SDGs. UN has forced firms across the globe to consider these goals as collective goals. Sultan and Chains (2013) mentioned that firms have to produce efficiency and effectiveness but with more negligible environmental impacts along their entire value chain for sustainability.

Food and beverage businesses are related to various SDGs. Currently, the companies on the global level have considered the 17 SDGs in their business. However, there is a lack of study which tells how small-medium enterprises can also contribute to these global goals (Erendor and Sunguray, 2019). This study aims to figure out the activities big companies did to achieve SDGs, which SMEs can implement through the lens of the value chain concept. The activities must be for production with efficiency and effectiveness to get competitive advantages and support sustainable production for the future (Johnsson et al., 2020).

The United Nations published the SDGs. It is designed to effect a transition to a more sustainable future. The United Nations called on all governments to pursue these ambitious goals but also acknowledged the business community has an essential role against SDGs that have forced the firms across the globe to consider these goals while identifying and prioritising actions to the SDGs (Jones et al., 2017). Therefore, this paper focuses on activities or experiences that have been done contributed to achieving 17 SDGs through the top food and beverage company in the world for learning the lesson to suggest SMEs achieve 17 SDGs. Furthermore, this paper also uses value chain concept, which is quickly identifying the activity that fits them to achieve 17 SDGs and gains more benefit to the SMEs (Meyer-Ohlendorf et al., 2014).

## 2 Literature review

### 2.1 United Nations SDGs

The United Nations SDGs adopted The 2030 Agenda for Sustainable Development which is a blueprint for peace and prosperity for people and the planet, now and into the future. There are 17 SDGs (Sosa-Nunez, 2022) which are:

<i>17 SDGs</i>	<i>Explanations</i>
Goal 1 No poverty	End poverty in all its forms everywhere
Goal 2 Zero hunger	End hunger, achieve better food security and nutrient and promote sustainable agriculture
Goal 3 Good health and well-being	Ensuring a healthy life and promoting well-being for all people of all ages
Goal 4 Quality education	It is ensuring the equal and equal quality of education and promoting lifelong learning opportunities for all.
Goal 5 Gender equality	Achieve gender equality and empower all women and girls
Goal 6 Clean water and sanitation	Ensure availability and sustainable water and sanitation management for all

Goal 7 Affordable and clean energy	Ensure access to affordable, reliable, sustainable and modern energy for everyone
Goal 8 Decent work and economic growth	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Goal 9 Industry, innovation, and infrastructure	Build resilient infrastructure, foster inclusive and sustainable industries, and foster innovation
Goal 10 Reduce inequality	Reduce inequality within and among countries
Goal 11 Sustainable cities and communities	Make cities and human settlements inclusive, safe, resilient and sustainable.
Goal 12 Responsible consumption and production	Ensure sustainable consumption and production patterns
Goal 13 Climate change	Take urgent action to combat climate change and its impacts
Goal 14 Life below water	Conserve and sustainably use the oceans
Goal 15 Life on land	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and restore land degradation and halt biodiversity loss.
Goal 16 Peace, justice and strong institutions	Promote a peaceful and inclusive society for sustainable development, provide access to justice for all, and build effective, responsible, and inclusive institutions at all levels.
Goal 17 Partnership for the goals	Strengthening the means of implementation and restoring global cooperation for sustainable development

These goals have been translated into 169 languages that spur action over the next ten years in areas of critical importance to humanity and the planet. There is no single goal separate from the others and calls for an inclusive and inclusive approach. Therefore, the UN calls for action involving governments and parliament, the UN system and other international institutions, local authorities, indigenous peoples, civil society, business, and the private sector, scientific and academic communities, to participate in the achievement of these goals this for sustainability (Banerjee and Datta, 2020; Pérez-Escamilla, 2017; Erendor and Sunguray, 2019).

