$StarHub(CC3) $SingTel(Z74) $M1(B2F)

Executive Summary

In Singapore, with a sky-high mobile penetration rate of 150% and stagnant subscription numbers since 2014, there is literally no room to attract new consumers. With an already saturated market, the Singapore telco industry is fast becoming a zero-sum game. New alternatives such as online services and new entrants will only further fragment the market and capture niche segments at the expense of incumbents' market share. This applies all of StarHub's 3 business segments: mobile, broadband and cable TV. We may have to prepare ourselves to enter a new norm of more sluggish top-line growth for incumbents, and valuations that take that into account.

One research article that covers the telco sector has been done by the Research and Education department from NTU Investment Interactive Club [Link].

As such, we will be delving deeper into recent developments involving the sector: namely, TPG's entrance as the 4th telco, Netflix's entrance and the collaboration between Starhub and M1 in a bid to counteract their difficulties.

1. TPG's entrance as the 4th telco

On Dec 14 2015, TPG won the 4G mobile spectrum auction with a winning bid of $105m, becoming Singapore's 4th mobile operator.

a.Impact on Incumbents' Revenue

In Singapore, mobile phone penetration rate is at 150%, with the total number of subscriptions stagnant since 2014. With an already saturated market and limited room to attract new consumers, TPG's entrance can only come at the expense of incumbents' market share.

TPG's entrance into the mobile market poses the largest threat to M1 due to M1's lack of cable TV. Singtel and Starhub can still differentiate themselves through providing bundled plans, while M1 lacks the capability to do so. In particular, Starhub's "Hubbing" product bundle offers all 4 services: cable, broadband, mobile and home tel, at discounted rates. However, assuming that TPG captures only 7% of the market and takes market share proportionally, Starhub's mobile market share will fall from 26.7% to only 24.8%.

Although TPG's entry is only into the 4G market, 4G is already the dominant mobile market in Singapore. 4G occupied 57.8% of the market, 3G occupied 40.6% and 2G occupied 1.6% of the market (as of 31 March 2017), with the general trend being increasing 4G subscriptions and decreasing 3G subscriptions. 2G is now officially phased out. Despite incumbents being likely to maintain their revenue source from 3G due to brand loyalty and resistance to brand switching displayed by older users on the 3G platform, 3G market will not provide the incumbents with a sufficiently large safe haven.

TPG will most likely provide data-only services. However, with the advent of alternative VOIP and online messaging services, tech-savvy customers may prefer the price competitiveness of TPG. Depending on the eventual strength of their network, TPG is most likely to attract such customer segments away from incumbents.

b.TPG's Possible Entrance into Broadband

TPG's main line of business within Australia is broadband, hence there are concerns that TPG will eventually move into broadband and offer bundled plans, threatening Singtel and Starhub's dominance in bundled plans. It may do so through acquisitions, which it previously did in the Australian market by acquiring broadband providers AAPT and iiNet in 2015

However, TPG Singapore's allocated CAPEX resources are currently tied up in establishing nationwide coverage for mobile data. From the terms of the New Entrants Spectrum Auction, TPG is required to provide "nationwide street level coverage for 4G" by 2019. TPG committed to a CAPEX spend of another $200m-$300m for a rollout of its Singapore mobile network. Moreover, back in its domestic market, TPG has committed to building an Australia-wide mobile network at a cost of around AU1.86B. Hence, for the next two years at least, TPG is not expected to expand into the Singapore broadband arena.

c.Impact on Spectrum Prices

TPG's entrance into the mobile business also has the effect of heating up General Spectrum Auctions (GSA). In a country where spectrum is a limited commodity, the spectre of a new entrant has raised concerns that spectrum prices will rise significantly. This forecast played out in the March 2017 Auctions – most notably when Singtel shelled out 132m for a 900M Hz lot, six times the reserve price. Details of the auction are shown below:

(per 10Mhz Lot)	2017 Auction price	2013 Auction price
700 M Hz	94m	-
900 M Hz	132m	-
1800 M Hz	-	16m
2.5G Hz	23.8m	10m

