New Zealand Dairy Trade and Market Expansion Opportunities

Exploring Gateway Cities in Asia and the Middle East

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Executive Summary

New Zealand exports in excess of 90% of its dairy products and is the world's leading supplier of whole milk powder to China. New Zealand must expand current dairy trade markets and identify emerging market opportunities to remain competitive in the global dairy trade. New Zealand is an export dependent country, that efficiently produces milk and dairy products in excess of domestic market requirements. Returns from dairy trade contribute over 40% of food and fibre revenue which is more than 80% of the total export revenue to the New Zealand economy. China is New Zealand's largest dairy product export market, importing an estimated NZD$8.3 billion of whole milk powder during the 2022 year. Pre-covid and the Russia – Ukraine conflict, the demand for New Zealand dairy products was increasing in the Asia and Middle East regions; particularly in countries such as Japan, the UAE and Singapore. Food security has become a priority for countries such as the UAE and Singapore, who are dependent on food imports to feed their populations.

Dubai, Tokyo and Singapore are studied in this research, exploring trade expansion opportunities throughout the Asia and Middle East regions, through applying a gateway city model. The literature describes gateway cities as business hubs, linking international financial and consumer markets and connecting nearby regions where trade has been restricted due to political instability, social unrest or bureaucratic red tape. The importance of political stability in the gateway city and country is an important element for gateway cities. Both Dubai and Singapore are well respected in their regions for the secure flow of finance and reliable financial systems. Geopolitical uncertainties can be high in Asia and the Middle East regions and Dubai and Singapore are recognised as a safe place to engage in business and investment.

Gateway cities perform an important role of connecting their hinterlands and peripheries to the global trade network. Gateway cities further perform a

brokerage role; mediating the flow of goods, capital and labour; creating a connection between regions through a central role in logistics, transportation and wholesaling. Gateway cities gain wealth from their regions and create regional economic wealth. They are cities that are seen as attractive places to live and work for foreign talent, tourists and investors. Further, gateway cities like Singapore and Dubai have Governments who have invested in creating trade relationships that support the ease of trade and access to markets. Tokyo is a unique gateway city, connecting Tokyo to Japan's domestic market and the wider Asia region. Japan has gained power and influence through regional and global economies; connecting to its hinterland and other world cities.

The Asia and Middle East regions are the largest volume importers of whole milk powder (WMP), followed by skim milk powder (SMP), cheese and butter. The UAE is the second largest volume importer of WMP, behind China during the 2017-2021 years. The ten largest volume importers of SMP are from the Asia region and the Middle East countries do not feature on the top ten list. Japan is the largest volume importer of cheese and the UAE is the sixth largest volume importer of cheese. Five Middle East countries feature as the top ten cheese importers across the Asia and Middle East regions. Butter is the least imported dairy product across the regions, however Singapore, the UAE and Japan all feature on the top ten largest volume importer list for the 2017-2021 years for butter. New Zealand will remain a strong exporter of WMP and butter and the cheese market is one that can be further expanded. New Zealand is a larger volume exporter of dairy products across the Asia region, and the Middle East market creates an opportunity for market expansion. The UAE, Japan and Singapore are three countries which feature on the top ten importing countries across the Middle East and Asia for all four dairy product imports.

Domestic dairy production in Japan is highly regulated to create a stable supply of fresh milk for the domestic market. The cost of producing milk in Japan is high, with a dependency on feed imports, driving the cost of

production. Despite strong Government support and subsidies, Japanese Dairy Farmers are experiencing the challenge of increasing business debt and an ageing workforce. Japanese consumers enjoy engaging with the origin of their dairy products and agri-tourism is popular. Health benefits drive Japanese consumer behaviour towards dairy product choice and dairy products such as: international cheeses, yoghurts, drinking yoghurts and protein drinks are becoming increasingly popular. Singapore and Dubai have limited domestic production of milk and are reliant on imported dairy products.

Singapore has a diverse population. The expatriate population contributes to 30% of the total population and has influenced Singaporean diets, resulting in an increase of dairy product consumption. Singaporean consumers are health conscious and consider dairy based protein for health and nutrition benefits. Singapore and Dubai import more than 90% of their food for their domestic population. Up to 90% of Dubai's population are expatriates from over 200 nationalities. Dubai supermarkets are specifically targeted at consumer groups and cater for a super diverse population meeting the needs by extensive food imports. The UAE is experiencing a shift towards more value-add, convenient and healthier food alternatives, developing a taste for westernised diets; influenced by a growing expatriate population. Food security strategies have created heightened awareness for food import dependent countries; Singapore and the UAE. The Singaporean Government has invested in science, innovation and research to look at alternative forms of growing food and protein. Singapore is well known for its science and research centres along with its urban strategy.

Further research to understand the influence of country-based culture on consumer food choices across Asia and the Middle East is required. Current research does not adequately understand the cultural influences on dairy product choice and consumption. Understanding country-based culture provides an insight into the daily eating habits, rituals, traditions and consumption patterns. Asia has been a traditional consumer of plant-based

protein and understanding the social shift that is occurring particularly in ageing populations is important. Consumption of food has been linked to economic and social factors, including disposable income, age, education, family member and family size. Consumer buyer behaviour is different for domestic populations compared to expatriate populations, particularly in Singapore and Dubai, where the expatriate population is significantly higher than Japan. Increasing urbanisation also impacts consumer food choices along with population growth leading towards higher value foods and an increase in dairy product consumption.

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Research Aim and Objectives

This research identifies and explores how New Zealand can successfully expand dairy product exports and increase export revenue returns, by utilising the opportunities that gateway cities create. Singapore, Dubai and Tokyo have been recognised by the literature as gateway cities to the Asia and Middle East regions. Optimising the trade relationships with these gateway cities enables us to analyse and evaluate trade extension and export opportunities to the wider Asia and the Middle East regions; developing a future trade model. New Zealand has been reliant on the dairy trade that exists between New Zealand and China, which has increased in revenue returns annually since the signing of the 2008 New Zealand-China Free Trade Agreement. It is critical for New Zealand to secure future market opportunities for New Zealand dairy products; rather than rely on a single dominant market.

Globally, New Zealand is one of the most efficient producers of dairy products and produces an excess of dairy as a result of a low-cost grass-based farming system and a small domestic population (Shadbolt and Apparao, 2016). Conversely, the Covid-19 Pandemic, rising geo-political tensions and a looming economic crisis have all been contributing factors to an increased focus on food security, particularly for countries that are not self-sufficient in food production (Rabobank, 2022). Considering this context, both Singapore and Dubai (United Arab Emirates) are dependent on dairy product food imports to feed their populations and they also serve as gate way cities and countries to the Asia and the Middle East regions. Unlike, Singapore and Dubai, Japan has arable land access to water to produce milk. However, the Japanese Dairy Industry is heavily subsidised, incurs high in-put cost and has limited domestic milk processing facilities and transport infrastructure to meet the growing demand for dairy products.

The current global dynamics and the changing milk supply patterns and volumes from major global milk processing competitors, creates an opportunity

for New Zealand, to further explore regional markets and economic geography. New Zealand is a trade dependent country and the decisions about trade expansion, impact the long-term prospects for the New Zealand industry and economy.

This research begins by exploring New Zealand's export trade position and revenue returns to the New Zealand economy. The research then presents the leading dairy product importers across the Asia and Middle East regions, before exploring the market extension opportunities into Singapore, Japan and the UAE. The gateway city concept is presented next, considering Singapore, Tokyo and Dubai as gateway cities to the Asia and Middle East regions. Local market consideration including: country-based culture, social and economic factors are next presented before concluding with an in-market report. The research question and learning objectives are presented below:

Research Question

"Do gateway cities offer an opportunity to expand dairy trade within their region?"

Research Objectives

- Explore and understand the export value of New Zealand dairy products in global markets and the revenue returns to the New Zealand economy
- Identify leading dairy product importers in the Asia and Middle East regions and the change that is occurring
- Explore dairy product market extension opportunities to Singapore, Japan and the UAE
- Explore the "gateway city" model for Singapore, Tokyo and Dubai and the influence these cities have on dairy product export and trade extension to the wider Asia and Middle East Regions
- Identify the influence of social, cultural and economic variables on consumer buyer behaviour and acceptance of dairy products.


QUALITY YOU TRUST
PRICES YOU LIKE.
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أسعار تحبها
Powder milk
Anchor
NIDO
RAINBOW
Almarai
Carrefour
Protein
Digestive
Special Offer
عرض خاص
Immunity
Rich in Fiber

Chapter 1

The New Zealand Dairy Industry

New Zealand exports in excess of 90% of domestically produced dairy products and is one of the three major global dairy product export nations; The EU, US and New Zealand (Shadbolt and Apparao, 2016). Cessnar, Davis, Hoskin and Kuberka (2016) report that New Zealand contributes almost a quarter of the global dairy trade value. With a relatively small domestic population and limited demand growth, the New Zealand Dairy Industry is dependent on export markets to trade dairy products (Shadbolt and Apparao, 2016). As an efficient producer of milk and with an over-supply of milk, New Zealand looks to global markets to trade dairy products (Shadbolt and Apparao, 2016). The New Zealand dairy sector operates predominantly on a pasture-based system, allowing milk to be produced at a lower comparable cost to the US (Cessnar et al., 2016). Verter's (2015) research recognises agricultural trade as an important driver for economic growth, particularly in countries where agriculture is a major export and foreign exchange earner.

Dairy Product Export Revenue Returns

The Dairy Industry revenue returns from global trade, contribute to the largest volume of export and revenue earnings for the New Zealand export of food and fibre products (MPI, 2022). According to MPI (2022) the export revenue from New Zealand dairy products for 2022 reached a total of NZD$21.9 billion from NZD$19.0 billion in 2021. The dairy industry contributes 41% of the total revenue earnings from the Food and Fibre sector exports, with a significant proportion of this revenue driven from export volumes of milk powder and the ingredients trade business (MPI, 2022). The Food and Fibre sector revenue forecast for June 2023 is NZD$55 billion and contributes a total of 81.4% of export revenue to the New Zealand economy (MPI, 2022). NZIER (2018) reference that few economies in the OECD earn above 3% from Dairy activities alone.