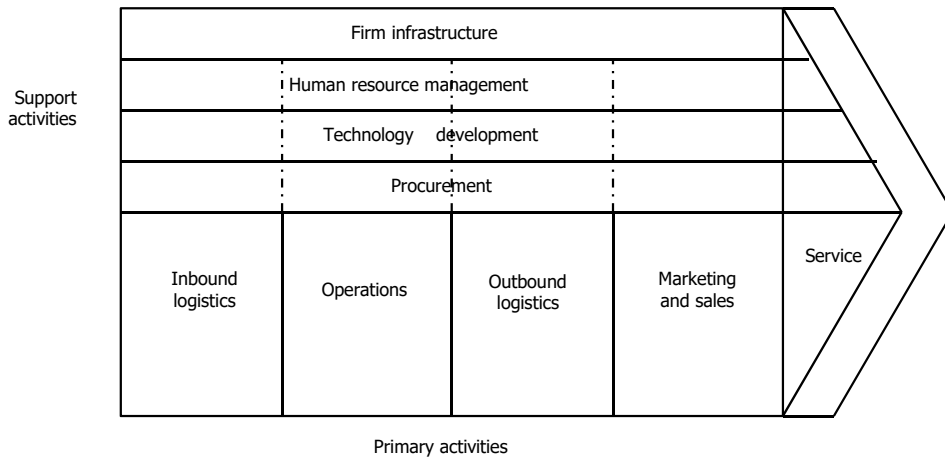
The SDGs have become a unifying demand and a single template for universal and applicable solutions for states and sectors (Sendhil et al., 2022). Goal 8 is to maintain 7% economic growth in emerging nations through 2030 and attain full employment for all men and women within the next 15 years, leaving no one behind. This is central to the 2030 Agenda for Sustainable Development: economic growth must be created in a just and inclusive world. As with hunger, poverty, and inequality, the SDGs set clear benchmarks that empower people at all levels to work toward a more resilient future in which everyone is better by 2030 (Maidin, 2022). The findings the insight of highlighted that the strategic importance of a company’s collaboration with its suppliers, customers, and internal divisions can enhance supply chain performance. So, creating effective synergies for the flow of resources in the supply chain is something that should not be overlooked. This way will inspire other organisations to implement these aims and foster a collaborative atmosphere for sharing information in order to take more effective measures toward achieving these objectives (Hu and Kee, 2022). The federal governments, corporations, non-governmental organisations, and individuals are crucial to reaching the goal. Local mayors and governors are often in charge of the national

sustainability agenda, although private businesses can contribute to the global pace in direction of sustainable development (Hung et al., 2022). To promote effective methods to prevent forced labour, slavery, and human trafficking, it is essential to encourage entrepreneurship and job development (Yamane and Kaneko, 2022). To fulfil the global goals of the United Nations, the value chain is crucial to the development and sustainability of global SMEs (Hu and Kee, 2022).

## 2.2 Value chain

Porter (2011) defines the value chain concept as represent the value-added activities of the company. According to pricing strategy and cost structure based on pricing and purchase order. The first step is to separate the essential items. The next step is to assess the potential for added value using a cost advantage or business differentiation. Finally, analysts need to define strategies that focus on those activities to help the company achieve sustainable competitive advantage.

**Figure 1** The generic value chain



Source: Porter (1985)

From Figure 1, it is found that there are two main sections in the form necessary to achieve a competitive business advantage: cost leadership and differentiation. There are five main activities: inbound logistics, operation, outbound logistics, marketing, sales, and service. These are the core of every business, from their entire origin until the final product or service to the final customer. However, core activities would not perform well without support activities, including infrastructure, human resource management, technology and development, and procurement. These help the core activities perform well. The stronger the support activities, the greater the effectiveness of the core activities (Forrest and Liu, 2022). The study of the value chains model creates a competitive advantage for the best gain and profitability (Utomo et al., 2022), which is the most considered business. In the other finding that value chain management has a substantial impact on the performance and competitive advantage of a firm (Hwihanus et al., 2022; Jell-Ojobor and Raha, 2022). Competitive advantage performed a mediating role between value chain management and company success. It had a major impact on company

performance. The value chain is an important source of long-term competitive advantage for businesses. The value chain must be integrated in order for a company to succeed. Lowering expenses, improving responsiveness, increasing service levels, and making choices simpler are all possible ways to do this. Information interchange and collaboration, as well as agility, are important features of value chain integration (Helmerich et al., 2021). The value chain activities offer various advantages, including improved information transparency, manufacturing data integrity, and product identification (Zhao et al., 2019). The value chain concept is also useful for measuring the business-to-business linkages that connect the chain, resulting in increased efficiency. Some of the structural issues include the operation of the value chain, the relationships between the players, and the strengthening of the link with the markets (Tomorri et al., 2022). Hart et al. (2019), referring to Porter's value chain concept, said identifying core primary and support activities is the first step in building a value chain analysis. There are five main activities, including all actions that lead to the creation of a business proposal.

