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Asean Grocery Retail

Will online grocery retail take off in ASEAN?

DBS

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Executive Summary

Modern grocery retail in emerging markets…

Urbanisation and modernisation in developing markets are changing the way people buy their groceries. Developing markets, as they progress, will embrace modern grocery retail (MGR) even more, as evidenced by the increase in penetration of MGR to 30% of total grocery retail sales from 21.7% a decade ago. Modern store formats are penetrating grocery retail beyond the traditional channels. We believe the rising middle class and each ASEAN government's quest for economic development and progress will help drive the growth and penetration of MGR in these countries for a foreseeable future.

… as well as in developed markets

By the same token, developed nations or cities in ASEAN which have seen a higher element of modern grocery retail is evolving as well. MGR in developed markets such as Singapore have seen new online channels and formats developing. MGR retailers are competing on services, pricing, selection, and efficient backend operations to drive down costs.

Brick-and-mortar is not dead

While few people can consume meals at foodservice outlets perpetually, consumers will somehow make use of the food retail channels, whether modern or traditional, as a source of their food supply. Grocery retail is therefore not dead and in fact never will die, in our view. Consumer needs and wants are ever-changing. This therefore is the cornerstone of modern grocery retail's evolution. Modern grocery retailers that are able to identify areas of consumer demand will be the biggest beneficiaries.

Consumers' changing needs

The modern grocery retail market is dynamic. Consumers' needs and demands for food are ever-changing, more so in a globalised world where physical and virtual connectivity are enabling consumers to be more demanding about food choices and at desired price points. These trends provide opportunities for retailers to meet consumers' expectations and, in the process, get ahead of the competition. Consumer sophistication, exposure to global products, rising wealth, and preference for healthier choices, are driving demand for better food products.

Industry-critical factors in ASEAN

Industry-critical factors of urbanisation, as well as a rising middle class and population in ASEAN-5, are supporting MGR penetration growth. The growth of MGR has outperformed that of traditional grocery retail at 1.3% vs -0.8% (CAGR) over the past two years. MGR penetration is now 30% in ASEAN-5, up from 2015 (29.6%) and from 21.7% in 2007.

Online retail as an opportunity

We hold the view that online grocery retail over the next two years will not be a significant threat to ASEAN retailers. Retailers will continue growing. Urbanisation and a rising middle class will support proliferation of grocery retail stores. Meanwhile, retailers will be incentivised to build up their scale, including their logistical supply chains for extracting operating leverage, as well as the potential of being taken over by an online player in the future.

Even though online grocery retail is still at its infancy and has several obstacles to overcome, we expect it to gain traction. As the government continues to emphasise the use of technology in people's daily lives – and a younger generation gets increasingly tech-savvy – online grocery retail has the potential to be a popular channel in the future. This presents an opportunity for current brick-and-mortar grocers to jump on the bandwagon as they adapt to evolving consumer behavior.

Teething problems

Online players in Singapore remain unprofitable as challenges abound. Based on filed financial records, RedMart remains unprofitable compared to brick-and-mortar grocery retailers because it lacks scale in both topline and cost. Besides, shopping is very convenient in Singapore and people are still shopping in stores. The proliferation of HDB and mall supermarkets has driven shopping convenience. Many Singaporeans do not live off the beaten path with the need for delivery. Even though housing units are densely packed, last-mile logistics is expensive and reducing delivery cost is key to profitable last-mile fulfillment. Fresh groceries have less disruption impact compared to non-food items in online sales and consumers still want to choose their own food.

Striving for scale and efficiency

With the evolution of the sector and potential threat of online players, it is then up to brick-and-mortar grocery retailers to reduce operating costs to offer/deliver these food items to consumers in a more profitable manner. We see an incentive for retailers to gain scale and operate efficiently. Better scale and operational efficiency can boost margins, thanks to lower costs, higher sales, and cashflow matrices. Operational scale could offer higher product margins on bulk volumes and defrayment of fixed operational/logistics costs, while efficiency could improve sales per store/square feet matrices/headcount, inventory and cashflow matrices.

We believe larger listed companies are at the forefront to grow their scale further as opposed to smaller players which lack resources to implement initiatives to gain competitive advantage. Operating an efficient distribution chain, for example, drives down operating expenditure and may attract a takeover bid by online grocery players.

A possible takeover by internet giants?

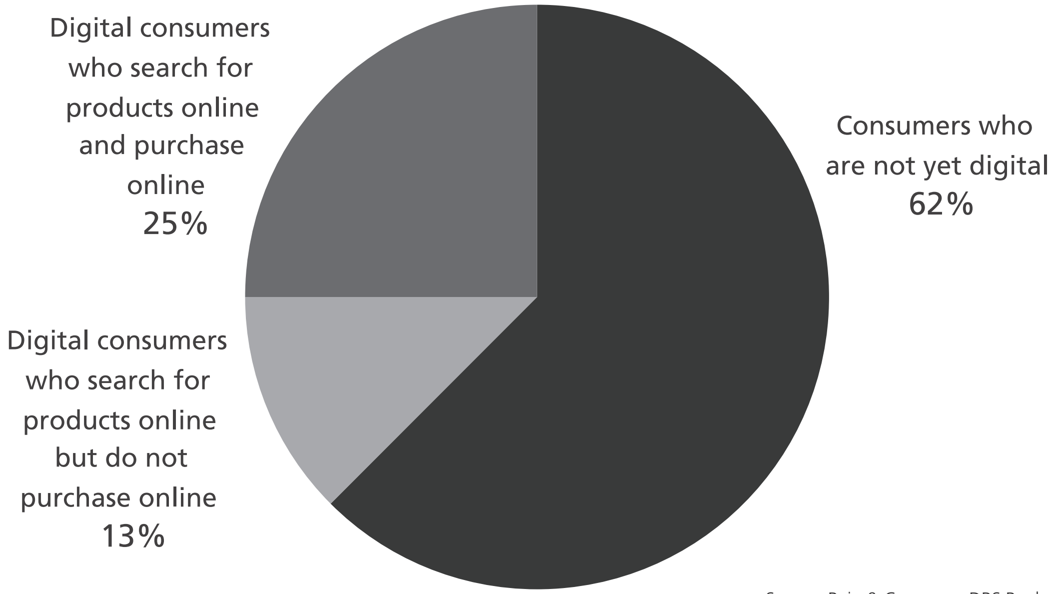
While it remains unclear why Amazon bought Wholefoods for US$13.7b, we believe online retailers could be going the omni-channel route in MGR. Listed Asian companies which are well operated, with some scale and efficiently-backed operations, could be potential acquisition targets of internet retailers.

Online Grocery Retail: Growing But Not Yet a Threat

Southeast Asia's online retail market is growing

According to Bain & Company (Bain), the online retail market is worth US$6b in Southeast Asia but represents just 3% of total retail sales. Southeast Asia's online retail market is not as developed as those in markets such as China and USA, where online retail accounts for 14% of total retail, and is worthUS$293b and US$270b, respectively. However, Bain projects that online retail sales in Southeast Asia will grow exponentially to US$70b by 2020. Even though there are about 250m smartphone users aged 16 and above in Southeast Asia, only 100m engage in online transactions, Bain estimates.

Diagram 1. Majority of consumers in Southeast Asia are not yet digital-ready



Source: Bain & Company, DBS Bank

ASEAN is not yet ready for online retail

Most of Southeast Asia is showing signs of early-stage e-commerce adoption, according to Bain. Southeast Asia's diversity is a challenge for e-commerce success; different ethnicities, languages, consumer preferences, and regulations are some of the challenges hindering the growth of e-commerce. Most of Southeast Asia is still lacking a solid regional payment and logistics infrastructure necessary for the proliferation of e-commerce. Consumers continue to distrust e-commerce platforms, are concerned about the lack of touch and, feel inherent in digital commerce, and have trouble locating the products they want.

Singapore's consumers are the most digitally ready

Singapore's digital consumers

The highest proportion of digital consumers amongst its population in ASEAN can be found in Singapore. Singapore boasts high internet and mobile broadband penetration rates. This, along with various e-commerce websites, have fueled the growth of e-commerce in Singapore

Diagram 2. Proportion of online consumers in ASEAN

Source: Bain & Company, DBS Bank

Diagram 3. Internet and mobile broadband penetration rates in Singapore

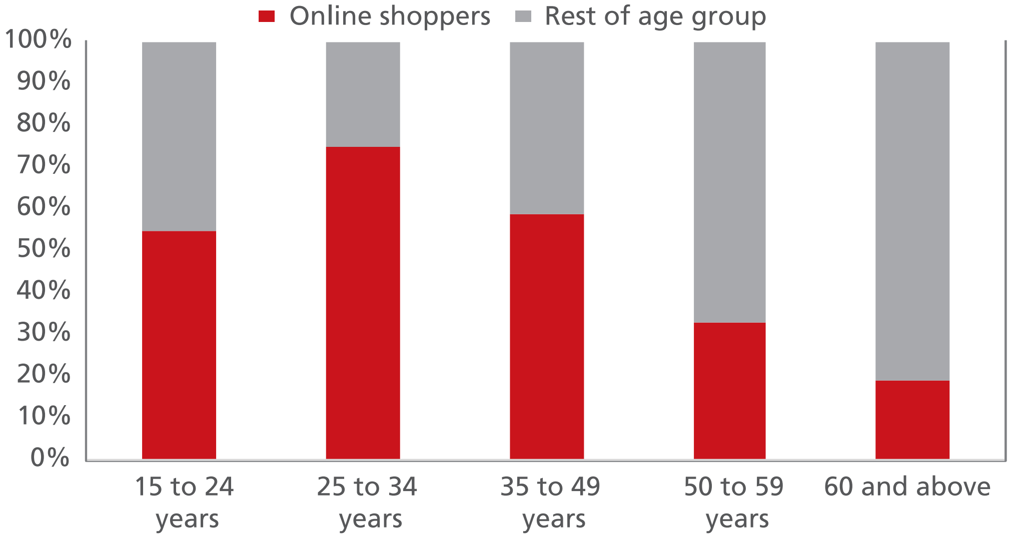
	Internet penetration	Mobile broadband penetration
Indonesia	34%	65%
Philippines	53%	65%
Thailand	60%	131%
Malaysia	68%	104%
Singapore	81%	146%
Vietnam	52%	40%

Source: Nielsen, GSMA Intelligence, DBS Bank

Singapore's high online shopping rate

According to the Singapore government's open data portal – the Annual Survey on Infocomm Usage in Households conducted by IDA since the 1990s – showed that the proportion of Singapore residents who bought or ordered goods and services or conducted transactions over the Internet before was 57% in 2013 and 47% in 2014. About 75% of those between the age of 25-34 years are online shoppers.

Diagram 4. Profile of online shoppers in Singapore (2014)



Source: data.gov.sg, DBS Bank

Factors behind online grocery penetration

We see three key factors driving the growth of online grocery retail: 1) Internet and mobile penetration rates; 2) population density and wealth of countries; 3) consumer preferences and lifestyle.

A high Internet adoption and mobile penetration rate, especially among young Gen-Z and Millennials, should help online grocery gain traction. Countries with high population density in urban areas will enable better cost efficiency for deliveries (especially for labour and transit costs). We believe there is growth potential in e-grocery development in areas with an increasingly affluent population as well. A society's desire for convenience and efficiency – because of long working hours and busy lifestyles – will also drive the increase in online grocery retail. Singapore has all of the above.

"A high Internet adoption and mobile penetration rate, especially among young Gen-Z and Millennials, should help online grocery gain traction"

Diagram 5. Market factors for online grocery retail's success

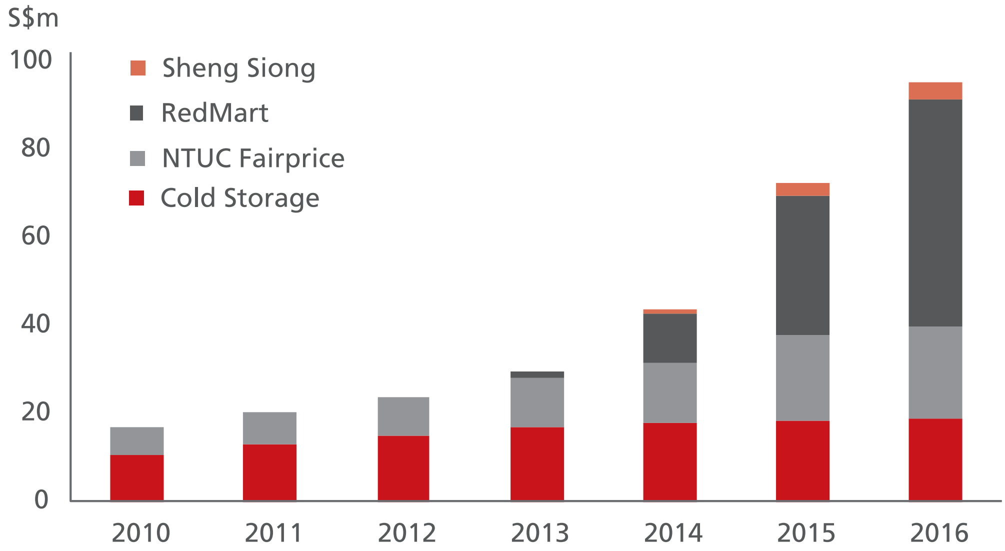
Internet and mobile penetration rates
High Internet adoption, especially among young Gen-Z and Millennials, will help online MGR gain traction
Population density and wealth
Densely-populated, centrally-located urban areas enable better cost efficiency for deliveries (labour and transit costs)
Immense growth potential in e-grocery development in areas with increasingly affluent populations
Consumer preference and lifestyle
Desire for convenience and efficiency because of long working hours and busy lifestyles

Source: DBS Bank

Online grocery retail's share

Euromonitor estimates that Singapore's online grocery retail market was worth S$96m in 2016. Based on Singapore's MGR market size of S$4.3b in 2016, online grocery retail's market share of total grocery retail sales is 3%. The online grocery retail market has grown at a CAGR of 38% over the past five years. According to The Institute of Grocery Distribution's (IGD) projection, online grocery sales is forecast to reach S$500m by 2020.

Diagram 6. Singapore's online grocery retail market (2016)



Source: Euromonitor, DBS Bank

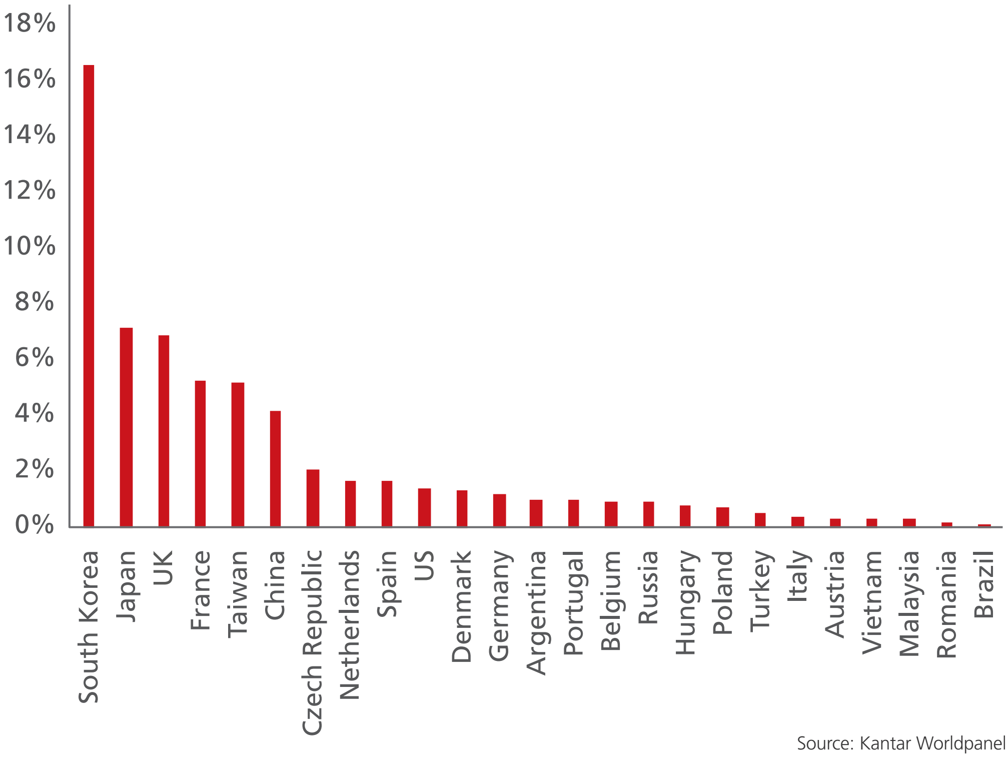
In its infancy in Singapore

Singapore's largest online player RedMart only started four years ago and has yet to turn in a core profit. The online business model, in our view, is still trying to find the right balance between gaining market share and becoming profitable. Core losses as at FY16 stood at S$51m for RedMart, based on financial records filed.

The UK's leading online grocery retailer Ocado, which was founded in 2000 and delivered groceries for Waitrose, took 15 years to break even. It recorded £12.5m headline losses in FY13 but showed headline profit turnaround of £7.2m in FY14, followed by £12m each for FY15 and FY16. If not managed properly, online grocers can fail, as seen by the examples of HomeGrocer and Webvan.

According to data from Kantar Worldpanel, markets with the highest grocery penetration rates are South Korea, Japan, France, and the UK. South Korea has clearly led the way with high connectivity, strong digital infrastructure, and free delivery.

Diagram 7. Online grocery penetration rate by country



Source: Kantar Worldpanel

Why Some Countries Are More Successful

1) South Korea

Highly digitised economy

As seen in the chart, South Korea has the highest online grocery retail penetration at 16.6%, with almost 100% of consumers aged between 10 and 40 shopping online. South Korea's online business is robust, with consumers paying low delivery costs. This is largely due to its highly digitalised economy which is constantly developing new technologies. South Korea boast one of the highest Internet speeds in the world, has a high smartphone penetration rate of 85%, and leading financial payment systems that make online purchases easier and safer for both retailers and consumers.

Koreans are tech-savvy and known to be extremely willing to adopt the latest technologies. The capital Seoul is densely populated with 25.6m South Koreans – out of the country's total of 51m – living in the Seoul Metropolitan area, creating a critical mass for online grocery retail. There are no wet markets unlike Singapore which makes for easier transition from shopping at supermarkets to online channels.

Household clusters are also getting smaller at 2.37 persons per household in 2016 compared to 2.91 in 2000, based on statistics by the Seoul Metropolitan Government. Smaller households, especially single-person households, would buy less bulk items while seeking shopping convenience. Lastly, Koreans are used to shopping from home, having an already established TV home shopping market (introduced in 1995).

There are at least five major players and excellent logistics/parcel delivery services to support shopping from home. South Korea's online retailers use a myriad of strategies to increase their sales. These include setting up online chat-rooms; reaching out to consumers with e-newsletters and promotions through email; as well as placing advertisements on social media channels. The Korea Online Shopping Association (KOLSA) reported that mobile shopping sales grew 45.7% y-o-y to 35.5t won (US$30.9b) in 2016.

2) Japan

High smartphone penetration, robust online environment

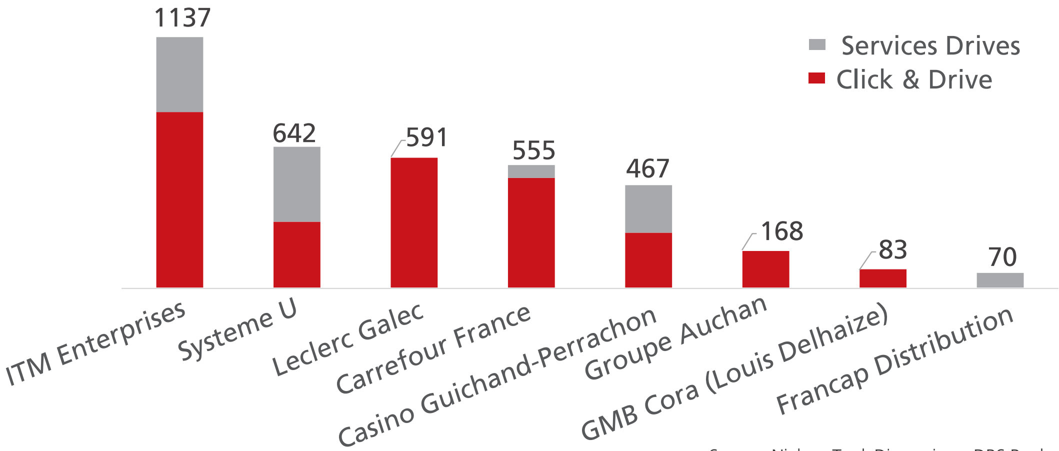
Japan has the second-highest online grocery retail penetration of 7.2%. The country's smartphone penetration is also rising. As at the end of 2014, 64.2% of all households in Japan have a smartphone. Thanks to robust online channels, consumers have access to information which can help them make purchase decisions. Retailers are able to reach out to consumers through these online channels as well, fuelling online grocery retail penetration. There are at least nine online grocery retail players in Japan including HealthyTokyo.com, SuperOrganic Foods, Hilo Market, Tengu Natural Foods, Japan Square, The Flying Pig, Enoteca, The Meat Guy, and the Foreign Buyers' Club.

3) France

The drive-through model

France's online grocery retail penetration of 5.3% is largely driven by the increase in popularity of the Click-and-Drive model. The Click-and-Drive format has grown at a CAGR of 98% – from 96 stores in 2010 to 2,903 in 2016 - according to data by Nielsen. Nielsen also observed that 80% of French households have access to a Click-and-Drive less than 15 minutes from home, against 75% for hypermarkets. Consumers make their purchases online and collect the items by driving through the physical stores. Consumers like to shop at hypermarkets as they sell a large range of products and the Click-and-Drive model makes shopping at hypermarkets more convenient for consumers at no extra cost. This model is more popular among families with young children.