According to NZIER (2018) the US and France Dairy contributions towards their national GDPs are between 1-2%; noting that the US and France are large agricultural and food processing industries by international standards.

During the Covid-19 Pandemic revenue returns increased by 15%, highlighting the importance of the dairy trade to the New Zealand economy and the importance of milk products to our global consumers (MPI, 2022). The MPI (2022) report highlights China as the largest volume importer of New Zealand dairy products, importing a total of 41% of the total New Zealand dairy product exports. Whole Milk Powder (WMP) contributed to 38% of total dairy product exports from New Zealand with China importing 45% of the total WMP export volume (MPI, 2022). The value of WMP exports for 2022 were NZD$8.3 billion. The trade share of WMP and SMP is more than 40% of the world's production. Refer to Table1 and Figure 1, for the export revenue from the Food and Fibre Sector for the 2018-2022 years and forecast revenue for 2023-2024.

Table 1

Food and Fibre Sector Export Revenue 2018-2024

Year to 30 June, NZ$ million

			Actual			Forecast	
Sector	2018	2019	2020	2021	2022	2023	2024
Dairy	16,655	18,107	20,135	19,093	21,998	23,310	22,980
Meat and Wool	9,542	10,176	10,678	10,391	12,310	12,380	12,110
Forestry	6,382	6,883	5,539	6,531	6,578	6,590	6,230
Horticulture	5,392	6,134	6,555	6,622	6,782	7,090	7,660
Seafood	1,777	1,963	1,855	1,772	1,919	1,990	2,020
Arable	243	236	290	260	252	265	285
Processed Food and Other Products	2,709	2,854	3,006	3,112	3,226	3,300	3,060
Total Export Value	**42,700**	**46,355**	**48,058**	**47,780**	**53,065**	**54,955**	**54,345**
Year-on-year % Change	**12%**	**9%**	**4%**	**-1%**	**11%**	**4%**	**-1%**

Source: MPI, 2022, pg. 12. https://www.mpi.govt.nz/dmsdocument/54517-Situation-and-Outlook-for-Primary-Industries-SOPI-December-2022

Figure 1 - New Zealand's Top Ten Export Destinations

Year to 30 June, 2022, NZD$ million

Product	Export Revenue (NZ$ million)	% Total
Dairy	21,998	41%
Meat and Wool	12,310	23%
Forestry	6,578	12%
Horticulture	6,782	13%
Seafood	1,919	4%
Arable	252	1%
Processed food and other products	3,226	6%

Source: MPI, 2022, pg. 20. https://www.mpi.govt.nz/dmsdocument/54517-Situation-and-Outlook-for-Primary-Industries-SOPI-December-2022

The China Market

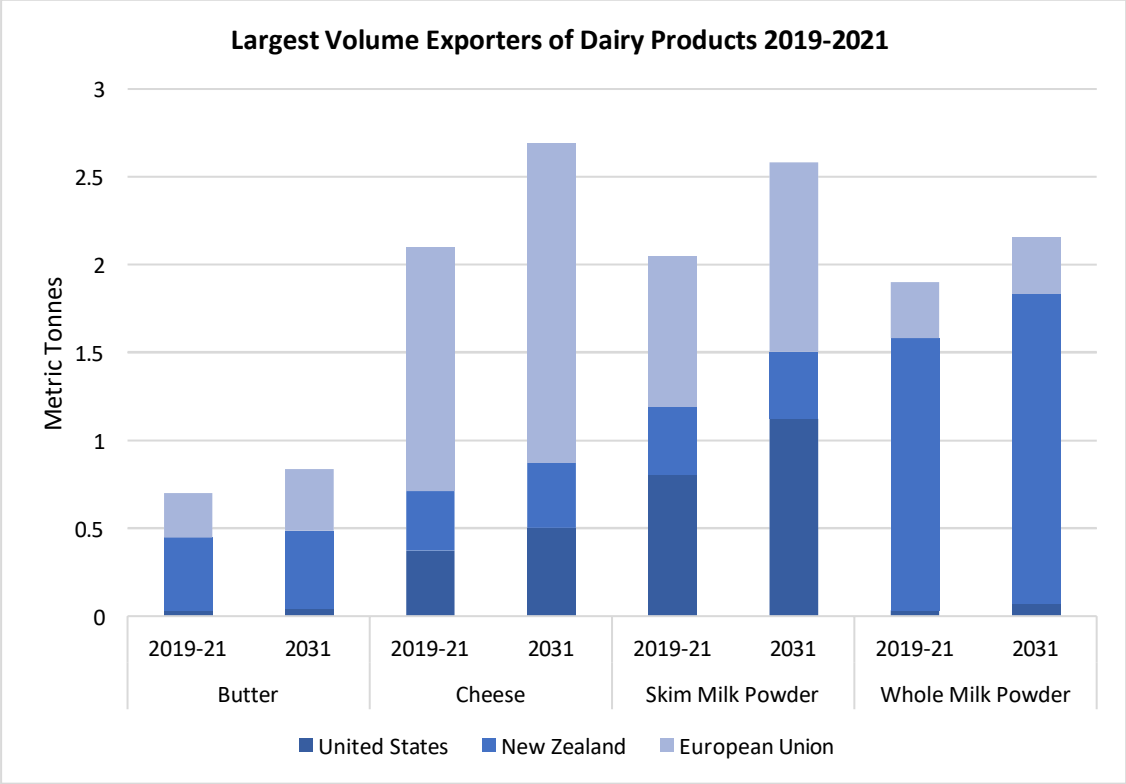
MPI (2022) and Rabobank (2022) report that the Chinese market has been heavily affected by the Government imposed Covid-19 strategy; subsequently impacting the Chinese economy, global supply chains and economies and the New Zealand dairy product export volume to China in the later part of 2022. Covid-19 restrictions have depressed demand and limited production due to the shutting down of factories creating a disruption in domestic supply chains (MPI, 2022). Rabobank (2022) forecasts that Chinese dairy product imports for 2023 are likely to fall below 2022 levels and that the demand for dairy is likely to fall due to increasing pressures on global economies and increasing inflation. Rabobank (2022) also report that weaker dairy supply growth has enabled dairy commodity prices to stay relatively elevated and that supply remains to be a critical factor along with the re-opening of China post the Covid-19 world. Kiernan (2022) reports since the signing of the China-New Zealand FTA in 2008, exports to China have increased from 5% to 32% in 2022. Kiernan (2022) further raises the question of New Zealand's increased concentration on the China market with an over-reliance of selling into a country where human rights and policy tensions could lead to failure in diplomatic relations. Kiernan (2022) also reports that greater market diversification would reduce the risks associated with such factors and that long term strategy should consider growing other economies to develop a diversified approach over time.

The Leading Global Dairy Traders

The EU, New Zealand and the US are the three dominant global players in the dairy product trade market during 2021/2022. With a stable domestic level of demand for fresh and processed dairy in the three major exporting countries; these three countries continue to have an increase in products available for export (OECD/FAO, 2020). Collectively the EU, New Zealand and the US are projected to account for 65% of global cheese production, 71% of Whole Milk Powder (WMP), 80% of Skim Milk Powder (SMP) and 74% of butter exports in

2031(OECD/FAO, 2022). Figure 2, shows the composition of the four key globally traded dairy products from New Zealand, the US and the EU for the 2019-2021 years and the forecast export volumes for 2031.

Figure 2



Source: Adapted from OECD/FAO, 2022

OECD/FAO (2022) project that the EU will continue to be the world's largest exporter of cheese with an estimated global market share of 44% by 2031. New Zealand is expected to continue to be the greatest volume exporter of WMP with an estimated market share of 58% by 2031 and an estimated market share for butter of 39% by 2031. OECD/FAO (2022) also report that the import of New Zealand WMP by China, will reach a more stable market where Chinese milk production will limit the growth of WMP imports, requiring New Zealand to diversify and increase production in cheese over the projected period to 2031. WMP and SMP form 40% of global production and OECD/FAO (2020)

acknowledge that these products are produced for the purposes of storing and trading milk over a longer period or distance and where demand is also attributed to milk powders being used in the food industry and in regions where animal protein is inaccessible.

Global dairy product export volumes during the latter part of 2022, saw a 16% increase from the previous year, with dairy products exported to Africa, Southeast Asia and the Middle East; fulfilling a decrease in export volumes of dairy products to China (Rabobank, 2022). Rabobank, also report that for farmgate milk price to remain at their present value, these markets will become increasingly important. New Zealand's ability to supply products to fulfil increased demand in Asia and the Middle East during 2021, was a contributor to increased price returns for dairy products, in a market where the EU was unable to supply the region. This also highlights the importance and value of intra-regional trade as a competitive advantage (Rabobank, 2022).

Current Global Challenges

Post the Covid-19 Pandemic, the world is experiencing major challenges with ensuring food security, which has become a priority on government agendas; particularly for those countries such as the United Arab Emirates and Singapore, who are dependent on food imports to feed their domestic population (MFAT and NZTE, personal communication, October 2022). Grassia, Mangioni, Schiavo and Traverso (2022) study the relationship between trade openness and vulnerability in the global food system to understand the dynamics associated with international food trade and the key determinants for food security. Their research suggests that low-income and food insecure countries are more exposed to external shocks and are generally not well equipped to protect themselves from these shocks with limited domestic food production. Rising geo-political conflict is contributing to additional pressure on countries with a heightened awareness for the need to have food security strategies (MFAT and NZTE, personal communication, October 2022). Russia's invasion on

Ukraine has destabilised the global economy, contributing to rising energy costs and farm input costs (MPI, 2022). Donnellon-May and Teng (2022) report on the Russia-Ukraine conflict and the impact this has had due to both countries being major agricultural exporters. Russia and Ukraine account for up to 30% of the world's grain exports, 15% of the world's corn exports and 2.1% of global soybean exports (Donnellon-May and Teng, 2022). Donnellon-May and Teng (2022) further explain that although these numbers may not seem high, they are important for Asian countries that import cattle feed from this region. Rising inflation, energy costs and input costs along with labour and staff shortages, contribute to a myriad of country based economic challenges, placing the agricultural industry and country-based economies under pressure (Rabobank, 2022). Additionally, these factors are contributing to how consumers are spending their disposable income with the rise in living costs. Higher food prices for consumers who have less disposable income, subsequently will affect demand for goods and services (MPI, 2022). This affect will be more significant in the less developed countries (Rabobank, 2022). Pre-Covid-19, the Russian Ukraine conflict and the consecutive impact on global economies, the demand for dairy was seen to be increasing. Campbell, Elliot and Handford (2015) attribute increasing disposable income, population growth, higher education, awareness and interest in high-protein diets, increased urbanisation and a growing middle-income group, all being contributing factors for the increase in dairy demand. Donellon-May and Teng (2022) further explain the changing dietary preferences for the region's growing middle-income earners and the movement to urban areas, account for 17% of South East Asia's total population of 667 million people who live urban lifestyles.