- 1 Inbound logistics: How to acquire materials and resources from suppliers before developing the final product or service.
- 2 Operation: The production methods, materials, and resources create the final product or service.
- 3 Outbound logistics: How to ship or distribute products.
- 4 Marketing and sales: How to present and sell products or services to the personal ideal target market.
- 5 Services: How businesses provide customer support, including support and training for products, warranties, and guarantees.

Support activities that can be done to help the main activities in gaining an advantage over competitors are:

- 1 Firm infrastructure: Apply all financial and legal management systems that a business has to make business decisions and manage resources efficiently.
- 2 Human resource management: Covers all processes and systems involved in managing employees and hiring new employees. This is especially important for self-service companies, and great employees can be a competitive advantage.
- 3 Technology development: This helps businesses to innovate. Technology also can be used in various steps of the value chain to gain an advantage over competitors by increasing efficiency or decreasing production costs.
- 4 Procurement: Find sources of resources and materials for products and suppliers. The goal is to find quality materials that fit the business budget.

### *2.3 Sustainability through value chain performance*

The value chain focuses primarily on value creation, value activities, and connectivity. Thus, the value chain helps companies identify the source for each of their core activities and support them to gain a competitive advantage (Veeger and Westermann-Behaylo, 2022) say that the value chain framework is the driving force behind sustainability. This is achieved because understanding the link between each activity in the value chain

framework is essential for creating strategies to increase efficiency and operational effectiveness and add a sustainable competitive advantage to the business. This will lead to internal economic stability and environmental and social responsibility. They are similar to sustainability, driven by a balanced integration of stewardship, social responsibility and economic prosperity (Belyaeva et al., 2020).

UN resources such as the SDG Compass in 2015, SDG Industry Matrix, and SDG Indicators help firms' commitment to the SDGs. However, it is difficult for businesses to determine the direct and indirect goals to which they contribute. In 2017, less than half (43%) of the world's 250 largest firms tied their corporate social responsibility (CSR) operations to the SDGs, according to KPMG. In 2015, all United Nations member states, regardless of whether they were considered developed or developing, agreed to adopt 17 SDGs that aimed to reduce global poverty, engage with relevant stakeholders, and provide guidelines and policy around sustainability. The research asserts that the SDGs can be implemented globally to achieve sustainability by 2030. SMEs involved in the value chain can contribute to social and economic development (Scheyvens and Hughes, 2019).

The discovered that sustainable industrial consumption has been at the heart of the SDGs. The SDGs focus on resource efficiency (Rutitis et al., 2022), but the values chain focuses on the internal operations of a firm to comprehend its costs and how diverse activities might add value to its product. This conclusion corresponds to the findings discovered that if businesses wish to increase the efficiency of their value chain for sustainable growth, they should prioritise scarce resources in the position of restrictions (people, market, equipment, and policy constraints) (Nyaoga and Magutu, 2016). Another finding conclusion that constraint management may have a beneficial impact on value chain performance, and that crucial value chain performance can assist industrial firms in enhancing sustainable development (Razak and Vattikoti, 2018).

### **3 Research methodology**

This paper explores the documentary research method (DSM) with a documented research methodology. Initially, the study conducted the study process. According to the research methodology, studying and analysing information from documents or research paperwork by reviewing relevant concepts, theories and literature and analysing information from documents or documentary research to review ideas. Theories and literature related to the UN SDGs and value chain concepts. This starts with the study of academic documents, research results, and related academic articles. Both academic documents of various types domestic and various types of academic documents from abroad, including academic information obtained by searching through electronic media or on various websites.

## **4 Result**

### *4.1 Case studies from the top 10 food and beverage companies*

Rojas et al. (2016), Food and Agriculture Organization (FAO) of UN states that food and agriculture are the keys to achieving the entire SDG, so the food and beverage industry

plays a crucial role in contributing to SDGs, particularly ending it. Poverty and hunger while restoring and managing natural resources sustainably and using other SDGs as well. In this article, we have compiled case studies of the activities that focus on the operations of food and beverage companies to achieve development. That is sustainable in three dimensions: economic, social, and environmental.

