



MARKET PERSPECTIVE

New Zealand Broadband: Free TV's and Fridges - The Consumer Wins but is it Sustainable?

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IDC OPINION

The New Zealand telecommunications market is shifting; from a focus around better and faster connectivity, to service innovations and value. Consumers are enjoying better internet connectivity and a raft of competitive offers from more than 90 retailers. Retailers, however, are feeling the pinch of decreasing margins. Questions are starting to arise about the sustainability of such a competitive retail marketplace.

Total telecommunications market revenues increased by 1.1% from NZ\$5.361 billion in the year to December 2016 to NZ\$5.421 billion in the year to December 2017. IDC forecasts that this growth will continue in future years with a Compound Annual Growth Rate (CAGR) of 1.4% to 2021. However, this growth disguises the true story of a market that is displaying extreme price pressure and competition in both fixed and mobile. Overall, ARPUs are either flat or declining in both broadband and mobile and in the broadband space Retail Service Providers (RSPs) continue to compete away any chance of strong, sustainable ARPU growth.

New Zealand telecommunication's structural separation and national broadband plan have created new constructs and market dynamics. The UFB initiative has commoditised fibre in New Zealand. Consumer fibre plan prices have plummeted from averaging over NZ\$200 per month in 2013 to around NZ\$85 per month as at February 2018.

Fibre is available to more than a million homes and premises, and over a third have made the switch. The increased competition in the market is great for the consumer but there are problems for the broadband industry. Input costs are increasing and margins continue to shrink. The market has described fixed broadband as an 'unattractive business'. Yet there are over 90 retail competitors in the market and price pressure is unabating. For how much longer will this number of providers and this margin erosion be sustainable?

To remain profitable, retail players in the broadband market are seeking to reduce operational costs by streamlining processes, customer service and using digital models. Migrating customers off fault prone copper lines reduces failures, reduces demand on contact centres and should reduce churn. Migrating customers to the retailer's fixed wireless network or other owned networks, as RSPs Spark and Vodafone are doing, sidesteps a wholesale fee altogether.

There's an increasing feeling in the broadband marketplace that 'something's got to give'. The status quo is changing and will continue to transform. Acquiring bulk customers, through an acquisition of

another retailer, may prove more cost effective than continued aggressive customer acquisition deals in a cut-throat market. Market players are increasingly reliant on bundling other services (voice, content, electricity) with broadband to make a profitable offering. IDC believes there will be consolidation of those players without additional service offerings in the market, and increased market fragmentation as firms in adjacent markets (e.g. electricity retailers) continue to enter. In the long term, there will be two options; either it will be necessary for all players to offer additional services to survive in the broadband market, or market consolidation will occur.

EXECUTIVE SUMMARY

The structural separation and rollout of UFB has created a commoditised broadband market. The barriers to compete have been dramatically lowered through structural separation, and where once there was a small number of players competing, now more than 90 are competing for broadband market share.

The ease of entry has created an aggressive market dynamic where the consumer is the clear winner. From a retail provider perspective however, margins continue to be eroded and the broadband market is quickly becoming an increasingly difficult place to do business. Yet new players continue to enter. For those contemplating entry, fibre appears an attractive solution as it can potentially reduce churn or overcome inertia in adjacent markets, such as electricity retailing. Some smaller entrants view broadband as a market opportunity to grow their business, and later sell their customer base at a premium. For others, it is a strategic play to gain a position in a future connected home, where data and over the top services will be key.

While some providers have shown success in these strategies (e.g. Trustpower highlighting its reduced churn in electricity by bundling with broadband) it appears the aggressive market conditions will result in failure for others. Larger players may have reached a size where they have sufficient scale to make a profit, but smaller regional players are potentially at the greatest risk of failure or consolidation in the medium term. During IDC market interviews industry players mentioned that there are several small players with approximately 1,500 - 2,000 customers that are now encountering diseconomies of scale. These businesses are forced to grow and yet cannot readily cover central costs. They will likely face market exit as the ability to withstand the cost pressure forces consolidation. Some smaller players' strategy will be to grow to a size where they can sell their customer base at a premium. However, a customer base is only valuable in a healthy market and it is difficult to charge a premium for low margin consumer connections, unless the degree of scale offers some other benefits (economies of scale or the ability to offer other services).

There is a belief in the broadband market (and adjacent markets) that after the current fibre landgrab taking place during the UFB rollout, broadband churn levels will subside. Providers have paid high costs of acquisition to win customers, with the clear belief that there will be a long-term payoff. However, it is easy for consumers to switch UFB providers and if, after a contract ends, customers can change provider without any disruption, then the levels of broadband churn will likely continue and the high costs of winning customers will be unsustainable. There is now considerable uncertainty on what will happen to the broadband market when the 'landgrab' is complete. Will rational behavior return? Will prices drop further and margins continue to be eroded, or will prices rise as providers perceive a returning stable customer base?

The continued commoditisation is resulting in broadband connectivity becoming an adjacency in the consumer market. In some ways, this merely highlights the convergence taking place worldwide, as everything becomes increasingly digital, and markets are disrupted. On the other hand, New Zealand's

structural separation model could result in a set of unique market circumstances. In the long term, for instance, will a commoditised market lead to lack of innovation, and/ or investment, in the broadband market?

A further development is that 5G connectivity is becoming a reality, with demonstrations at the recent Seoul Winter Olympics; this new technology may also bring change and challenges to the fixed broadband market. The extent to which 5G substitutes or complements fixed connectivity has potential to impact the current business cases for fibre deployment. The question of whether all three mobile operators each roll out competing mobile 5G networks potentially pits the New Zealand structural separation model for fixed networks, against the vertically integrated model for mobile. The Trump administration has recently proposed a single 5G network for the United States.

Policy and regulators must consider the implications at this early stage, of what the market dynamics will mean in the future. Without doubt, at present the consumer is winning but there is also a lot of future uncertainty amongst retail providers. Expect more big, bold moves in the next 12 months as players jostle for position with continued offers of free TVs, fridges and more, to try to entice customers.

IN THIS STUDY

IDC takes a detailed look at the New Zealand broadband market and the key issues facing the industry now and in the future. Broadband performance statistics and connection numbers are as at 31 December 2017 unless stated otherwise.

THE FIXED BROADBAND MARKET

From an end-user perspective, the New Zealand broadband market has never been healthier. New Zealanders have access to some of the best performing broadband in the world. Faster, more reliable fibre broadband, at the same, or better price than legacy copper broadband.

Customer experience is becoming increasingly important as telcos recognise that happier customers cost less, and are willing to buy more. Retailers and wholesalers are migrating customers off fault prone copper. Less faults means reduced cost into contact centres and fault management teams. While most players are shifting customers to fibre, some RSPs are opting to connect customers to fixed wireless broadband as a method to control the customer experience and cut out the wholesale cost payable to Chorus and the Local Fibre Companies (LFCs). As of December 2017, Spark had 104,000 fixed wireless broadband connections, with the company stating its network capacity tripled in the last year.