Appendix: Breakdown of existing vs newly-acquired spectrums held by operators

	Existing			New				Total
	Allocation	Expiry		Allocation	Expiry			
700 MHz								
Singtel	N/A			10 MHz x 4	31-Dec-32*	S$ 376m		40 MHz
M1	N/A			10 MHz x 2	31-Dec-32*	S$ 188m		20 MHz
Starhub	N/A			10 MHz x 3	31-Dec-32*	S$ 282m		30 Mhz
TPG	N/A			-				-
900 MHz								
				10 MHz x 1	31-Mar-33	S$ 20m	FROR	20 MHz
Singtel	15 MHz x 2	31-Mar-17		10 MHz x 1		S$ 132m		
M1	5 MHz x 2	31-Mar-17		10 MHz x 1	31-Mar-33	S$ 20m	FROR	10 MHz
Starhub	10 MHz x 2	31-Mar-17		10 MHz x 1	31-Mar-33	S$ 20m	FROR	10 MHz
TPG	10 MHz x 2	31-Mar-33	S$ 105m**	N/A				20 MHz
1,800 MHz								
Singtel	2x5 MHz x 6	30-Jun-30	S$ 96m	N/A				60 MHz
M1	2x5 MHz x 4	30-Jun-30	S$ 64m	N/A				40 MHz
Starhub	2x5 MHz x 5	30-Jun-30	S$ 80m	N/A				50 MHz
2,100 MHz								
Singtel	1 x paired 3G spectrum lots (5 MHz/lot)	31-Dec-21	S$20m	N/A				10 MHz
M1	1 x paired 3G spectrum lots (5 MHz/lot)	31-Dec-21	S$20m	N/A				10 MHz
Starhub	1 x paired 3G spectrum lots (5 MHz/lot)	31-Dec-21	S$20m	N/A				10 MHz
2,300 MHz								
TPG	5 MHz x 8	31-Mar-33	S$ 105m**					40 MHz
2,500 MHz								
Singtel	2x5 MHz x 4	30-Jun-30	S$40m	5MHz x 3	31-Mar-33	S$ 35.7m		55 MHz
M1	2x5 MHz x 4	30-Jun-30	S$40m	-				40 MHz
Starhub	2x5 MHz x 4	30-Jun-30	S$40m	5MHz x 4	31-Mar-33	S$ 47.6m		60 MHz
TPG	N/A			5MHz x 2	31-Mar-33	S$ 23.8m		10 MHz

Source: IMDA; DBS Vickers

The question is whether elevated bidding prices will be a new normal. An argument could be made that it is temporary: the 3 incumbents are stockpiling spectrum as an immediate response to TPG's entrance. Moreover, in the first public bidding containing TPG, they have only secured 10 MHz out of the 145MHz available for Open Bidding (6.8%). TPG is also capped at 75 MHz total until 2019 – hence they only can bid for 5 extra MHz going forward.

However, TPG's entrance has a lasting effect of increasing the amount of spectrum that is set aside for FROR (first-right-of-refusal). As winning bids are much higher than reserve prices, FRORs for other incumbents are essentially unavailable. Thus, the new normal will be a reduced supply of spectrum available for open bidding.

d.TPG's challenges

TPG may face struggles to develop a network with sufficient quality to challenge the capabilities of incumbents. TPG's CAPEX of 200-300m to develop its network capabilities is seen by the industry as modest, and may be insufficient to develop its 4G network. Market research firm Ovum believe that the CAPEX set aside is insufficient to install base stations, data centres and the backend fibre-optic cables. Starhub may be able to maintain its market share by providing superior network strength and coverage.

TPG may also face a challenge of brand recognition within the Singapore market. Most handphone subscribers already on an existing plan with accompanying loyalty benefits for renewal, posing a significant challenge for TPG to steal market share from incumbents.

2.Netflix and the impact on Starhub's Pay TV business segment

a.Macro trends

Singapore OTT revenue forecast

SERVICES	2013 (US$M)	2014	2015	2016*	2017*	2018*	2019*	2020*
Digital rental	1	1	2	2	2	2	3	3
Subscription video-on-demand (SVOD, eg Netflix)	2	2	2	2	2	2	2	2
Electronic sell-through (EST, ie pay-TV)	6	10	15	25	31	36	38	39