Finance (2019) reports the top 10 brand value food and beverage portfolios for 2019, shown in Table 1 they calculated brand value by using royalty rates based on their brand strength index (BSI) score product to predict the income that will be received brand revenue in the brand financial valuation method, follow the steps below:

- 1 Calculate brand strength using a balanced metric that evaluates marketing investment, stakeholder equity, and business performance. Brand strength is expressed as a BSI score on a scale of 0 to 100.
- 2 Establish royalty ranges for each industry, reflecting the importance of brands in purchasing decisions. In luxury goods, the highest percentage is higher in the extraction industry, where goods are usually lower commodities. This is done by examining comparable licensing agreements that come from brand finance's extensive database.
- 3 Royalty rate calculation the BSI score is applied to the royalty range to achieve the royalty rate. For example, if the royalty range in a particular segment is 0%–5% and the brand has a BSI rating of 80 out of 100, the appropriate royalty rate for using this brand in a given segment will be 4%.
- 4 Determine brand-specific revenue by estimating the revenue percentage of the parent company that belongs to the brand.
- 5 Determine forecast earnings by using the functions of historical earnings, equity analysts' forecasts, and economic growth rates.
- 6 Apply the royalty rate to the projected revenue to earn the customer brand's revenue.
- 7 Brand earnings are discounted after taxes to their net present value, equal to the brand value.

Kotler and Keller (2006) say the brand value is directly related to the perceptions and thoughts of potential customers and customers. It reflects a direct and indirect brand experience of what they see, hears, learn, thinks and feel over time Kotler and Keller (2006) Citing a study of brand value and its impact on sales in the automotive industry by Margareta et al. (2019), it found that brand value directly affected sales volume. In addition to studying the impact of product branding on the sales revenue of Ghanaian listed companies, Michael argued that product branding had a long-term positive impact on sales revenue. However, it does not have a significant short-term impact on sales revenue. The document also recommends continued branding to ensure sustainable sales volumes and higher profits. According to these study can conclude that brand value affects the customer purchasing the product or service of the business, not only the brand value can push the business to the high sales and make the product or service different from the other competitors in the same industry but also affect to the stock performance.

From these studies, it can be concluded that brand value affects not only customers who purchase goods or services for a business. However, brand value can drive a business into high sales and differentiate a product or service from other competitors in



the same industry and affect stock performance. Finance (2019), the world's leading independent brand valuation consultant, defines 'brand values' as the trademark and associated marketing value within a branded business. This is in line with David Aaker, vice president of Prophet, a global marketing and branding consultant, who said, "Brand value is a brand's financial value. In determining brand value, businesses need to estimate their brand value in the market." This means that it relates to stock performance.

Hsu et al. (2013) found that brand value had a relationship with companies' stock performance, which is considered a criteria if it is included in the annually published global top brands ranking list. There is positive evidence that market reaction to a firm's presence in the top firms is made public.

Based on these criteria in this research, high brand values were selected in educational food and beverage companies because the company values what the consumer, what the consumer has experienced or views on the brand, which means it delivers. Effect on customers' purchases as well. Hence, they will try sustained as it is a hot topic for consumers.

According to Table 1, brand finance, the world's leading consulting organisation, has released the top 10 highest value food and beverage portfolios of 2019. These rankings were selected to be studied in this research. As these rankings have been relatively stable, they have not changed much for two years (2018 and 2019), as brand finance has reported on most value F&B portfolio. No. 1–no. 8 stable, except for no. 9 in 2018, Willmar, but changed to General Mills in 2019, and no. 10 in 2018, Ferrero, but changed to Willmar in 2019, so check out brand finance's report. The latest in 2019 has been selected to study in this article.

**Table 1** Top 10 most value F&B companies in 2019

No.	Company	Country	Key metrics		
			Brand value*		Brand value change
			2019	2018	
1	Nestlé	Switzerland	\$70,462m	\$63,226m	+11.4%
2	PepsiCo, Inc.	USA	\$58,920m	\$55,067m	+7.0%
3	The Coca-Cola Company	USA	\$53,633m	\$45,030m	+19.1%
4	Unilever	UK	\$42,245m	\$44,164m	-4.3%
5	Danone	Spain	\$21,772m	\$21,296m	+2.2%
6	Kraft Heinz	USA	\$20,281m	\$19,225m	+5.5%
7	Mars	USA	\$18,322m	\$16,728m	+9.5%
8	Mondelez International	USA	\$15,730m	\$15,074m	+4.4%
9	General Mills	USA	\$12,059m	\$8,355m	+44.3%
10	Wilmar	Singapore	\$11,359m	\$10,063m	+12.9%

Table 1 showed the SDGs which have been done by the top 10 most brand value F&B companies. Each company focuses on the goals that most closely align with the company's priority issues and areas of long-standing. It showed that there were 9 out of 10 companies committed to achieving SDG2 and SDG12. United station has described the importance of SDG2 that hunger limits human development and is unable to meet

other SDGs such as education, health and gender equality, and the importance of SDG12. First - Third, the food produced for human consumption each year is lost or wasted.