Diagram 8. Number of Click-and-Drive/Services Drives in France



Source: Nielsen TradeDimensions, DBS Bank

4) UK

Highly developed MGR market

With a population of 64m in the United Kingdom, the grocery retail scene is very developed and competitive. There are more than eight established chain-store grocers across different formats including discounters and online channels. However, while the online penetration of market in the UK may be the third-largest globally, the environment is challenging for online retailers to operate in. Online retailers are struggling with delivering products in a profitable manner. As a result, online retailers have imposed minimum spending and delivery fees on consumers. It is vital for retailers to improve the delivery logistic issue for online retailing to take off. Several online retailers including Sainsbury's, AmazonFresh, and Chop currently provide same-day delivery in a bid to attract more consumers. The UK has an online MGR penetration of 6.9% (7.3% in 2017).

Diagram 9. Key online grocery retailers

USA	FreshDirect, Peapod, Relay Foods, Walmart, AmazonFresh, Instacart, Google, Soap.com, Postmates
Europe	Tesco, Carrefour, LeShop.ch, Ahold, mySupermarket, ShopWings
UK	Ocado
Japan	HealthyTokyo.com, SuperOrganic Foods, Hilo Market, Tengu Natural Foods, Japan Square, The Flying Pig, Enoteca, The Meat Guy, The Foreign Buyers' Club
Korea	E-mart, Home plus
Australia	Coles, Aussie Farmers Direct, Woolworths, GroceryRun,
India	Localbanya.com, PepperTap, Flipkart, Grofers, zopnow, Snapdeal, Bigbasket,
China	Chaoshi.tmall.com, JD.com, Taobao

Source: DBS Bank

Singapore will be a test bed for future ASEAN online MGR

Singapore has a very small addressable market of 5.5m people for online players. This is less than 1% of the entire Southeast Asian population. Comparatively, the UK, where Ocado has found success, has a population of 64m, equivalent to Thailand's population. Therefore, Singapore, while small, is most ready for online grocery retail in Southeast Asia.

Diagram 10. Key online players in ASEAN

	Online grocery players/portals	Is online grocery shopping popular with consumers?
Singapore	Cold Storage, NTUC Fairprice, Sheng Siong, RedMart, Opentaste, Honestbee, Gofresh	Gaining some traction, but most still shop in the stores
Malaysia	HappyFresh, Tesco, PasarTap Delivery, Redtick, BIGbox Asia, SAM's Groceria	Serve very niche market as brick-and-mortar grocery shopping continues to be favoured by most
Thailand	BIG C, Makro, Tesco Lotus	Gaining popularity but may take time to be a big hit. Current contribution to sales is <5%
Indonesia	HappyFresh, Klikindomaret.com, Ngemart, Go Mart, Hypermart Online, Kesupermarket.com	Contribution to total grocery sales is small but growing rapidly, including the online-to-offline (O2O) channel
Philippines	PureGold, Walter Mart	The proportion of online grocery shopping in the Philippines is small. Product assortment, as well as areas serviced, are still very limited
India	Localbanya.com, PepperTap, Flipkart, Grofers, zopnow, Snapdeal, Bigbasket,	
China	Chaoshi.tmall.com, JD.com, Taobao	

Source: Companies, DBS Bank

However, neighbouring ASEAN markets which are larger will require time for online grocery retail to develop and adoption to take off. There are more than 630m/460m people in Southeast Asia/ASEAN-5 outside of Singapore. Total MGR value, including traditional channels in ASEAN-5 ex Singapore, is worth US$217.7b. These countries are generally not ready for online grocery retail as factors such as Internet/mobile penetration rates, population density, and consumer preferences and lifestyle are yet to be in play. Markets like Vietnam and Malaysia are still in their infancy and only have online grocery penetration of under 1%.

Diagram 11. ASEAN's population growth

	2015	2016	% chg
Indonesia	255	258	1.2%
Philippines	100	103	3.0%
Thailand	65	68	4.6%
Malaysia	30	31	3.3%
Singapore	5.5	5.6	1.3%
ASEAN-5	455.5	465.6	2.2%
Vietnam	92	95	3.3%
Myanmar	54	57	5.6%
Cambodia	15.6	16	2.6%
Laos	6.8	7	2.9%
Brunei	0.42	0.44	4.8%
East Timor	1.2	1.3	8.4%
Total SEA	625.52	642.34	2.7%

Source: CEIC, CIA World Factbook, Singstats, DBS Bank

We believe online grocery retail will not be a threat to retailers over the next two years

Here to stay…

Even though online grocery retail is still in its infancy and has several obstacles to overcome, we expect it to gain traction. As the government continues to emphasise the use of technology in people's daily lives – and thanks to an increasingly tech-savvy younger generation - online grocery retail has the potential to be a popular channel in the future. This presents an opportunity for current brick-and-mortar grocers to jump on the bandwagon as they adapt to evolving consumer behavior.

…but will take time to develop in Singapore

We maintain our view that online grocery retail will take time to become prevalent and overtake grocery retail stores, at least in Singapore.

Markets like Vietnam and Malaysia are still in their infancy and only have online grocery penetration of under 1%

Online Players In Singapore Remain Unprofitable As Challenges Abound

High fulfillment costs

Profitability is a challenge for online grocery retailers due to the high fulfillment costs. Online grocery retailers are burdened with additional costs stemming from the handling, selling, and delivery of the products. Consumers do not welcome the idea of paying high delivery fees as they can easily purchase the products on their own from the many supermarkets and convenience stores dotted around the island. Online grocery retailers can compete on delivery cost charged to consumers by either searching for ways to improve efficiency or absorb the cost.

RedMart is unprofitable

Based on financials filed with Singapore's ACRA, RedMart has exponentially grown its revenue base by 41x to S$82m (FYE Jun'16) over 4 short years. Conventional wisdom would point to profitability on the back operating leverage especially with such phenomenal topline growth trajectory. It is however not a profitable operation. Operating losses also ballooned from S$2m to S$50m over the same period. It may be gaining ground in Singapore's grocery retail scene, but it has yet to turn profitable.

Diagram 12. RedMart's financials (2013-2016)

Jun S$m	2013	2014	2015	2016
Revenue	2.0	12.9	34.6	82.0
Gross profit	0.4	2.3	5.3	13.9
Operating profit	(2.0)	(10.1)	(26.8)	(50.2)
Net profit	(2.6)	(40.3)	(95.6)	47.7
Net profit (Pre-ex)	(2.0)	(10.1)	(25.8)	(49.1)
Gross margin (%)	17.9	18.1	15.4	17.0
Wkg cap cashflow	0.0	1.4	2.1	10.8
Operating cashflow	(1.9)	(7.5)	(23.4)	(37.4)

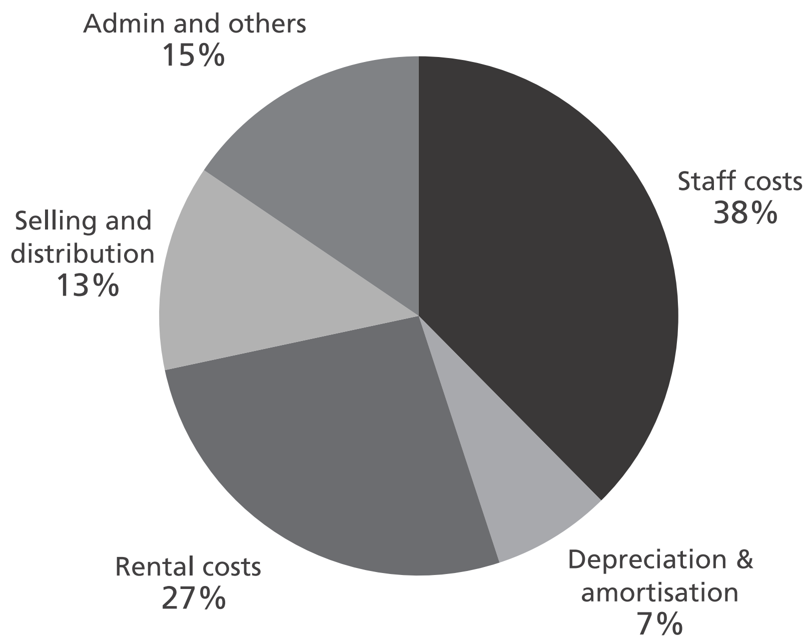
Diagram 12. RedMart's financials (2013-2016) cont.

Jun S$m	2013	2014	2015	2016
Opex % sales	118%	97%	94%	79%
Distribution	37%	34%	44%	35%
Marketing & Selling	19%	11%	7%	7%
Technology	12%	8%	14%	11%
Admin	50%	44%	29%	25%
Avg. Collection days	n/a	10.0	7.6	30.7
Avg. Payment days	n/a	79.1	69.9	253.8
Avg. Inventory days	n/a	52.0	30.5	109.5

*note: Avg collection/ Payment/ Inventory days based on starting and closing balance of respective items.
Source: RedMart ACRA filings, DBS Bank

RedMart requires operational scale in both topline and cost. RedMart's annual revenue of S$82m implies daily sales of S$225,000, compared to NTUC Fairprice's S$9.4m and Sheng Siong's S$2.2m. It has relatively lower gross margins (of below 20%), way behind NTUC

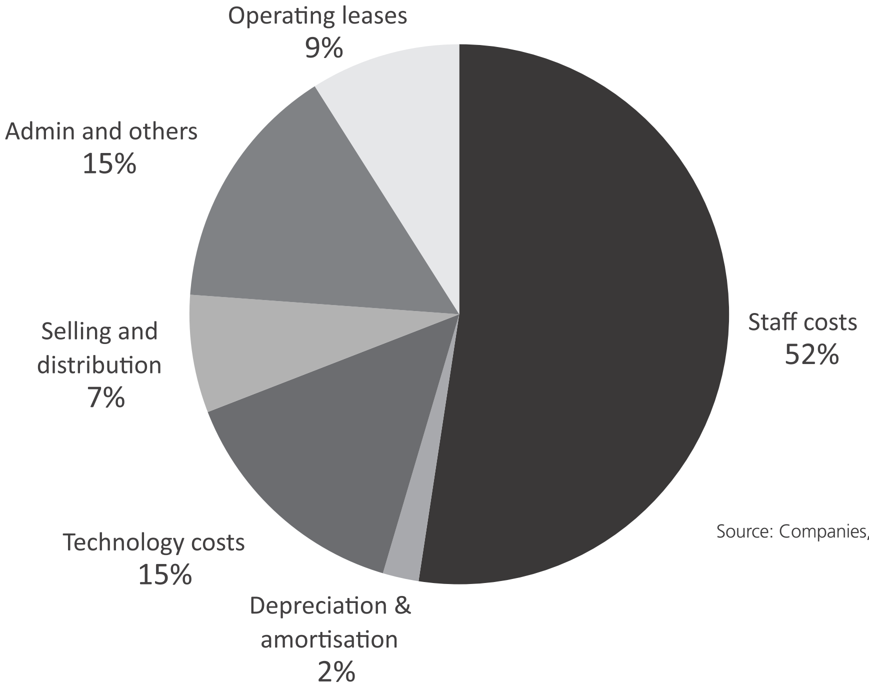
Diagram 13. Cost structure of NTUC, Sheng Siong, and Dairy Farm



Source: Companies, DBS Bank

Ocado takes 230,000 orders and makes 176 deliveries per week with average order size of £108.1. In contrast, we estimate that RedMart currently receives just over 70,000 orders per week, with an average order size of S$100. We believe building e-commerce scale will drive down costs and improve profitability which is currently insufficient to cover costs.

Diagram 14. Cost structure of RedMart



Source: Companies, DBS Bank

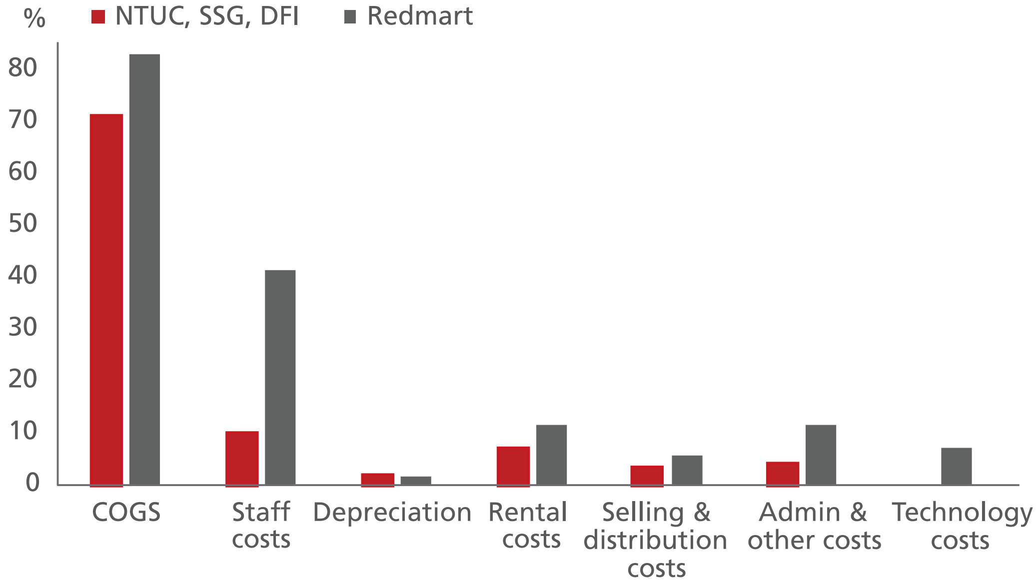
Significantly higher costs

Our cost analysis of RedMart against the three incumbent supermarket operators in Singapore (NTUC Fairprice, Sheng Siong, and DFI) shows that due to a lack of scale, RedMart's cost is relatively higher. Most cost categories are higher as a percentage of sales and insufficient to cover gross profit.

Scenario analysis: RedMart needs revenue of S$260m to S$380m to achieve breakeven. Assuming RedMart's operating cost remains constant at S$65m and gross margins remain at 17%, it would take revenue of c.S$380m for RedMart to achieve operating- profit breakeven. However, if gross margins were 25%, it would need S$260m in revenue to breakeven at operating costs of S$65m. We estimate that implies about 3.2x to 4.6x from its FYE Jun'16 revenue of S$82m.

"According to Euromonitor International, there were a staggering 946 supermarkets, hypermarkets, and convenience stores in this small island as of 2016"

Diagram 15. RedMart's cost as a % of sales vs incumbents in Singapore



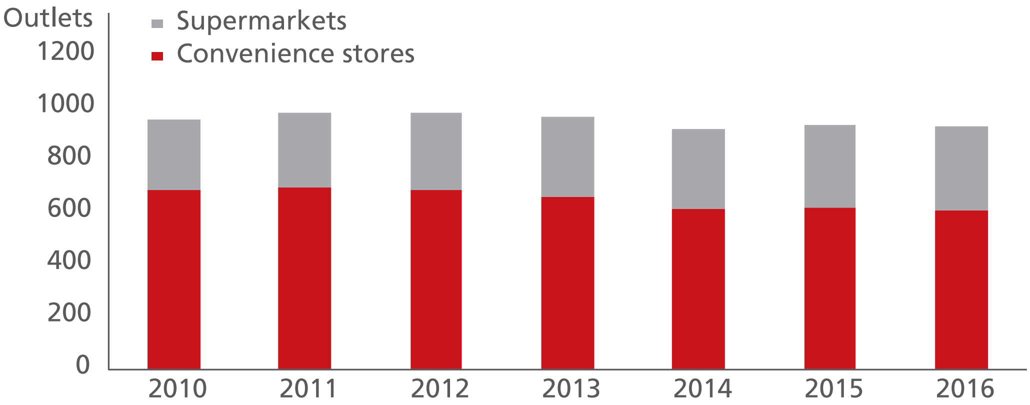
Source: Companies, DBS Bank

Stores are everywhere

Singapore is a compact city with an efficient transport system. Most commuters are able to travel to most parts of the island conveniently, thanks to a robust and improving public transport system. As such, people have high mobility. Singapore's public rail system, based on LTA's statistics, sees an average of 2.9m commuters travelling within its network every day. By the same token, grocery retail outlets of various formats are conveniently located near public transport hubs, thanks to the Housing & Development Board's (HDB) plans to have supermarkets at their commercial properties located in suburban town centres and suburban malls always having a supermarket element in their tenant mix. Commuters travelling through these town centres can conveniently pick up grocery items whenever they want. Needless to say, those with their own private transportation can pick up grocery items wherever they are or travel convenient locations to pick up grocery items.

According to Euromonitor International, there were a staggering 946 supermarkets, hypermarkets, and convenience stores in this small island as of 2016. It is convenient for consumers to purchase their groceries as either a supermarket or convenience store is just round the corner. Consumers do not see the need to make their grocery purchases online, saving on delivery fees, as they can simply grab the groceries from the physical stores on their way home from work or school. An exception will be the purchase of bulky items such as packaged rice and cooking oil, which consumers would prefer to purchase online and have them delivered.

Diagram 16. 932 convenience stores and supermarket outlets (2016)



Source: Euromonitor, DBS Bank

HDB's planning

HDB constantly makes supermarket shops available for businesses to lease. Apart from providing public housing to 80% of Singaporeans, HDB also leases commercial real estate to businesses, which enhances amenities for residents in these areas. HDB consistently puts up properties – minimart, supermarket, eating houses, and shops – in residential estates for bidding. HDB's township planning ensures that there are sufficient amenities for residents, especially food-related ones, in new and old estates which it develops. The needs of residents of every age are catered to, regardless of the residents' tech-savviness. Grocery shops, supermarkets, and minimarts are hence conveniently located in the heartlands for residents to visit.

Diagram 17. Close to 10 HDB properties (for grocery retail) are available for lease in the next 6 months

S/N	Estate	Precinct Name	Block	Street Name	Commercial Units	
					Minimart	Supermarket
1	Bukit Batok	Skyline @ Bt Batok	296A	Bukit Batok Street 22	1	-
2	Punggol East	Waterway Sundew	660A	Edgedale Plains	-	1
3	Queenstown	Ghim Moh Edge	224A	Ghim Moh Link	-	1
4	Sembawang	EastLace @ Canberra	115	Canberra Walk	1	-
5	Sengkang	Anchorvale Parkview	338	Anchorvale Crescent	-	1
6	Sengkang	Fernvale Riverwalk	417	Fernvale Link	-	1
7	Woodlands	Admiralty Flora	691	Woodlands Drive 73	-	1
8	Woodlands	Woodlands Glen	573	Woodlands Drive 16	-	1
9	Toa Payoh	Toa Payoh Crest	131	Lorong 1 Toa Payoh	1	-
	Total				3	6

Source: Place2lease, DBS Bank

Shopping a lifestyle

MGR stores in Singapore dominate online grocery retail, boasting sales of S$4.3b compared to the latter's S$96m. Evidently, even though there are online platforms, consumers in Singapore continue shopping in stores. Many people still see grocery shopping in supermarkets as an activity that they enjoy doing on a daily or weekly basis. Shopping in a supermarket allows them to touch, feel, and inspect the product before purchase, and this is important, especially for fresh produce. These is an experience that online retail cannot offer.

Online retail targets a certain consumer profile

We scope out the profile of grocery shoppers who are open to using online channels as a means to shop. These consumers typically already know what they want – with no need to browse and select items especially fresh food – can afford to await delivery, do not mind paying a delivery charge, are buying heavy or bulky items, live off the beaten path, and have no time or choose not to get out of their house.

Diagram 18. Pros and cons of online grocery shopping

Positives	Negatives
Ability to shop any time	Hassle of signing up/in
Time savings	Website navigation
Chore avoidance	Trouble with substitutions/returns
Wide range of product options	Delivery coordination
	Worries about freshness

Source: DBS Bank

Off the beaten path?

Singapore is an urbanised country with a high MGR density and Singapore has an efficient public transport system for people to do grocery shopping in stores. As many as 80% live in HDB flats which are conveniently located, with no need for grocery delivery. It is convenient to shop at the physical stores and they get to save on the delivery fees as well. Online grocery retail does appeal to consumers who do not have the time to make their way down to the physical stores, stay far away from the nearest grocer, enjoy the convenience of online retailing, or have heavy and bulky purchases to make – water, beer, rice etc.

Diagram 19. Profile of online shoppers differs from store shoppers

	Online shoppers	Store shoppers
Selection	Consumers already know what they want	Choice and freedom to choose all selection especially fresh food
Wait time	Can afford to await delivery	Get purchase immediately
Delivery charge	Do not mind paying a delivery charge if any	No delivery charge applicable
Heavy or bulky items	Wants delivery to do the heavy lifting	More difficult to manage bulky or heavy items
Location	Live off the beaten path	Have a store nearby or at a conveniently located place along the way
Convenience	No time or do not want to get out of the house	Love or do not mind supermarket shopping

Source: DBS Bank

Market needs to get used to paying for delivery cost or online retailers will need to subsidise

Delivery cost an issue

Delivery cost is a major obstacle preventing many consumers from purchasing groceries online. Consumers may baulk at the idea of paying for delivery cost when purchasing groceries online as they can easily pick up groceries from a nearby supermarket. They may also be concerned with proper storage of chilled food items during delivery, preferring to pick up these items in nearby grocery stores as these are usually low-ticket items and easy to transport. This is in contrast to shopping for big items at, say, IKEA where the consumers have no choice but to pay for delivery. As for online retailers such as Taobao and Qoo10, they offer a wide variety of products at lower prices with no freshness limitations. Consumers therefore do not see the need to head down to the stores as they can simply purchase the products with a click. Online grocery retailers, on the other hand, will have to look into reducing delivery costs to entice more consumers to switch to online grocery retailing.