** Asterisked years are forecasts*

Source: Ovum

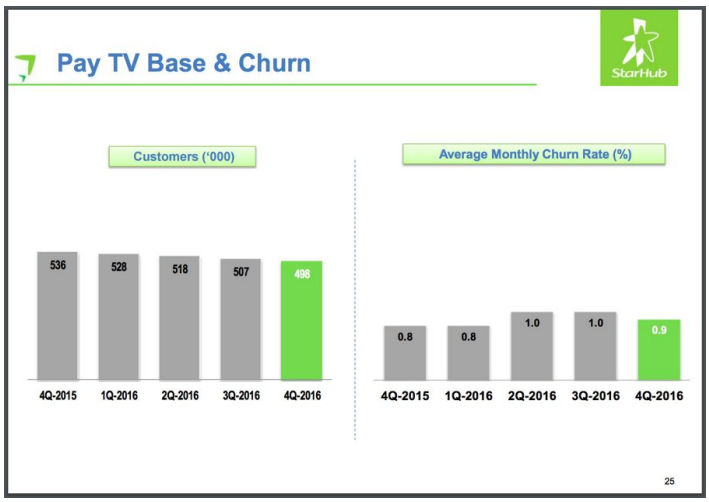
On a macro level, Pay TV is still regarded as a robust industry in Asia-Pacific despite slower adoption in some countries. In Singapore, rather than directly disrupting the pay tv industry, streaming video providers such as Netflix are likely to complement each other and by offering both services as a bundle, as seen by the collaboration by Netflix's collaboration with Singtel and Starhub. The collaboration is necessary as Netflix ride on the Internet infrastructure owned and operated by telcos and Internet service providers (ISPs) such as Singtel and StarHub.

Penetration rates of high-speed mobile and fibre broadband in Singapore are some of the highest in Asia Pacific, helped by long standing government commitment to promote competition. The anticipated introduction of 5G and investments in 'Smart Cities' are expected to improve the digital landscape further going forward. Singapore remains Asia's broadcasting hub, along with an ambitious outlook for greater cloud usage in public departments.

In the Connected Life study conducted by Kantar TNS , more than 75% of Singaporeans watch online videos, which is slightly higher than the number of viewers watching traditional broadcast TV(71%). Of which, only 18% watch paid-subscription on their traditional TV such as Netflix.

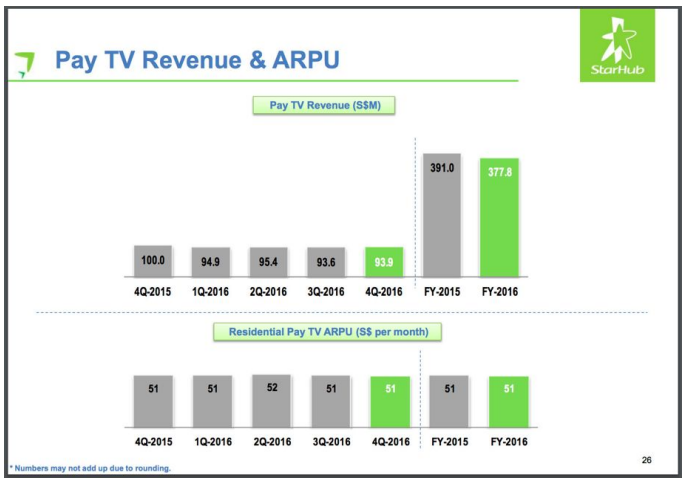
Data from Euromonitor shows that the percentage of households possessing cable TV stood at 70.0% in 2014 compared to 48.9% in 2009, ahead of all other countries in Asia Pacific except Taiwan and South Korea. The penetration rate is expected to be 92.7% by 2030.

b.Operating performance of Starhub's Pay TV Business segment



Source: Starhub Annual Report 2016

The Pay TV business segment contributed 17% to Starhub's total revenue for FY 2016, down from 17.6% in FY 2015. With the decline, the Enterprise Fixed segment's revenue eclipsed Pay TV's contribution for the first time in 2016.The number of Pay TV customers fell 7.2% yoy to 498,000, Starhub recorded a corresponding drop in revenue of 3.3% yoy to $378 million. In summary, All in all, StarHub's Pay TV business ended FY2016 with a loss of 47,000 subscribers – or 8.6% of the segment's subscriber base since 2015.



Source: Starhub Annual Report 2016

Initially, StarHub contented that the fall in the number of Pay TV subscribers was a result of the termination of its TV Lite service. However, as it recorded a sustained fall in the number of subscribers, it shifted its focus toward protecting its core customer base, especially its high-ARPU [average revenue per user] customers. Starhub ended FY2016 with an ARPU of $51, unchanged from 2015. It is will be interesting to observe if Starhub is able to retain its core customer base from onslaught of disruption.

c.Starhub and Netflix: Frenemy?