The New Zealand Dairy Industry Future

It is critical for New Zealand to identify future export markets, emerging markets and market extension opportunities, due to New Zealand's dependency on export dairy markets. The decisions about export trade extension are critical for multiple parties; farmers, businesses, dairy companies and government, impacting the long-term prospects for the New Zealand industry and economy. This research proposes to study the influence of gateway cities as an opportunity to develop trade within the Asia and Middle East geographic regions. Singapore, Japan and the United Arab Emirates have been experiencing an increase in dairy product imports and are seen as affluent countries across the Asia and Middle East regions.


NIDO
Anchor
Daily
Protein
Immune
Fortified

Chapter 2

Leading Dairy Product Importers: Asia and the Middle East

This section considers the largest volume importers of the four main processed dairy products (whole milk powder, skim milk powder, cheese and butter) across the Asia and Middle East region.

Whole Milk Powder (WMP) Importers

This region is the largest volume importer of WMP. Globally Algeria, imports the second highest volume of WMP, importing 233,436 Metric tonnes in 2019 (FAO STAT, 2021). However, the remaining list of the largest global importers of WMP are countries from across Asia and the Middle East. Table 2, presents the ten largest volume WMP importers in Asia and the Middle East for the 2017-2021 period. Figure 3, presents a graphic representation of the ten largest volume importers of WMP throughout the Asia and Middle East regions during the 2017-2021 years.

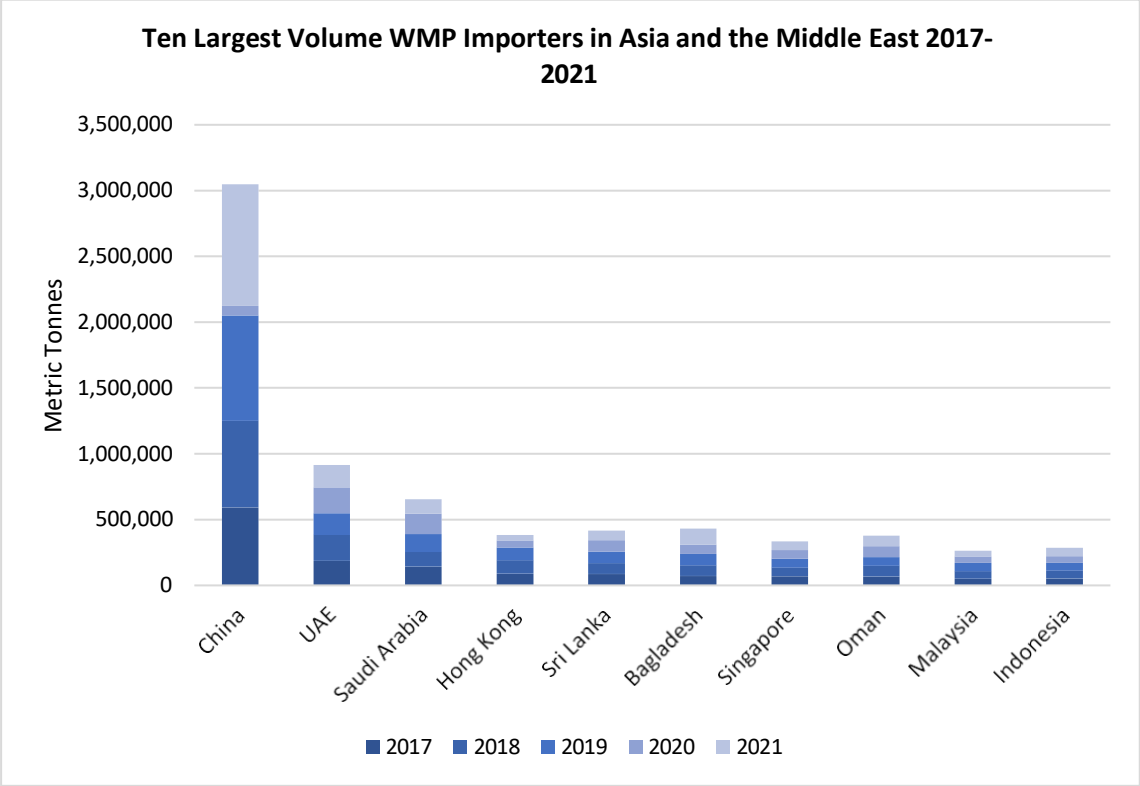
Table 2

The Ten Largest Volume WMP Importers in Asia and the Middle East 2017-2021 (Metric Tonnes)

	2017	2018	2019	2020	2021	Total	Average	SD	CV
China	590,693	658,859	800,154	73,244	926,423	3,049,373	609,875	326,783	54
UAE	184,077	199,180	164,488	195,817	172,457	916,019	183,204	14,840	8
Saudi Arabia	142,400	110,831	137,351	155,146	107,840	653,568	130,714	20,592	16
Bangladesh	71,381	79,286	87,784	71,958	121,313	431,722	86,344	20,649	24
Sri Lanka	84,549	84,861	85,435	88,558	71,972	415,375	83,075	6,408	8
Hong Kong	87,087	103,732	96,297	52,898	41,411	381,425	76,285	27,539	36
Oman	66,681	80,960	67,997	81,671	79,936	377,245	75,449	7,444	10
Singapore	68,804	66,177	68,373	63,644	66,436	333,434	66,687	2,056	3
Indonesia	52061	59266	60131	50895	63001	285,353	57,071	5,305	9
Malaysia	48,572	59,867	61,939	49,303	42,738	262,419	52,484	8,129	15

Source: Adapted from FAO STAT, 2022, http://www.fao.org/faostat/en/#data/TP

Figure 3



Source: Adapted from FAO STAT, 2022, http://www.fao.org/faostat/en/#data/TP

China is the largest volume importer of WMP over the five-year period. From 2017-2021, China imports of WMP increased by a total of 33.2%. China imports of WMP have increased annually. The largest annual increase for China occurred during 2019 with an increase of 21.6% from the previous year. The second largest volume importer of WMP in Asia is the United Arab Emirates (UAE) importing an average of 167,169 metric tonnes over the five-year period. The UAE imported the greatest volume of WMP during 2018. Unlike China, it does not have an increase in imports year on year, and experienced a decline in WMP imports during 2016 and 2019. The third largest volume importer during the same period is Saudi Arabia, importing on average a total 133,058 metric tonnes. Saudi Arabia imported its largest quantity of WMP during 2017, with a total of 142,400 metric tonnes. Note, Singapore is 7th largest volume importer of WMP.

Skim Milk Powder (SMP) Importers

The ten largest volume importers of SMP in Asia and Middle East region are presented in Table 3. Note that the Middle East countries do not feature on the top 10 SMP importing countries across the Asia and Middle East region. China is again the leading volume importer during the data period 2017-2021. However, the quantities of SMP imports are significantly less than the import quantities of WMP. Indonesia's imports have been increasing annually, with the largest imported quantity recorded in 2021. The Philippines is the third largest volume importer, importing on average over the same period of time, a total of 169,372 metric tonnes of SMP. Singapore features as the 7th largest volume importer and Japan as the 9th largest volume importer of SMP. Over the five-year period, Singapore has imported 304,170 metric tonnes of SMP and Japan has imported 218,341 metric tonnes. Japan imports of SMP have been experiencing a downward trend from 58,542 metric tonnes in 2017 to 21,789 metric tonnes in 2021. Figure 4, presents a graphic representation of the ten largest volume importers of SMP throughout the Asia and Middle East regions during the 2017-2021 years.