Diagram 20. Delivery fees

Online grocery retailers	Delivery fees
RedMart	≤ S$49 → S$7 delivery fee > S$49 → Free delivery
NTUC Fairprice	< S$99 → S$7 delivery fee ≥ S$99 → Free delivery
Giant	< S$60 → S$12 delivery fee ≥ S$60 → S$7 delivery fee
Cold Storage	< S$60 → S$12 delivery fee ≥ S$60 → S$7 delivery fee
OpenTaste	< S$35 → S$4.95 delivery fee ≥ S$35 → Free delivery
E-mart	< S$30 → S$3 delivery fee ≥ S$3 → Free delivery
Ocado	< £75 → £2.99 - £6.99 delivery fee ≥ £75 → Free delivery
Gofresh	< S$60 → S$15 delivery fee ≥ S$60 → Free delivery

Source: Companies, DBS Bank

Discouraging low-value orders

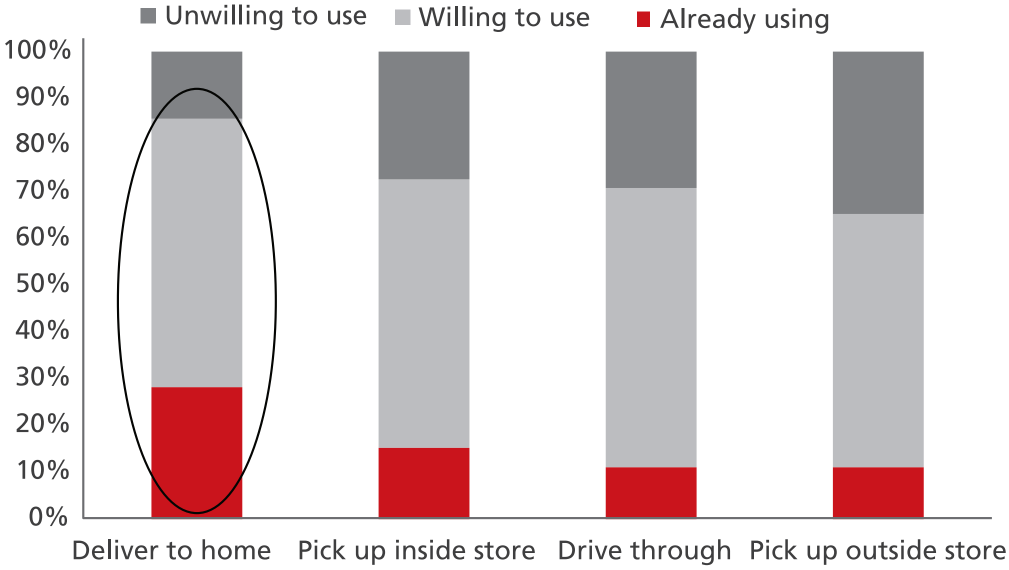
In order to keep online grocery retailing profitable, many online grocery retailers have imposed minimum purchases for consumers to qualify for free delivery or lower delivery fees. These retailers recognise that delivering single items or low-value purchases will erode their margins and be unprofitable for their online business. Imposing minimum orders will ensure that their fulfillment costs are covered and their profitability intact. To this end, online grocers throw in discounts, promotions, and bundle offers to increase basket sizes. That will, however, eat into an online grocer's margins unless it is able to seek further rebates from its suppliers.

Subsidising fulfillment costs

The difference between online retailing and store retailing is in last-mile logistics. The former is fulfilled by the seller, while the latter is borne by the consumer. Logistics costs and unfavourable economics, including orders, pricing, and ticket sizes can make online players like Ocado remain unprofitable for a long time. For some supermarket operators, leveraging on their store network and fulfilling delivery from individual stores can be more profitable than delivering from a central distribution centre. Pure-play online grocery players will not have this benefit since they have no stores or have outsourced cold-chain locations for a hub-and-spoke arrangement. Meanwhile, logistics costs will continue to play a key role in the profitability of online grocery retailers.

A recent survey by Nielsen showed that 85% of grocery shoppers who are already using or are willing to shop through online channels prefer delivery to their homes as their preferred choice of fulfillment. In fact, delivery to homes is the most preferred choice of fulfillment for online grocery shoppers. All alternate means of fulfilment were significantly lower amongst the sample of online grocery shoppers surveyed.

Diagram 21. Most online grocery shoppers prefer delivery to their homes



Source: Nielsen, DBS Bank

Cold-chain logistics

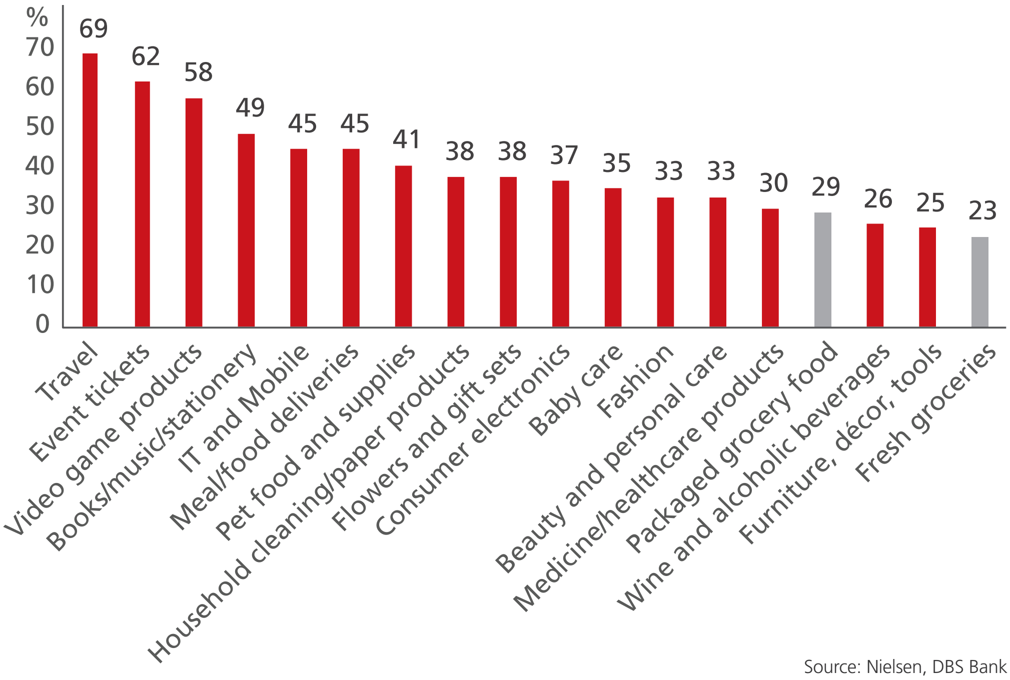
Service providers need cold-chain management to preserve freshness, adding to costs. Non-fresh grocery items such as water, detergent, canned food, pasta, toiletries, etc with no requirement for refrigeration have longer shelf life. Frozen and fresh food however remains a challenge and cold-chain logistics is necessary to preserve freshness. Unlike non-food items in e-commerce, product failure in fresh food has some impact on food safety. Service providers need to prevent food products from being contaminated during delivery. Delivery costs will hence be more significant to for online grocery players. Logistics costs will be higher for online players in cities that sprawl across a large area and/or have an expensive transport system.

Groceries face a lower risk of disruption by online retail compared to non-food items

Ensuring freshness

Shoppers want to choose their own fresh groceries. Nielsen's Global Connected Commerce Survey in 3Q 2016 showed that grocery items rank among the lowest for online purchase amongst 18 durables and consumables product and service categories. Fresh groceries rank the highest, with 44% of shoppers preferring to buy more often in-store. Evidently, grocery consumers rank the ability to select their own fresh products highly. Online players will hence have to gain shoppers' trust and prove that they can deliver fresh grocery items to customers or risk losing sales in this product category. For this reason, we believe that fresh food will face less online disruption than non-food items.

Diagram 22. Consumers most averse to purchasing fresh groceries online



Source: Nielsen, DBS Bank

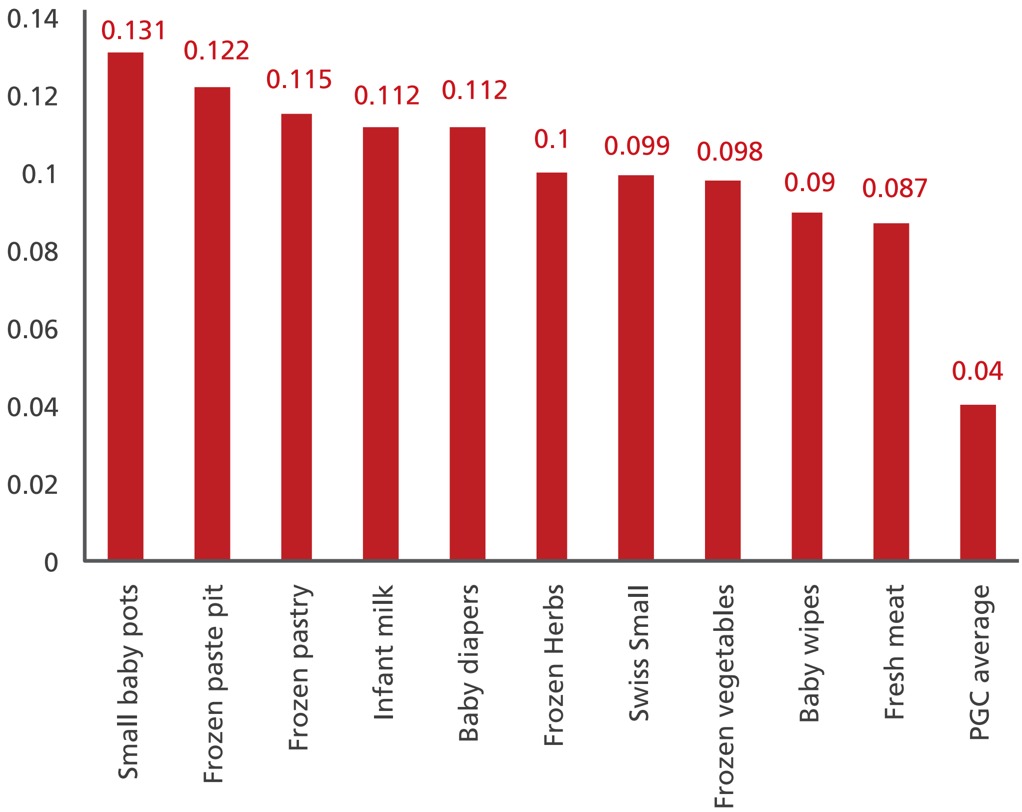
Catch-22

Customer service includes sales guarantees and replacements, flexibility for immediate and appointed delivery times; otherwise, consumers may be reluctant to buy online. These promises add to costs, including that for double delivery, until the business gains scale. It is then up to the businesses to execute efficiently. With scale, online players are then able to provide such customer services profitably.

"Click-and-collect"

"Click-and-collect" is a grocery retail model highly popular in France and the UK. Under this model, consumers submit their orders online and collect their purchases from a collection point. The collection point may or may not be at the grocery retail store. It may be a more viable model for businesses because it slashes delivery costs for the online retailer. This model is being considered by supermarkets as it is more viable for profitability and helps reduce the costs incurred for preserving freshness, logistics, fuel, traffic, cold trucks, etc.

Diagram 23. Baby and family items dominate Click-and-Drive in France (Click-and-Drive weight of each product category)



Source: Nielsen, DBS Bank

Amazon Prime in Singapore

Launched on 26 July 2017

Amazon has entered Singapore after launching its Prime Now service on the evening of 26 July 2017. Amazon Prime Now offers free two-hour delivery service for customers with orders above S$40. Products include grocery items, electronics, toys and games, stationery, and beauty products. The popularity of Prime Now is evident, with the app downloads topping 11,000 in the iOS and Google Play stores between 27 and 30 July. Initial orders were reportedly overwhelming, resulting in some order cancellations and unfulfilled orders.

Not the full-scale Amazon Prime Now service

Amazon Prime in the US offers membership at US$10.99 a month. Members enjoy exclusive access to movies and TV shows, ad-free music, Kindle books, original audio series, and unlimited photo storage. There is fast, free shipping on over 50 million eligible items with two-hour, same-day or two-day delivery. Members can enjoy instant access to media, games, and storage including 1) video streaming including popular movies and TV shows; 2) on-demand ad-free music streaming of over two million songs and thousands of playlists and stations; 3) books, magazines and unlimited reading on any device; 4) original audio series from Audible Unlimited listening to original audio series; 5) Twitch Prime offering free game content every month; 6) free unlimited photo storage. With a Prime Credit Card, Prime Rewards card-members with a 5% cash back. The membership also offers 30-minute early access to select Amazon Lightning Deals. Unlike in the USA, Singapore customers currently do not need to be Amazon Prime members to try its Prime Now service.

Likely to first threaten RedMart before offline grocery stores in the long term

Current scale of operation

Amazon's warehouse is currently not big and is comparable to RedMart's 100,000 sqft but far smaller than NTUC Fairprice's, Sheng Siong's, Dairy Farm's area of 260,000 to 730,000 sqft. The variety is for now limited, but we expect it to scale its stockkeeping units (SKU) over time. Apart from groceries, there is also general merchandise available for purchase. It has yet to have its own last-mile fulfillment resources such as delivery drivers and vehicles, which are outsourced.

Scaling up over time

We believe it is a matter of time before Amazon expands its operations including product offering, warehouse space, and last-mile fulfillment resources. We see warehouse space growth over the next few years as a key indicator of the speed of Amazon's expansion in Singapore. For now, operations remain small and we believe Amazon would first impact the online players directly before it does the brick-and-mortar players.

Singapore is already familiar with online shopping, with websites including Qoo10, Lazada, RedMart, Taobao, and 65daigou (ezbuy) gaining popularity. Amazon's entry will expand the online channel and options for consumers who already shop on these platforms. In fact, online and offline grocery retail already exists in Singapore. Amazon's entry will first directly impact competition in the online space because of its more attractive two-hour delivery before promoting and triggering consumer conversion to online grocery shopping over the long term. Customer acquisition cost is high and online players need to incentivise shoppers to promote conversion, which could slow down the conversion rate. Online retail's share of grocery retail in Singapore is small at less than 2% of Singapore's modern grocery retail market. Risks to brick-and-mortar players include a price war, conversion from shopping in stores to online retail, and loss of market share. Singapore's urban planning has grocery stores conveniently located across the island. That should slow down conversion of shoppers into online as well.

Two-hour delivery

Amazon Prime Now has a two-hour free delivery will essentially make fulfillment more competitive and expensive. While the two-hour window makes it more attractive for consumers to make purchases from Amazon, it gives the service provider less flexibility to plan delivery routes, realising lower economies of scale for each delivery trip. Other areas it could compete on include pricing, product variety, and service levels. Not all commonly found products are available for purchase on Amazon Prime, unlike its peers. Products are also priced within the range of Amazon's grocery retail peers. Amazon has yet to price its products at a steep discount to the market in an attempt to disrupt market prices and gain market share.

Diagram 24. Relative list prices of online groceries (as at 22 Aug 2017)

Category	SKU	RedMart	NTUC Fairprice	Sheng Siong	Giant	Amazon
	Delivery charge	S$5.99	S$7	S$6	S$7 & S$12	S$5.99
	Free delivery	>S$40	>S$52	>S$100		>S$40
Beer	Tiger Beer 30x323ml	S$58.50	S$60.90	S$60.90	S$66.30	S$58.50
Soda	Coca Cola Slim Can 4x250ml	S$2.70	S$2.50	S$2.70	S$2.70	S$2.50
Spread	SCS Salted Butter 250g	S$4.00	S$4.00	S$4.00	S$5.15	S$4.00
Ice cream	Magnum Classic Multipack 3x110ml	S$8.55	S$10.90	n/a	S$10.90	n/a
Oral care	Colgate Anticavity Regular 250g	S$4.10	S$4.10	S$3.30	S$4.10	S$4.10
Cooking Oil	Borges Extra Virgin Olive oil 1L	S$13.90	S$14.90	S$14.90	S$17.89	n/a
	Borges Pure Olive oil 2L	S$19.90	S$27.90	S$19.90	S$29.60	n/a
	Borges Extra Virgin Olive oil 2L	S$28.90	S$24.90	n/a	S$32.80	S$24.90
Noodles	MAGGI Noodles Chicken 5x77g	S$2.20	S$1.95	S$1.95	S$2.20	S$1.95
Snacks	Lay's Original Potato Chips 184.2g	S$4.60	S$4.60	S$4.25	S$4.60	S$4.60
	Lay's Original Potato Chips 2x184.2g	S$6.90	S$8.35	S$8.50	S$8.50	S$9.20
Eggs	Chew's Newly Laid Fresh Brown Eggs 10x40g	S$2.35	n/a	n/a	n/a	S$2.35
	House brand 10s	n/a	S$1.45	S$1.35	S$1.80	n/a
Pasta	San Remo Spaghetti 500g	S$1.90	S$1.95	S$1.95	S$2.40	S$1.90
Canned food	Narcissus Whole Mushrooms 425G	S$1.50	S$1.25	S$1.25	S$1.25	n/a
Pet food	Pedigree Beef 400g	S$2.45	n/a	S$2.45	S$2.55	n/a
	Pedigree Beef 700g	S$3.70	S$3.70	S$3.70	S$3.80	S$3.61
	Pedigree Beef 2x700g	S$7.00	S$7.40	S$7.40	S$7.60	S$7.22
Diapers	DRYPERS Wee Wee Dry 74s M	S$16.90	S$16.90	S$16.90	S$16.90	n/a
	DRYPERS Wee Wee Dry 6x74s M	S$79.90	S$86.85	S$84.75	S$101.40	S$79.90
Body wash	Dove Beauty Nourishing Body Wash 1L	S$9.70	S$9.70	S$9.70	S$10.95	S$6.50
	Dove Beauty Nourishing Body Wash 2x1L	S$12.80	S$19.40	S$13.50	S$21.90	S$13.00
Water	DASANI Drinking Water 12x1.5L	S$5.85	S$7.20	S$8.40	S$10.15	S$5.85
Detergent	Dynamo liquid detergent 2.7L	S$8.15	S$13.35	S$9.95	S$13.35	S$8.15
Milk powder	S-26 Promise Gold Stage 4 - 900g	S$37.40	S$37.40	S$37.40	S$37.40	S$37.40

Source: DBS Bank

Singapore as a base to go regional

Challenges it will face

We see a bigger market in ASEAN, with a population of 600m, compared to Singapore's population of 5-6m right now. Eventually, ASEAN will become ready for online retail and this is a much bigger opportunity. For now, Singapore is the market in ASEAN that's ripe for acquiring online consumers and companies can use Singapore as a base or test market for expanding into ASEAN in the future. Singapore could potentially be a hub with spokes to the rest of ASEAN. Freight-forwarding companies like Faldo168 and Cambo Quick, for example, are facilitating Amazon's deliveries and imports into Cambodia.

The future of grocery shopping could see a blend of online and offline channels

Online and offline cooperation

The recent alliances between Grab and ComfortDelGro as well as Lazada and CapitaLand support our view that one day, brick-and-mortar and online will work together. We have previously established that brick-and-mortar may one day be taken over by online players, in the vein of Amazon-Wholefoods. Further evidence in the market of online players going offline is supported by Alibaba's establishment of Hema supermarket in China. We hold a long-term view that a cooperation between online players and brick-and-mortar to share resources may materialise.

Online and offline stores to co-exist eventually

We do not see the online channel taking over and replacing supermarkets ultimately, but rather, both will eventually co-exist. Both channels serve different purposes. Online retail facilitates bulk purchases and delivery functions, while stores allow consumers to choose and have the groceries immediately. Both will increase consumer choices and improve shopper lifestyles.

Fulfillment cost is expensive

The uniqueness of online grocery shopping is the low-ticket value of each stockkeeping unit, the high turnover, and cycle time of fresh food. Low-ticket value means total order sizes need to exceed a certain value to make delivery profitable. When Amazon first launched, it experienced bottlenecks in fulfillment. British online grocer Ocado took 16 years to achieve breakeven, while RedMart continues to turn in losses. One of the key costs affecting profitability is last-mile fulfillment. We estimate that last-mile fulfilment cost per online order ranges from S$10-21 per trip, while last-mile fulfillment costs range from 28-35% of an average order size.

Assumptions in determining last-mile delivery costs:

- We use order sizes of S$52, S$60 and S$100 to determine an average online order size of S$71.

- Base rate of S$25 an hour, according to Amazon's rate.

- 1-4 deliveries for each two-hour block, equivalent to 0.5-2 deliveries per hour.
- Average gross margins of 26% based on Dairy Farm's, Sheng Siong's, and NTUC Fairprice's latest gross margins
- Sorting and collection costs are based on Honeywell's proportionate estimates of logistics/delivery cost breakdown

Diagram 25. Estimated fulfillment cost per trip

Number of deliveries per 2 hours (1)	Two-hour cost at S$25 per hour (2)	Cost per trip (3)=(2)/(1)	Delivery frequency weight Assumption	Weighted avg cost per trip
1	S$50	S$50	10%	S$5.00
2	S$50	S$25	20%	S$5.00
3	S$50	S$16.7	50%	S$8.33
4	S$50	S$12.5	20%	S$2.50
		Weighted average fulfillment cost per trip		S$20.83

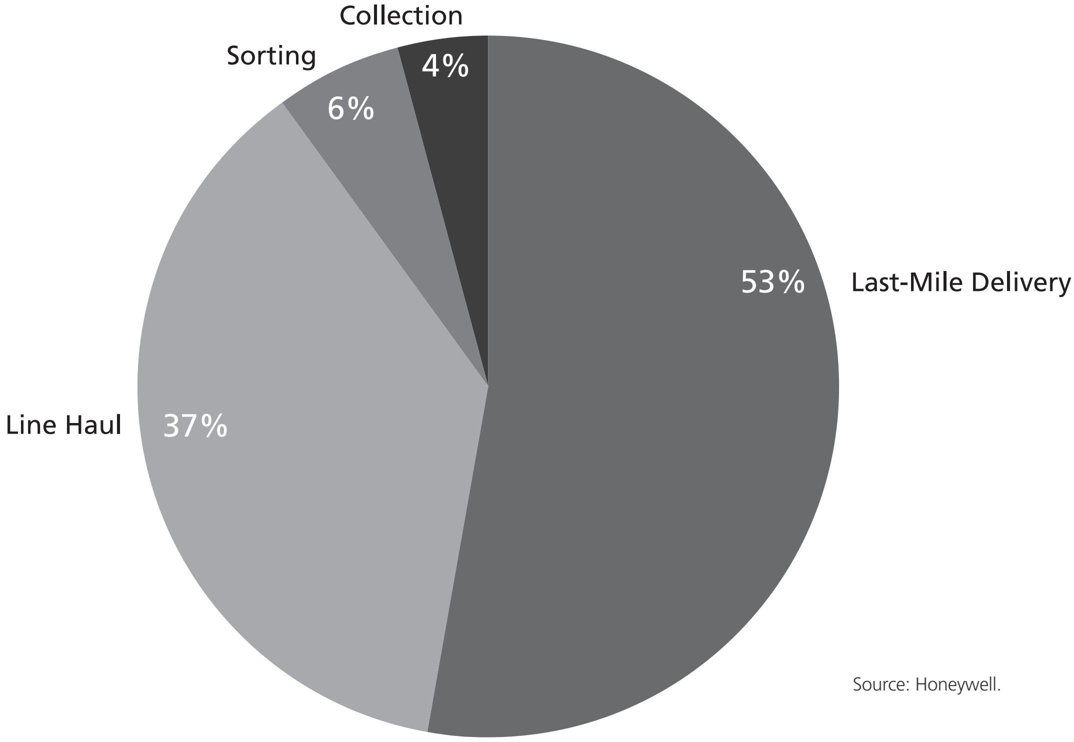
Source: DBS estimates

Diagram 26. Estimated minimum loss after last-mile fulfillment

			Note	Basis
NTUC Fairprice's online order size	S$52	S$52	(1)	Order threshold for free delivery
Giant's online order size	S$60	S$60	(2)	Order threshold for discounted delivery
SSG's online order size	S$100	S$100	(3)	Order threshold for free delivery
Average order size	S$71	S$71	(4)=avg of 1, 2, 3	
NTUC Fairprice's gross margins	22.5%	22.5%	(5)	Reported gross margins
Dairy Farm's gross margins	30%	30%	(6)	Reported group headline gross margins
Sheng Siong's gross margins	26%	26%	(7)	Reported gross margins
Average margins	26.2%	26.2%	(8)=avg of 5, 6, 7	
COGS	S$52	S$52	(9)=(10)-(4)	
Gross profit	S$18	S$18	(10)=(8)/100 x (4)	
Last-mile delivery per order	S$16.67	S$20.83	(11)	Assume 53% of last mile costs
Sorting	S$1.90	S$2.36	(12)=(11)/53% x 6%	Assume 6% of total last mile costs
Collection	S$1.26	S$1.57	(13) =(11)/53% x 4%	Assume 4% of total last mile costs
Last-mile costs	S$19.80	S$24.76	(14)=(11)+(12)+(13)	Excludes line haul costs
Loss per order after last-mile fulfilment	S$1.32	S$6.27	(15)=(10)-(14)	Before other fixed and variable opex

Source: DBS estimates

Diagram 27. Share of delivery costs



Source: Honeywell.