The broadband market is becoming a glum space for Telcos. Input costs are rising and price pressure continues, making it somewhat of an unattractive business. Consumers are gorging on data; 62% of broadband connections are now unlimited. For the larger telcos, the broadband market is all about becoming the lowest cost operator to preserve margins.

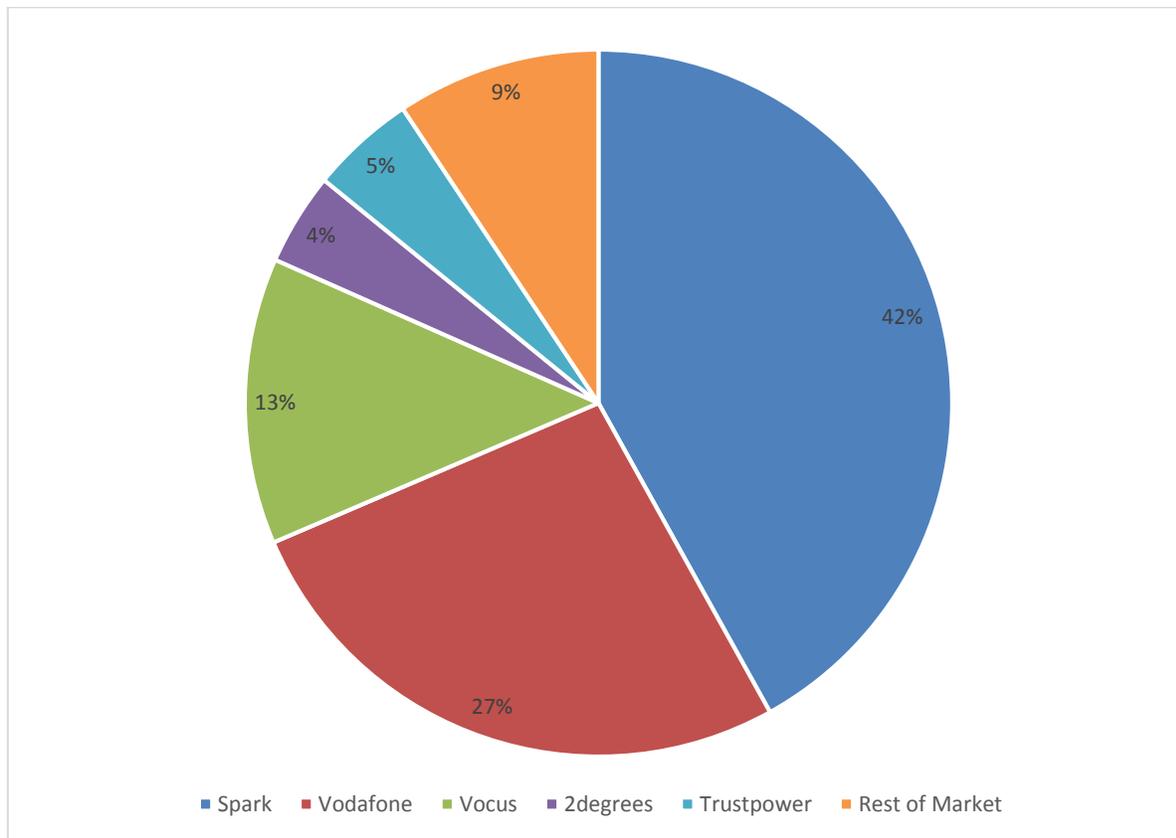
Despite this, there are still new entrants in the market. Stuff Fibre uses its massive Stuff marketing vehicle to seek new customers and competes using high quality routers and parental control tools. Competition remains fierce, with many retailers offering sign up deals such as three months free, six months' half price, NZ\$300 account credits, free TVs, fridges or gaming consoles. Small local start-ups have begun selling broadband in their local communities, with a proposition of a more personal and agile service. We have also seen the entry into the market of further bundlers of energy with broadband.

Contact has recently entered the market, following the example of Trustpower that has achieved good growth in customer numbers over the past few years.

There is a question mark hovering over the fixed broadband industry as to how long this level of competition can last. Will something have to give? Simon Moutter, Managing Director of Spark, recently suggested that it could be cheaper to acquire entire customer bases from smaller operators, than to obtain customers individually. If market share and economies of scale are what's required, then telcos need to be plugging the hole in the bottom of the bucket to reduce churn. The top three RSPs Spark, Vodafone and Vocus together held 82% of the New Zealand total broadband connections at 31 December 2017. This was down from 86% two years earlier, as the players have lost share to smaller players 2degrees, Trustpower and the rest of the market, Figure 1.

FIGURE 1

Total Broadband Connections Market Share (December 2017)

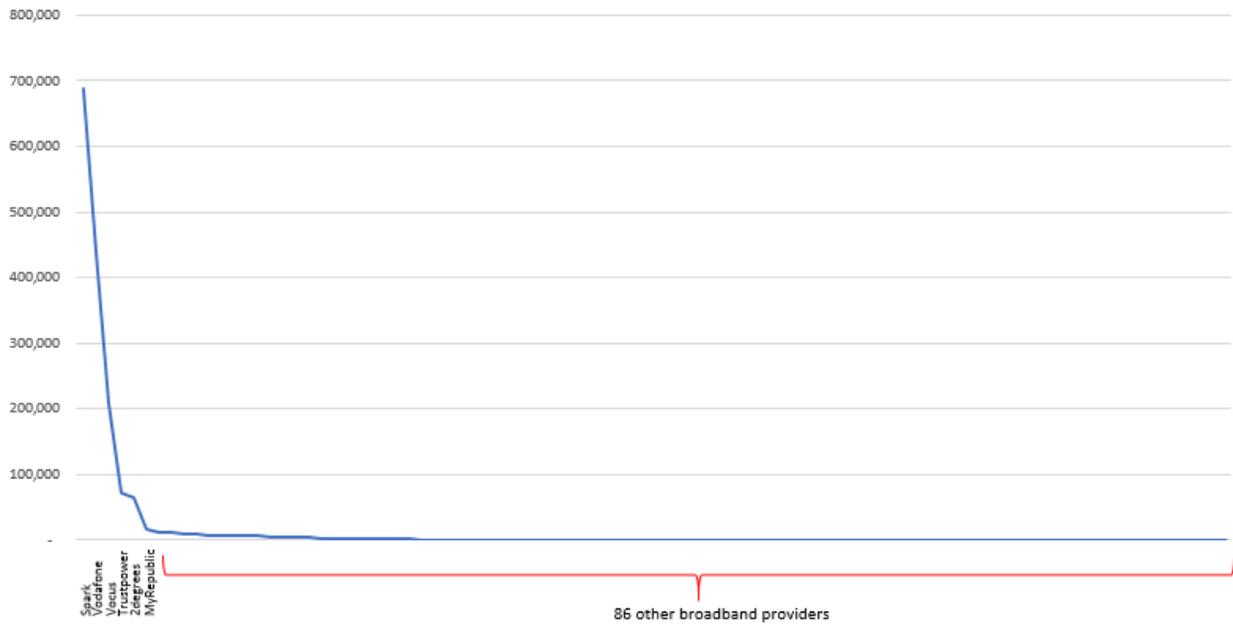


Source: IDC, 2018

Figure 2 shows the estimated broadband connection base of 92 providers. Connection volumes are concentrated amongst the top 6 players, with a long tail of 86 players all below 10,000 connections. This highlights that the majority of providers are operating in the market at a very small scale.