What is Netflix?

Netflix launched its Singapore service on 7 January 2016, providing TV and movie content via internet enabled devices. It comes under a category of internet services called OTT or Over-The-Top which refers to services offered over the open internet (wifi) or on top of a customer's broadband service provided by an Internet Service Provider (ISP). The monthly fee ranges from
S$10.98-S$16.98, which is affordable considering that the user have access to thousands of movies and TV shows on your TV, computer or mobile device.

Friends?

It seems that as Netflix business continue to mature in Singapore, it will be eventually ease into the role as a complement to Starhub's offerings rather than as a direct competitor.

Firstly, existing Pay TV customers will still pay for regional content in the local languages such as Chinese shows, given the diverse culture in Singapore, where realistically speaking, not all consumers are fans of American TV shows and movies. Therefore, the lack of diverse and localized content is still a key differentiating factor for local paid TV subscribers and a limiting factor for OTT service providers to attract a larger variety of Singaporeans across demographics and culture.

Next, the main reason why some consumers subscribe to Pay TV is to gain access to live sports content such as EPL and NBA. This category of sports content is not available on OTT services, which means that those sports enthusiasts will unlikely switch as their needs will not be satisfied

Also, OTT service providers tend to carry older content apart from its original series as compared to the most current content of popular drama series provided by Pay TV service providers. Also, it might not always have the mainstream blockbuster movie releases. Hence, those consumers who demand to watch the latest episodes of their favourite TV shows will unlikely switch unless they intend to catch up on previous seasons of TV shows.

Lastly, Starhub is not backing down from the clash, it has joined in the OTT fray with their own mobile TV apps which do not charge subscribers for mobile data consumed while watching on

the go. On a similar vein, StarHub, allows its customers to sign up for Netflix for the same price through StarHub's Fibre TV set-top box, after which Netflix becomes simply another cable TV channel. Therefore, it eliminates the need to terminate their existing subscription with Starhub Pay TV.

Enemies

As mentioned, Starhub has lost close to 47,000 subscribers to date, and the number is expected to increase in the coming months. However, the decline in subscribers does not represent a complete shift towards Netflix as some consumers are merely shifting to a different platform for video consumption. That said, although Netflix might not have fully displaced conventional cable TV, but its hold on the local TV-watching landscape grows stronger every month, thanks to its original or exclusive content.

Also, as Starhub has started to offer OTT services, it must be careful to not cannibalize its existing pay tv business. OTT services can be used to reach customers who do not use their traditional offerings of pay tv, but it should be used as a tool to retain market share and not to increase its market revenue. If not, it runs the risk of losing its loyal subscribers of its pay tv services.

d.Conclusion

In conclusion, whether Netflix will continue to convert existing Starhub users to its services depends on one word: content. If Starhub can rise to the challenge and deliver content that is equally entertaining in addition to its current offerings of Asian TV shows, we will see the numbers of conversion stabilize. Ultimately, Netflix and Starhub have a symbiotic relationship and moving forward, collaboration rather than competition will lead to the greater good for both the companies and the consumers.

3. What investors should know about Starhub's collaboration with M1

Data source: Starhub 1Q17 financial results, refer to the statements at
http://repository.shareinvestor.com/rpt_view.pl/id/688159.3/type/sgxnet/original_filename/1
http://repository.shareinvestor.com/rpt_view.pl/id/688159.2/type/sgxnet/original_filename/1
http://repository.shareinvestor.com/rpt_view.pl/id/688159.1/type/sgxnet/original_filename/1

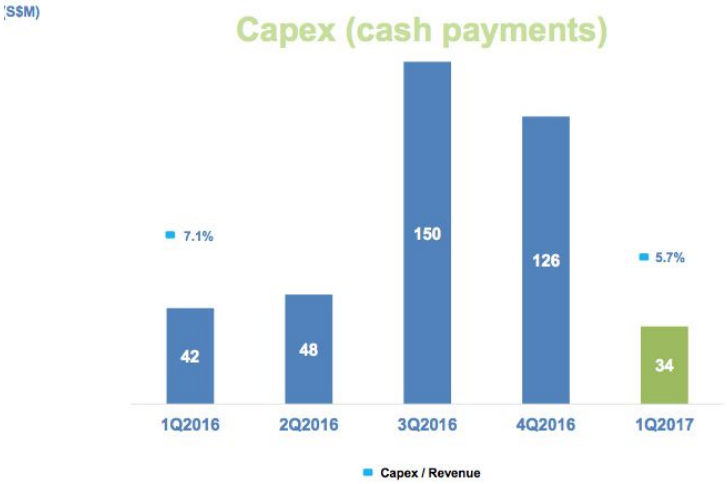
a. The Memorandum of Understanding(MOU) between Starhub and M1