How some online grocers failed

Webvan

Webvan was an online grocery retailer founded in the USA in 1996 but made several mistakes which contributed to its downfall – including moving into online too early – and eventual bankruptcy in 2001. In the process, Webvan drained c.US$800m in venture capital and IPO proceeds.

By offering a wide range of high-quality goods at low prices, as well as home delivery services, the company turned in low profit margins. The low prices failed to attract upmarket consumers and it was left with consumers who bought low-margin products.

Over-expansion

Webvan expanded quickly into nine cities within 18 months and had aggressive plans for new cities before it was successful in its first market. It even had plans to expand into 26 more cities by 2001, the year it went into bankruptcy. It built several warehouses with a US$1b investment.

Webvan expanded into cities with low population density, which resulted in relatively high delivery costs that made fulfilment unprofitable. Its trucks were making trips to areas with low order count/ticket size. These made delivery trips and trucking costs inefficient, leading to poor profitability.

Webvan had its fully owned infrastructure from warehousing to the picking of orders, delivery and customer service. It didn't leverage on third-party suppliers such as brick-and-mortar grocery stores and concentrated their resources on the delivery and customer service aspects. Grocers such as Ocado and Peapod leverage on grocery stores and started warehouses when it made economic sense.

Zyllem's logistics

Last-mile logistics firm Zyllem stopped providing delivery services on 7 September 2016 in Singapore. Zyllem had up to 5,000 drivers and was growing at a double-digit rate month-on-month. Costly delivery services, which led to poor profitability, resulted in its closure. The delivery services market in Singapore is competitive and players compete on every measure, from prices to delivery time. High logistics cost including vehicle and labour costs, along with the competitive market pricing, pose challenges to logistics players Similarly, high logistics costs will pose a challenge for online grocery players when they try to make their business profitable.

MGR retailers with their own logistics abilities already have resources to fulfil deliveries – from distribution centres to stores. Deploying a truck or dedicating a hub store to fulfil last-mile delivery will be more viable for profitability than pure-play online players with backend logistics dedicated solely for online purchases.

> *The low prices failed to attract upmarket shoppers and it was left with consumers who bought low-margin products*

Retailers Will Continue Growing While Online Grocery Shopping Finds Its Feet

Store network

ASEAN's largest listed grocery retail players continue to drive growth and topline with store openings. This is a common theme regardless of whether grocery markets are well developed or not. Even in densely-populated Singapore, proliferation of stores at every corner will drive convenience and purchase frequency.

Diagram 28. Operators in ASEAN are growing their store count

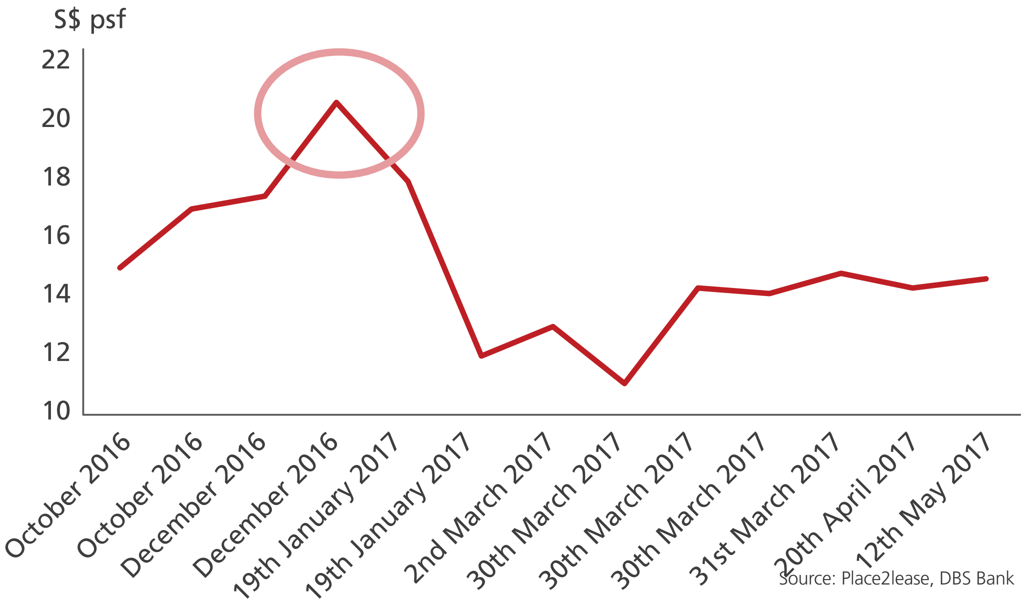
	Store growth strategy
Sheng Siong	Targets 50 stores and beyond island-wide eventually and in places where it has no presence
Dairy Farm	Has started to expand store count after store rationalisation exercise
NTUC Fairprice	Continues to bid for shop spaces
7-Eleven Malaysia	Management maintains its new store expansion plan (about 200 stores/annum)
Bison Consolidated	The group has planned to open 70 new stores per year in FY17- 18
CP All	Plans to open at least 700 stores p.a. in the next five years
Matahari Prima Putra	Targets to open 22 hypermarkets and supermarkets in 2017 with focus in under-penetrated ex-Java cities. This will bring MPPA's hypermarket and supermarket store counts to over 210
Pure Gold Price Club	Targets to open 25 Pure Gold and two S&R stores every year till 2020.
Robinsons Retail Holdings	Plans to roll out 150 new stores nationwide for 2017. This would bring total store count to 3,665 and could translate to a growth of 8-10% in gross floor area

Source: Companies, DBS Bank

Building scale

Smaller MGR players have a disadvantage in terms of scale and should look to scale up to build a competitive advantage. Extremely small or independent grocery retailers typically have lower sales volumes and obtain lower discounts/rebates and poorer credit terms – often cash terms – from suppliers. Compared to larger players with centralised sourcing and distribution functions, smaller players also do not have volume discounts and bulk handling discounts from suppliers. Due to their smaller store network, suppliers cannot penetrate the market overnight by putting up their new products with the smaller retailers. They are unable to collect listing fees as well. Smaller MGR players in Singapore have therefore tried to build up their store networks recently. HDB rents have been tendered at aggressive rates of c.S$20psf because smaller players have been trying to win more shop spaces to build up economies of scale. With an additional outlet or two, retailers will enjoy better economies of scale and profitability for volume discounts and rebates, provided that rental rates are economically sensible.

Diagram 29. Successful HDB rental tender rates have gone up as smaller players have been bidding aggressively



Source: Place2lease, DBS Bank

Scale drives down costs, improves margins

The grocery retail business has thin net margins of <10% and players are always working to drive down costs. The few ways to improve margins include direct sourcing, house brands, centralising and insourcing distribution and logistics functions from suppliers, as well as bulk purchasing.

Distribution centres and centralisation of logistics – Larger players are also incentivised to build distribution centres.
Distribution centres have sprung up recently with all three players in Singapore building distribution centres. Dairy Farm has built a fresh distribution centre while NTUC Fairprice has opened a new distribution centre in Joo Koon. Sheng Siong is expanding its current distribution centre by 10%, which will be fully operational by FY19. There will be better supplier discounts for centralised logistics and volume discounts product-wise, as suppliers only need to send products to the assigned distribution centres instead of to the stores. Distribution centres also have capacity for higher volume purchases, enabling the retailers to enjoy more volume discounts. There will be more leverage on fixed warehouse operating costs when the distribution centre breaks even. Efficient distribution chain management will drive down opex.

Direct sourcing – Cutting off the middlemen will improve margins, but bears higher risks.
If resources permit, supermarkets can source directly from the producers to obtain better pricing, subject to producers' terms such as minimum order etc. Products can be procured or imported directly from sources such as poultry, fruit, and vegetable farms. This will cut off the middlemen and eliminate the traders' margin. Supermarkets are increasingly sourcing for their own food products to build differentiation and product exclusivity to drive sales. However, without suppliers for some of their SKUs, supermarkets lose the credit terms extended by distributors that they enjoy unless they can negotiate similar terms with the producers. They may have little or no recourse if these fresh perishables delivered to them become stale. If managed well, retailers will enjoy better product margins on these products.

House brands – House brands have lower product cost.
House brands are a separate category targeted at the cost-conscious shopper. Retailers go directly to manufacturers to have their brands stamped on products such as tissue/toilet paper, snack food, cereals, frozen food etc. Products can be priced at a discount to branded products, enabling the retailer to enjoy strong product margins as there are no middlemen involved. Similar to direct sourcing, there are no supplier rebates that supermarkets can enjoy. House brands remain a small part of the overall supermarket strategy, accounting for about 10% of sales or lower.

Staff costs will reduce with handpay, self-checkouts, and cash collection technology in stores

Reduction in manpower costs – Self-checkout counters reduce manpower costs.
Staff costs is a significant of operating costs – at 11% of sales - and supermarkets are trying to reduce operating cost by employing self-checkout technologies. These are aimed at reducing staff costs at the checkout areas. These self-service checkouts can potentially replace cashiers and manpower needs can be better utilised by redeploying excess labour to other functions such as stock keeping.

Diagram 30. iCash collection system at NTUC Fairprice

Source: DBS Bank

7-Eleven Signature - First unmanned convenience store in Korea

Korea's first unmanned convenience store has opened in May 2017 on the 31st floor of Lotte World Tower in southeastern Seoul. Known as 7-Eleven Signature, it is a smart store featuring a host of new technologies – refrigerators that open and close automatically by detecting human movement; 360-degree scanners that scan all items, regardless of where the barcodes are facing, on the conveyor belt; a smart CCTV system capable of reporting fires and collecting data on customers; a Smart Safe Cigarette Vending Machine that is able to verify the age of the customer; and Handpay, by which customers can make payment with their palms.

Handpay technology

Customers have to register by scanning their palm and entering their credit card details at the store. They can then make payment by scanning the palm that they have registered.

They can then make payment by scanning the palm that they have registered

Only registered customers will be allowed to enter the unmanned 7-Eleven. Customers' palm information is saved by Lotte Card and the Korea Financial Telecommunications & Clearings Institute while the store keeps a history of its visitors in the system. Returning customers can save time by not having to register a second time. Handpay makes purchases more convenient for customers as they do not need to bring their credit cards or phones around while making purchases. Handpay is valid only for use with Lotte credit cards. Users of Handpay will currently have to be Lotte credit-card holders. Korea Seven, which runs the 7-Eleven franchises in Korea, is in the process of making more cards compatible with Handpay.

Labour cost savings for retailers

With a host of new technologies being tested out, such as the 360-degree barcode scanner, the smart CCTV system, the Smart Safe Cigarette Vending Machine, and Handpay, retail stores in the future can be run without any need for employees if these technologies are successful. Eventually, the 360-degree barcode scanner will be upgraded with artificial intelligence that recognises a product by its shape, weight and volume, making barcodes obsolete. This technology will be helpful when purchasing fruits and vegetables.

Macro Fundamentals Support the Growth of MGR

The growth of grocery retail in ASEAN

Modern grocery retail in ASEAN-5 markets has grown by 1.3% to US$218b over the past two years and is forecast by Euromonitor to grow by a CAGR of 4.5% to US$278b over the next five years. Amongst ASEAN-5 MGR markets, the Philippines has grown the fastest at 5%, driven by supermarkets, while Malaysia declined, dragged by hypermarkets.

Diagram 31. ASEAN-5 MGR market has grown in the past two years

Local currency	2014	2016	CAGR%
Singapore (SGD mn)	5423.3	5969.7	4.9%
Indonesia (IDR tn)	193.16	235.01	10.3%
Malaysia (MYR bn)	25.12	25.57	0.9%
Philippines (PHP bn)	522.39	607.59	7.8%
Thailand (THB bn)	762.54	847.54	5.4%
ASEAN-5 (US$)	63.49	65.19	1.3%

Source: Euromonitor, DBS Bank

Increasing share

Market penetration of MGR has improved by 1ppt in the ASEAN-5 markets, reducing contribution of traditional grocery retail channel's share of total grocery retail sales. Modern grocery retail in 2016 made up about 30% of ASEAN-5's grocery retail market.

Diagram 32. ASEAN-5 grocery retail market was worth US$217b in 2016

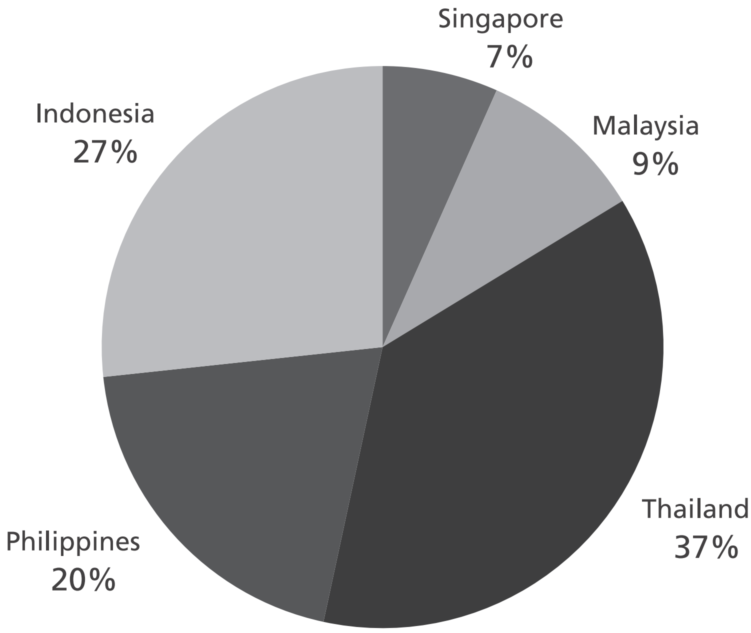
US$b	Modern	Traditional	Total	Penetration
Singapore	4.34	1.71	6.05	72%
Indonesia	17.40	83.93	101.33	17%
Malaysia	6.28	8.78	15.06	42%
Philippines	12.99	29.87	42.86	30%
Thailand	24.17	28.20	52.37	46%
ASEAN-5	65.19	152.49	217.68	30%

Source: Euromonitor, DBS Bank

The top modern grocery retail markets

Thailand, the Philippines, and Indonesia are the three largest markets for modern grocery retail among the ASEAN-5, in line with their population size. Indonesia remains underpenetrated with a big population c.250m population) but its MGR market is significantly smaller than traditional grocery retail.

Diagram 33. The MGR markets of Thailand, Indonesia, and the Philippines are the biggest in the ASEAN-5 markets



Source: Euromonitor, DBS Bank

Convenience stores have led ASEAN's MGR growth in the last two years

Over the past two years, MGR has generally outgrown traditional grocery retail. The growth of MGR in the ASEAN-5 markets grew 0.9%-10.3% in local currency terms. Indonesia was the best performing MGR market, with CAGR of 10.3%from 2014-16, led by convenience stores and forecourt/petrol-station formats, which came from a low base. The best-performing format was convenience stores, with developing ASEAN-5 markets growing 7.8-17.1% CAGR. Hypermarkets in Singapore increased 18% on the opening of Big Box in Jurong. Malaysia's hypermarkets declined as shoppers switched to convenience stores. Convenience stores continued to expand throughout developing ASEAN-5, leading to the format's strong growth in the last two years.

Diagram 34. 2-Year CAGR: Growth of MGR in ASEAN-5 generally outgrew traditional grocery retail

2014-16 CAGR% Local currency	Singapore	Indonesia	Malaysia	Philippines	Thailand	Total (US$)
Supermarkets	3.4%	5.3%	2.2%	7.4%	4.9%	0.7%
Hypermarkets	19.7%	1.6%	-2.0%	7.0%	3.2%	-2.5%
Convenience stores	-2.6%	17.1%	7.8%	16.6%	8.1%	6.2%
Others	0.4%	14.6%	2.2%	9.4%	2.8%	-2.6%
MGR	4.9%	10.3%	0.9%	7.8%	5.4%	1.3%
Traditional	-1.6%	7.1%	2.4%	2.9%	1.2%	-0.8%
Total (US$)	-1.2%	0.9%	-8.8%	1.6%	-0.8%	-0.2%

Source: Euromonitor, DBS Bank

Urbanisation

Urbanisation has been a key trend for MGR. Urbanisation rates of the ASEAN-5 countries increased 1.2ppt in 2016, translating to an additional 11m in their urban population. Urbanisation makes it easier for MGR to expand into new areas and grow in terms of value due the higher selling prices in urbanised areas. Urban consumers usually have higher disposable income and are thus more likely to purchase better-quality products.

Diagram 35. The urbanisation rate in ASEAN-5 has generally increased

US$b	2014	2016	
Singapore	100%	100%	▶
Indonesia	53%	54.47%	▲
Malaysia	74.01%	75.37%	▲
Philippines	44.49%	44.29%	▼
Thailand	49.17%	51.54%	▲
ASEAN-5	52.52%	53.73%	▲

*The urbanisation rate in Philippines declined because total population was outgrowing urban population.
Source: The World Bank, DBS Bank

The rise of the middle class

According to Euromonitor, the number of middle-class households—, defined as those earning an annual disposable income between US$15,000 and US$25,000 - in most ASEAN-5 countries has increased. This growing middle class is expected to fuel changes in consumer behaviour, including higher purchasing power and stronger demand for consumer goods, both domestic and imported goods. These consumers, with higher purchasing power, are expected to shift towards purchasing better-quality products from MGR instead of traditional formats. MGR players are expected to continue their expansion in the ASEAN-5 countries, particularly in emerging and underserved areas, according to Euromonitor. MGR penetration in ASEAN-5 countries is forecast to increase 3ppt to 33% by 2021.

Diagram 36. Developing ASEAN-5's middle-class households

US$b	2008 Households	2014 Households	
Indonesia	19m	17m	▼
Malaysia	1.3m	1.6m	▲
Philippines	4.6m	5m	▲
Thailand	5m	6m	▲

Source: Euromonitor, DBS Bank

Population growth

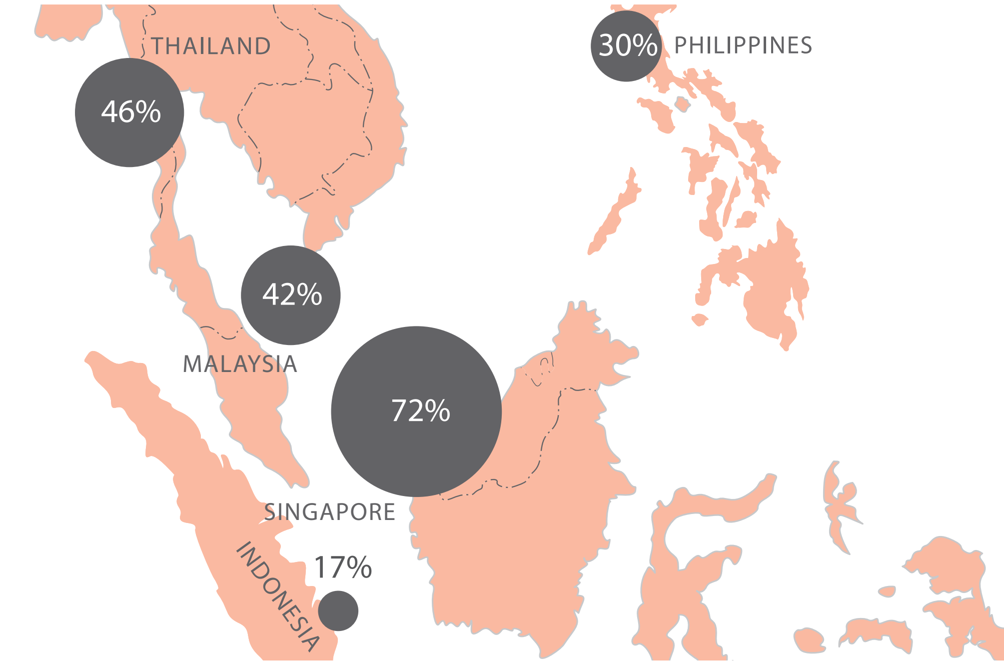
ASEAN-5's population grew 2.2% in 2016, an increase of approximately 10m people. This growth is jointly driven by Indonesia, the Philippines, and Thailand. Population growth is a fundamental driver of food demand, for both traditional and modern retail. Overall population growth will be positive for MGR and provides opportunities for MGR to penetrate into both urbanised and upcountry areas across ASEAN.

