**J2 H2 Economics – Final Revision 2019 – Lesson 3**

**The Telecommunications Industry in Singapore**

**Extract 1: Singtel and StarHub sharpen tech to fend off new rival’s freebies**

Telecom companies in Singapore are scurrying to fortify their positions ahead of the arrival of a new competitor. Singtel and StarHub, the city-state's two largest telecommunications players, are pushing to enhance their technological capabilities. In July, Singtel announced a partnership with Ericsson that could take Singapore's first fifth-generation (5G) pilot network live by the fourth quarter of this year.

The move is in line with the Singaporean government's Smart Nation initiative, which aims to maximize the use of data and digital technology in pursuit of a knowledge-based economy. The pilot 5G network is one of the many projects between Singtel and Ericsson. Like Singtel, StarHub is focusing on digital strategies. Earlier this year, StarHub announced plans to roll out a network and provide "internet of things" services in partnership with Nokia.

Competition is heating up as a fourth mobile network operator (MNO), Australian wireless operator TPG Telecom, prepares to enter Singapore by the end of the year. Singtel holds the top market share with slightly more than 50%, followed by StarHub at about 30%. M1 is the third player, with a share of 17.5%. TPG's entry could put pressure on rates. The newcomer has announced plans to offer unlimited voice and 3 gigabytes of free data for 24 months to senior customers. DBS said in a report that TPG is "likely to adopt" free services early on, "possibly leading to price wars between operators."

To maintain and grow their market shares, both Singtel and StarHub are also working with mobile virtual network operators (MVNOs) to meet demand for SIM-only plans. Unlike the main telcos that have invested in mobile network infrastructure, MVNOs do not own a mobile network. What they do instead is to provide mobile services to its customers by purchasing bandwidth from one of the incumbent MNO at wholesale prices and reselling it to their consumers. StarHub is working with broadband internet provider MyRepublic, while Singtel has arrangements with two operators, Zero1 and Zero Mobile.

Source: Nikkei Asian Review, 14 August 2018

**Extract 2: Are MVNOs a positive disruption to Singapore’s telecoms industry?**

Back in 2015, shopping for a mobile data plan in Singapore was a very different proposition. The cheapest SIM-only plan with 3GB of data cost $20 from Singtel, whilst power users on M1’s network had to pay $125 for 13GB. Fast forward to 2019, and those prices have fallen. However, operating a wireless network hasn’t suddenly got cheaper; in fact, with the deployment of LTE-Advanced technology and new spectrum requiring more equipment and cell sites, capital expenditure has been up for Singtel and M1 since 2015.

Downwards price pressure has been led by the emergence of mobile virtual network operators (MVNOs). Through aggressive price points and novel rate plans, MVNOs have been able to target particular niches, and have carved out a small but significant market share – the biggest, Circles.Life, claims a three to five percent market share.

Whilst consumers are benefiting from lower prices and wider plan options, shopping for cellular service has also become more confusing. Whilst the MVNOs claim to offer the exact same network experience as their host networks – in some cases, quoting drive-test results for their host network without clarifying the difference – our data shows that the end-user experience varies. As part of their price and plan differentiation, some of the MVNOs offer plans that have throttled or deprioritised data. For example, our data shows that nearly half of speed tests on Zero 1 are throttled to speeds of less than 3 Mbps; less than 10% of total speed tests on the host network, Singtel, fell below the same threshold.

Although throttling and deprioritization are disclosed in the plans’ terms of service, inconsistent technical language can make comparing plans difficult. Rather than comparing the dollar price of a gigabyte of data, consumers have to navigate “unlimited” plans with “managed data speeds,” “deprioritisation,” or data that’s throttled to “3G” speeds -- all of which might mean different things on different network operators.

Source: Singapore Business Review, 4 April 2019

**Extract 3: Big boys muscle in on cheap mobile plans**

Singtel's three-month-old Gomo mobile plan, the incumbent telco's answer to the spate of cheap mobile plans being offered by mobile virtual network operators (MVNOs) here, will get a data roaming option on Friday. The option fixes a glaring omission in the SIM-only postpaid mobile plan, allowing it to better compete with Giga, a similar low-cost mobile sub-brand from StarHub that was launched last Thursday.

Both Giga and Gomo are the latest attempts by the established telcos to muscle in on the SIM-only segment carved out by MVNOs such as Circles.Life and MyRepublic. Targeted at millennials and digital natives, these SIM-only plans are generally cheaper than the usual mobile plans as they come without a subsidised handset. They are often contract-free and offer relatively generous data bundles.