FIGURE 2

Total Connections by Player



Source: IDC, 2018

The Structure of the New Zealand Broadband Market

In late 2011, as part of the government's initiative to roll out fibre to the home to 75% of New Zealand, the incumbent fixed telecommunications player Telecom underwent structural separation into the regulated network provider Chorus, and the later rebranded retail service provider, Spark.

The subsequent national Ultra Fast Broadband (UFB) rollout and Rural Broadband Initiative (RBI) are delivering world leading broadband infrastructure. By completion in 2025 the government expects New Zealand to be in the top 5 OECD countries for the highest proportion of the population with access to fibre.

Next generation broadband is a key ingredient for enabling New Zealanders to benefit from the burgeoning global, digital economy. Further initiatives, UFB2 and RBI2, will extend the reach of next generation fibre broadband to 87% of New Zealanders by 2022 and bring wireless broadband delivering at least 50Mbps by 2025 to 99% of New Zealanders.

As New Zealanders migrate from legacy copper broadband to the new fibre infrastructure a period of exceptional retail competition is taking place, as retail service providers all make a 'landgrab' for customers. The migration to fibre is seen as a 'churn event' in the industry, meaning end users are using the move to fibre as an opportunity to review, and potentially change, their broadband RSP. Consequently, more customers are up for grabs, and conversely, more customers are at risk of churning from their current providers. This has led to extremely competitive broadband offers in the market that involve low prices and/or incentives such as free TVs or gaming consoles.

The rising costs of customer acquisition (e.g. free TVs, fridges, gaming consoles, etc.) illustrate that providers are willing to pay a high price to acquire new connections. There is an industry assumption that customer churn will be lower on UFB than copper based broadband, and customer satisfaction higher. However, once fibre is installed in a home it is a simple process to change retail providers. With the low barriers of switching there is little reason to expect churn or competition to subside. Some fibre wholesalers that IDC has spoken to have noted a recent increase in broadband fibre churn levels beyond the churn triggered by changes of address. This indicates that attractive offers in the market are even enticing customers that have already transitioned to fibre to switch provider again, and potentially means that those investing heavily (and potentially loss leading) in acquisition for a long-term payoff, may be misguided.

Growth of the Fibre Market

Last year UFB uptake had reached 30.9% of end users able to connect. At December 2017, that number increased to 40.4%. As at December 2017, Chorus and the LFCs have completed 86% of the UFB1 rollout, up from 73% completion at the same time last year. This equates to 1,251,900 households and businesses able to connect to fibre. There were 506,075 users connected to the UFB network at the end of December 2017.

As at December 2017, Chorus and the LFCs had completed the fibre rollout in 23 of the 34 towns in plan. Several towns are close to completion, including: Invercargill (92% complete) and Christchurch (96% complete). Other towns and cities have not progressed so far, including: Wellington (67% complete) and Auckland (71% complete).

FIGURE 3

Chorus UFB Uptake by Area - December 2017



Source: Chorus, 2018

Chorus' UFB1 build was over 70% complete at December 2017. CEO Kate McKenzie stated in August 2017 that the fibre build is taking longer in larger cities such as Auckland and Wellington because of their size and that fixed wireless broadband retailers are targeting customers in these locations.

Meanwhile Enable's Christchurch build was almost 95% complete at December 2017. In the central North Island Ultra Fast Fibre's UFB1 build is complete, and so is Northpower's build in Whangarei.

The second stage of the government's broadband initiatives is also now underway. UFB2 will see 87% of New Zealanders able to access speeds close to 1000 Mbps in over 390 towns and cities by 2022. Furthermore, the Rural Broadband Initiatives will ensure that 12% of the remaining 13% of New Zealanders will be able to access broadband with peak speeds of at least 50 Mbps, and the remaining one per cent will be able to access broadband with peak speeds of at least 10 Mbps.

Retail Pricing Pressure Continues

Margins/ Pricing

IDC's analysis for the New Zealand fixed telecommunications market indicates revenues have been flat for the past four years, at the same time as broadband penetration and data usage has increased, which indicates pressure on operating margins.

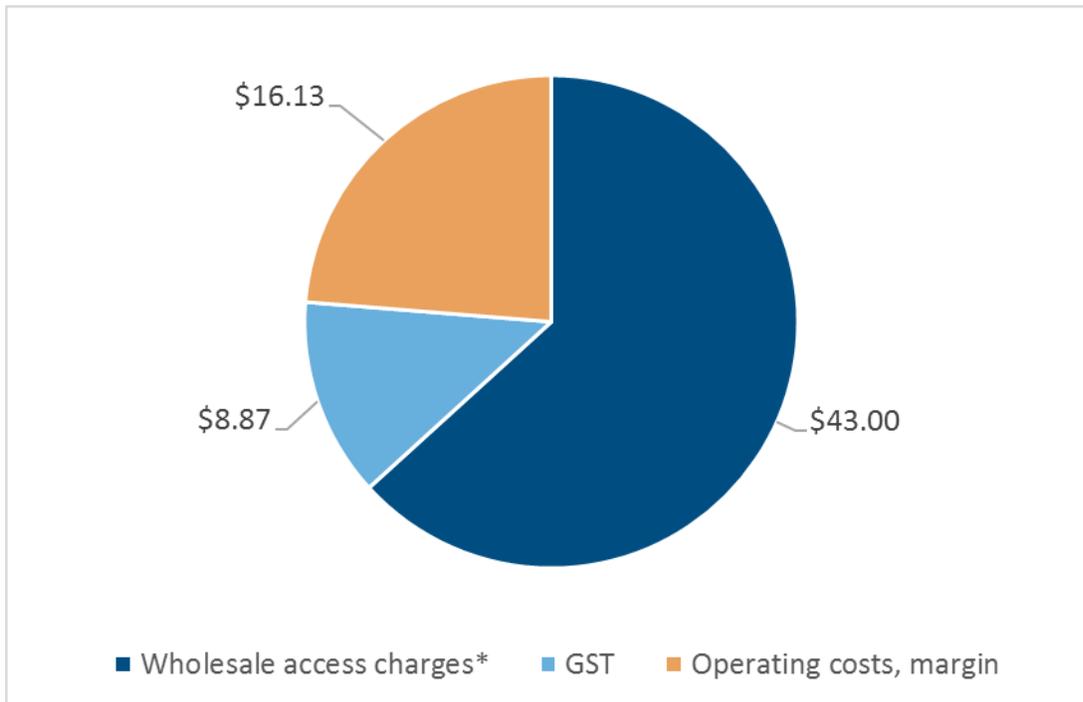
There is no doubt in IDC's view that broadband pricing is incredibly competitive at present, as providers are all grappling to either retain or gain share during this reconsideration and migration to fibre period. Appendix 1 supports this view by providing further analysis of fibre broadband pricing trends, showing that average fibre prices and the prices of entry level fibre plans have both dropped significantly over the past few years.