Table 3

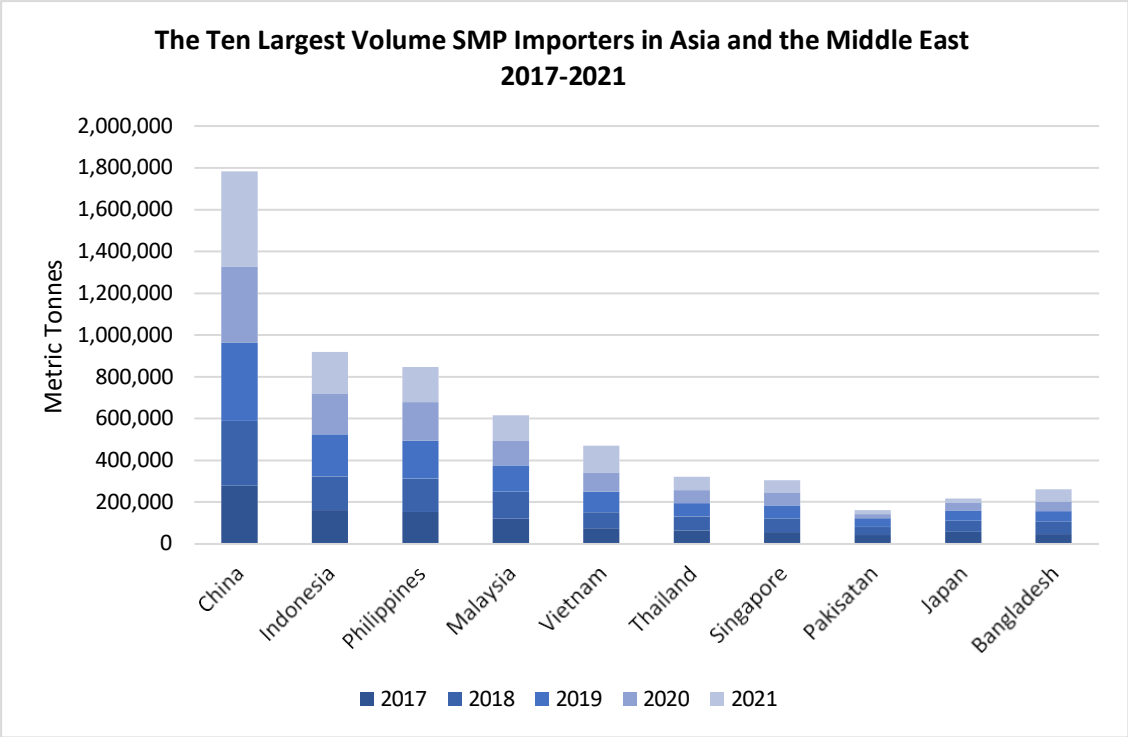
The Ten Largest Volume SMP Importers in Asia and the Middle East 2017-2021 (Metric Tonnes)

	2017	2018	2019	2020	2021	Total	Average	SD	CV
China	278,279	309,740	373,650	364,720	456,551	1,782,939	356,588	68,332	19%
Indonesia	162,015	161,796	199,423	197,349	199,038	919,621	183,924	20,115	11%
Philippines	153,529	159,121	181,175	185,023	168,013	846,861	169,372	13,622	8%
Malaysia	120,469	128,631	126,330	117,142	123,838	616,410	123,282	4,578	4%
Vietnam	75,556	76,187	98,451	90,151	130,134	470,479	94,096	22,348	24%
Thailand	64,320	66,915	63,114	62,494	64,970	321,814	64,363	1,727	3%
Singapore	57,005	66,356	60,612	62,078	58,119	304,170	60,834	3,678	6%
Bangladesh	47,407	61,117	48,222	46,244	58,288	261,278	52,256	6,907	13%
Japan	58,542	52,073	47,113	38,825	21,789	218,341	43,668	14,194	33%

Pakistan	42,852	38,391	41,464	20,484	19,248	162,437	32,487	11,643	36%

Source: Adapted from FAO STAT, 2022, http://www.fao.org/faostat/en/#data/TP

Figure 4



Source: Adapted from FAO STAT, 2022, http://www.fao.org/faostat/en/#data/TP

Cheese Importers

The ten largest volume importers of cheese across Asia and the Middle East for the 2017-2021 years are presented in Table 4. Japan is the largest volume importer, importing on average 280,843 metric tonnes over the five-year period. Japan's imports of cheese increased annually up until 2019, with 2020 and 2021 resulting in a decrease in cheese imports. China is the second largest volume importer of cheese in the region, importing on average over the same reporting period 141,489 metric tonnes. The Republic of Korea is the third largest volume importer of cheese, importing an average of 130,043 metric tonnes of cheese during 2017-2021. The UAE features as the 6th largest volume importer of cheese in the region. The UAE imports of cheese have grown from

47,036 metric tonnes in 2017 to 54,539 metric tonnes in 2021. Refer to Figure 5, for a graphic representation of the ten largest volume importers of cheese throughout the Asia and Middle East regions during the 2017-2021 years.

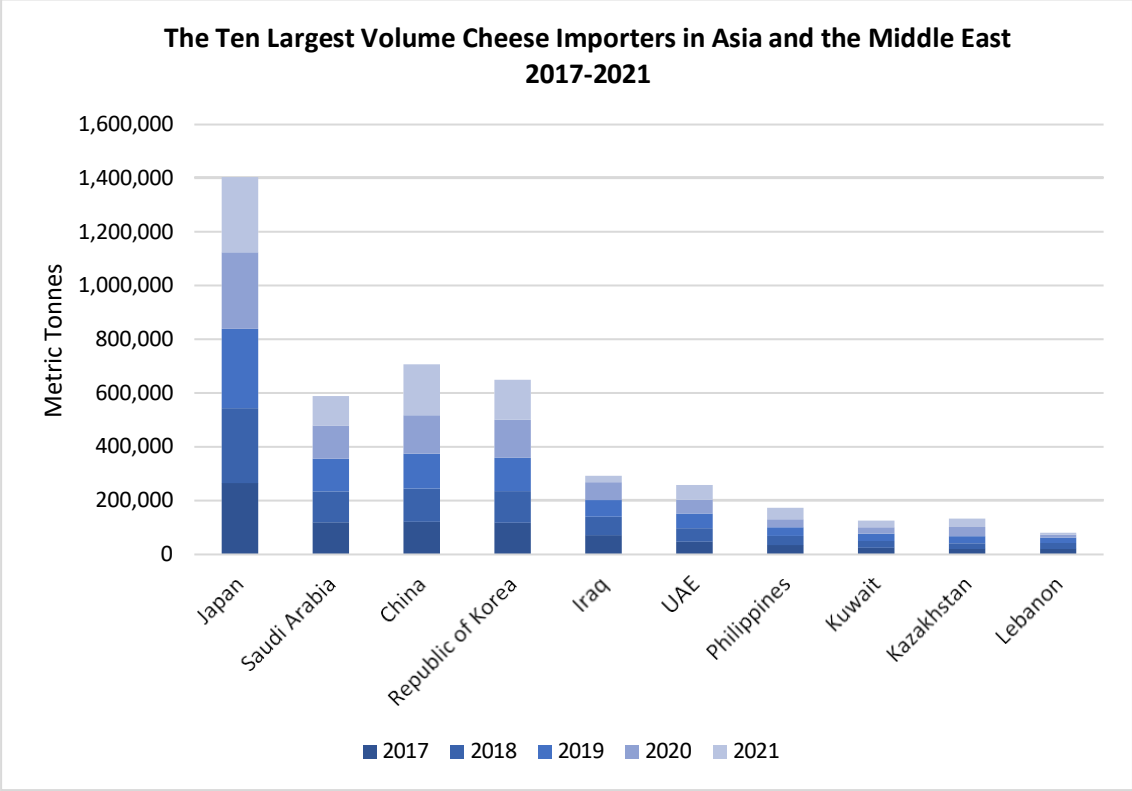
Table 4

The Ten Largest Volume Cheese Importers in Asia and the Middle East 2017-2021 (Metric Tonnes)

	2017	2018	2019	2020	2021	Total	Average	SD	CV
Japan	265,462	278,387	295,552	284,449	280,365	1,404,215	280,843	10,865	4%
China	121,169	124,232	129,507	142,966	189,573	707,447	141,489	28,145	20
Republic of Korea	118,112	117,167	123,919	141,603	149,415	650,216	130,043	14,616	11%
Saudi Arabia	119,203	114,839	122,023	123,979	109,259	589,303	117,861	5,910	5%
Iraq	70,788	70,000	61,000	67,000	24,074	292,863	58,573	19,665	34%
UAE	47,036	50,700	54,918	50,662	54,539	257,855	51,571	3,247	6%
Philippines	34,264	34,421	32,429	29,816	43,303	174,234	34,847	5,079	15%
Kazakhstan	19,865	22,058	25,646	34,207	31,727	133,503	26,701	6,144	23%
Kuwait	24,541	25,898	26,417	23,694	25,665	126,216	25,243	1,104	4%
Lebanon	20,536	22,751	20,166	9,967	7,478	80,898	16,180	6,935	43%

Source: Adapted from FAO STAT, 2022, http://www.fao.org/faostat/en/#data/TP

Figure 5



Source: Adapted from FAO STAT, 2022, http://www.fao.org/faostat/en/#data/TP

It is interesting to note there are more Middle East countries featuring in the top ten importers of cheese than WMP or SMP. OECD/FAO (2022) report that the UK, Japan, Russia, the EU and Saudi Arabia are projected to be the global top five leading importers of cheese in 2031.

Butter Importers

Table 5, shows the largest volume importers of Butter in Asia and the Middle East during 2017-2021. Butter is the least imported product out of the four processed dairy products imported. China is the leading importer, importing an average of 108,152 metric tonnes between 2017-2021. The largest quantity imported was in 2021, a total of 127,566 metric tonnes of butter. Saudi Arabia is the second largest volume importer of butter, importing an average of 37,330 metric tonnes between 2017-2021. Iran is the third largest importer of butter,

importing 25,826 metric tonnes over the five-year period. The UAE is the fourth largest volume importer of butter, with imports increasing by 82% between 2017-2021. During 2020-2021, UAE butter imports declined. Japan is the 6th largest volume importer of butter in the region, importing a total of 77,378 metric tonnes over the reported period. Japan butter imports increased by over 200% between 2017-2019. During 2020-2021 Japan imports for butter declined, similar to the UAE. Singapore features as the 7th largest volume importing country in the region, importing a total of 77,350 metric tonnes of butter.