In January 2017, Starhub announced a Memorandum of Understanding (MOU) with M1. It stated that the two companies are in negotiations regarding mobile network infrastructure sharing for Radio Access Networks (RANs), backhaul transmission and access assets. Despite this apparent collaboration between Starhub and M1, they are still competitors in the telecommunications industry.

The MOU was not the first synergy of Starhub and M1, their collaboration through network infrastructure sharing has been in process for several years, and this includes cooperation on combined antenna systems, in-building fibre and tunnel cables.

Mock Pak Lum, the Chief Technology Officer (CTO) of Starhub, declared in the 2016 annual report that purposes of network infrastructure sharing include 1) mobile coverage improvement 2)cost management 3)long-term effective competition. He believed both Starhub and M1 can benefit from this form of cooperation, especially in recent times, when the three local telcos are facing the threat of more intense competition from the fourth entrant-TPG telecom.
After the announcement of the MOU, majority of analyses estimated the main effect of it to be reduction of Capital expenditure (capex). For instance, Groupe Spéciale Mobile Association (GSMA) postulated that network sharing lead to maximum 20% rise of free cash flow for typical European firm. Another consultancy called TMG, indicated 30%-40% cost saving could be achieved by sharing RAN.

b.Effect of the collaboration on operating performance



According to Starhub's 1Q17 result that released on 3 May, Starhub's Capex cash payment has decreased 19% when compared to data of first quarter in 2016, and the percentage of Capex to revenue observed 1.4% drop from 7.1% to 5.7%. Thus, based on this, network infrastructure for RAN indeed help Starhub cut its capital expenditure. However, investors should know that Capex will not be wholly charged as current year's expense; instead, it will be expensed yearly through depreciation based on the useful life. In a nutshell, Capex reduction affect only small portion of total expenditure, thus will not guarantee less expenses.

	Quarter ended 31 Mar			
	2017	2016	Incr / (Decr)	
Operating expenses	S$m	S$m	S$m	%
Cost of sales	259.9	230.0	29.9	13.0
Other operating expenses	238.8	255.9	(17.1)	(6.7)
Total	498.7	485.9	12.8	2.6

Though Starhub's other operating expenses had drop of 6.7% in 1Q17, the total operating expenses increased 2.6% due to the higher cost of sales. Since Starhub almost earned same revenue as 1Q16, the higher operating expenses became one of the reasons of declining quarterly profit.

From the perspective of cash position, Starhub's net cash from operating activities was S$18.5 million higher because of the lower working capital needs and income tax paid. Net cash used in investing activities decreased S$9.8 million to S$31.8 million in 1Q2017, which is mainly because of due to lower CAPEX payments and repayment of loan from associate. Therefore, overall, Starhub held higher amount of free cash flow.

Starhub's performance in recent years was not favourable towards its shareholders. Revenue from mobile business, which is the main section that occupied 50.68% of the total revenue in 2016, has kept falling since 2014. The downtrend of Pay TV business is even more apparent due to the change of customer's preference. It may be a wiser for Starhub to shift its emphasis to Enterprise Fixed business as the proportion of this service has surpassed Pay TV services to become the second largest segment. In 1Q17, Mobile service revenue was 0.6% lower at S$296.2 million from both post-paid and pre-paid services, and average revenue per user (ARPU) observed decline in both services. For Pay TV services, the decline percentage was even 6.8%, and the downtrend seems likely to continue.

c.Conclusion

We can conclude that the collaboration between Starhub and M1 has benefited Starhub through the reduction of its capex, and partially other expenses as well. Also, its network market share allowed Starhub to accumulate more cash, since it does not need to invest as much as in previous years on infrastructure construction. However, competition is still fierce and the market is already saturated. This collaboration seems more likely to be for the purpose of maintaining rather than boosting Starhub's business, but appears doomed in its raison d'être of saving Starhub from declining market power.