It was expected that in 2017 competition would move away from price, and move into less tangible areas such as customer experience, network and value add. However, price continues to be a key factor in consumer decision making. As Spark said recently at its 2017 Investor Day, "a larger than expected portion of the market is buying primarily on price, which is fueling price competition and consequent margin pressure".

Figure 4 taken from Spark's presentation to investors (August 2017) illustrates that after GST and wholesale input costs, Spark has NZ\$16.13 to cover operating costs and margin on its NZ\$68 Skinny unlimited broadband plan.

FIGURE 4

Skinny NZ\$68 Unlimited Broadband Cost Breakdown



Source: Spark Investor Presentation August 2017

In the fixed market, the dominant strategy is to offer sign up account credits or free months of broadband. In some cases, this is driving down the overall retail price by around 25% over a 12-month term. These discounted overall prices mean the 'value' players are essentially charging the same as the budget brand challengers such as Skinny, Bigpipe and Unlimited Internet.

Budget versus Premium Brands

Over the last year the market has becoming increasingly divided between budget play retailers and value add retailers. For an industry that has a high degree of complexity, current retail broadband plans are simpler and easier to understand than they have been for years. Telcos recognise that with thin margins, operational costs need to reduce and Vodafone and Spark have simplified their product offerings. For example, setting the same price for an unlimited data connection, regardless of the technology used to connect (ADSL, VDSL or Fibre up to 100/20 Mbps).

Spark and Vocus both take a visible multi-brand approach to attract both price sensitive and non-price sensitive customers. In general, the rest of the telcos are either solely budget providers, solely premium providers or seek to use bundling as a point of differentiation instead.

Lower Barriers of Entry

Barriers of entry to the retail market are lower now than before structural separation of the retail market, and a regulated open access wholesale market. Prior to structural separation the main barrier to entry was capital; vertically integrated telcos had to invest significant capital (tens or hundreds of millions of dollars) to build or lease a network and set up a fixed business. The unbundling of the local loop in the mid 2000's and Operational Separation in 2008 brought down some of the barriers but there was still a

significant investment hurdle to enter the market. In the world of UFB and open access structural separation, the investment requirements are much smaller, and any provider can now take simple, regulated UFB wholesale input products, and with a small investment for a small amount of equipment and leased backhaul, start providing fibre services. Albeit there are a few different wholesale fibre input products (30Mbps/10Mbps; 100Mbps/20Mbps; 1Gbps/200Gbps etc.) the wholesale broadband market has largely been commoditised and the fixed service competition is now generally taking place at the service layer, rather than through network differentiation.

Incumbents Stick to Vertical Integration to Increase ROI

Structural separation by its very nature has shaken up the market - it is now much harder for the incumbent broadband providers such as Spark and Vodafone to make money through solely owning the network and differentiating on this basis.

This has not stopped Spark and Vodafone being vertically integrated where they can - for example Spark has continued to roll out fibre to large businesses to control the service experience, and because there are better margins to be made by being vertically integrated in this case. It has also sought to improve its margins by providing fixed wireless broadband over spare capacity on its cellular network, in preference to paying Chorus for wholesale inputs for ADSL copper broadband.

Vodafone too is offering fixed wireless broadband over its cellular network and has invested further in its legacy HFC cable network, actively competing with UFB in Wellington and Christchurch using its Fibre X proposition.

For these organisations vertical integration makes sense; it provides better margins, leveraging existing infrastructure and investments. At the same time Spark and Vodafone are promoting UFB in other segments and geographic areas to maintain overall broadband share.

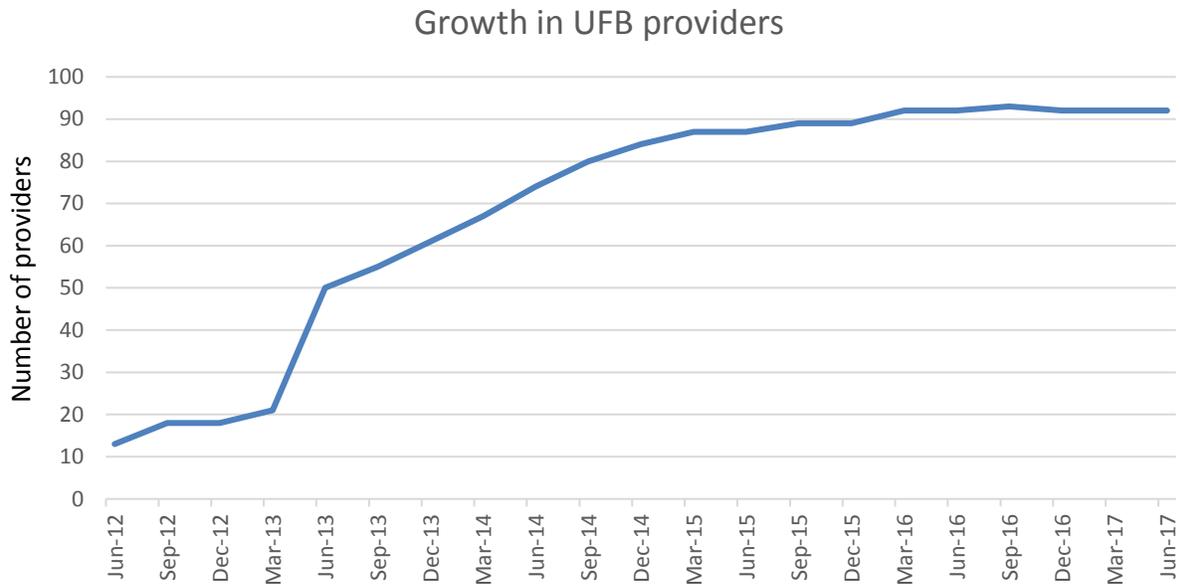
UFB Increases the Number of RSPs

MBIE's June 2017 quarterly broadband update states there were 92 active retail service providers of UFB broadband, a number that has steadily risen since the introduction of UFB. A lot of these providers are new entrants who have seen an opportunity to bundle fibre broadband with other goods and services, to overcome customer inertia in other markets; reduce churn or diversify business streams. Other new entrants are regional players who, in some cases, already provide IT services to their local market and find UFB an easy value-add.