Diagram 37. ASEAN-5's population grew 2.2% last year

	2015	2016	% chg
Indonesia	255	258	1.2%
Philippines	100	103	3.0%
Thailand	65	68	4.6%
Malaysia	30	31	3.3%
Singapore	5.5	5.6	1.3%
ASEAN-5	455.5	465.6	2.2%
Vietnam	92	95	3.3%
Myanmar	54	57	5.6%
Cambodia	15.6	16	2.6%
Laos	6.8	7	2.9%
Brunei	0.42	0.44	4.8%
East Timor	1.2	1.3	8.4%
Total SEA	625.52	642.34	2.7%

Source: CEIC, CIA World Factbook, Singstats, DBS Bank

Diagram 38. Modern grocery retail's penetration in ASEAN-5 has increased 1ppt in each market



Source: Euromonitor, DBS Bank

MGR's penetration in ASEAN-5

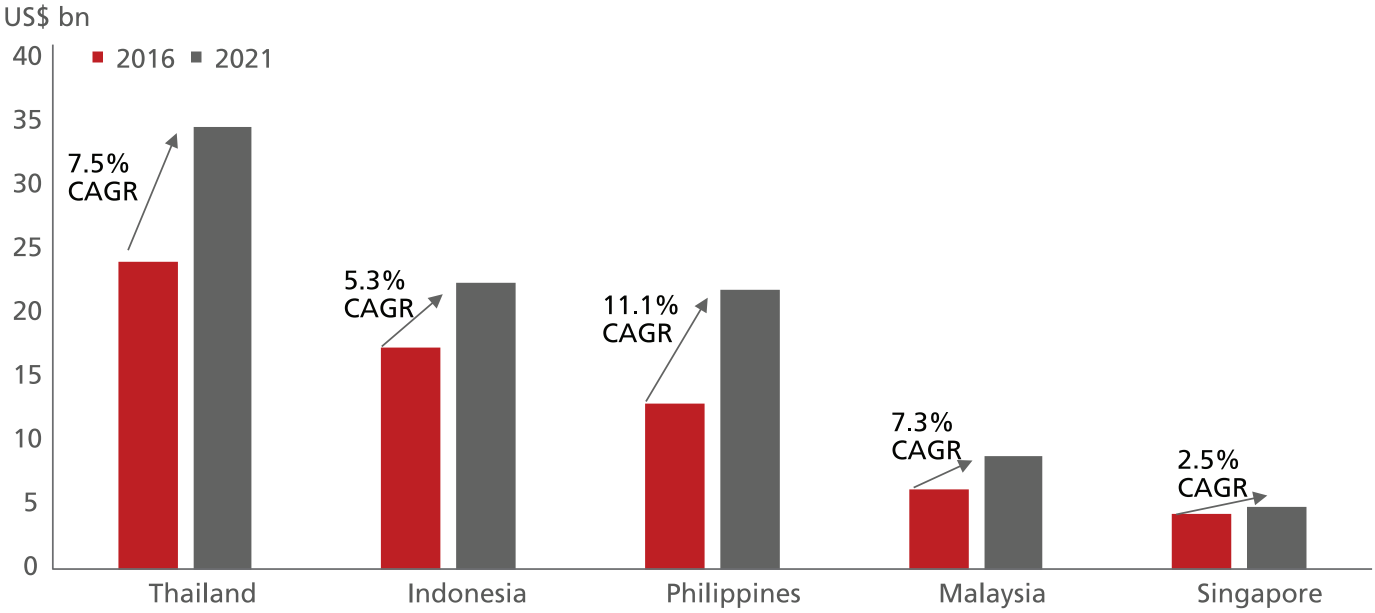
MGR's penetration in the Philippines and Thailand is forecast to increase by 5ppt, the largest jumps among ASEAN-5 countries, to 35% and 51% in 2021, respectively. Expansion of convenience stores, coupled with Internet retailing for both supermarkets and hypermarkets, is expected to be the main driver for the increase in MGR's penetration in Thailand. The increase in the Philippines is expected to be attributable to higher demand and purchasing power as well as expansion by players into areas outside key urban zones with low MGR penetration. Singapore and Indonesia are forecast to post an increase in MGR penetration by 2021 while no changes are expected in Malaysia.

Diagram 39. MGR's penetration in ASEAN-5 (2021) estimated at 33%

2021 US$b	Modern	Traditional	Total	2021 MGR Penetration
Singapore	4.91	1.82	6.73	73%
Indonesia	22.53	97.45	119.98	19%
Malaysia	8.95	12.29	21.24	42%
Philippines	21.98	40.62	62.69	35%
Thailand	34.65	33.10	67.75	51%
ASEAN-5	93.01	185.28	278.29	33%

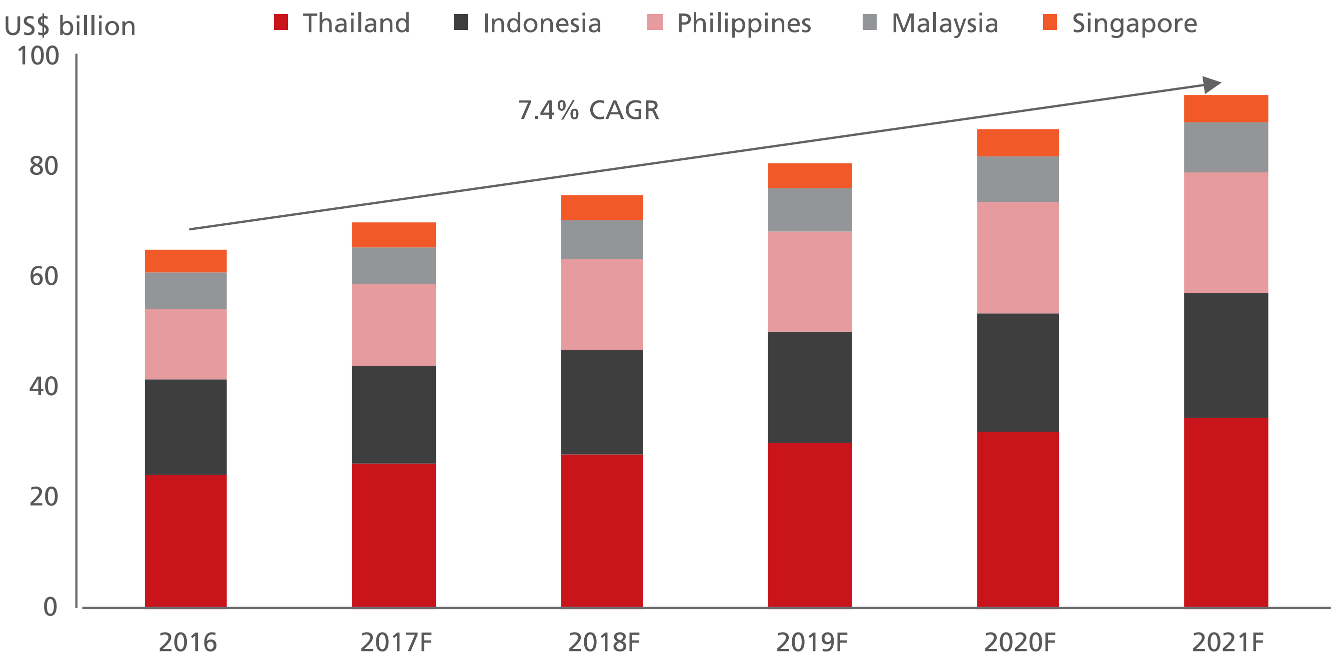
Source: Euromonitor, DBS Bank

Diagram 40. Philippines expected to post fastest growth among ASEAN-5 MGR over the next five years



Source: Euromonitor, DBS Bank

Diagram 41. CAGR growth of 7.4% for ASEAN-5 MGR over the next five years



Source: Euromonitor, DBS Bank

Convenience stores are expected to be the fastest-growing format from 2016-21 in ASEAN-5 countries with a CAGR of 9.3%. ASEAN-5 is expected to post high positive convenience stores growth in its respective countries, with the exception of negative growth in Singapore. Supermarkets are expected to grow the fastest in Singapore for the next five years as supermarkets remain a popular grocery retail format.

Growth of convenience stores

In Indonesia, leading convenience stores players are expected to expand their outlets into less saturated areas outside of Java despite the law limiting the expansion; In Philippines, convenience stores' players are expected to expand into business districts and local neighborhoods. Convenience stores are the most suitable format due to smaller available retail area. Consumers also value the convenience and accessibility that the convenience stores offer. In Thailand, growth of convenience stores is driven by aggressive outlet expansion into metropolitan and provincial areas, making them a convenient platform for grocery purchases due to their proximity to residential areas. In Malaysia, convenience stores are expected to expand their outlet count to cater to the higher demand for convenience stores. This demand is driven by the increasingly busy lifestyles in Malaysia and consumers value the convenience (24-hour operation and quick meal solutions) offered by these convenience stores.

The exception is Singapore

Convenience stores are expected to decline by 1.9% CAGR from 2016-21 largely due to the increased competition from supermarkets. Supermarkets are expected to be the fastest-growing format for the next five years with a CAGR of 3% with the HDB's constant supply of shop space for supermarkets driving growth. The convenience of visiting supermarkets and lower prices compared to convenience stores make supermarkets a popular format in Singapore. Supermarkets are opening smaller outlets and expanding into residential districts.

Diagram 42. CAGR growth of 7.4% for MGR in ASEAN-5 over the next five years, led by the Philippines and convenience stores

2016-21 CAGR% (US$)	Singapore	Indonesia	Malaysia	Philippines	Thailand	Total
Supermarkets	3.0%	2.5%	6.3%	9.7%	6.4%	6.6%
Hypermarkets	2.4%	1.6%	5.8%	13.3%	5.2%	6.0%
Convenience stores	-1.9%	7.8%	14.2%	19.4%	9.8%	9.3%
Others	1.9%	3.8%	6.7%	10.9%	6.7%	6.7%
MGR	2.5%	5.3%	7.3%	11.1%	7.5%	7.4%
Traditional	1.2%	3.0%	7.0%	6.3%	3.3%	4.0%
Total	2.1%	3.4%	7.1%	7.9%	5.3%	5.0%

Source: Euromonitor, DBS Bank

Companies With Scale Are the Players In the Sweet Spot

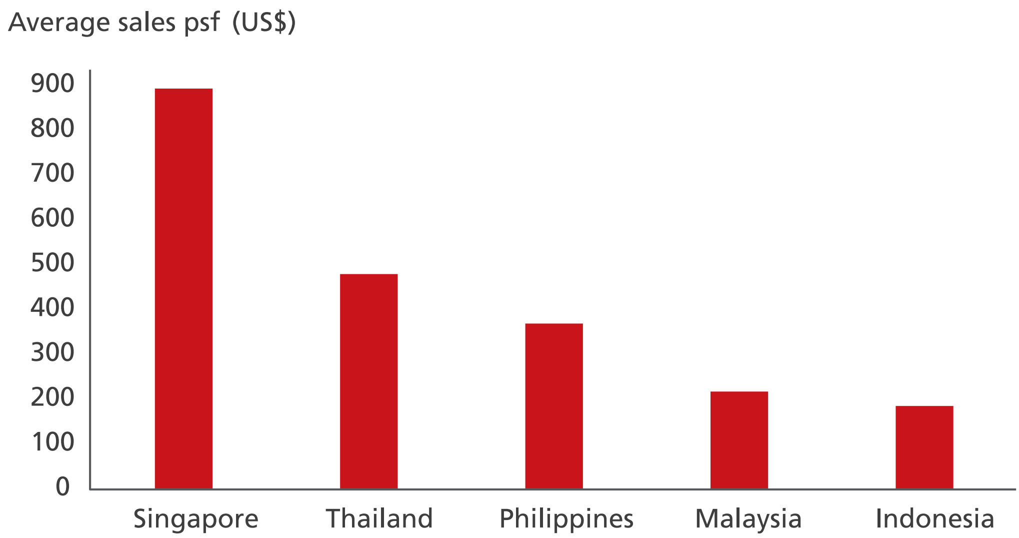
Scale as a barrier to entry

We see operating scale as a natural barrier to entry. Companies with reasonable scale have the resources to grow. Their economies of scale have already taken care of their fixed operating costs and are helping them leverage their existing resources (by securing more sales and squeezing out more operating leverage). They can readily invest to reduce cost and gain operating efficiencies (self-checkout, cash recycling, cash payment systems) and enjoy a high level of leverage such as credit financing, payment terms, and bulk discounts from suppliers due to their volumes. Grocery retailers with scale have the ability to help suppliers reach a large target audience in a short space of time.

Store network

We like listed grocery retail players in ASEAN as they are well-positioned to grow over the next few years. The players have sufficient cash resources, a sizeable store network, bargaining power with suppliers, cash generation capability, and a strong logistics network to help them grow going forward. Where profitability and cash generation is not an issue, they could implement new stock-keeping, online shopping, store-checkout technologies, more aggressive marketing and promotions etc in stores to strengthen their position and get ahead of the competition. Singapore's three key MGR players who already have strong economies of scale through their store network, for example, are operating very efficiently, way ahead of the regional average.

Diagram 43. Singapore had the highest MGR average sales (psf) among ASEAN-5 in 2016



Source: Euromonitor, DBS Bank

Logistics

Bigger players which already have a supply chain definitely have an advantage in scale and cost. These players with their network of stores, already have a sizeable market share. Distribution centres facilitate supplier delivery to their facility, alleviating the need for suppliers to make multiple deliveries to various stores. This drives down product costs and improves gross margins, along with bulk discounts. Players who want to establish a distribution centre to gain such scale have to build up their store network in order for the warehouse to be adequately utilised. The cost of establishing a warehouse is not cheap and goes into the millions of dollars (at over S$100 psf of construction cost). Allowable financing can be over 10 years, depending on the property. They are entitled to bulk and volume discounts, as well as better credit terms (as opposed to cash on delivery for smaller players) due to their higher sales turnover.

Diagram 44. ASEAN-5's key players have set up sizeable distribution centres

	Location	Cost	Completed	Size sqft
DFI	Tampines	S$40m	2006	260,000
Sheng Siong	Mandai	S$65m	2011	500,000
NTUC Fairprice	Joo Koon	S$350m	2015	730,000
RedMart	Fishery Port	n/a	2015	100,000
MPPA	Balaraja	n/a	n/a	449,996
MPPA	Surabaya	n/a	2014	172,998
MPPA	Cibitung	n/a	20161	87,026
7-Eleven	Shah Alam	n/a	Leased	90,000
Bison	Rawang	n/a	2013	125,000
Bison Sub DC	Johor Bahru	RM3.9m	20172	9,800
Makro	Ayudhaya	n/a	2008	107,639
Makro	Ayudhaya	n/a	2009	215,278
Makro	Bangna	n/a	2014	236,806
Makro	Mahahai	n/a	2015	247,570
CPALL	Bangbuatong	n/a	<2010	269,098
CPALL	Suvarnabhumi	n/a	<2010	236,806
CPALL	Surathani	n/a	<2010	129,167
CPALL	Khonkaen	n/a	<2010	129,167
CPALL	Lampoon	n/a	<2010	182,986
CPALL	Mahachai	n/a	2014	215,278
CPALL	Chonburi	n/a	2015	107,639
BIG C	Thanyaburi	n/a	n/a	n/a
BIG C	Ladkrabang	n/a	n/a	n/a
BIG C	Ayudhaya	n/a	n/a	n/a
BIG C	Bang Plee	n/a	n/a	n/a

1relocated & expanded; 2purchased end of 2016
Source: Companies, DBS Bank

Smaller players to play catch-up

However, they are limited by resources including finances. It will be slightly harder for them to implement cost reduction measures such as installing cash machines and increasing rebates given by suppliers. One of the ways is to outbid incumbents with a slightly higher rental rate to win stores, which has resulted in high rental rates for shop space in Singapore. Having more stores will give them more bargaining power when negotiating credit/financing terms with suppliers. These will improve operating leverage and overall margins and profitability of their business. Although smaller stores are gaining traction in terms of store wins, their higher-than-market store rental rates would mean lower profitability and higher operating efficiencies is expected to turn in better profitability.

Diagram 45. Valuations of M&A transactions in ASEAN (save for Wholefoods by Amazon)

Target	Acquiror	Implied EV	Date	PE	P/Sales	EV/EBITDA	Remarks
Carrefour TH	Big C	US$1.2b	2010	n/a	1.2x	13x	
Carrefour ID	CT Corp	US$1.1b	2012	n/a	0.9x	n/a	60% stake for US$672m
Siam Makro	CP All	US$6.4b	2013	56.7x	1.7x	33.3x	
AS Watson's	Temasek	US$22.7b	2014	22.6x	1.2x	12.5x	25% stake for US$5.6b
Big C TH	Berli Jucker	US$6.2b	2016	31x	1.7x	17.1x	
Big C VN	Central Group	US$1.1b	2016	n/a	1.8x	20.4x	
RedMart	Lazada	US$30m	2016	n/m	0.5x	n/m	Operating and net losses
Wholefoods	Amazon	US$13.7b	2017	27.1x	0.9x	9.9x	

Source: Mergermarket, DBS Bank

Acquisitions abound

Grocery retailers have been busy acquiring and selling over the past two years. Notable transactions in ASEAN include Casino Group's €3.3b disposal of BIG C to the TCC Group in 2016 and the sale of RedMart, Singapore's online grocery retailer, to Lazada for US$30-$40m. Valuations for the transactions have been priced between 0.5-1.8x sales and 10-33x EV/EBITDA.

Amazon and Wholefoods

Amazon announced in June that it was acquiring the 431-store upscale US brick-and-mortar grocery retailer Whole Foods Market for US$13.7b. Whole Foods will give Amazon an instant national physical presence and a network of mini distribution points for fresh produce, alleviating the challenge of perishability of fresh food in the online grocery business.

Amazon will also take over Whole Foods' 365 house brand. The acquisition will provide Amazon with a ready pool of suppliers for fresh and packaged food, a network of stores close to customers as well as a supply chain platform for its online business to grow. This is similar to Amazon's bookstore business, which has both online and offline/store presence in the USA. Having both online and offline channels will facilitate delivery to customers with a hub-and-spoke logistical model and a "Click-and-Collect" mode of fulfillment.

Appendix

Players in the Online Grocery Market

Opentaste

Food direct from farms delivered within 36 hours. Customers order fresh food such as fruits, vegetables, and dairy on Opentaste. They have the option to purchase from different producers. The orders are subsequently consolidated at a Social Aggregating Centre (SAC) until a cut-off time before the orders are sent to the respective producers in the various countries. The producers, upon receiving the orders, harvest, pack, and pass the food to a freight forwarder. The food will be delivered to a major airport and depart for Singapore. When the food arrives in Singapore, Opentaste packs the food according to the customers' orders at its receiving center in Jurong. If necessary, the food is packed in insulated bags. The food will be delivered at a time specified by the customers. Opentaste strives to deliver the food items within 36 hours of the customer's order.

What makes Opentaste stand out? Fresher and tastier food. Opentaste claims that their food items are typically fresher and tastier as their farmers only harvest the food upon order by the customers. The food items are also sold at better prices as Opentaste does without intermediaries such as exporters, importers, and distributors. They also reduce waste in the process as farmers know the exact amount of food to harvest.

Listing food on Opentaste. Besides being a customer, people can be sellers on Opentaste as well and get access to a larger market. Listing food on Opentaste is free and sellers gets to set their own prices. Opentaste will deduct a processing and delivery fee from the seller when an item is sold. The sellers have the option to cash out their earnings to their respective bank accounts or to use it to purchase food on Opentaste.

Free delivery for purchases of S$35 and above. Customers are charged a S$4.95 delivery fee with purchases under $35. For purchases of S$35 and above, customers get to enjoy free home delivery. Opentaste's drivers are paid S$25 an hour and they are required to deliver up to 12 orders within a two-hour window.

Honestbee

Same-day 1-hour delivery. Customers order from the many grocery stores (NTUC Fairprice, Mmmm!, astronomia, etc.) listed on Honestbee. Honestbee enters into revenue-sharing agreements with all its partner merchants. The stores available for selection to the customers are dependent on the delivery address. Orders from multiple stores are possible. Once the orders are made, a concierge shopper hand-picks the products and passes them to a delivery bee. The products can be delivered within an hour of the order.

Convenience is the selling point for Honestbee. Honestbee caters to people who are providentially hindered from shopping for products on their own. These people may range from housemakers to breadwinners to the physically impaired. These people can shop at their fingertips, and coupled with same-day 1-hour delivery, Honestbee is the ideal platform for these people to purchase their necessities fuss-free. Compared to the individual grocery retailer's online platform (Fairprice Online, Cold Storage Online, etc.), Honestbee allows the customers to make purchases from many retail stores at one go.

Out of stock? If a product is out of stock, Honestbee offers 3 options to the customer. 1) Let the concierge shopper suggest alternatives. The customer has 10 minutes to approve the purchase of the alternative product. The product will not be purchased without the customer's approval; 2) The customer chooses the substitute product at the point of order; 3) The customer can opt not to have the product substituted as well. Customers pay for the final list of products only upon delivery.

How are the prices on Honestbee? Several products on Honestbee are labeled "Today's best price". These products are sold without a mark-up and are the same as in-store prices on the day the order is made. The other products are priced higher than in-store.

Delivery/concierge fees. Honestbee offers free delivery with orders of S$50 from Fairprice and S$40 from Specialty and Farm to Table stores. Customers that do not satisfy the minimum spending will have to pay a S$10 delivery fee. Customers may also have to pay a peak fee if they select a time slot during which the delivery bees are busy. Peak fee ranges from S$0.50 to S$2. On top of the delivery fee, customers have to pay a concierge fee of S$3.99 per store for most stores.