Table 5

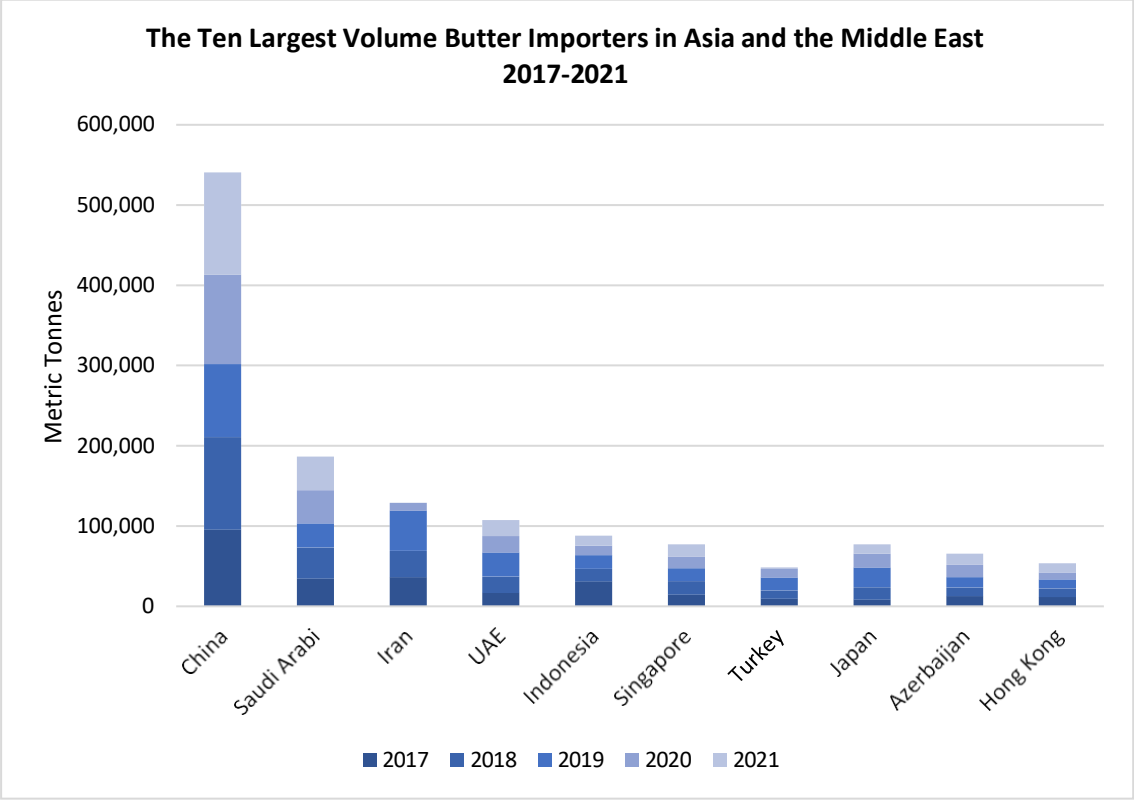
The Ten Largest Volume Butter Importers in Asia and the Middle East 2015-2019 (Metric Tonnes)

	2017	2018	2019	2020	2021	Total	Average	SD	CV
China	95,510	115,321	91,106	111,256	127,566	540,759	108,152	14,903	14%
Saudi Arabia	34,686	38,526	29,867	41,344	42,229	186,651	37,330	5,104	14%
Iran	36,092	32,597	50,234	9,801	423	129,146	25,829	20,304	79%
UAE	16,530	20,231	30,039	20,596	19,921	107,318	21,464	5,063	24%
Indonesia	30,934	15,481	17,402	11,880	12,313	88,010	17,602	7,794	44%
Japan	8,009	15,589	24,329	17,851	11,600	77,378	15,476	6,221	40%
Singapore	14,461	16,948	16,058	14,215	15,668	77,350	15,470	1,136	7%
Azerbaijan	12,773	10,416	13,091	15,506	14,024	65,810	13,162	1,866	14%
Hong Kong	11,266	10,725	11,208	8,856	11,715	53,770	10,754	1,117	10%
Turkey	9,572	10,068	16,053	10,724	1,902	48,320	9,664	5,059	52%

Source: Adapted from FAO STAT, 2022, http://www.fao.org/faostat/en/#data/TP

Refer to Figure 6 for a graphic representation of the ten largest volume importers of butter throughout the Asia and Middle East regions during the 2017-2021 years.

Figure 6



Source: Adapted from FAO STAT, 2022, http://www.fao.org/faostat/en/#data/TP

OECD/FAO (2022) project the world dairy trade to expand by 15% over the coming decade. OECD/FAO (2022) forecast strongest growth for SMP at 1.7%, 1.6% increase in cheese, 1.3% increase in butter and 0.9% increase in WMP per annum. OECD/FAO (2022) further report that this growth will be met by the US, the EU and New Zealand. New Zealand will remain to be a strong exporter of butter and WMP, with a projected market of 39% and 58% respectively forecast for 2031 (OECD/FAO, 2022). Although China is the principal importer of New Zealand WMP, OECD/FAO (2022) report that this is likely to change over the projected period. Although, the EU is the leading exporter of cheese, this is a market that New Zealand can continue to diversify in. OECD/FAO (2022) report that Middle East dairy product imports are predominantly imported from the EU, while New Zealand and the US are the larger traders of milk powders to Southeast Asia. OECD/FAO (2022) further add that high income countries are

the larger volume importers of butter and cheese. The UAE, Japan and Singapore are three countries which feature on the top ten importing countries across the Middle East and Asia for all four dairy product imports.


牛乳
はるとなつ牛乳
明治おいしい牛乳

Chapter 3

Market Extension Opportunities: Singapore, Japan and the UAE

The dairy product import portfolios are different for all importing countries e.g., Japan is the largest volume importer of New Zealand cheese and United Arab Emirates is the second largest volume importer of New Zealand WMP. Understanding the country-based context provides valuable insight into current domestic dairy production and future dairy trade opportunities. This section outlines the domestic dairy product availability and country-based food security strategies for non-self-sufficient food producers; Singapore and the UAE.

Domestic Dairy Production

The Japanese Government imposes production parameters to regulate and ensure a stable supply of fresh milk for domestic consumption (Schluep and Beghin, 2005). Schulep and Beghin (2005) also report that farmers are comprehensively subsidised by Japan's Government and trade barriers and restrictions heavily protect domestic Japanese farmers from substantial imports of dairy products. However, domestic dairy production in Japan is unable to meet the growing consumer demand for processed dairy products such as cheese, resulting in increased imports (Schulep and Beghin, 2005). Additionally, Schulep and Beghin (2005) associate the increase in cheese consumption with an increasing consumption of convenience and processed foods in Japan. Imaizumi (2021) associates increased cheese consumption with an increase in tourists post the Covid-19 pandemic, quoting an increase in demand from food service businesses. Imaizumi (2021) also references a projected increase in cheese imports for 2023. Imaizumi (2021) further references the cost of domestic milk production in Japan as being high and this trend is likely to continue with increased feed import and labour costs, forcing small-medium

size farmers to exit the industry. The Japanese government has supported farmers with temporary support payments along with incentives to increase milk production (Imaizumi, 2021). In 2005, Schulep and Beghin also reported on the high costs of production and the majority of farms being family owned and relatively inefficient. Dairy Global (2021) reports the major dairy companies in Japan include: Megmilk Snow Brand, Meiji Dairies and Morinaga Milk Industry.

Dairy Product Imports

Singapore and Dubai are both limited with domestic dairy production from lack of arable land, while simultaneously experiencing an increasing demand for dairy. Dairy Australia (2021) reports on Singapore's reliance on imported food, due to its extremely limited domestic production. Dairy Australia (2021) also reports that rising incomes and a consumer shift towards a more westernised diet has resulted in per capita consumption of dairy products steadily rising over time. Singaporean diets have been influenced by a strong expatriate population resulting in the highest per capita milk consumption in the South East Asia region (Dairy Australia, 2021). USDA (2022) report that the UAE relies on imports to meet almost 90% of food needs for the domestic population, due to the lack of arable land and water and increasing climate issues. The UAE is home to the world's wealthiest population in terms of per capita wealth, and is seeing food consumption shift away from staples towards value add, convenient and healthier alternatives (USDA, 2022). USDA (2022) also reports that the UAE is developing taste for a westernised diet, introduced by an increasing expatriate population and UAE customers are willing to pay premium prices for brands of choice and foreign brands which are considered premium.

Food Security Strategies

Rising geo-political conflict and the Covid-19 Pandemic have created a heightened awareness for the need to have food security strategies (MFAT and

NZTE, personal communication, October 2022). Import dependent countries like the UAE and Singapore have invested in Government led food security strategies. Wolff (2020, as cited in Tortajada and Sher Wen Lim, 2021) estimated 1.3 billion people are fed through international trade, with international food security highly dependent on global supply chains, functioning logistics, transportation and procurement to ensure food is delivered to market in optimal condition.

Singapore is a small island state in South East Asia with limited natural resources and a mere 1% of land available for food production (Tortajada and Sher Wen Lim, 2021). Tortajada and Sher Wen Lim (2021) and Donellon-May and Teng (2022) report that food security for Singapore's population of 5.7 million residents is dependent on global supply chains, responsible for delivering 90% of Singapore's food for consumption. The Singapore Government has invested in developing strong trade partnerships and Free Trade Agreements to ensure a stable supply of food (Tortajada and Sher Wen Lim, 2021). Singapore also maintains stockpiles of staple foods and protein as a buffer source. FAO (2020) report, despite the impact of the Covid-19 Pandemic and the subsequent global economic downturn; global agricultural production and supplies have been sufficient, however the disruption to food supply has been caused by processing and supply chain delays. Tortajada and Sher Wen Lim (2021) report that closure of the restaurant trade and food service industry during the pandemic as being a major contributor to the change in consumer demands, resulting in a surge of supermarket and grocery related activity. Dairy Australia (2021) reports on the surge in UHT milk sales during the lockdown periods in Singapore, as a means for consumers to stockpile dairy products.