Figure 5 illustrates the rise in the number of UFB RSPs. After the first year (2011-12) of UFB rollout 13 providers were actively offering UFB services.

FIGURE 5

Growth in Number of UFB Providers



Source: MBIE Broadband Deployment update 2012 to June 2017.

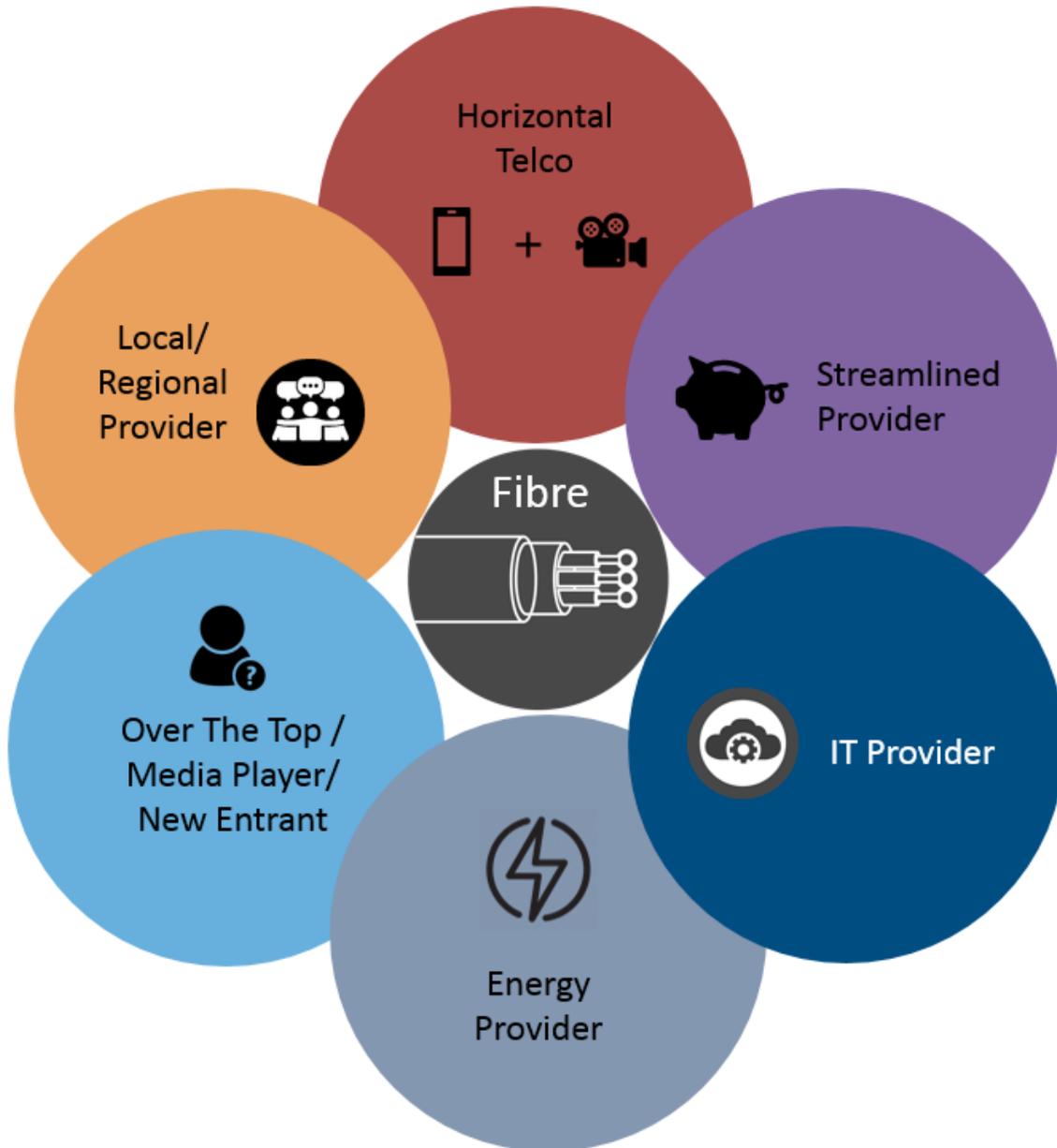
Current Telco Strategies

As the wholesale layer has become commoditised it follows that to make money at the service layer RSPs are taking one (or more) or the following strategies.

- Bundling or cross-subsidising broadband with another product to increase value (whether that be margins or e.g. reduced churn of an energy customer base).
- Innovating or differentiating at the service layer - e.g. in business there can be greater margins providing IT services for which UFB is a small enabling component of the overall offering.
- Leveraging economies of scale to have the lowest cost to serve - (Incumbent providers have been busy digitally transforming legacy customer management systems to achieve this).
- Going Niche - find a differentiator that appeals to a niche segment (e.g. provide intimate, locally based customer service or be the SME IT provider that can bundle UFB with a small business IT service).
- Getting a big enough customer base to sell it to a larger player. Opportunists in any new market like UFB may have a strategy of growing fast then exiting.

FIGURE 6

Current/Future Broadband Strategies



Source: IDC, 2018

The next sections discuss the recent RSP activity within these strategies in the current landscape:

The Horizontal Telco

The largest market players - Spark, Vodafone, 2degrees and Vocus NZ - all have some competitive advantage outside of broadband that allows them to offer additional 'horizontal' services bundled with

UFB. Spark, Vodafone and 2degrees each have a mobile network in place, allowing them to cross-subsidise fixed and mobile solutions if they wish, although fixed-mobile bundling does not appear to be central to any of their retail strategies. All four players have bundled content offerings with broadband, whether it be Spark's own Lightbox or partnership deals with SKY TV/ Neon and/or Netflix. Vodafone recently introduced its Vodafone TV solution based on a partnership with SKY TV. Vocus, through its acquisition of Switch, is bundling electricity with its broadband offerings, across business and consumer.

Stuff Fibre is a recent entrant that has had strong growth in a short time. The case for Stuff Fibre's entry to the broadband market highlights the potential shift for the future of the broadband market into the provision of digital services. Data will be a key asset for broadband providers in future years but scale is likely required to properly monetise it. Stuff Fibre could have a longer-term bundling strategy in mind with its broadband proposition, as Fairfax media transitions from traditional to digital media. The company recently announced that it will offer Stuff Pix, a movie streaming service from early 2018.