Shopper/delivery bees. Shopper bees are paid up to S$11 an hour, which is based on a fixed hourly rate and a variable bonus. Delivery bees receive a fixed hourly rate and a bonus for the number of drops that they make, translating to a maximum of S$22.20 an hour. HonestBee has worked out a revenue-sharing agreement with all its partner merchants, all of whom pay HonestBee for bringing in new customers.

HappyFresh

HappyFresh serves three countries. HappyFresh is available in Indonesia, Malaysia, and Thailand. Customers shop for their groceries from the wide range of stores available on the HappyFresh website or mobile app. The stores available for selection is dependent on the delivery location of the customer. Once the orders are made, the groceries will be by a Grocery Courier. In Indonesia, HappyFresh ties up with 4 hypermarkets (Transmart/Carrefour, Lotte Mart, and Grand Lucky), 5 supermarkets (Ranch, Farmers Market, Superindo, Loka, and Lotte) and some specialty stores (pet shops, organic food stores, liquor shops). Coverage is limited to Greater Jakarta and the city center of Surabaya and Bandung (Java).

Out of stock? If a product is out of stock, the customer has 3 options. 1) The Personal Shopper will suggest a similar item and call the customer for approval. 2) Customers can choose specific alternatives for any product when they make their orders. 3) Customers can opt for no replacement for any out-of-stock products as well.

Three ways HappyFresh makes money. There is a minimum spend and a delivery fee. Some of the merchandise are priced higher than its offline price to cover the service fee. 1) Delivery fee. Delivery fee differs among the countries HappyFresh serves. Customers pay IDR 20,000 for delivery during all delivery slots in Indonesia. In Malaysia, the delivery fee is RM 10 for next-hour time slots and RM 8 for other time slots. If the delivery address is outside of the normal coverage area of the store, customers will be charged an additional RM 1 per km. As for Thailand, delivery during regular hours is 60 THB for the first 0-10 km and 12 THB/km from 11 km onwards. Delivery during peak hours is 80 THB for the first 0-10 km and 12 THB/km from 11 km onwards. 2) HappyFresh takes a fee from its retail partners. 3) HappyFresh operates an analytics and data business, HappyData. It is a platform on which retailers can promote their products and services. As for payment, there are two methods: credit card and cash-on-delivery.

GoFresh

Wide product range. GoFresh offers a wide product range comprising seafood, meat, fruits, and vegetables which are sourced directly from fishermen, farmers, and artisans around the world. The products are offered to customers either fresh or frozen. The freezing process is industry standard and the products are cry-vac-packaged to preserve the freshness and flavor of the food. Before customers place their orders on GoFresh's online store, GoFresh provides suggested cooking methods, recipes as well as tips for the products. Next-day doorstep delivery is available for orders made before 3pm from Sundays to Fridays. Orders placed on Saturdays and public holidays will be delivered on the next work weekday. The products are delivered in ice-packed, insulated boxes.

100% guarantee. GoFresh is committed to delivering fresh produce and each purchase comes with a Freshness Guarantee. Customers will be able to replace or ask for a refund for any products that are not delivered fresh if they notify GoFresh within two days of delivery.

Delivery fee. GoFresh delivers island wide and has a minimum order of S$40. Purchases above S$60 are entitled to free delivery. Standard delivery fee is S$15.

FreshDirect

Supplier of fruits and vegetables to commercial kitchens. FreshDirect is a grocer that serves commercial kitchens, supplying to restaurants, cafes, hotels, and supermarkets all over Singapore. FreshDirect's product portfolio comprises mainly fruits and vegetables. They ensure the quality of their products by conducting regular farm audits and product inspections. FreshDirect also claims to have the best cold-room technology. Customers can place their orders through phone, email or fax. The order form is available on FreshDirect's website. Orders have to be made before 3pm for next day delivery and before 12pm on Saturday for Monday delivery. FreshDirect do not deliver on Sundays and public holidays.

Pre-cut fruits and vegetables, ready to cook and eat products. Kitchenomics is a premium service provided by FreshDirect. Customers can opt to have their fruits and vegetables pre-cut and tailored to their needs. This request will have to be made three working days in advance. Furthermore, FreshDirect serves ready-to-heat soups as well. With ready-to-cook and ready-to-eat products, customers can save on their food preparation and manpower.

More innovative online grocery retailers. Innovative online grocery retailers are set to continue offering many new services and experiences to cater to different consumer needs. OpenTaste offers consumers fresh food directly from the farms through the online channel. This service meets the needs of consumers who highly value freshness of their food. Furthermore, several products are offered at better prices compared to supermarkets as this model do without intermediaries such as exporters, importers, and distributors.

Brick-and-mortar players have been partnering online players

Year	Partnerships between brick-and-mortar and online player	Note
2000	John Lewis Partnership and Ocado	• John Lewis Partnership took a 40% stake in Ocado for £35m • After a series of private capital raisings by Ocado, the stake was reduced to 29% in 2008 and transferred to John Lewis Pension Fund. • John Lewis Pension Fund divested a portion of the stake in 2010 and the remainder in 2011 for a total £255m
2000	Waitrose and Ocado	• Ocado entered into a deal to deliver Waitrose's products and to use the Waitrose brand • The agreement was renegotiated in 2008 and extended for a further ten years in 2010 with a break clause exercisable in 2017
2001	Ahold Delhaize and Peapod	• Ahold acquired a 51% stake in Peapod in 2000 and subsequently the outstanding 49% in 2001 • The total privatisation cost is approximately US$108m
2011	Morrisons and FreshDirect	• Morrisons acquired a 10% stake for US$50m to gain insight into FreshDirect's online model • Morrisons sold the stake for c.US$58m in 2016 after setting up its own online grocery retail channel in 2013
2011	Walmart and Yihaodian	• Walmart took a minority stake in 2011 and raised their stake in Yihaodian to 51% in 2012. Walmart subsequently bought out the remaining shares in 2015. • In 2016, the entire stake was sold to JD.com, China's second largest online retailer behind Alibaba, in exchange for a 5% stake in JD.com, valued at approximately $1.5b
2013	Tesco and Lazada	• Tesco acquired a 19.6% stake in Lazada for £124m • In April 2016, 8.6% stake in Lazada was sold to Alibaba for £90m • After the sale and issuance of new shares, Tesco's stake in Lazada was reduced to 8.3%
2013	Morrisons and Ocado	• Under a 25-year deal, Morrisons agreed to buy Ocado's distribution centre and technology license for £170m • Ocado will assist in the technology, logistics and distribution aspects of Morrisons' new online grocery retailing
2017	Whole Foods Market and Amazon	• AmazonFresh, Amazon's online grocery platform, was launched in 2007 • Amazon announced that it was acquiring Whole Foods Market for US$13.7b

Source: DBS Bank

Country Profiles

Singapore

- High MGR penetration, 5-year CAGR projected at 2.5% led by supermarkets
- Increasing smaller format supermarkets seen, and at the expense of convenience stores
- Increasing focus on fresh produce and reining in operating expenses to improve margins
- Key stock picks are Sheng Siong and Dairy Farm

Market size and growth

US$6b grocery retail market, US$4.3b MGR, 72% MGR penetration. Grocery retail in Singapore had a market size of approximately US$6b in 2016, a slight decrease from US$6.2b in 2014 due to a shrinking traditional grocery retail market. Grocery retail declined 1.2% CAGR from 2014-16 due to a decrease in traditional grocery retail sales as more people shifted from traditional to MGR purchases. MGR penetration increased to 72%; hypermarkets had the highest growth of 14.9% CAGR from 2014-16, driven by strong sales of daily essentials under the private-label brands at supermarkets.

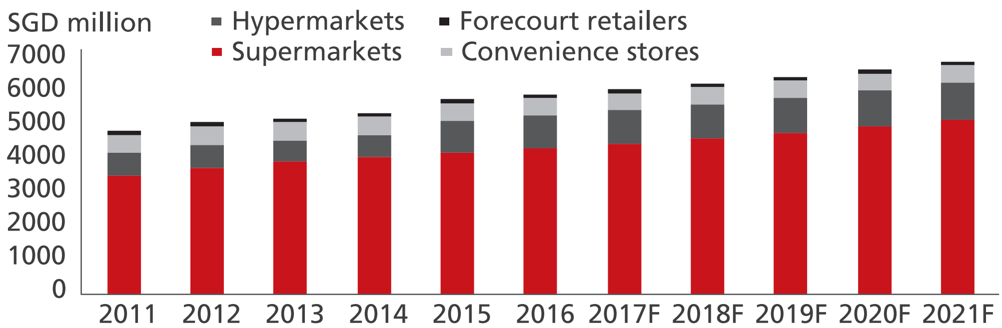
Market size of MGR is expected to reach US$4.9b in 2021

US$b	Modern	Traditional	Total	Penetration
2014	4.28	1.92	6.20	69%
2016	4.34	1.71	6.05	72%
CAGR%	**0.7%**	**-5.6%**	**-1.2%**	**2014-16**
2021	4.91	1.82	6.72	73%
CAGR%	**2.5%**	**1.2%**	**2.1%**	**2016-21**

Source: Euromonitor, DBS Bank

2.5% CAGR for MGR from 2016-21. This trend is expected to reverse with a growth of 2.1% CAGR for the next five years. MGR growth is expected to increase to 2.5% CAGR, driven by the emergence of more supermarkets. Traditional grocery retail is forecast to increase at a 1.2% CAGR from 2016-21 as people shift towards MGR purchases.

MGR forecast to grow at 2.5% CAGR, led by supermarkets



Source: Euromonitor, DBS Bank

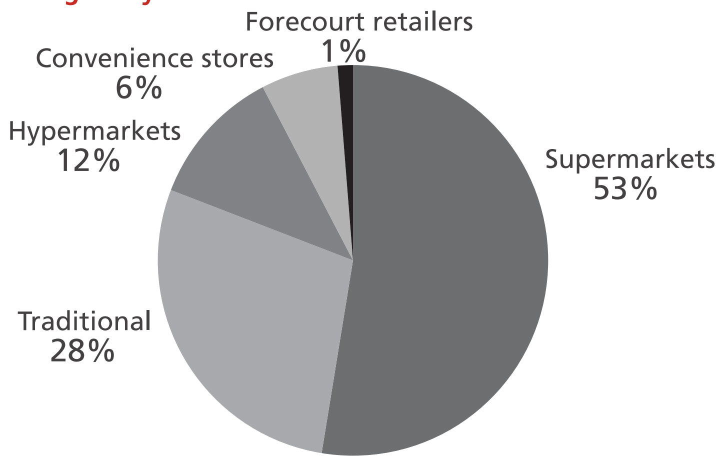
3% CAGR for supermarkets from 2016-21. Supermarkets are expected to post the highest growth of 3% CAGR for the next five years. Convenience stores are forecast to continue its decline, albeit at a slower pace due to the emergence of more supermarkets.

Supermarkets are expected to grow the fastest going forward

US$b	2014	2016	2014-16 CAGR%	2016-21 CAGR%
Supermarkets	3.23	3.18	-0.8%	3.0%
Hypermarkets	0.53	0.70	14.9%	2.4%
Convenience stores	0.44	0.39	-5.9%	-1.9%
Others	0.083	0.077	-3.7%	1.9%
MGR	**4.28**	**4.35**	**0.7%**	**2.5%**

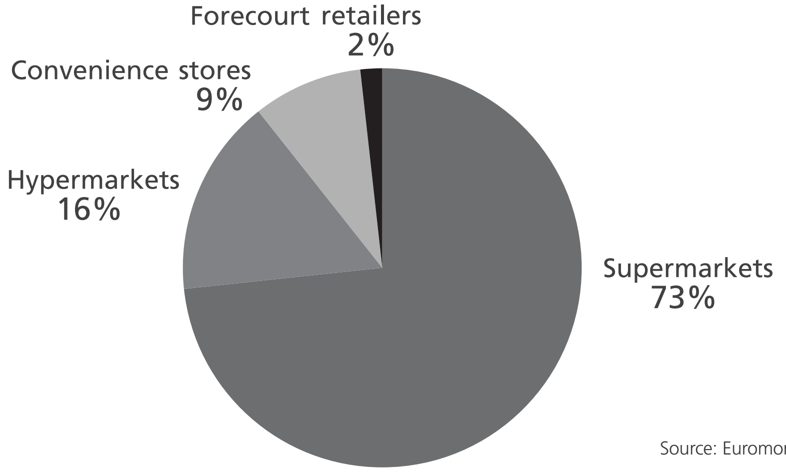
Source: Euromonitor, DBS Bank

MGR dominates grocery retail



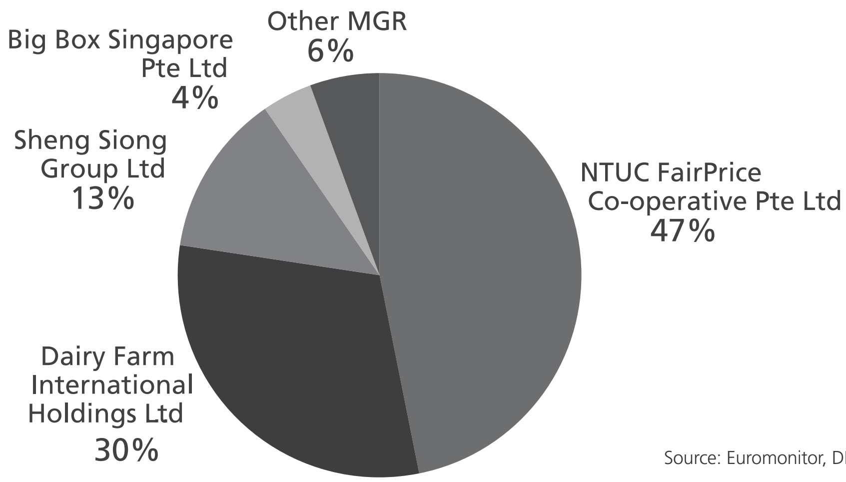
Source: Euromonitor, DBS Bank

Singapore's MGR is dominated by supermarkets



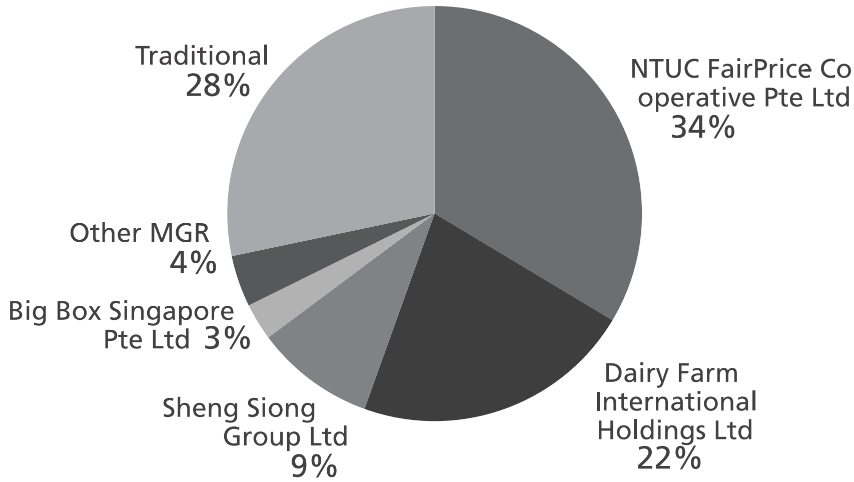
Source: Euromonitor, DBS Bank

Singapore's MGR market players



Source: Euromonitor, DBS Bank

Singapore's grocery retail market players



Source: Euromonitor, DBS Bank

Developments

Smaller outlets. With increasing affluence and interest in home cooking, Singaporeans are spending more on groceries. Grocery retailers are constantly offering deals and benefits such as discounts and loyalty programs to entice consumers to spend more at stores. Supermarket retailers are opening smaller outlets, expanding their footprint into residential districts, and extending their operating hours to 24 hours a day. For example, NTUC opened six new small outlets in residential districts which offers daily essentials at low prices to cater to the lower-income group. NTUC also expanded its range of private label products to fresh produce to target budget-conscious consumers.

Technology in the grocery store. Modern grocery retailers are incorporating technology into their business through the use of self-service checkouts, increasing payment options as well as having efficient logistics management to ensure the quality and safety of the grocery products. Online grocery retailing is picking up as Singaporeans are increasingly tech-savvy and value the convenience that it is able to offer. Although consumers would still prefer to visit the physical stores to purchase fresh produce and perishable food, bulky goods such as rice and oil are popular purchases through the online channel. Good customer service and attractive discounts and rewards are important aspects valued by online consumers. This has attracted the attention of global e-commerce market players such as Amazon and Tesco which have plans to expand their business into Southeast Asia, starting with Singapore.

Varying strategies employed. With regards to the market strategies of the local players, NTUC has expanded its range of fresh food and daily staples while Giant and Sheng Siong have seen strong sales of daily essentials under their respective private labels, which are priced lower. Convenience stores have taken a hit from the growing presence of supermarkets but they are continuing to innovate and are expanding into consumer food service, widening their product ranges, and offering value-added services such as cash withdrawals, e-commerce payments, and collection points for online retailing orders. 7-Eleven, for example, has introduced seating areas, new ranges of fresh food items and chilled ready meals, and are offering more premium products.

Key sector trends

Singapore's consumers have been downtrading. Over the past year, the weak economy has seen consumers trading down from higher-end supermarkets to the mass-market segment. This has led Dairy Farm, which operates higher-end supermarket Cold Storage, to close some non-profitable stores in Singapore in CY2H16.

Store profitability remains very much in focus going forward for larger players. We expect same-store sales growth to track at 0-5%, but earnings improvement will be driven by operating leverage and margins. Cost management will be key to earnings growth. Supplier rebates, sales mix of fresh and non-fresh food, rent, wages, direct sourcing, and house brands will all be sources of earnings growth. Smaller players are trying to increase their store network by bidding for shop space at higher rates.

The online business is growing, with RedMart, Tesco, and the imminent entry of Amazon Prime. But new online businesses currently face a market-share tussle with physical supermarkets, which are conveniently located across Singapore. The cost of online fulfilment currently remains high, with RedMart still recording losses and low concentration of grocery retail incumbents in the online space. We hold the view that grocery online retail will eventually take off. But for now, profitability is not expected in this space. More players that could come in in the future include Tesco Online Ventures and Amazon Prime.

Grocery retail real estate especially for HDB estates is intensifying. Recent bidding of supermarket shop space in HDB estates have risen to S$15-20 per square feet. While HDB's supply of new supermarket outlets remains robust, higher rental rates – if they persist – will increase operating costs and lead to lower margins.

Indonesia

- Low MGR penetration at 17%, 5-year CAGR projected at 5.3% led by convenience stores
- Government controlling MGR expansion locations
- Sluggish household spending while competition remains keen
- Negative on MPPA on weak demand, competition and higher opex

Market size and growth

US$101b grocery retail market, US$17b MGR, 17% MGR penetration. Indonesia's US$101b grocery retail market was the biggest in 2016 among the five SEA countries. The market size increased marginally from 2014. Grocery retail was largely dominated by traditional grocery retail as it has a far-reaching presence into all parts of the country, rural areas in particular. MGR penetration increased by one percentage point to 17% in 2016, driven by outlet expansion and the adoption of unique selling points such as fresh produce by supermarkets and hypermarkets.

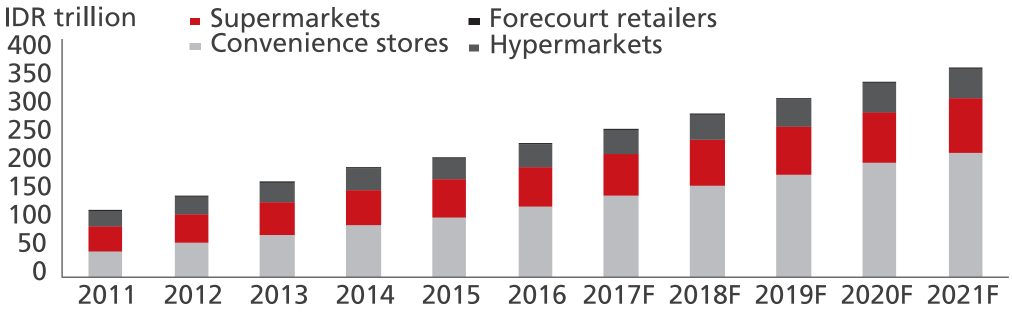
Market size of MGR is expected to reach US$23b in 2021

US$b	Modern	Traditional	Total	Penetration
2014	16.27	83.23	99.50	16%
2016	17.40	83.93	101.33	17%
CAGR%	**3.4%**	**0.4%**	**0.9%**	**2014-16**
2021	22.53	97.45	119.98	19%
CAGR%	**5.3%**	**3.0%**	**3.4%**	**2016-21**

Source: Euromonitor, DBS Bank

3.4% CAGR for grocery retail from 2016-21. Grocery retail grew at a rate of 0.9% CAGR from 2014-16 and the growth is expected to increase to 3.4% CAGR for the next five years, driven by traditional grocery retail. MGR and traditional grocery retail are also expected to grow at a faster pace at 5.3% and 3% CAGR, respectively.

MGR forecast to grow at 2.5% CAGR, led by supermarkets



Source: Euromonitor, DBS Bank

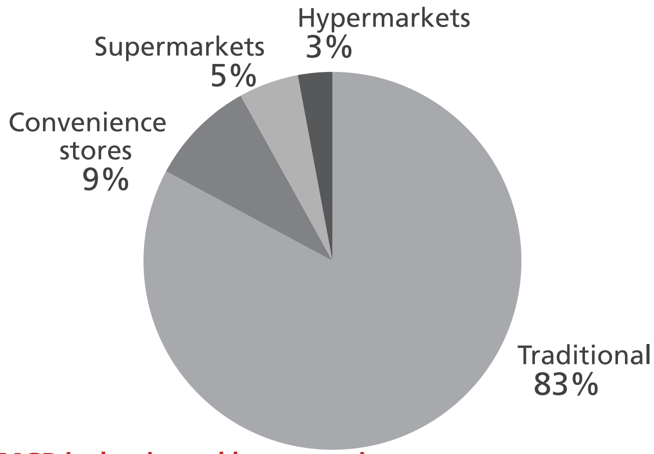
9.8% CAGR growth for convenience stores from 2014-16. Convenience stores posted the highest growth among MGR from 2014-16. It is expected to continue doing the same from 2016-21, with a CAGR of 7.8% as people value the convenience and close proximity to residential districts that they offer. Both supermarkets and hypermarkets declined from 2014-16 in US$ terms due to exchange-rate differences. These two segments are forecast to grow at a CAGR of 2.5% and 1.6%for the next five years, led by outlet expansions.