**Table 1: Subscription Plans of Incumbent Telco’s SIM-only plans**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **StarHub’s Giga** | **Singtel’s Gomo** | **M1 SIM-only plan** |
| **Monthly fee** | $25 | $20 | $25 |
| **Data** | 25GB | 20GB | 30GB |
| **Talktime** | 1,000 mins | 200 mins | 1,000 mins |
| **SMSes** | 1,000 | 200 | 1,000 |
| **Incoming Call** | Free | Free | Free |
| **Caller ID** | Free | Free | Free |
| **Additional fees** | None | None | Registration - $10.70SIM card - $37.45 |
| **Roaming** | 14 countries at $5 a GB for five days | 10 countries at $10 a GB for ten days | Use local data quota (capped at 10GB) in over 60 countries from $10 a destination |
| **Other benefits** | Roll over unused data to the next month | 1-for-1 dining offers | Free data on weekendsUnlimited free calls to three M1 numbersUnlimited Spotify music streaming |

Source: The Straits Times, 5 June 2019

**Extract 4: Telco big boys in trouble**

In the three years since mobile virtual network operators (MVNOs) entered the market, the number of telcos in Singapore has ballooned from three to 11 today — and counting. The increased competition has seen profits of the three big telcos — Singtel, StarHub and M1 — erode away.

StarHub began its S$25 million restructuring exercise in October last year, laying off 300 full-time workers in a one-off exercise to improve productivity and lower operating expenditure. Singtel is also seeking to lower its operational expenditure of S$490 million in the last financial year.

The main telcos have tried to diversify into new growth areas in the digital economy while maintaining their core business as an infrastructure and network provider. Singtel’s overseas units, such as its Optus division in Australia, have performed well and helped offset the weakness in Singapore. In fintech, Singtel has also ventured into mobile financial services, such as mobile payments solution Dash. The group has also expressed interest in applying for a new digital banking license, which will allow it to operate as a bank that can take deposits from customers.

StarHub has also made a push into cybersecurity and Pay TV, though the latter has seen shrinking revenues owing to disruption by Netflix in 2016. This shows that diversification is no silver bullet as they take time to pay off and have their own risks too, said analysts.

Source: Today Online, 6 July 2019

**Questions**

(a) Compare the likely barriers to entry facing potential entrants to the mobile network operators (MNO) industry with those to the mobile virtual network operators (MVNO) industry. [2]

(b)(i) Identify and explain the type of market structure of the Singapore telecommunications industry. [2]

(ii) Explain how the telecommunications companies might compete in such a market structure. [4]

(c) Extract 2 states the use of “inconsistent technical language” by the mobile network virtual operator (MVNO) resulting in difficulties for consumers when comparing plans.

Explain how the use of “inconsistent technical language” could lead to market failure. [4]

(d) With reference to the data, assess the strategies that telecommunications companies like M1, Singtel and StarHub have adopted to address their falling profits. [8]

(e) Evaluate the possible effects on efficiency and resource allocation of increasing competition in the telecommunications industry. [10]

[Total: 30 marks]

**Suggested Answers**

**(a) Compare the likely barriers to entry facing potential entrants to the mobile network operators (MNO) industry with those to the mobile virtual network operators (MVNO) industry. [2]**

Potential entrants to the MNO industry are likely to face higher barriers to entry due to high initial capital outlay for the infrastructure and network required to provide their services.

Potential entrants to MVNO industry, on the other hand, face relatively lower barriers to entry as unlike the MNOs, they do not need to incur infrastructure costs to set up network as they buy bandwidth from MNOs at wholesale prices and resell them to consumers.

**(b)(i) Identify and explain the type of market structure of the Singapore telecommunications industry. [2]**

Oligopoly. 3-firm concentration ratio of – estimated 97.5%.

As there are 3 large firms with large market share in the Singapore telecommunications industry which suggest a high concentration ratio, it is deemed to be operating in an oligopolistic market structure.

**(ii) Explain how the telecommunications companies might compete in such a market structure. [4]**

Mutual Interdependence

Due to the market being dominated by a few large firms, these firms are mutually interdependent. This means that each firm has high rival consciousness as they will be affected by their rival firms’ actions, thus each firm has to consider the pricing and output decision of the rival firms.

Price Rigidity

Therefore, firms focus on non-price competition and avoid price competition as it is counter-productive and may lead to destructive price wars.