The Energy Provider

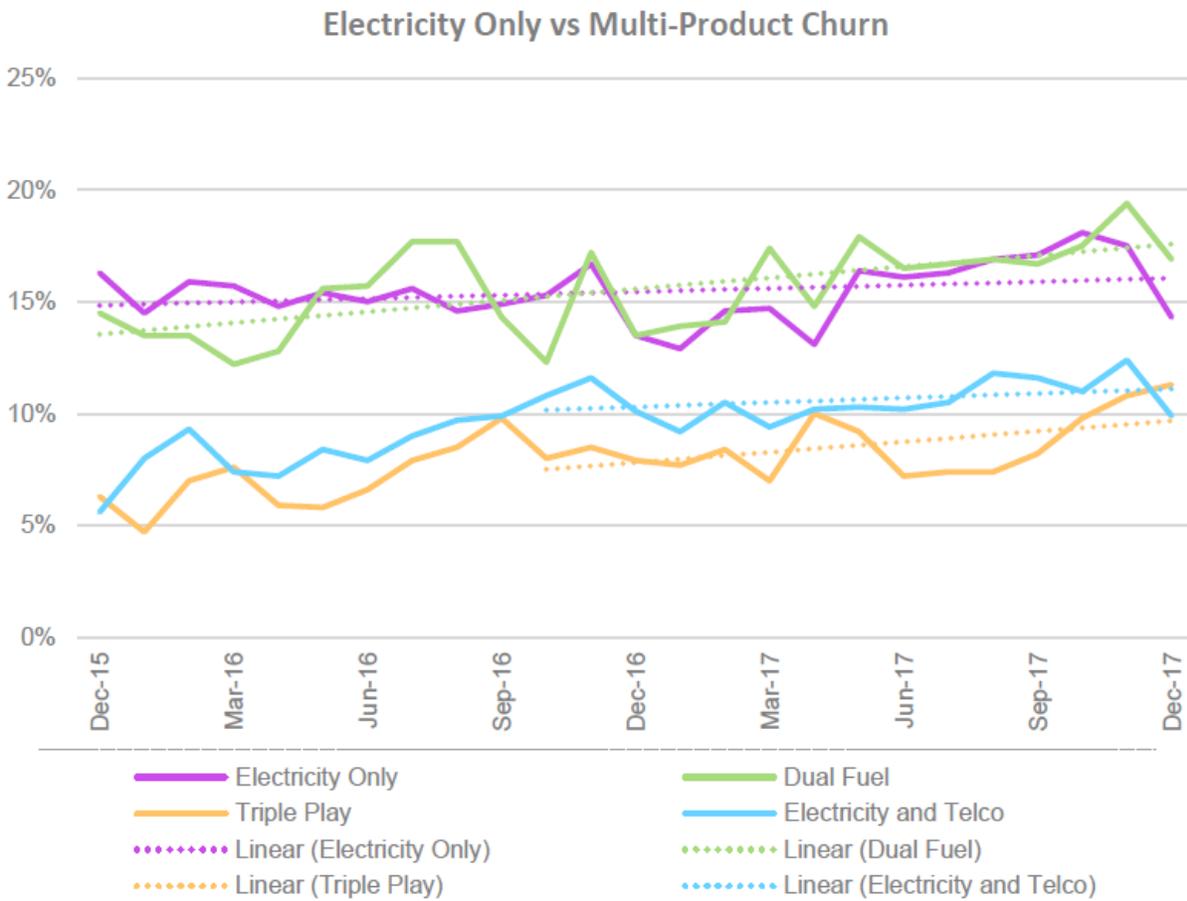
Having resold copper based fixed voice and broadband services for over ten years, energy company Trustpower saw an opportunity with UFB to aggressively pursue broadband market share and at the same time lower the churn rates of its energy customers. It began selling UFB in 2012 (earlier than the larger players Vodafone and Spark) and had almost 50% of Trustpower broadband customers on UFB by December 2017. Trustpower's growth has been driven by strong marketing and a low broadband retail price. Its success in customer acquisition and energy services churn reduction has highlighted why bundling with broadband may be a potentially good move for energy providers. It is unclear what percentage of customers are still tied into contracts and therefore not 'free' to churn, meaning that churn figures may not properly represent customer stickiness outside of contracts.

Contact Energy recently entered the NZ broadband market, although it has taken more of a reselling approach through a wholesale arrangement. Genesis also resells broadband, and other energy retailers are understood to be considering a broadband bundled offer. Vocus offers energy services; an example of a telco moving into the energy industry to provide a utility bundle. Although Vocus had only 12,000 energy customers as of December 2017, the rebranding exercise of Orcon and Slingshot 'Power' may prove fruitful (with an increase of 7,000 customers since June 2017).

There are clear synergies in bundling energy and telecommunications. A provider can market to an already engaged base; can distribute costs across multiple business units; and benefit from reduced churn, as the provider now offers more than one service to a consumer. Trustpower has been vocal in the market about the effect bundling has had on reducing churn in its customer base, Figure 7.

FIGURE 7

Trustpower: Churn of Electricity Only Customers vs Multi Product Customers.



Source: Trustpower quarterly operating report, December 2017.

Figure 7 shows that ~15% of customers on Energy-only solutions churn each year, while ~10% on triple play solutions churn each year. Contact Energy has spoken of the benefits of bundled products to the customer as it provides the “convenience of dealing with one service provider” according to Contact Spokesman Jason Krupp. Although still early in their energy market offering, Vocus has been vocal about the churn benefits noting “about a 25% to 30% reduction in churn for customers that bundle energy”.

The Streamlined Provider

Several providers operate in the telecommunications market with a simple broadband only offering, and low-cost base. MyRepublic is a fibre provider who has grown based on targeted marketing and a low-cost profile. MyRepublic has been public about approaching profitability after three years in business, and so stands out as a case of one provider without a bundling strategy that is potentially making a return in the UFB space. A lean organisation like MyRepublic, has a clear view of its costs per customer throughout the year. This visibility means that it can operate on a lower margin but be confident that it

will meet profit targets. This might sound simple, but it is harder for the incumbents to do. Focusing on a single product drives simplicity that is difficult to unlock if you are larger full-service telco. Larger telcos struggle to see the true costs per customer and what that means for profit until the end of the year because of their overhead complexities. There are many parts to their business and it is not always clear where the cost is, or it is subject to debate how costs should be allocated across products. MyRepublic's clear view enables it to see, and act upon, cost issues fast.

The IT Provider

Telecommunications providers are bundling IT solutions in with their business client offerings. Similarly, IT service providers often include connectivity from a telco provider as part of their IT solutions, although are increasingly offering telco services themselves by purchasing directly from Chorus or the LFC's.

Both large systems integrators such as Datacom and smaller, local 'IT guys' are either bundling UFB with their services or using it as a direct input rather than purchasing from the traditional telcos such as Spark.

Local/Regional Player

There are a considerable number of regional players who offer UFB services to their local customer base. Among the largest players are the Wireless Internet Service Providers (WISPs) Gisborne.net, Inspire.net, AoNet, Primo Wireless, NZ Tech, Wiz Wireless, AmuriNet, Ultimate Broadband and Unifone, all recently selected for the RBI2 initiative. In addition, there are some regional success stories such as NOW broadband which has achieved good growth in the Hawkes Bay region. However, there is a long tail of local providers with small client bases, approximately 1,000 to 2,000 connections at present.