Convenience stores are expected to grow the fastest going forward

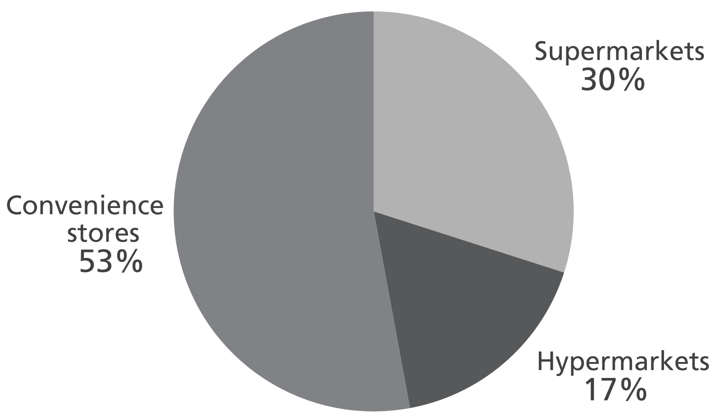
US$b	2014	2016	2014-16 CAGR%	2016-21 CAGR%
Supermarkets	5.34	5.20	-1.3%	2.5%
Hypermarkets	3.28	3.00	-4.4%	1.6%
Convenience stores	7.62	9.18	9.8%	7.8%
Others	0.036	0.041	6.7%	3.8%
MGR	**16.28**	**17.42**	**3.4%**	**5.3%**

Source: Euromonitor, DBS Bank

Traditional grocery retail dominates the grocery retail market.

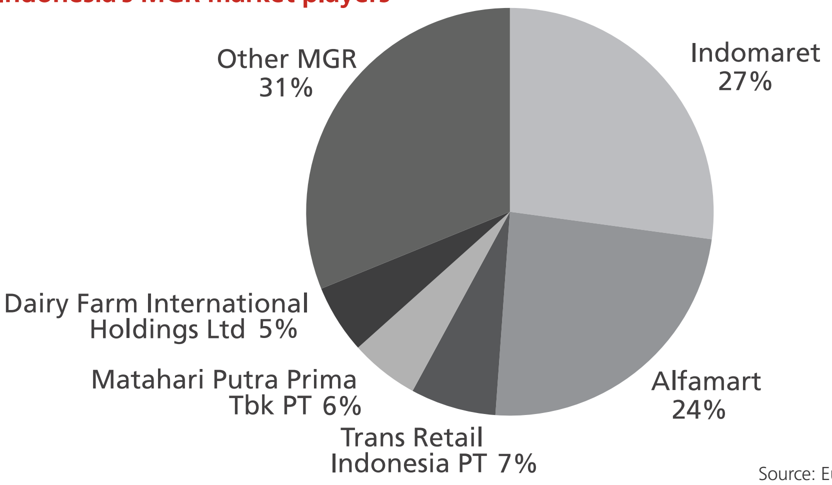


Indonesia's MGR is dominated by convenience stores



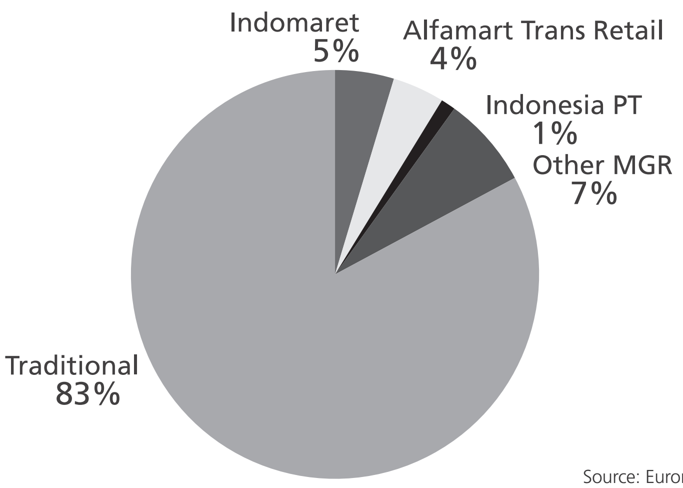
Source: Euromonitor, DBS Bank

Indonesia's MGR market players



Source: Euromonitor, DBS Bank

Indonesia's grocery retail market players



Source: Euromonitor, DBS Bank

Developments

Outlet expansion outside key urban areas. Many Indonesians enjoy visiting hypermarkets to replenish their grocery supplies. However, due to their increasingly busy lifestyles, many are preferring convenience stores and forecourt retailers as they are closer to their homes. This is helped by the aggressive outlet expansion of convenience stores, which includes expanding into third-tier cities across the country and the addition of new products besides groceries. For example, Indomarco Prismatama PT launched cheaper and easier franchise agreements and schemes as well as a Take Over scheme to aid their outlet expansion plans. Indomarco also embarked on its online retail plans and diversified into several brand extensions, namely Indomaret Point, Indomaret Fresh, and Indomaret Plus to increase its actual sales. Hypermarkets and supermarkets have also increased their outlet counts and supermarkets are reaching out to consumers in second-tier cities such as Solo.

Consumers are now more demanding. Supermarkets are focusing on grocery products and unique selling points such as fresh produce. Hypermarkets, on the other hand, are focusing more on the sales of non-grocery products due to the higher profit margins. Consumers also enjoy purchasing non-grocery products from hypermarkets due to the aggressive promotions offered by retailers. Pricing is key for grocery retail as consumers wants to obtain the maximum value from their grocery purchases. In addition to price, consumers are also considering other factors such as quality, customer service, store location, and presence of value-added services when making their purchase decisions.

Online grocery retail sprouting. Online grocery retailing is growing as many Internet retailers have added grocery products to their product portfolio. Many special events and promotions were also held to entice consumers to switch to online retailing.

Traditional grocery retailers taking on the challenge by MGR. Despite the growth of modern grocery retailing, traditional grocery retailing still prevails due to the deep penetration into many areas in the country, especially the smaller and more remote areas where modern grocery retailers are unable to reach. Traditional retailers have also made efforts to compete with modern retailers by renovating and providing home delivery services. The Indonesian government are also starting to control the locations where new modern grocery retailers can expand to and has stopped issuing licenses for the opening of new convenience stores to protect traditional retailers. However, with the limited enforcement of laws and the opportunity present in in less saturated areas outside Java, modern retailers are still expected to continue with their outlet expansion plans. One interesting development is Go-Jek from Gojek Indonesia PT. Consumers can utilise Go-Jek riders to purchase groceries and have them delivered. This has been well-received because of the traffic jams in large cities which makes travelling by cars time-consuming.

Key sector trends

Household spending remained sluggish in 1H17. Retailers indicated weak sales during the Lebaran season with the Food and Beverage Association reporting that the industry's sales fell by 10% from last year's Lebaran season. While prices of Indonesia's key export commodities (rubber, coffee and Crude Palm Oil) trended up in 2H16, the rally was not sustainable, hence it has not been able to support consumers' spending power ahead of Lebaran. In addition, the delay in payment of civil servants' extra salary in June also exacerbated the weak spending. We note that the listed grocery retailers saw their sales growth decelerating in 1Q17, with flattish to negative SSSG. Some of them did not to see any meaningful improvement approaching Lebaran season.

Better demand outlook in 2H17 but competition remains tight. Despite the weak 1H17, we expect the momentum of economic recovery to continue in 2H17, supported by an increase in the government's spending and steady electricity tariffs. Nonetheless, we expect consumers to continue shifting away from hypermarkets to minimarkets, as the latter has continued to expand rapidly by adding around 3,000 stores annually over the country. We see pressure on hypermarket's margin to persist as operators try to compete on price against minimarkets as well as regional supermarkets.

Malaysia

- Moderate MGR penetration at 42%, 5-year CAGR projected at 7.3% led by convenience stores
- Convenience store expanding and gaining popularity
- Competition, costs and weak consumption dampening the sector
- No stock calls on earnings risk and high valuation

Market size and growth

US$15b grocery retail market, US$6.3b MGR, 42% MGR penetration. Malaysia's grocery retail market fell to US$15b in 2016 from US$18b in 2014 due to softening economic conditions in Malaysia in 2016 which dampened consumer confidence. The market is expected to pick up for the next five years and is forecast to reach US$21b in 2021. MGR penetration remained unchanged and there is no expectation of any changes in 2021 as well.

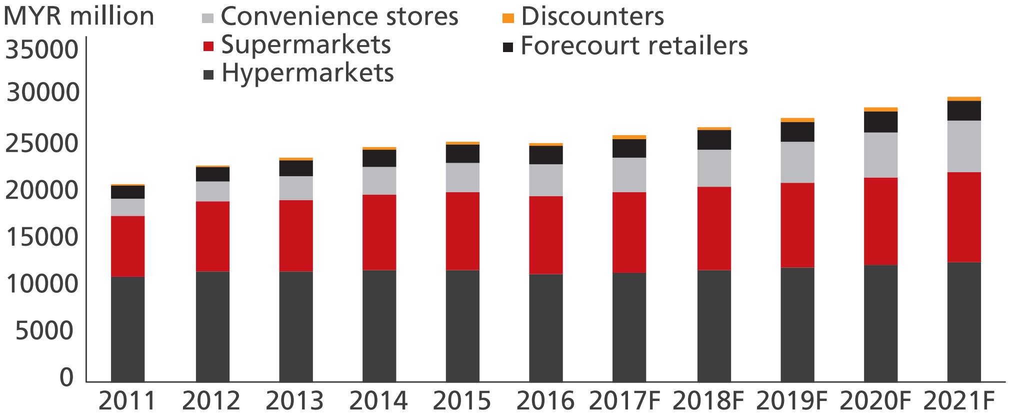
The MGR market is expected to reach US$9b in 2021

US$b	Modern	Traditional	Total	Penetration
2014	7.68	10.43	18.11	42%
2016	6.29	8.78	15.07	42%
CAGR%	**-9.5%**	**-8.3%**	**-8.8%**	**2014-16**
2021	8.95	12.29	21.24	42%
CAGR%	**7.3%**	**7.0%**	**7.1%**	**2016-21**

Source: Euromonitor, DBS Bank

7.1% CAGR grocery retail growth for the next five years. Grocery retail declined by a staggering 8.9% CAGR for the past two years but is expected to grow at a 7.1% CAGR from 2016-21, approximately equally contributed by both MGR and traditional grocery retail. MGR and traditional grocery retail declined for the past two years but they are forecast to grow at a 7.3% and 7% CAGR, respectively for the next five years.

MGR forecast to grow at 7.3% CAGR, led by hypermarkets



Source: Euromonitor, DBS Bank

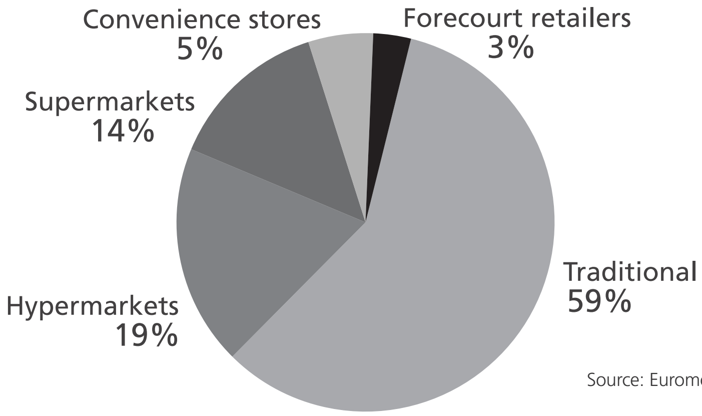
14.2% CAGR for convenience stores from 2016-21. All the segments in MGR fell from 2014-16. Hypermarkets posted the biggest decline as the leading players engaged in aggressive price competition and supermarkets and convenience stores posed competition. Supermarkets and hypermarkets are expected to grow during 2016-21. Similarly, convenience stores are forecast to grow at a 14.2% CAGR for the next five years due to outlet expansion and the convenience they are able to offer to busy consumers. Overall, MGR is expected to grow at a 7.3% CAGR from 2016-21.

Convenience stores are expected to grow the fastest going forward

US$b	2014	2016	2014-16 CAGR%	2016-21 CAGR%
Supermarkets	2.46	2.07	-8.3%	6.3%
Hypermarkets	3.67	2.83	-12.2%	5.8%
Convenience stores	0.89	0.83	-3.4%	14.2%
Others	0.66	0.56	-7.9%	6.7%
MGR	**7.68**	**6.29**	**-9.5%**	**7.3%**

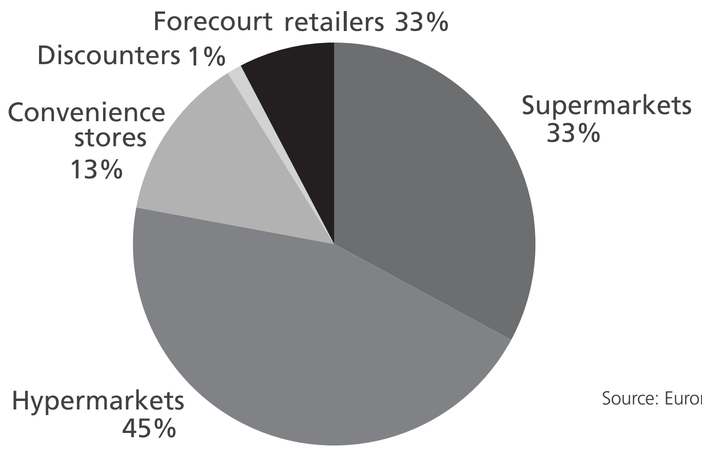
Source: Euromonitor, DBS Bank

Traditional grocery retail is 58% of total grocery retail



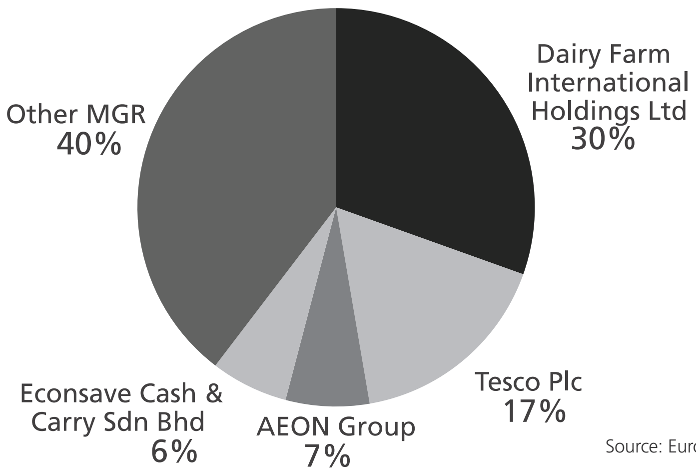
Source: Euromonitor, DBS Bank

Malaysia's MGR is dominated by hypermarkets



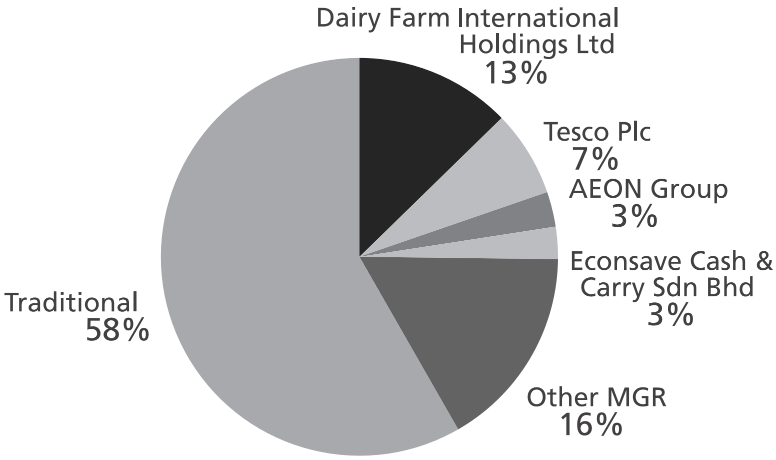
Source: Euromonitor, DBS Bank

Malaysia's MGR players



Source: Euromonitor, DBS Bank

Malaysia's grocery retail market players



Source: Euromonitor, DBS Bank

Developments

Aggressive promotions. More grocery retail brands are entering the Malaysian market and consumers are increasingly interested in getting the best deal from the many options. Many grocery retailers provide frequent price promotions, with hypermarket retailers registering negative performances because of the aggressive price promotions. For example, Mydin, a discounter chain, has been drumming up strong demand among low-income groups by selling daily essentials at competitive prices. In addition, Mydin has been able to expand rapidly due to its active advertising campaigns.

Convenience stores are preferred among consumers. Convenience stores are gaining popularity because they have comprehensive product portfolios and are located close to residential areas, making them very convenient for consumers. Convenience stores have also introduced quick meal solutions as well as instant noodles and hot drinks to cater to the busy consumers. Consumers on the whole prefer supermarkets and convenience stores to hypermarkets due to the faster checkout queues and lower consumer traffic within each store. To this end, hypermarkets are focused on selling non-grocery products to cater to different consumer needs. Modern retailers are putting in more effort to provide better packaging and rebate vouchers to boost the sales of private- label products as these products are usually perceived as low-quality goods. With regards to online grocery retailing, it is still in its infancy as there are limited players. Many elderly shoppers still prefer to purchase groceries from physical stores, whereas young and tech-savvy consumers are more supportive of online grocery retail due to the convenience it offers.

MGR have an advantage over traditional grocery retailers. Traditional grocery retailers are still generating higher value sales because of their strategic locations, which are usually walking distance to the homes of the consumers. However, modern grocery retailers do have the advantage of having comprehensive product portfolios, longer opening hours as well as the ability to provide a more comfortable shopping experience. Pricing is important and many retailers offer aggressive price discounts on a weekly or bi-weekly basis. For example, GCH Retail (M) Sdn Bhd retained its top position in grocery retail through strategic marketing plans and its investments in several different outlet formats. GCH Retail (M) Sdn Bhd also offers the lowest priced products as well as weekly promotions. Major retailers are expected to engage in outlet expansions and to extend their daily operating hours to 24 hours.

Key sector trends

Keen competition, weak consumption dampening the sector. Consumer spending remains unexciting, with the Malaysian Institute of Economic Research's Consumer Sentiments Index for 1Q17 at 76.6 points, significantly below the 100-point threshold and pointing to a sluggish recovery. In addition, intensified competition in the sector, particularly from new comers such as Lulu Hypermarket and aggressive expansion by convenience store operators, has led to heavier price discounts. Although potential election goodies could help temporarily create 'feel good' sentiment, we do not expect it to be a significant re-rating catalyst for the sector.

Convenience stores continued to see strong expansion. Malaysians' increasingly frantic lifestyles have also resulted in rising demand for convenience stores, which continue to see strong expansion into the untapped market. As such, we are not surprised that the management of 7-Eleven Malaysia has maintained its new store expansion plan at about 200 stores/annum, while Bison Consolidated has plans to open 70 new stores per year in FY17- 18.

Margin may come under pressure. We also expect margin to come under pressure in view of (1) increased cost, partly driven by a higher minimum wage and more expensive imported products due to a weak Ringgit, and, (2) increased competition in the sector, which restricts retailers' ability to pass on higher costs.

Thailand

- Moderate MGR penetration at 46%, 5-year CAGR projected at 7.5% led by convenience store
- Convenience store growing with more products, services
- Margins to expand on product mix, cost management
- Positive on CPALL on easing competition, margin expansion

Market size and growth

US$52b grocery retail market, US$24b MGR, 46% MGR penetration. Thailand's grocery retail market size decreased to US$52b in 2016 due to exchange-rate differences but it is expected to reach US$68b in 2021. MGR penetration increased to 46% in 2016, driven by convenience stores and is forecast to continue increasing to 51% in 2021. Sales of traditional grocery retail has been declining for the past two years, due to exchange-rate differences, but is expected to make a turnaround to post growth of 3.3% CAGR for the next five years.

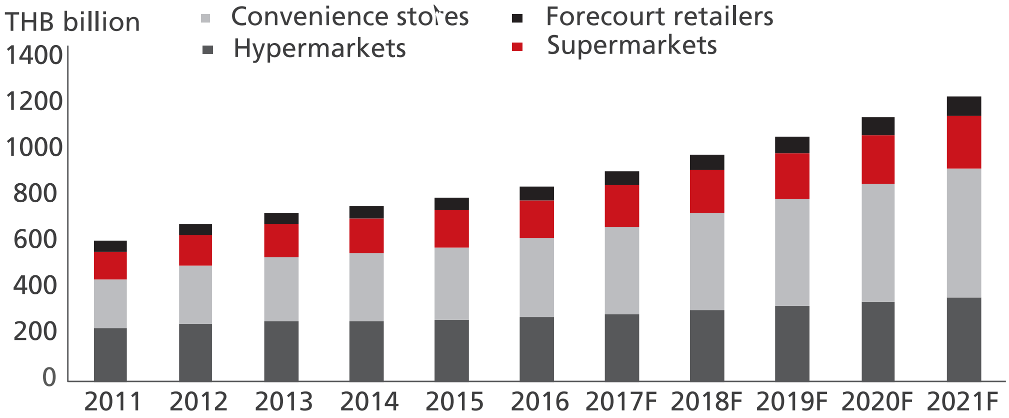
The MGR market is expected to reach US$9b in 2021

US$b	Modern	Traditional	Total	Penetration
2014	23.47	29.70	53.17	44%
2016	24.17	28.20	52.37	46%
CAGR%	**1.5%**	**-2.6%**	**-0.8%**	**2014-16**
2021	34.65	33.10	67.75	51%
CAGR%	**7.5%**	**3.3%**	**5.3%**	**2016-21**

Source: Euromonitor, DBS Bank

Grocery retail to grow at a 5.3% CAGR from 2016-21. Grocery retail declined 0.8% CAGR from 2014-16 but is forecast to grow at a 5.3% CAGR for the next five years, driven by MGR. MGR is expected to grow at a faster pace than traditional grocery retail, with a 7.5% and 3.3% CAGR, respectively, as consumers prefer buying from convenience stores to traditional formats.