It can be concluded that SDG2 and SDG12 are of great importance to the food and beverage industry; that is why F&B's business commitment to achieving its core goals. At the same time, two out of ten companies committed to achieving SDG9, SDG11 and SDG16 can assume that the three SDG targets (SDG9, SDG11 and SDG16) are not directly related to the food and beverage industry. As a result, very few companies in this industry are committed to achieving these goals right now.

**Table 2** Top 10 F&B companies contribution activities to 17 SDGs in 2019

No.	Company	17 Sustainable Development Goals (SDGs)								
		1	2	3	4	5	6	7	8	9
1	Nestlé	√	√	√	√	√	√	√	√	√
2	PepsiCo, Inc.	-	√	√	-	√	√	√	√	-
3	The Coca-Cola Company	√	√	√	-	√	√	-	√	-
4	Unilever	√	√	√	√	√	√	√	√	√
5	Danone	-	√	√	-	-	√	-	√	-
6	Kraft Heinz	-	√	√	-	√	-	√	-	-
7	Mars	√	√	-	-	√	√	√	√	-
8	Mondelez International	√	√	√	√	√	√	-	√	-
9	General Mills	-	√	√	-	-	√	-	-	-
10	Wilmar	-	-	-	√	-	-	-	√	-
	<b>Total</b>	<b>5</b>	<b>9</b>	<b>8</b>	<b>4</b>	<b>8</b>	<b>8</b>	<b>6</b>	<b>8</b>	<b>2</b>

No.	Company	17 Sustainable Development Goals (SDGs)							
		10	11	12	13	14	15	16	17
1	Nestlé	√	-	√	√	√	√	√	√
2	PepsiCo, Inc.	-	-	√	√	-	√	-	√
3	The Coca-Cola Company	-	-	√	√	√	-	-	√
4	Unilever	√	√	√	√	√	√	√	√
5	Danone	-	-	√	√	-	-	-	√
6	Kraft Heinz	√	-	√	√	-	√	-	-
7	Mars	-	-	√	√	-	√	-	√
8	Mondelez International	-	√	-	√	-	√	-	√
9	General Mills	-	-	√	√	-	√	-	-
10	Wilmar	-	-	√	-	-	√	-	√
	<b>Total</b>	<b>3</b>	<b>2</b>	<b>9</b>	<b>8</b>	<b>3</b>	<b>8</b>	<b>2</b>	<b>8</b>

Notes: √ means the company has taken activities to achieve the SDG.

- means the company has presently not taken activities to achieve the SDG.

4.2 Combination with value chains concept

In this study, through the value chain conceptual framework, we selected and identified the activities that companies have to achieve the SDGs, and then we suggest activities that are appropriate for SMEs. Suggested activities are shown in Table 3.

**Table 3** Applicable activities in the value chain for SMEs to achieve SDGs

No.	Company	Division of value chain		F&B companies did the activities
		Primary activity	Primary activity	
1	Nestlé			SDG1: No poverty
		Services	Human resource management	Create employment opportunities for young people by hiring young people, providing internship and training opportunities.
				SDG3: Good health and wellbeing
		Operations	Technology development	Use and describe nutrition information on packs at the point of sale.
				SDG4: Quality education
		Services	Procurement	Hold the program for preparing the next generation of farmers by developing young people’s agricultural and business skills.
				SDG6: Clean water and sanitation
		Operations	Technology development	Withdraw and reuse water in operations.
				SDG7: Affordable and clean energy
		Operations	Technology development	Renewable energy by improving illumination, heating, cooling and Warehouse insulation
				SDG10: Reduce inequality
		Inbound logistics	Procurement	Forming a group of farmers in rural areas
				SDG15: Life on land
		Marketing and sales	Procurement	Promote integrated farming systems such as crops and livestock to suppliers
				SDG16: Peace, justice and strong institutions
		Inbound logistics	Firm infrastructure	Anticorruption incorporate for success as a business as it provides the basis for certainty, long-term investment, and growth.