For the WISPs, the focus will likely shift to RBI2. Some will continue to pursue UFB connections, for others it will likely take a back seat as the market is congested and of little benefit to their core business.

For larger regional providers, depending on how their costs are managed, they may have reached a scale where they can make a profit. It is the smaller local and IT players that are in potentially greatest risk of failure or consolidation in the medium term. During market interviews industry players mentioned that there are several small players with approximately 1,500 - 2,000 customers that are now encountering diseconomies of scale. Their business is forced to grow and yet cannot readily cover central costs. These players will likely face market exit as the ability to withstand the cost pressure forces consolidation. The scale at which the returns become viable again is heavily debated. While some providers suggested that "without 60,000 customers, telco is not a place to make money", others suggest a meaningful return could be made on 20,000 subscribers. However, whatever the exact number is, it seems the small players will struggle unless they can find alternative revenue streams.

Does the Industry View the Retail Broadband Market as Sustainable?

While the relatively new "gigabit" (or close to Gigabit per second speed) broadband product, offers an upsell opportunity and potentially a margin increase for RSPs, the current competitive pressure suggests this will be competed away quickly with sub \$NZ100 gigabit promotional plans already entering the market. It appears as soon as there is innovation at the wholesale input layer (e.g. a faster, premium product), the potential value is competed away at the retail level.

The future retail price points are also uncertain in the market; can they drop further or once the 'landgrab' phase has passed will prices rise?

The RSPs and wholesalers that IDC interviewed were of the view that the margins in retail broadband are extremely slim. Many in the industry question the profitability of the retail broadband market on its own, but many also pointed to the level of competition and the number of market entrants as evidence for an active and well-functioning market. For some, the changes are seen just as the effects and a reset following the new structural separation model.

A universal theme in the industry is that there will be future consolidation of RSPs. Slim margins and lack of scale were commonly offered as reasons for this.

Trustpower's 2017 Annual report stated "Trustpower believes that disruption in both the energy and telecommunication sectors will lead to industry structure change. We remain alert to the opportunities and risks associated with this evolution."

Simon Moutter, Spark Managing Director, has been vocal about the market challenges too, stating "We are now at the point where it is likely cheaper to acquire a customer base from another provider through an M&A deal than it is to try attract those customers through market efforts. For that reason, we expect to see, and participate in, significant consolidation of the retail broadband industry over the next couple of years."

What happens to Vocus NZ will be an interesting development for the New Zealand market; the third largest New Zealand broadband player is currently up for sale. There is a wide field of potential buyers but it is still uncertain who the business would be attractive to, and who can afford it.

An outside entrant could use the acquisition to enter the market quickly at scale. The big players Spark and Vodafone may each also consider a purchase to gain further scale in broadband connections themselves, subject to Commerce Commission approval.

Are the Current Costs of Acquisition Justifiable?

The costs of acquisition in the market have continued to rise over the last number of years with TVs, gaming consoles and fridges all being given away to attract new customers.

Trustpower currently offers a Samsung 653 litre fridge (RRP \$3,999) on a 24-month contract when a customer signs up for a 200/200 fibre service at \$139 per month (as long as the customer keeps their power with Trustpower too). Therefore, the contract value of the broadband subscription does not reach the retail value of the product being given away, \$3,336 vs \$3,999. With power included it would at least reach the value, but leave little room for costs of service and margin.

Incenting customers to sign up for a 24-month term may well be harder than it used to be, now that some broadband providers such as Bigpipe offer 'no term' contracts. While Trustpower is using a bundling strategy to allow such a great deal for consumers (and is likely not paying the full RRP for the product) it highlights the view that signing a customer to a term is a 'loss leader' strategy, with the aim of paying off over time. This makes sense if the assumption that churn will subside is correct; that by the time the customer has reached the end of their term, the market will have settled and the customer will stay. However, it is possible that levels of churn will continue to be high in the market, as long as the aggressive competition endures.

Will Over the Top Players Begin Selling Broadband?

With lower barriers to entry there is the opportunity for Over the Top Players to enter a structurally separated market like New Zealand and disintermediate the broadband RSP's. It would be relatively

easy for a global player such as Amazon to purchase an internet gateway; some backhaul; wholesale fibre inputs, and offer New Zealanders a bundle of global content (e.g. Amazon Prime) and broadband.

However, the Over the Top Players are already here. Netflix, Google, Facebook, Apple and Amazon are all providing content of some form over New Zealand broadband networks, without needing to bundle in the broadband service itself. With slim retail margins available, why would they bother selling broadband?

Will RSPs Put Their Prices Up?

History generally shows that putting prices up in competitive markets like the New Zealand broadband market is very difficult, although recent wholesale price rises and industry levies have been exceptions to this, and have generally been passed on to the consumer.

Should the Wholesale Price be Lower?

The main wholesale broadband fibre input prices are capped at a maximum level rather than specific prices being set at. Therefore, in theory wholesale prices could be discounted by Chorus and the LFCs. However, so far, the wholesalers have taken the position that they have a premium product in fibre, and highlighted that it has cost a great deal of capital and investment to provide the UFB network.

It also seems likely that in such a competitive retail market, were a wholesale price to drop, one or more of the RSP's would be likely to pass on the discount to the end market, in search of greater share. Were that to occur the margins or value given up by the wholesaler would not improve the margins in the retail market, except in the very short-term.

Future changes to the Telco Act mean that Chorus will be subject to a revenue cap after 2020, effectively a regulated rate of return for its investment. With that may come some changes to wholesale pricing.

The impending changes to the Telecommunication Act also throws up some uncertainties. What will prices for premium products look like? At what point, as customers migrate from copper to fibre, can Chorus be released from having to operate the copper network?

Does Commoditisation of Retail Broadband Lessen the Incentives to Invest in Innovation in the Future?

The commoditisation of the retail broadband market and the entry by non-traditional retailers such as utilities and Stuff, also raises questions over future investment incentives. With a more commoditised retail product, where players broadly either require scale to make money or are bundling broadband as a value-add, what are the future incentives to invest in innovation? Is the commoditisation merely a consequence of the structural separation model bedding down, or does the industry need to look at the incentives for the network providers to innovate further?

The Fixed Market is Structurally Separated and the Mobile Market is Vertically Integrated

In a world of digital disruption across all industries, the enabler that is the telecommunications industry, continues to see a huge rate of change. Fixed and mobile network operators are all under pressure to invest and increase network capacity, to keep up with higher and higher bandwidth demands, driven by applications such as streaming video on demand.

IDC notes that there is strong retail competition in the current mobile market and that there are similar trends to the broadband market, in that it is increasingly hard for Mobile Network Operators (MNOs) to monetise the increased demands for data.