Example of non-price competition

Loyalty schemes are used by the telcos like Singtel, Starhub and M1 to reward their consumers for their loyalty and helps in building brand recognition. Telcos compete in terms of the value-added services they provide e.g. free incoming calls, free unlimited local mobile data to customers on weekends, free streaming on Spotify, etc. This is done with the aim of increasing the firm’s market share

or

Price wars do occur as well

New firms entering the market might be prepared to sacrifice profits by cutting price to increase its market share. This can be seen from TPG Telecom which seeks to offer certain free services in order to gain a foothold in the telecom industry in Singapore.

**(c) Extract 2 states the use of “inconsistent technical language” by the mobile network virtual operator (MVNO) resulting in difficulties for consumers when comparing plans. Explain how the use of “inconsistent technical language” could lead to market failure. [4]**

Consumers may lack good quality information when they make decision on which mobile plan service to sign up for. With the use of “inconsistent technical language”, consumers may find it difficult to understand the information.

Asymmetric information may exist in the case where the producer invariably know more about the product than the consumer. In this case, it is difficult for the consumer to estimate the marginal private benefit and/or the marginal private cost of a product and hence decide on the appropriate quantity of the product to buy.

This leads to a consumption level that is lower or higher than the socially optimal level. Market failure results as societal welfare is not maximised because of inefficient allocation of scarce resources to the production of such services leading to deadweight loss.

**(d) With reference to the data, assess the strategies that telecommunications companies like M1, Singtel and StarHub have adopted to address their falling profits. [8]**

Introduction

In order to address the falling profits, telecommunications companies like M1, Singtel and Starhub explored various strategies which look to lower costs as well as to increase revenue to try to increase their level of profits.

**Strategy #1: Infrastructure upgrading**

(Extract 1 – Pilot 5G Network with Ericsson)

As part of the development of the infrastructure upgrading to 5G, this pilot programme allows Singtel to experiment with the rollout of the 5G network. This would allow Singtel to be better equipped to manage the transition from current 4G to 5G network and when the 5G network is ready to be introduced, it would give them a head-start over their rivals.

With the successful introduction of the 5G network, it would also allow Singtel to increase their revenue stream as they can expect customers to switch to the new 5G network which would offer super-fast wireless access and greater data transfers speeds.

Limitations

The costs involved for the infrastructural upgrading is likely to be high in the short-term as it involves updating of current network equipment and infrastructure. The benefits of higher revenue is likely to be materialised only in the long-term.

**Strategy #2: Coming up with GOMO, GIGA and M1-SIM only plans to compete**

(Extract 3 GOMO GIGA and M1-SIM only plans)

In response to catering to the SIM-only target audience that was carved out by the entry of MVNOs, the incumbent telco players, Singtel, StarHub and M1 introduced similarly-priced plans with benefits to cater to this group of customers. If successful, this would allow the incumbent players to re-capture their market share that was lost to MVNOs.

This would help to increase the demand for their services and thus increase the revenue of the incumbent telco players.

Limitations

As competition is already stiff, with the many MVNOs already in the industry, they may have to compete in terms of non-price competition e.g. M1’s offering of free data usage on weekends and unlimited streaming on Spotify and Singtel’s offering of dining offers and privileges.

These tie-ups would involve costs as well as they try to compete to see who can provide customers with a more attractive deal.

**Strategy #3: Diversification**

Extract 1 – StarHub “Internet-of-things” (IOT) network with Nokia

Extract 3 – StarHub diversification to cyber-security and Pay TV

Extract 3 – Singtel diversification to fintech with mobile payments solution Dash and intention to operate as a digital bank

StarHub working with Nokia to develop new “internet of things” (IOT) use cases and applications allows them to diversify away from the provision of just telco services. This diversification attempt would allow StarHub and Nokia to reap the benefits as the successful development of the network would see companies looking to tap on to the services provided.

StarHub’s diversification from their main line of business - that of the telecommunications industry, allows them to spread their risk across the different sectors. Their move to diversify into cyber-security and Pay TV also provides them with the opportunity to harness the possible synergies across the three sectors and allows them to develop product packages that can fit the needs of their customers.

SingTel has also diversified overseas and its Optus division in Australia, have performed well and helped offset the weakness in Singapore. Additionally, Singtel has also ventured into the fintech industry and came up with a mobile payments solution, Dash which can open a new market for Singtel in line with their intentions to move into digital banking.

Limitations

While the diversification to a new area of business would help to create opportunities for Starhub and Starhub, it could also result in additional costs as the diversification would involve added infrastructure, employee training and overheads such as wages.