The UAE is also heavily reliant on imported food, importing up to 90% of food supplies due to its limited supply of arable land, desert climate and lack of access to water (Fischbach, 2018). Water supply in the UAE relies on desalination creating challenges for agricultural production. The UAE has the ability to purchase food at higher prices and considers this an additional

benefit to securing food supplies (Fischbach, 2018). The UAE funds the higher cost of food through the use of food subsidies to enable affordable food (Fischbach, 2018). Fischbach (2018) further outlines that the UAE Government has invested in establishing a food security strategy along with ensuring strong trade relations, easy access to trade markets and well-functioning port facilities (Fischbach, 2018). The UAE National Food Security Strategy 2051, aspires for the UAE to be number one on the Global Food Security Index by 2051 (Hearney n.d.). The UAE finances food imports through revenue from fossil fuels, creating vulnerability to changes in the trade between food and oil (Fischbach, 2018).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Chapter 4

The Gateway City Concept

Short, Breitbach, Buckman, and Essex (2000) reference the term gateway city as a city that can act as a gateway for the transmission of economic, political and cultural globalisation; shifting the attention away from cities that dominate to how cities are affected by globalisation. Sigler, Neal and Martinus (2021) make reference to gateway cities as providing a point of contact between the core and the peripheries also referenced as the hinterlands of a country or region. Scholvin (2021) explains that gateway cities assume an important role in connecting their hinterlands; resource peripheries to a global network and market. Burghardt (1971, as cited in Scholvin et al., 2017) further defined gateway cities as an entrance and exit channel between respective hinterlands and the outside world; a connection between regions in which the gateway city is in command. Sigler at al. (2021) reference Burghardt's (1971) work which describes gateway cities as having relationships with central places and developing contact zones between economically active regions and further assuming the role of transportation and wholesaling.

Short, Breitbach, Buckman and Essex (2000) reference gateway cities to illustrate that globalisation can take alternative forms, in different cities and in different parts of the world; emphasising that it includes cities that don't belong to the top hierarchy of world cities e.g., New York, Tokyo and London. Sigler, Neal and Martinus (2021) refer to the change that has occurred from industrial capitalism, where the industrial capacity, brokerage function and capital accumulation was achieved through commercial advantage and a specific geographic location; to a new form of capitalist production where city-regions can create brokerage functions, disperse capital, production and information flows and trade in a free market. Sigler et al. (2021) report that this is the critical change that has led to the rise of cities such as Dubai, defining the global flows

of goods and providing intermediary services such as banking, financing, shipping and regional re-exportation.

Characteristics of a Gateway City

Short et al., (2000) and Scholvin, Breul, Mello, Francosco, Hiratuka, and Diez (2017) both make reference to the global interlink function that gateway cities create, taking a regional economic development perspective. Scholvin et al. (2017) present five dimensions of gateways cities: logistics and transport, industrial processing, corporate control, service provision and knowledge generation; noting that not all five dimensions are required. Scholvin et al. (2017) explains that gateway cities are places that matter for one or more of the gateway dimensions and their interlinks connect their regions with the global economy. Scholvin et al. (2019) refer to Singapore as an example and make reference to technical products and maintenance services available for offshore drilling in the Asia Pacific region, with numerous engineers based in Singapore; creating crucial service hubs. Dairy Australia (2021) makes reference to the role of re-exportation as in the case of dairy products shipped from Australia to Singapore and then re-exported to the wider region.

Burghardt (1971, as cited in Scholvin et al., 2017) further reports that gateway cities perform extraordinarily as a result of their favourable business environments and their ability to host large harbours and places where transport routes meet and wholesale trade occurs. Kanna (2007, as cited in Scholvin et al., 2017) references the importance of political stability and investor friendly policies as important factors that contribute towards a gateway cities success. Kanna (2007, as cited in Scholvin et al., 2017) explains that this is one of the key reasons for why Dubai and Singapore have become business hubs for Africa, Central Asia, the Middle East and South East Asia. Sigler (2013) makes reference to the region's political stability, using Dubai as an example of the Middle East's most global city linking international financial and consumer markets, through its ports, firms and institutions. Sigler (2013) further reports that

cities such as Dubai, connect nearby regions where trade has been restricted due to political instability, social unrest or bureaucratic red tape. Sigler (2013) adds that some cities have an advantage through their geographic location and others have the location advantage and government-imposed policy that drives the relational element.

Sigler et al. (2021) report on the brokerage roles of gateway cities, including mediating the flows of information, capital and labour between two or more others. Martinus, Sigler, Iacopini, and Derudder (2019) explain that the brokerage role emerges as a territorial function of a network between company headquarters, branches and subsidiaries, with some places acting as a gateway or intermediary for the flow of trade, information and knowledge. City states that utilise this function leverage the benefits from offering global professional services, warehousing, shipping, logistics and finance to trading companies and countries (Martinus et al. 2019). Martinus et al. (2019) also reports on the small size advantage of brokering cities and their control over their political, economic, institutional and social environments, further referencing that often these cities lack land mass and resource wealth; yet accumulate wealth from their role in their region e.g., global logistics hubs in the UAE, providing air freight and transshipping.

Gateway Cities vs World Cities

Scholvin (2017) mentions that gateway cities are sometimes places that are not considered as world cities as literature defines them. Short et al., (2000) identify that cities are different in terms of their level of competitiveness and global connectivity. Short et al., (2000) and Scholvin (2017) both make reference to the global interlink function that gateway cities create, taking a regional economic development perspective. Scholvin (2020) further references the gateway city-hinterland interaction, which he reports is mentioned as a side issue in WCN literature.

Knox and Taylor (1995) write about Tokyo as one of the three (New York and London) major world cities, largely based on the economic dimensions of world city literature. In comparison to London and New York, Tokyo has a small percentage of foreign migrants and little cultural diversity Machimura (1992). Sakai, Kawamura and Hyodo (2016) describe Tokyo as the primary international gateway city in Japan; two international airports and several seaports serve the logistics function. Machimura (1992) references that Japan has gained power and influence through regional and global economies, having developed a domestic urban strategy promoting the expansion of Tokyo as a global economic centre.

Scholvin, Breul, Mello, Francosco, Hiratuka, and Diez (2017) report that world cities such as Tokyo act as another dimension of gateway cities. Tokyo is a world city that is not only connected to other world cities but also to its hinterland. Friedmann and Wolff (as cited in Scholvin et al. 2017) refer to world cities as interconnected with each other through various functions such banking and finance systems and administrative headquarters to create centres of control. Scholvin et al. (2017) further explains that without world city global systems, global economic relations would be unsuccessful and that corporate service providers; not corporate headquarters make world cities forming another dimension of gateway cities.

The Regional Influence of Gateway Cities

Scholvin et al. (2017) makes reference to earlier studies from the 2009 World Development Report, which highlight the impact of gateway cities on their regions; creating opportunities for economic growth amongst emerging economies. Scholvin et al. (2017) extends this thinking to the benefits received by gateway cities from neighbouring emerging economies as they create relationships of mutual benefit, enhancing the economic activities, creating connections through transport infrastructure, overcoming tariff and non-tariff barriers and advancing regional economic integration. Breul and Diez (2016)

acknowledge that the impact of gateway cities extends beyond their national borders. Breul and Diez (2016) refer to Singapore as an example of a gateway city that enables and supports interdependent processes and linkages throughout the region for transnational extractive industries e.g., oil extraction. Hutchinson (2019) references Singapore as the gateway to Johor in Malaysia and the Riau Islands in Indonesia in the 1990's. Hutchinson (2019) also references Malaysia and Indonesia as the hinterlands, where economic relations and the flow of goods and people created a connection between the hinterlands and the gateway city. According to Hutchinson (2019) both Johor and the Riau Islands had the ability to gain power and influence within Malaysia and Indonesia and Singapore contributed to the interactions between the hinterland countries. Hutchinson (2019) further discusses the influence of Singapore on the increase in incomes, improved services in health and education and increased tourism in both locations.

Machimura (1992) reports that Japan has gained powerful influence regionally, where Asian youth look to Japan for popular Japanese culture, fashion, music and TV dramas. He further adds that the concept of maintaining a modernised Japanese culture that is not western is popular amongst the region, creating intra-regional impact and prominence of the Japanese culture. Schovin, Breul and Diez (2019) further explore the concept of strategic coupling where actors in the regions coordinate business activities with their counterparts as part of gateway cities in operation. Scholvin (2021) outlines that the ideal function of gateway cities, is where gateway cities and regional countries assume complimentary roles with gateway cities acting as growth engines that generate economic and business development for peripheral countries. Scholvin et al. (2020) acknowledges that further research is required to understand the role of gateway cities in optimising growth within the city-hinterland, periphery and regional context.

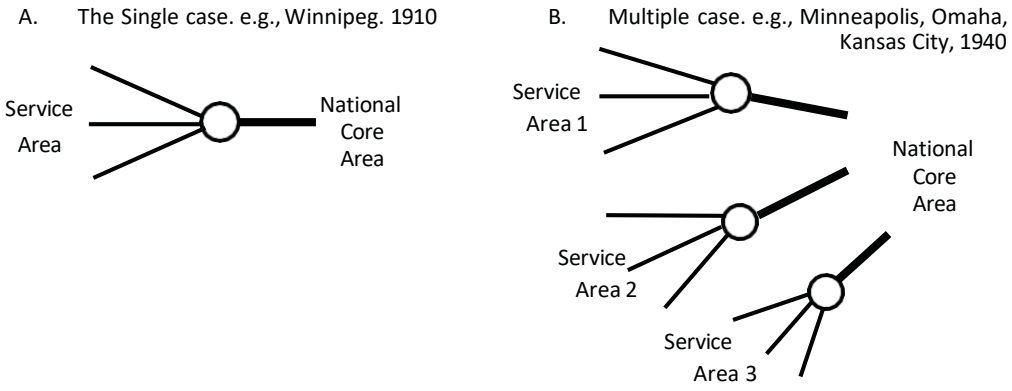
Geographic Location of Gateway Cities

Burghart (1971) reports that gateway cities often develop between regions where there is variability in types production and long-distance trade, unlike central cities where trade connections are predominantly with local traders. Burghardt (1971) further describes gateway cities as being geographically constituted through trade and service areas that trade with their regions in an irregular fan-shaped form rather than trading in a geographically central location. The literature shaped by globalisation and world city networks, tends to identify strongly with command and control, focusing on the management and organisation of global networks (Scholvin, 2021). Scholvin (2021) adds that these features complement the characteristics of gateway cities from a regional presence rather than global headquarters controlling worldwide networks. Burghart (1971) contrasts the gateway city to a central city as one that is located to one end rather than centrally located. Burghart's (1971) hypothesis is that gateway cities arise at entrance points to producing regions, where an increase in settlement occurs and the region becomes more intensive with different types of production.