**Table 3** Applicable activities in the value chain for SMEs to achieve SDGs (continued)

No.	Company	Division of value chain		F&B companies did the activities
		Primary activity	Primary activity	
2	PepsiCo, Inc.			SDG2: Zero hunger
		Inbound logistics	Technology Development	Work with innovative local farmers to find and implement solutions that work best for them.
		Services	Procurement	SDG5: Gender equality Promote female farmers with educational and economic support to help increase crop yields, income, and access to nutrition.
		Outbound logistics	Procurement	SDG13: Climate change Switch to hydrofluorocarbon-free equipment for retail and shipping in compressed natural gas or electric trucks.
3	The Coca-Cola Company			SDG13: Climate change
		Operations	Technology development	Design the packaging 100% recyclable and use at least 50% recycled material in the production.
		Inbound logistics	Technology development	Began collaborates with third parties to develop the Carbon Scenario Planner to help standardise the carbon forecasting methodology in the system's supply chain.
		Marketing and sales	Technology development	SDG14: Life below water It launched a project that brings government and civil society organisations together to clean up rubbish on the beach. The program combines education, civic engagement, and research.
4	Unilever			SDG1: No poverty
		Marketing and sales	Firm infrastructure	Export products to generate income through new retailers and distributors.
		Outbound logistics	Human resource management	SDG8: Decent work and economic growth They have developed an e-commerce platform for retail retailers for purchasing products and launching an app where merchants can order without waiting for a distributor to visit their stores.

**Table 3** Applicable activities in the value chain for SMEs to achieve SDGs (continued)

No.	Company	Division of value chain		F&B companies did the activities
		Primary activity	Primary activity	
4	Unilever	SDG9: Industry, innovation and infrastructure		
		Outbound logistics	Firm infrastructure	It gives retail retailers access to equity loans such as microloan partnerships.
		SDG13: Climate change		
		Inbound logistics	Procurement	Receive raw materials and packaging in cardboard boxes
		SDG15: Life on land		
		Operations	Procurement	Use less water and fertilisers on the farm.
5	Danone	SDG3: Good health and wellbeing		
		Marketing and sales	Firm infrastructure	Activate brands in stores and across multiple platforms to match local tastes, lifestyles and shopping preferences to help consumers make healthier choices by partnering to grow across channels.
6	Kraft Heinz	SDG2: Zero hunger		
		Inbound logistics	Procurement	Require suppliers to have a zero-tolerance and animal welfare policy.
		SDG3: Good health and wellbeing		
		Services	Procurement	Deliver training and resources to smallholder farmers
		SDG7: Affordable and clean energy		
		Operations	Technology development	Install smart controls to dim the lights
7	Mars	SDG6: Clean water and sanitation		
		Operations	Technology development	Use other materials with lower water consumption. Use a rainwater capture system or gray water at the manufacturing plant.
		SDG13: Climate change		
		Operations	Firm infrastructure	Sourcing new sources of income through sustainable forest products, such as the sale of production waste compost.

**Table 3** Applicable activities in the value chain for SMEs to achieve SDGs (continued)

No.	Company	Division of value chain		F&B companies did the activities
		Primary activity	Primary activity	
7	Mars	SDG15: Life on land		
		Inbound logistics	Procurement	Replace the ingredients in some products with other ingredients that provide equivalent nutrition. Nevertheless, it needs less space to plant or be planted in an area with a lower risk of deforestation.
8	Mondelez International	SDG2: Zero hunger		
		Inbound logistics	Technology development	Apply automated reporting to calculate and monitor critical economic and environmental indicators.
		Inbound Logistics	Procurement	Offers knowledge of farming techniques, limiting access to planting material to control quality sources.
		SDG3: Good health and wellbeing		
		Operations	Human resource management	Do health screenings and exams for employee
		Services	Procurement	Provide information about eating snacks to consumers through the website.
		SDG5: Gender equality		
		Services	Firm infrastructure	They are helping women improve their livelihoods through access to finance and business training.
		SDG11: Sustainable cities and communities		
		Operations	Human resource management	Support workplace wellness for employees, such as on-site fitness or sports facilities for employees, reimbursement incentives, gym membership and employee sporting events, and fitness challenges.
		Services	Human resource management	Support lifestyle improvement programs such as stress management, weight control, and smoking cessation programs
		SDG13: Climate change		
		Operations	Technology Development	Install on-site solar panels and geothermal electricity
		Operations	Procurement	Working with farmers to grow in a way that prevents climate change that helps conserve water and care for the soil.