MGR forecast to grow at 7.5% CAGR, led by convenience stores



Source: Euromonitor, DBS Bank

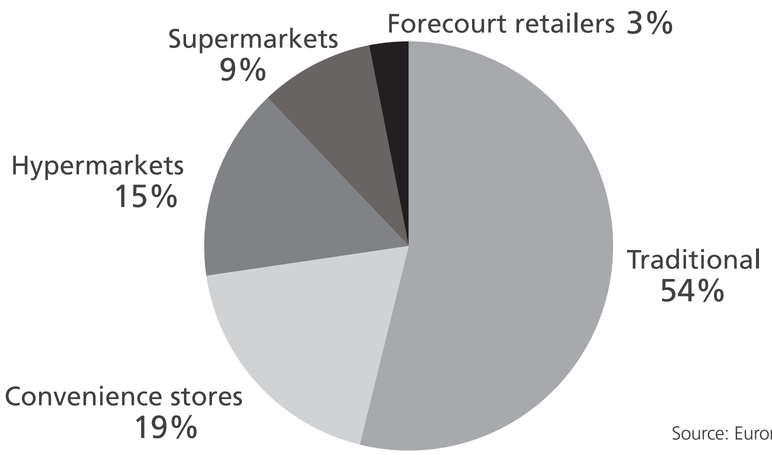
9.8% CAGR for convenience stores from 2016-21. Convenience stores posted the strongest growth from 2014-16 of 4% (CAGR), due to outlet expansion by leading players. All segments of MGR are expected to grow over the next five years, with convenience stores posting the strongest growth of 9.8% CAGR on the back of continuing aggressive outlet expansion by players into metropolitan and provincial areas. Supermarkets and hypermarkets are expected to be driven by Internet retailing in the long term. Overall, MGR is forecast to grow at a CAGR of 7.5%.

Convenience stores are expected to grow the fastest going forward

US$b	2014	2016	2014-16 CAGR%	2016-21 CAGR%
Supermarkets	4.63	4.72	1.0%	6.4%
Hypermarkets	8.08	7.97	-0.7%	5.2%
Convenience stores	9.11	9.86	4.0%	9.8%
Others	1.66	1.62	-1.2%	6.7%
MGR	**23.48**	**24.17**	**1.5%**	**7.5%**

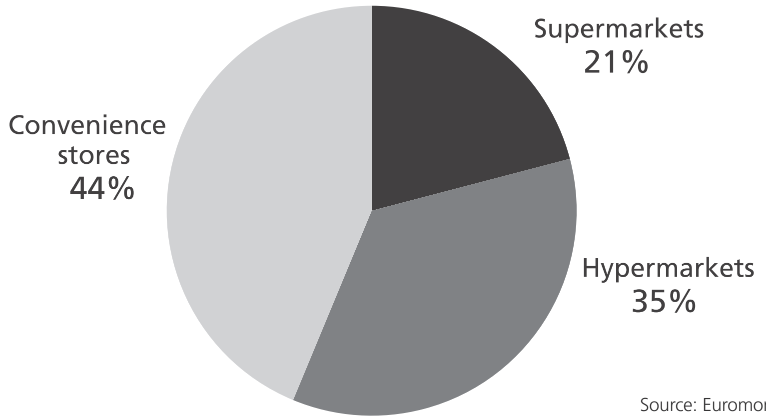
Source: Euromonitor, DBS Bank

Traditional grocery retail is 54% of total grocery retail



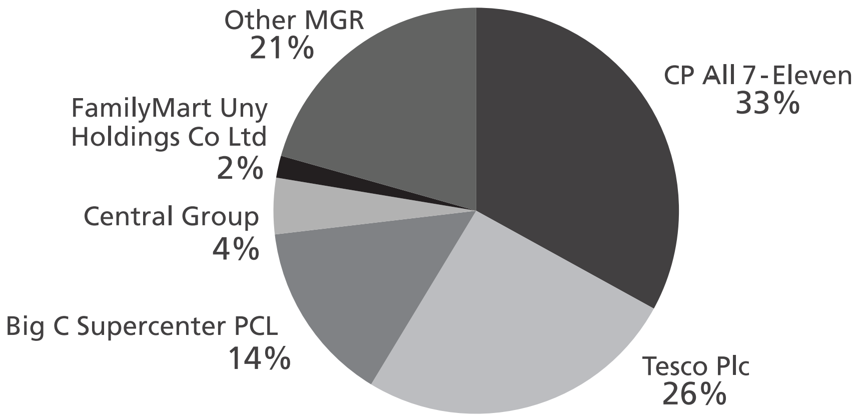
Source: Euromonitor, DBS Bank

Thailand's MGR is dominated by convenience stores



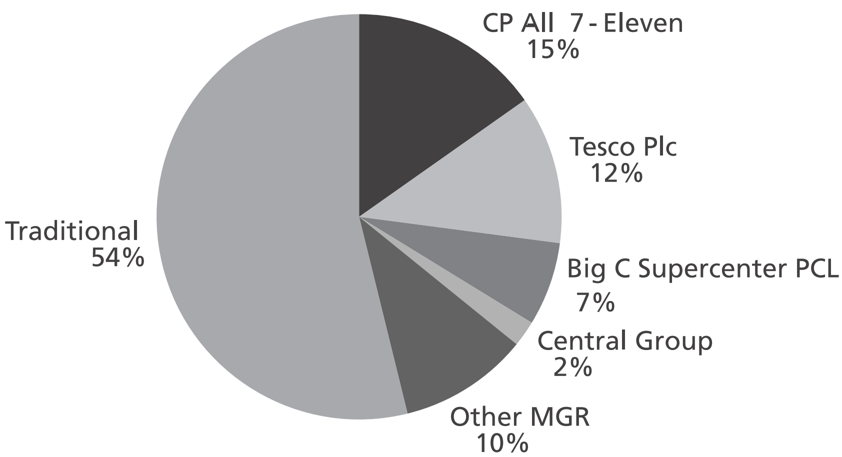
Source: Euromonitor, DBS Bank

Thailand's MGR market players



Source: Euromonitor, DBS Bank

Thailand's grocery retail market players



Source: Euromonitor, DBS Bank

Developments

Convenience stores, hypermarkets and supermarkets serve different consumer needs. The interest in convenience stores among consumers stems from the convenience of parking, the modern and attractive stores, their proximity to their residential areas, and the variety of food which they can purchase anytime during the day. Convenience stores also provide special promotions to entice consumers. Hypermarkets are already present in key target areas and thus the outlet expansion might be slower. Hypermarkets offer promotions to consumers, especially since most of their consumers are low and middle-income groups which were badly hit by the drought and the economic slowdown in 2016. Supermarkets, having a consumer base comprising mostly middle and high-income group, focus on providing healthier products such as organic food as their consumers are increasingly concerned about quality.

Innovation in online grocery retailing. Online grocery retailing is gaining traction as it is a convenient platform for consumers to do their grocery shopping. As a result, grocery retailers have launched many services and promotions. For example, Tesco Lotus introduced many new services in 2016; it offers a variety of channels to deliver their products, and consumers can order online and pick up the products at any Tesco Lotus branch using "Click-and-Call". Similarly, customers can order online and receive the products at several condominium lockers in Bangkok using ShopBox24. Alternatively, HappyFresh delivers Tesco Lotus products to consumers within two hours. Besides delivery services, Tesco also incorporated iBeacon, by which customers will receive special privileges or discounts when they walk pass the beacon points in Tesco if they have installed the Tesco Lotus application on their smartphones.

Convenience stores are also innovating. Convenience stores are focusing on food. For example, 7-Eleven launched the Food place business model to sell fresh food and a wide variety of food products. The food products are offered at reasonable prices largely because 7-Eleven has the economies of scale to do so. Apart from selling food, 7-Eleven is looking towards outlet expansion as well as offering laundry services and opening restaurants at their stores. 7-Eleven also offers many special promotions during the year. Another convenience store retailer that is gaining attention is Lawson 108. Lawson 108 focuses on selling Japanese products and is looking to extend its footprint across the country using both franchises and its own investment. Its main target group is urban dwellers.

Growth strategies include online, ready-to-eat food and store expansion. Convenience stores will be expected to be aggressive in expanding their outlets into metropolitan and provincial areas. They will also seek to provide more food and drinks intended for instant consumption as well as improve the prices and quality of their products. As for online grocery retail, logistic is an important area of focus as consumers will expect to receive their products on time. Online marketing should also be considered.

Key sector trends

Food retail held up despite weak outlook. The sentiment overall in Thailand is dull as there hasn't been a near-term catalyst that would boost the economy so far. Quarter-to-date statistics for Thailand's retail sector hasn't been exciting amid a challenging environment. Additionally, there was impact from the high base in April last year caused by the government's stimulus measure and different weather conditions (hot and drought last year vs a lot of rain this year). Accordingly, SSSG of most of the retailers QTD, including food and discretionary ones, have been in negative territory. However, the food retailers such as CPALL did better than peers with milder negative SSSG.

Expect margin expansion. Despite a slowing sales outlook, we still expect positive FY17F earnings growth for the sector, driven by margin expansion. Earnings growth of all retailers has been positive YTD and we expect this to continue for the rest of the year. The factors that have been widening margin are product mix, cost management, and smaller interest expense (from lower cost of debt and outstanding debt).

We note that there will be a cremation ceremony for Thailand's late King Bhumibhol in October this year. We believe Thailand might face another period of slower consumption as people will be in mourning once again. However, the length and the magnitude will be much less than in October last year as the event has been in the calendar for a year.

The Philippines

- Moderate MGR penetration at 30%, 5-year CAGR projected at 22% led by convenience stores
- Online still unpopular, convenience stores are gaining traction
- Demand resilient despite higher inflation
- Positive on RHHI, Neutral on PGOLD

Market size and growth

US$43b grocery retail market, US$13b MGR, 30% MGR penetration. The Philippines' grocery retail market increased from US$41.5b in 2014 to US$42.9b in 2016, driven by MGR. MGR penetration has also increased to 30% on the back of outlet expansion and gradual shifting of preference for quality products from MGR. Traditional grocery retail continues to be popular due to its proximity to residential areas and consumers' familiarity with the it. Looking forward, the market size is expected to reach US$62.6b and penetration, 35% in 2021.

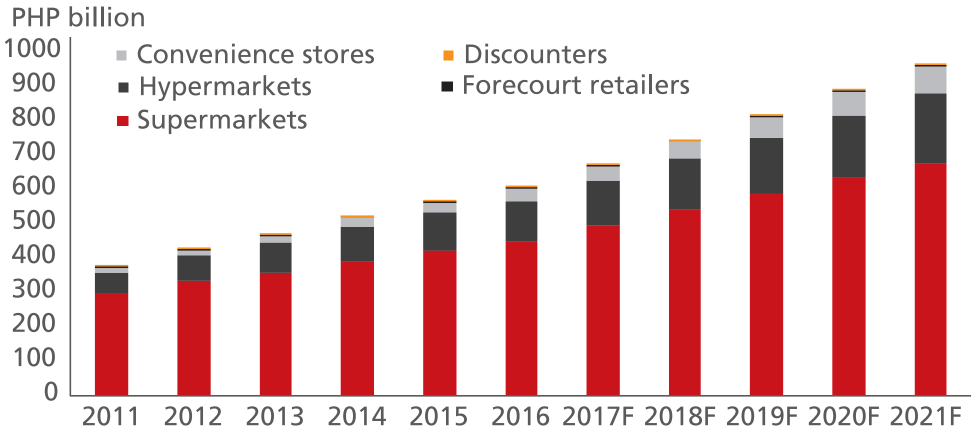
The MGR market is expected to reach US$9b in 2021

US$b	Modern	Traditional	Total	Penetration
2014	11.77	29.71	41.48	28%
2016	12.99	29.87	42.86	30%
CAGR%	**5.1%**	**0.3%**	**1.6%**	**2014-16**
2021	21.98	40.62	62.60	35%
CAGR%	**11.1%**	**6.3%**	**7.9%**	**2016-21**

Source: Euromonitor, DBS Bank

Higher growth for grocery retail from 2016-21. Grocery retail growth is expected to increase from 1.6% CAGR for the past two years to 7.9% CAGR from 2016-21. Both MGR and traditional grocery retail are forecast to post much higher growth of 11.1% and 6.3%, respectively, over the next five years as consumers needs and purchasing power increases.

MGR forecast to grow at 11.1% CAGR, led by supermarkets



Source: Euromonitor, DBS Bank

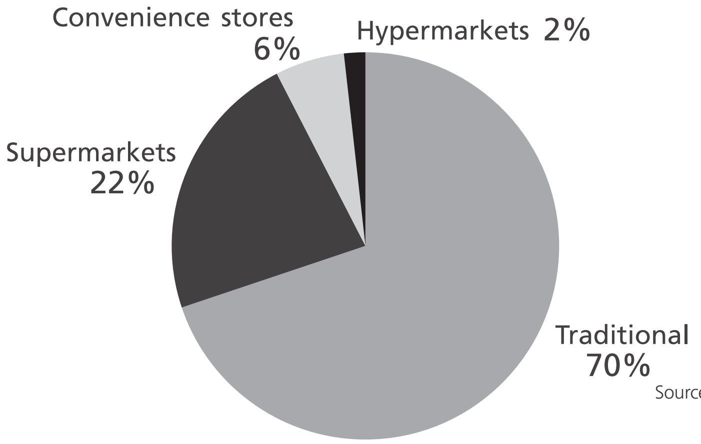
19.4% CAGR for convenience stores from 2016-21. Convenience stores grew at the fastest pace from 2014-16 at 13.5% CAGR due to their convenience and accessibility especially for urban workers. The format is expected to continue to post the fastest growth from 2016-21, with a CAGR of 19.4%. Supermarkets and hypermarkets are forecast to continue their growth as players look to expand into areas that have low MGR penetration – rural and emerging markets. MGR is expected to grow at a 11.1% CAGR for the next five years.

Convenience stores are expected to grow the fastest going forward

US$b	2014	2016	2014-16 CAGR%	2016-21 CAGR%
Supermarkets	8.81	9.66	4.7%	9.7%
Hypermarkets	2.27	2.47	4.3%	13.3%
Convenience stores	0.59	0.76	13.5%	19.4%
Others	0.088	0.10	6.6%	10.9%
MGR	**11.76**	**12.99**	**5.1%**	**11.1%**

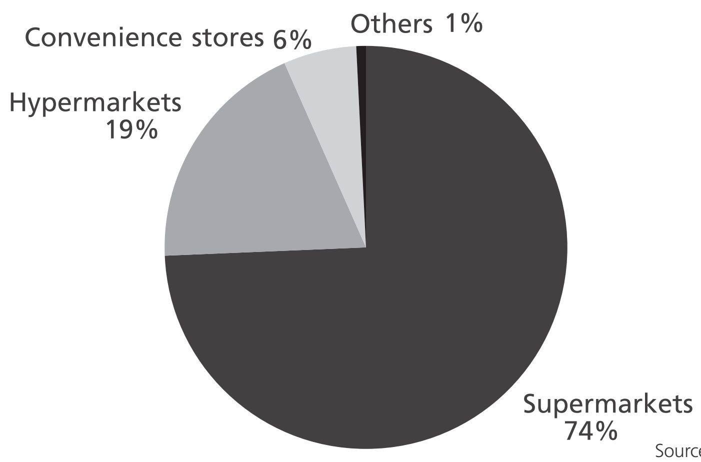
Source: Euromonitor, DBS Bank

Traditional grocery retail dominates the grocery retail market



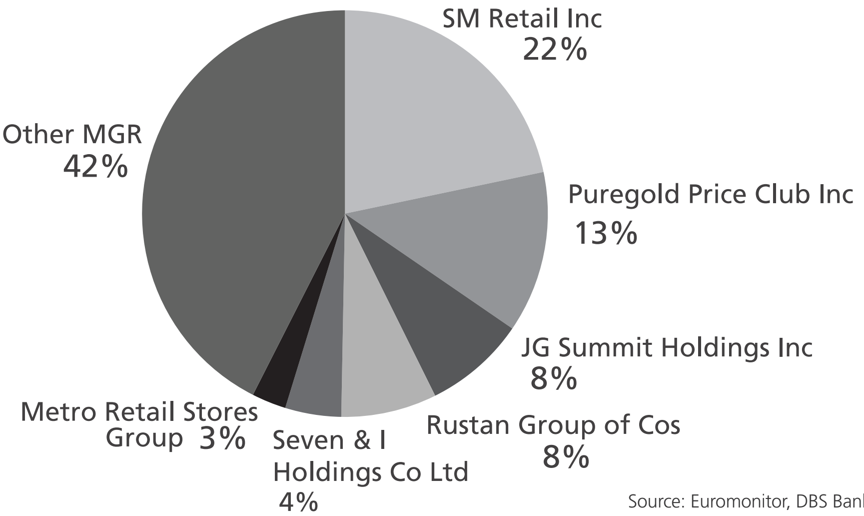
Source: Euromonitor, DBS Bank

Philippines' MGR is dominated by supermarkets



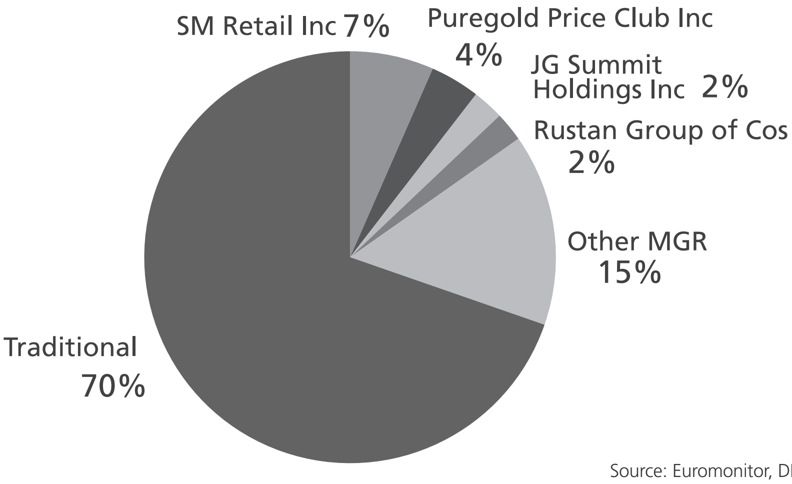
Source: Euromonitor, DBS Bank

The Philippines' MGR market players



Source: Euromonitor, DBS Bank

The Philippines' grocery retail market players



Source: Euromonitor, DBS Bank

Developments

Convenience stores are gaining popularity. Convenience and accessibility, due to the lack of free time as well as poor traffic conditions, are important considerations for consumers. Therefore, grocery retailers are focusing more on opening smaller store formats such as convenience stores in residential areas and business districts closer to consumers, as well as providing grocery delivery services and online grocery services to consumers. Convenience stores appeal to young and independent workers who enjoy eating out or purchasing take-away. These convenience stores usually have bright and cool interiors, a wide product selection, and are efficient. Consumers usually look to traditional grocery retailers located within their neighborhoods when they want to purchase food for immediate consumption and to convenience stores to satisfy their needs for a simple meal or a quick snack.

Worsening traffic conditions and busy lifestyles are driving online grocery retailing. Hypermarkets remain popular among consumers as they carry an extensive selection of grocery and non-grocery products. Meanwhile, supermarkets are popular among consumers for groceries and household consumables. Hypermarkets and supermarkets continue to focus more on grocery products due to the higher demand and sales.

Online still unpopular. Online grocery retail continues to be unpopular as many consumers still prefer to visit the physical stores to do their grocery shopping to ensure the quality and affordability. Consumers are also not confident to transact through online means. However, with worsening traffic conditions and lack of time, consumers are starting to explore the online alternative. Online retailers, Metromart and Robinsons Retail Group and SM Retail, utilize both desktop and mobile applications, which focus on convenience, security, and reliability, to reach out to more consumers.

MGR expected to continue outlet expansion plans. Traditional grocery retailers continue to reign because they are able to capture the underdeveloped and emerging markets, which modern grocery retailers have been unable to penetrate; they have been able to form close personal relationships with the consumers and provide perks and discounts from time to time. However, some consumers prefer modern grocery retailers due to the quality and quantity of their product selection, especially those of imported brands. Both modern and traditional grocery retailers position themselves according to price segments, altering their prices, products, and location of their stores accordingly. Modern grocery retailers are expected to engage in outlet expansion to reach out to more consumers, focusing mainly on convenience stores as business districts and residential neighborhoods usually have smaller spaces available. For example, multiformat operator SM Retail maintains its strong market position by opening new outlets in locations that are more accessible to consumers. Philippine Seven Corp leveraged its operational network and has also opened new outlets in new and emerging markets.

Key sector trends

Demand remains resilient post-election and in the face of higher inflation. Consumer confidence was elevated in 2Q17 and grocery retailers under our coverage have been experiencing solid SSSG – despite the high base last year. Demand is underpinned by a constructive industry backdrop, rising household disposable income, manageable inflation, and robust economic activity. Should Package 1 of the proposed tax reform package (which includes lower income tax rates) comes through, there could be a boost in grocery spend of households. While SSSG remain solid at 3%-4%, the impact of new store rollouts to sales is becoming less pronounced because the growth of stores' net selling area is slowing, due to a high base. Gross margins are still expanding, albeit at a slower pace. Expenses are being suppressed to offset the impact of end of contractualisation. Hence, profit margins are expected to remain stable but with room for an uptick.

The cash conversion cycle problem. Retailers under our coverage continue to experience longer cash conversion cycles. Inventory is rising while payable days continue to shrink. Based on our channel check, retailers are paying early to be prioritised and avail of discounts offered by larger suppliers. We believe suppliers have gained the upper hand in bargaining, given the competition between the big three retailers (SM Retail, Puregold, and Robinsons Retail). Inventory management will be key in balancing margins and cash conversion cycle days.

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