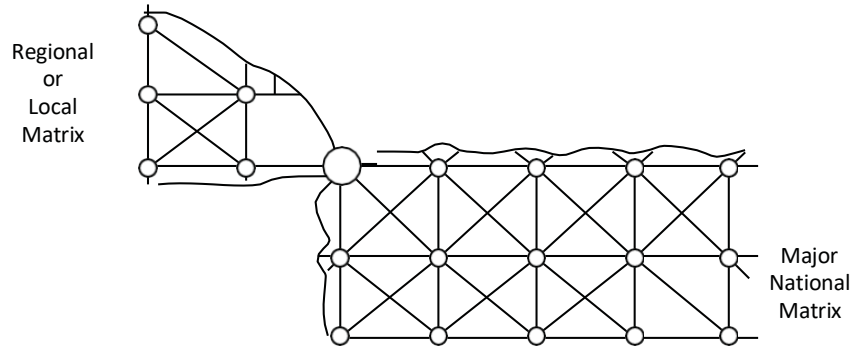
Gateway cities develop where their location can control the flow of goods and people, and initially they reap the returns from transportation advantages that link them to a wider network (Burghart, 1971). Burghart (1971) further explains that since a gateway city trades beyond its mainland, the gateway city location is of considerable significance and places a gateway cities commitment on effective and efficient transportation systems. Efficient movement of goods is critical for the development of gateway cities (Burghart, 1971). Figure 7, illustrates the gateway city as both a node and a link in a network as presented by Burghart (1971) in his research.

Figure 7

(1) The Gateway as the connecting node in a system of traffic flows



(2) The Gateway as the link between two matrices of interconnections



Source: Burghart, 1971, pg. 283

Dairy Australia (2021) report that the city location plays an important role; a place where goods are imported into and re-exported as in the case of Australian dairy products imported into Singapore and re-exported into the wider region.

Gateway Cities and Globalisation of Cultures

Anttiroiko (2014 as cited in Scholvin, 2021) presents that a city's position in the global economy depends on its success in attracting the highest value to promote local development. Anttiroiko (2014 as cited in Scholvin, 2021) also

states that an inclusive environment that is attractive to live, work and enables people to succeed economically is important. Grant and Nijman (2002) also report that gateway cities become known for being attractive places where people are lured to, for becoming wealthy and living affluent lifestyles. Lorentzen (2009, as cited in Scholvin, 2021) makes reference to events and activities such as the Olympic Games and FIFA World Cups, in creating attraction for residents and visitors. Mus & Melewar and Parmenter (2011, as cited in Scholvin, 2021) make reference to iconic architecture, large-scale projects and real estate as being influential in putting a city on the global map. Gateway cities provide an opportunity to further understand cultural globalisation; Short et al. (2000) make reference to such factors as foreign films being shown in city cinemas and the rise in number of fast-food retail outlets such as McDonalds. Such changes reflect the adapted cultural practices of multinational corporations like McDonald's, Coca-Cola and Guinness in adopting hybrid approaches to make global staples appealing to locals (Short et al., 2000). Short et al. (2000) further explains the importance of creating emotional connections by engaging with local cultures and creating hybrid global brands.

Baas, Pagès-El Karoui and Yeoh (2020) review the cosmopolitan concept; represented as super diversification by other authors and explore how a diverse population lives outside of the western paradigm in the Asia and Middle East regions. Their study aimed to understand how this diverse group of international migrants, including low skilled labour, working class and the elitist, create a new cosmopolitan (Baas et al., 2020). Baas et al. (2020) report that as a city becomes more cosmopolitan or super diverse, a reconfiguration of places occur to meet the new population consumption requirements. Baas et al. (2020) reference Singapore, Dubai, Abu Dhabi and Doha as globalised cities, where migrants constitute the majority population and where the national language reflects the language of the cosmopolitan. They go onto explain that this is a key marketing strategy to both attract and retain foreign talent, tourists and investors.


ヨーグルト・デザート
北野エース
SPECIALITY FOOD STORE

Chapter 5

Local Market Consideration

Dong (2006) references the lack of research undertaken to understand country-based cultural factors that drive the increase in dairy product consumption across Asia; considering Asian diets are traditionally low in meat and dairy produce and are more plant-based. Understanding a trading market from a local market perspective provides insight into the culture which is crucial to understanding consumer behaviour. Country and regional culture provide an insight into many variables including: daily habits, rituals and traditions, consumption patterns, language, education and religion.

Bareham (1995) concludes in his research that culture encompasses the attitudes, knowledge, beliefs and behaviour of a group of people. Different cultures, have different attitudes towards foods and different eating habits. Monterrosa, Frongillo, Drewnowski, Pee, and Vandeviivere, (2020) present the concept of sociocultural food practices and the relationship with food choices. Monterrosa et al. (2020) further explore how gender, identity, religion and cultural variables influence food choices. Monterrosa et al. (2020) also report that sociocultural change towards healthier diets is occurring through food lifestyles and traditional diets. Böhme (2020) in his research shows that food can symbolise a person's social status, particularly where consumers prefer to purchase their products from specific countries of origin. Böhme (2020) outlines that this is an important element to consider to determine the suitability and demand levels for dairy products in foreign markets.

Chen and Antonelli (2020) make reference to the key determinants of general food choice as: food internal factors (sensory and perceptual features), food external factors (information, social and physical environment), personal-state factors (biological and physiological needs, psychological elements, habits and experiences), cognitive factors (knowledge, skills, attitude, preference) and sociocultural factors (culture, economic and political variables).

Garanti and Berberoglu (2018) report that the consumption of traditional foods has been linked to economic and social factors. Garanti and Berberoglu (2018) conducted their study with a focus on post-millennials (Gen Z) to understand the consumption habits of a younger generation of consumers and their relationship with traditional foods in their respective geographic location. Garanti and Berberoglu (2018) also selected this group as traditional foods are often consumed and associated with the middle-age population. Their findings showed that the younger population consume traditional foods as a way to identify themselves with their culture, their childhood memories, family rituals and a sense of belonging to their ethnic group. Garanti and Berberoglu (2018) also found that the Gen Z food choice towards traditional foods tended to be an emotional based choice.

Bashir (2011) reports that variables such as age, income, education, family members and numbers, and nationality all contribute to and explain consumer buyer behaviour toward dairy products. Bashir (2011) undertook his research in the urban centres of the Emirates: Al Ain, Dubai and Abu Dhabi. His research results showed that the consumer behaviour of the domestic national population is different to that of the expatriate population. The World Migration Report 2015 (as cited in Karoui and Yeoh, 2020) report that Dubai and Singapore are the only non-western cities that rank among the major world cities with the largest foreign-born populations. Karoui and Yeoh (2020) report that both Dubai and Singapore are highly diverse, with 92% of the population in Dubai consisting of migrants and 43% of the Singapore population being non-citizens. Karoui and Yeoh (2020) further report that Dubai and Singapore are exemplars of non-integration of western dominant paradigms.

Country-Based Economic Factors

Dong (2006) reports, economic and population growth along with increasing urbanisation are creating a shift towards higher-value foods including an increase in dairy product consumption. The consumption of dairy products in

all countries are closely related to household incomes (OECD/FAO, 2019). OECD/FAO (2022) report that consumer diets continue to evolve and are largely determined by consumer income, with high-income consumers more concerned with product origins and health benefits. Schulep and Beghin (2005) report that consumer income in Japan is the highest among Asian countries and that consumer exposure to westernised dairy products has occurred earlier in Japan than in other parts of Asia.

As urbanisation and globalisation increase, developing countries are seeing the adoption of diets that align with western practice (Pingali, 2006). According to Pingali (2006), fast food chains like McDonalds, have spread throughout Asia (particularly in the large cities) making it clearly visible that as developing countries increase urbanisation, dietary changes are being influenced by western countries. Research also highlights that educated populations understand the nutritional benefits of consuming milk and dairy products; indicating that populations with higher education levels are more likely to consume more dairy products for nutritional benefits (OECD/FAO, 2019 and Deloitte, 2017). These factors influence the transformation of food tastes, demands and consumption; consequently, affecting the demand for certain food product imports.

The role of immigration and international tourism are further factors for consideration, as outlined in a study carried out by Fischer (2010). Understanding the percentage of the expatriate population in Singapore and Dubai and changes in consumption, has the ability to provide an insight into impacts on trend data relating to the migration and changes in consumer food demands. Dong (2006) further analyses this shift, acknowledging the potential for future growth in Asian dairy product demand, and an opportunity for an increase in global dairy product trade.

Current research identifies an increase in global dairy product consumption with an expected increase over the coming decade. The research, highlights that as population and income continue to grow, the gap between domestic

consumption and production widens, increasing the demand for imports (Vander Lee, 2014). This provides an opportunity to analyse and expand dairy product markets, identifying the changes that are occurring across Asia and the Middle East regions with regards to dairy consumption patterns and trends.

Chapter 6

Personal In-Market Experience

Nuffield travel enabled in-market research to be undertaken. The in-market insights are presented next.

Japan

Hokkaido is the dominant agricultural and dairy farming prefecture in Northern Japan. Nuffield Japan Chairman, Shigeo Maeda, organised a range of farm visits including: large family operations which had diversified to produce their own dairy products such as ice-cream and yoghurt, to first generation ownership of dairy farms, within the Tokachi prefecture of Hokkaido. The farming style ranged from high labour intensive to the employment of robotic milking systems. The Holstein Friesian cow was the predominant breed in Hokkaido, and a US farming and housing model is well-known and applied. The grass-fed strategy in Japan has been given attention to and Fonterra has been working in collaboration with Farmage and a group of dairy Farmers in Hokkaido, to support a grass-based farming model, since 2014.