**Table 3** Applicable activities in the value chain for SMEs to achieve SDGs (continued)

No.	Company	Division of value chain		F&B companies did the activities
		Primary activity	Primary activity	
8	Mondelez International	SDG15: Life on land		
		Operations	Procurement	Help farmers grow more crops in fewer areas.
		Marketing and sales	Procurement	Encourage communities to develop community and rehabilitation plans
9	General mills	SDG17: Partnership for the goals		
		Marketing and sales	Firm infrastructure	Work with governments, NGOs, supply chain partners, and communities to become more connected.
		SDG2: Zero hunger		
9	General mills	Inbound logistics	Technology development	Ask young people to share innovative solutions about reducing hunger or improving sustainable agriculture in their communities and choosing a finalist program.
		Marketing and sales	Technology development	Support youth-run social enterprise that grows, prepares, and sells innovative food products in their community.
		Services	Human resource management	Practice cooking skills for young people.
		Operations	Procurement	Implement organic farming to increase the long-term capacity of the organic supply chain
		Outbound logistics	Procurement	Support the recovery of the excess food by redistributing it.
		Marketing and sales	Procurement	Establish farmer's markets and food courts to enable local food growers to clean, prepare and sell fresh food in the community.
		Services	Procurement	Offer health services through the grocery store
		SDG3: Good health and wellbeing		
Inbound logistics	Human resource management	Provide training or seminars on biological and physical hazard control, management and sterilisation in production facilities.		

**Table 3** Applicable activities in the value chain for SMEs to achieve SDGs (continued)

No.	Company	Division of value chain		F&B companies did the activities
		Primary activity	Primary activity	
9	General mills	SDG12: Responsible consumption and production		
		Outbound logistics	Technology development	Reduce food waste by improving the efficiency of packing food.  We optimised the mode of transport, including moving to minor impact mode, such as from truck to rail. Use a light truck.  Use load optimisation software.
		Services	Technology development	Provides a food recovery technology platform that gives food donors such as groceries, restaurants and cafes an easy way to reduce waste and change patterns for free.
		SDG13: Climate change		
		Marketing and sales	Procurement	Donate food
		Services	Procurement	Provide advice on storing, cooking and saving food to customers.
		Operations	Technology development	Implement improvements by working with production plants to establish energy projects, perform energy analysis, develop and implement improvement plans, and verify results.
		SDG15: Life on land		
		Marketing and sales	Human resource management	Educate deforestation by raising awareness and influencing change by educating and inspiring consumers, farmers, suppliers, industry peers and employees.
Operations	Technology development	We are creating two limited-edition products grown using a new practice.		
10	Wilmar	SDG15: Life on land		
		Services	Human resource management	Work with independent or suppliers to request certificates

## 5 Conclusions

There were two contributions from this study. First, this study combined the theory of value chain concept and case studies of the top 10 most valuable F&B companies to achieve SDGs. Second, this study discussed the relationship between 17 SDGs and the value chain, particularly in the F&B industry. This study suggested that if a firm wants to



improve its value chain performance for sustainable development, it should focus on the cooperation among divisions in a firm. This study is consistent with Ferdous et al. (2018), Talaja et al. (2017), who found that the value chain concept influences company performance and similar findings suggest that the value chain helps organisations to leverage their potential of the most resources (Puchkova et al., 2020).

Furthermore, more recently, a study on value chain analysis contributed to the competitive advantage of Razak and Vattikoti (2018) with the success that an organisation has worked to create value for its customers, it can be said that the value chain from sourcing raw materials to making the product best-reaching customers creates value for the customer and creates a competitive advantage. A similar study by Straková et al. (2020) found that value chains contribute to purchasing management of materials, exports, corporate infrastructure marketing and sales, as well as service and other support, are also a great help in increasing the competitiveness of the organisation.

According to the conceptual and theory mentioned before, SMEs can use the value chain concept to identify the activities in the business. The value chain concept would help SMEs look at the whole process and manage it well to achieve competitive advantage and sustainable development.

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