If diversification is not approached with caution, they may run into an overextension of their resources and run into diseconomies of scale resulting in average costs to increase. Also, the success of the diversification is uncertain as well. New technologies such as Netflix have also caused shrinking revenues from Starhub’s Pay TV.

**Strategy #4: Restructuring to reduce costs**

Extract 4 – Singtel and StarHub restructuring to keep costs down

Benefits

Restructuring undertaken by both Singtel and StarHub to improve its productivity and laying off of workers results in lower cost.

Limitations

The restructuring and layoffs could affect the morale of the remaining staff. Unemployment results.

Conclusion

In response to the greater competition in the telecommunication industry, the incumbent players, M1, Singtel and Starhub have looked at various strategies to help to address the falling profits.

Whether or not they are successful depends very much on whether the increase in revenue outweighs the increase in costs. As some of the costs could be rather substantial in the short run, whether the revenue earned in the future could offset these costs remains uncertain. Assuming that the conditions are right, these strategies would help to reduce cost and increase the revenue for these companies and aid in increasing the level of profits for these companies.

With the upcoming entry of the 4th telco, TPG Telecom, more may need to be done as the competition intensifies. As the telecommunications industry reaches its saturation point, the incumbent players would need to stay vigilant in terms of their control over their costs as well as looking for new areas and opportunities to grow so that their profit levels would be protected.

**(e) Evaluate the possible effects on efficiency and resource allocation of increasing competition in the telecommunications industry. [10]**

Introduction

The increase in the level of competition in the telecommunications industry would bring about both positive and negative effects on efficiency as well as resource allocation.

**1. Positive effects:**

**Efficiency**

**1.1 Productive efficiency:**

From firm’s point of view – as the firm is assumed to be profit maximising, there is likely to be continued productive efficiency from firm’s point of view as the firm is likely to be producing on a point along the long run average cost (LRAC) curve.

From society’s point of view - the increased competition means firms have greater incentive to cut costs and remain efficient. Although the firm is not productively efficient from society’s point of view as the firm is not producing at the lowest point of the LRAC curve, it might be more productively efficient than before as it seeks ways to move closer to the lowest point of the LRAC curve.

Example: Restructuring programme undertaken by Singtel and StarHub as a bid to improve productivity and reduce redundancy.

**1.2 Dynamic efficiency:**

The increased competition means firms have more incentive to innovate and come up with improvements to the quality of existing products and services as well as new products.

The streamlining of product offerings by M1 as well as GOMO and GIGA are evidence of how incumbents react when the level of competition increases.

The different benefits offered in Table 1 by the various telco companies as part of the lure for customers show the level of innovation the companies take to compete and differentiate themselves, thereby offering consumers choice.

Example: The ability to roll-over unused date for Starhub GIGA subscribers, 1-for-1 dining privileges offered to Singtel’s GOMO subscribers as well as the free data on weekends, unlimited free calls to 3 M1 subscribers as well as free streaming on Spotify app offered to M1’s SIM-only subscribers.

**1.3 Allocative efficiency**

Competition helps to keep prices low. If there are supernormal profits to be earned, new firms will be encouraged to enter as barriers to entry may be rather low. The entry of MVNOs as well as the upcoming entry of fourth telco, TPG Telecom, has increased the competition level in the Singapore telecommunications industry. This will then cause each incumbent firm’s demand (AR/MR) to fall, leading to lower prices. The low prices help to increase allocative efficiency because prices will be closer to marginal cost.

**2. Negative effects:**

**2.1 Lower ability to engage in R&D**

More competition 🡪 lower profits 🡪 less funds available for R&D 🡪 reduces dynamic efficiency.

**2.2 Price Competition**

Firms may also offer short-term price cuts in light of the greater competition to stand out from competition, rather than investing in the long term future of the infrastructure. This would benefit consumers in the short-run but ultimately suffer in the long-run.

**2.3 Affects ability to reap EOS**

With greater competition, the firm’s ability to reap economies of scale may be reduced as their scale of production might not be that extensive compared to the case before 🡪 reduces productive efficiency

**2.4 Wastage of resources**

With competition, firms may engage in intensive advertising and these resources that are spent on advertising could have been spent on R&D to improve products or processes.

Conclusion

Analyse effects of having more competition in the telecommunications industry. Weigh overall positive and negative effects. Overall, the positive effects are likely to outweigh the negative effects of increased competition.