The Dairy Farmers we visited, expressed their concern with the rising input costs, particularly of grain as more than 90% of dairy farms in Hokkaido use high quantities of imported concentrates. The animal feed costs contribute to the highest input costs and Japanese farmers are dependent on imported feed which is influenced by the cost placed by the international grain situation and market variables. Local farmers have established a shared feed resource called 'Total Mixed Rations' (TMR), which has been established as a locally grown feed resource for farmers. Becoming self-sufficient with feed for dairy farmers is one of Japan's farming challenges.

Approximately 80% of Japanese dairy farms have been family run businesses. With a young generation that is drawn to an urban lifestyle in cities like Tokyo, succession on family dairy farms is becoming increasingly challenging. The

dairy industry is seeing an ageing workforce and is concerned with the increasing levels of farm debt within the current economic climate; despite the application of Government based farm subsidies.

There has become an increasing trend of city people visiting dairy farms, particularly where the farm produces ice-cream, yoghurt, cheese or sells fresh milk. The urban population is connecting with the source of the dairy products they consume. Kosuke Kubo (Nuffield 2022 Scholar) along with his family runs their dairy farm and business in Hiroshima. Kosuke's family have established their family dairy product brand in the Hiroshima prefecture and have extended their on-farm offering to families to visit and experience products that have been made from their farm milk and other local food artisans. Kosuke's family hold events for their community to share and enjoy the experience of farm life and to celebrate their family history and legacy. Similarly, Masahiro Yamakawa and his young family run an agri-tourism venture where they produce dairy products on site using their farm milk in the Tochigi prefecture. Again, they have many city visitors, who are eager to learn about where their dairy products originate from.

The consumer increase in demand for ice-cream, yoghurt, cheese and fresh milk are all evident. Having spent time with Miwa Kobari from the Norinchukin Research Institute, Fonterra Japan, NZTE Japan, MFAT, Japan Women's University, Yamaguchi University, Hirosaki University and Meros Consulting in Tokyo along with in-store market visits; there is no doubt that the demand for quality dairy products in Japan is increasing. Japanese supermarkets are conveniently placed throughout the cities. Dairy products are labelled with product origins and boutique high-end supermarkets stock a range of international cheeses. Butter is less prominent, however yoghurts, drinking yoghurts and protein drinks are in abundance.

Health benefits are particularly important to Japanese consumers, products that are beneficial for good gut health such as Yakult are in high demand, along with high protein liquid drinks and yoghurts. Japanese consumers are

heavily influenced by trends and in fact lead the trends across the Asia region. Eating out, is a cultural way of life and many meals eaten away from the home. Japanese consumers also have a preference for white butter and cream over yellow coloured butter and cream as they believe it is a more pure form of dairy.

Dubai

Surrounded by sand and desert, Dubai imports more than 90% of its food for the domestic population. Al Rawabi is the largest dairy farm in the UAE, located 30 minutes from the city centre. Al Rawabi houses over 7000 Holstein Friesian cows and employs over 300 staff. Hamish Fleetwood a fellow Kiwi who formerly worked with Almarai in Saudi Arabia, is the current Operations Manager at Al Rawabi. Similar to Japan, a US housed system is implemented and the operation is dependent on imported feed and extensive animal cooling systems. Import feed costs are high and require a lot of forward planning to ensure there is adequate feed stock on hand.

Understanding the history across the Middle East region and the development of the Gulf Cooperation Council (GCC) is incredibly important to understand how business and trade has evolved and how to successfully conduct business in the country and the wider region. Geopolitical pressure is high on the order of business and requires constant attention. The UAE is well respected for a secure flow of finance and reliable financial systems; leading to the growth of this city in becoming a major gateway city of the world. The UAE is also home to one of the largest global airlines and port facilities, providing efficient logistics and transport hubs.

The Fonterra business in the UAE has been adapted to meet the needs and demands of the diverse domestic population. Approximately 90% of Dubai's population are expatriates from over 200 nationalities. Visits to the local supermarkets demonstrated the diversity of the population. A popular locally consumed dairy product called Laban is available in many brands and is

predominantly consumed for breakfast. Cheese jars are hugely popular and many products are mixed with palm oil to create a form of dairy produce. Influences from a large Indian population also present dairy options such as ghee which is widely used in Indian style cooking.

Product price is an important factor for the daily consumer and each of the supermarkets is targeted at a particular consumer market. Lulu is a supermarket aimed at destination shoppers, The Union Cooperative is a discount store and Carrefour a significantly large supermarket placed within shopping malls. Carrefour stocks multiple global products and brands and has a sizeable dairy section where local brands Al Rawabi and Almarai are stocked. Local camel milk is available, however dairy cow milk and plant- based alternatives appeared to be more pronounced. The food service is incredibly diverse, presenting food influences from Palestinian breads, Mediterranean salads to Mundi rice and meats.

In meetings with Dr Alison Thirlwall, Dr Ioannis Manikas and Dr Balan Sundarakani from the University of Wollongong Dubai, the National Food Security Strategy was discussed, identifying dairy as a critical element in the UAE food basket. The National focus on food security has further been influenced since the Covid-19 Pandemic. Again, the diversity of Dubai's population was evident amongst the student population, emphasising the importance of understanding the influence of country-based culture, on consumer buyer behaviour.

Singapore

Singapore is a superdiverse island state. The small island has dietary influences from populations from both the South and South East Asian regions. Diets are influenced by places of origin. South East Asian diets, in Singapore are largely soy based. They include fresh vegetables and fish and are influenced by a focus on health, nutrition and wellbeing. Dairy is not included as part of the traditional South East Asian diet. Influences from the Gulf region, India and

Pakistan create a further diversified eating culture and are more dairy based as opposed to soy. The Singaporean Government has run education programmes educating the population about the importance of dairy consumption for calcium gains, particularly with the younger generation and the ageing population. Health benefits are important to Singaporean consumers so products that can aid in health benefits are well received by consumers. The expatriate population contributes to approximately 30% of Singapore's total population.

Similar to Dubai, more than 90% of Singapore's food is imported. Singapore has little arable land and is reliant on surrounding countries for food and produce. The Singaporean government has focused on food security strategies and numerous projects around Singapore, demonstrate the innovative thinking of growing food in an urban environment. Government and University partnerships further demonstrate this commitment by investing in research projects such as alternative forms of protein; including lab grown proteins. In my meeting with A*Star; Amanda Lim and Teo Pey Sze, we discussed the institutes research exploring consumer experience and consumer acceptance for alternative proteins. The outcomes of the research indicated that consumers make buying decisions based on culture, habits, up brining and are guided by their appetite for change. Singapore is also referenced as the Silicon Valley of Asia, for its focus on research and innovation. A Nationally implemented food security strategy was implemented prior to the Covid-19 Pandemic, hence the innovative approaches to creating higher food security. Eating out culture is evident with the abundance of food service outlets. Hawker centres are a unique and popular aspect of Singaporean food culture and lifestyle. Hawker centres offer consumers a variety of food choices at affordable prices and are conveniently located. Supermarkets stock a range of international dairy products where Australian dairy products, including fresh milk are widely available. The New Zealand dairy products were not as pronounced and the supermarket dairy section was more limited than Japan

and Dubai. Singapore is globally known for running a sophisticated logistics and transport hub; the number of cargo ships docked was definitely notable. Geo-politics also feature high on Singapore's agenda, with daily discussions and assessments of global political tensions. Within South East Asia, there is a high awareness of political tensions between China and Taiwan with the tensions in Myanmar currently contained.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Chapter 7

Conclusions

New Zealand is an efficient milk producing country, producing an excess of milk for its domestic population. New Zealand dairy products are traded globally and New Zealand is one of the largest global revenue earners from dairy product exports. Revenue returns from dairy product exports are a significant contributor to the New Zealand economy. China has been a significant market for New Zealand dairy products since 2008 and New Zealand has relied on WMP exports to China. Market and product diversification is critical in ensuring that New Zealand dairy product trade remains to be an active contributor to export revenue.

Major importing countries in Asia and the Middle East all have different dairy product import portfolios. The more advanced economies tend to import higher value dairy products, while developing countries tend to import more milk powders. The UAE, Singapore and Japan feature on the top ten largest dairy product importers during the 2017-2021 period. Japan produces fresh milk domestically, however processed dairy products are predominantly imported and the cost to produce milk is high. Singapore and Dubai are reliant on dairy product imports, with both countries importing in excess of 90% of their food. Increased urbanisation in large cities across Asia and the UAE reflect the influence of western dietary trends through fast food chains and consequently an increased consumption in dairy products. Singapore and Dubai have a high percentage of expatriate populations, which also appear to influence food culture.

As populations become more educated and wealthier, they tend to move away from staple diets and consume more protein in the form of dairy products. In Singapore and Japan, nutritional health benefits from consuming dairy products are important and consumers often follow food and lifestyle trends. Consumer buyer behaviour towards dairy products is influenced by

social, cultural and economic variables. Country and regional culture provides an insight into daily habits, rituals, traditions and consumer patterns. Taking the time to learn and understand the local culture and market dynamics provides insight into consumer buyer behaviour towards dairy produce. Expatriate populations consume dairy differently to national populations. Both social and cultural variables require deep understanding for trade extension to be successful, particularly in South East Asia, where diets are traditionally soy based.

Japan, Singapore and Dubai create an opportunity for New Zealand to extend trade to the wider Asia and Middle East regions through applying the gateway city model. These three cities are gateway cities and are seen as affluent and aspirational by their regions. Gateway cities connect to their core and their peripheries, mediating the flow of economic, political and cultural globalisation; creating regional economic development and growth through global trade. Sophisticated logistics, transport and procurement functions are operated in all three cities along with reliable and secure financial, banking and corporate services.

Globally, New Zealand dairy products can be difficult to find amongst other global brands. This is a good reminder that although New Zealand is one of the top three global exporters, it is a small player among the many world dairy product producers and exporters. Product adaptation and alignment with export markets is critical, along with a trusted and reputable brand and province story. The gateway city model is a powerful model to reach countries within regions, and in this case extend dairy trade export markets. Further research is recommended in collaboration with the University of Waikato, MPI, MFAT, NZTE, Rabobank and KPMG Agribusiness to develop this future trade model for the New Zealand agricultural sector.

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