The case to regulate mobile (there is currently a Commerce Commission study taking place) seems a lot weaker than it has in the past, given the competitive mobile pricing observed in the retail market e.g. much more competitive roaming offerings. The MNO's have all invested huge amounts of capital and New Zealand is served by three 4G networks that reach around 97-98% of where New Zealanders live or work. Like any business that has taken a risk and invested to innovate, the MNO's deserve to make a return, just as Chorus and the LFC's do in the fixed market. New Zealanders have great fixed and mobile infrastructure, particularly considering the small population spread across a large geographical area. There does not seem to be a problem for regulation to solve in mobile currently.

Nevertheless, the industry models for the mobile and fixed markets are very different. For the fixed market, in any given geographical area, there is one monopoly UFB provider (Chorus or the LFC's) and up to 92 RSPs providing fixed telecommunications services over the top. In the mobile market there are three competing, vertically integrated MNOs, and limited other retailers. There are few examples of Mobile Virtual Network Operators (MVNO's) in New Zealand. But this does not necessarily mean either model is better - IDC argues there is strong retail competition in both markets. The models are just different.

Structural separation in the fixed market arguably came about because the commercial case to upgrade New Zealand's fixed telecommunications infrastructure to fibre, was not viable commercially without government assistance. The industry needed the intervention of a regulated restructure and part funding from the government, to deliver the economic benefits to New Zealand that the UFB network brings.

Where things could change the New Zealand mobile industry model, is with the migration from the current 4th Generation (4G) networks to 5th Generation (5G) technology. 5G offers much faster cellular delivered broadband, and for example, appears a pre-requisite for autonomous, driverless vehicles, in the future, which will require wireless connectivity with extremely low latency and high speed.

5G is raising more uncertainty in the industry than there was a few years ago, when UFB was set up. While many industry players see 5G as a complementary technology to fibre, and even a new opportunity, given each new 5G site will likely require fibre backhaul, it could also be a competing technology to fibre. Some think that at the very least 5G is starting to raise the risk profile of what many thought were long term, low risk fibre network investments by Chorus and the LFCs.

5G mobile networks promise to bring higher speed, capacity and lower latency to both human and machine users. The standards for 5G will likely be ratified in 2020. Until then, 5G remains something of a moving target. The first public pre-standards 5G network was launched for the winter Olympics in South Korea in February 2018, while Verizon recently announced plans to launch a 5G service in three to five cities in the USA during the second half of 2018. IDC expects that mobile network operators will seek to commercially launch 5G in New Zealand around 2021 to 2022.

Full scale national deployments of 5G will likely cost hundreds of millions or more to rollout, due to the demands of having a much denser network of small cells.

The economic performance of broadband over cellular networks generally lags that of fixed networks. Fibre performance (throughput and speed) outpaces that of today's current 4G networks, particularly

when lots of customers want to use it at the same time. But wireless is obviously a lot more convenient for some applications.

What is uncertain, is whether 5G will catch up to the speeds and performance of fibre, or whether by the time 5G arrives, fibre networks will be going even faster, driven perhaps by demand from bandwidth hungry, virtual or augmented reality applications.

So, the extent to which 5G complements or substitutes fibre broadband could prove crucial to how the future New Zealand broadband market looks.

If 5G is a genuine substitute to fixed fibre broadband, it makes the commercial 5G business case better, and perhaps all three New Zealand mobile operators will roll it out (in the same way that they have rolled out 4G over the past few years). But if that happens, it potentially competes away some of the return of the UFB business case, and pits the vertically integrated network mobile model against the structurally separated fixed one. A very complicated set of incentives for the various industry players, and potentially the government and the regulator.

However, if 5G is more of a complementary technology to fibre, it may be that it will be uneconomic to have three competing 5G mobile networks all built for only a small return. In those circumstances, perhaps we will see commercial co-operation between the mobile operators, using the same recent co-operative model that is being used to build one shared common network to serve mobile 'blackspots' and remote rural areas as part of the RBI 2 contract.

Or will things go even further? Could 5G be the technology upgrade that New Zealand needs (e.g. to make driverless cars possible) but that none of the mobile providers can afford to fund on their own. Could we then see the need for some sort of structural separation of the mobile industry and government assistance, as we saw in the fixed industry? IDC notes that the Trump administration has recently proposed a single 5G network for the United States.

CONCLUSION

The New Zealand Telecommunications market is continuing its state of revival, from the consumers' perspective, as new constructs, post structural separation and the government's national broadband plan, come in to play. It can be argued that UFB and RBI have made New Zealand into a world leader in connectivity, and this opens many new opportunities for the industry and for New Zealand Inc.

In the fixed retail market, rising input costs and ease of entry into the broadband market puts at risk the fine balance between regulatory influence and having the space and room for players to thrive. Heavy price based competition is devaluing the ability to monetise data. This position should motivate telcos to compete on innovation and customer experience, but the squeeze is also driving many to seek the lowest cost and to use their own, or private infrastructure, instead of open access infrastructure.

However, driving for the lowest cost by simplifying systems and processes, reducing the number of customer callouts and service calls caused by service failure and improving the customer experience may naturally start to address the Commerce Commission's concerns of the high number of consumer complaints. But it is an extremely complex area that telcos have placed effort into for years. The state of the market may also drive merger and acquisition activity to improve market share, or offer bundles or new services with adjacent markets such as content and IT services. Smaller retailers, struggling with

economies of scale, could be acquired by larger players for market share, which may result in a better balance in the retail competitive landscape.

There are still several years of bumpy road for the market to go as New Zealand households and premises transition from copper to fibre. Customers on fault-prone copper, drive service costs for retailers and Chorus. Customers transitioning to fibre require high levels of service through the installation processes. As UFB2 and RBI2 kick off, wholesalers move into another state of build and deploy, as the build reaches smaller, less economically viable towns.

The competitive pressure in the fixed broadband retail market has increased substantially over the last number of years and there is market consensus that retail broadband is not an easy place to make money, with some calling it a “profit free zone”.

While there are more than 90 providers currently vying for position right now, this will not last. There is a clear land grab taking place as the UFB rollout continues. But when, or even before the UFB rollout is complete, players will have to examine whether they are in a profitable business or taking unnecessary cost to remain in a market with little upside. There will be strong market consolidation and those that remain must either get significant scale and with it, economies of scale, offer additional services or find a profitable niche. It appears extremely challenging to offer UFB as a stand-alone business.

5G also threatens to throw the industry a huge 'curve-ball' as it threatens to substitute a portion of the fixed market. The industry is still adjusting to the 'new normal' of post structural separation in the fixed market. Will the industry soon see similar disruption in the mobile market?

However, the signs still overall look positive for the New Zealand telecommunications market. The difference between the thrivers and survivors will come down to not just strategy but considered, effective, relentless and efficient execution of strategy. Expect more big, bold moves in the next 12 months as players jostle for position, as well as continued offers for broadband, bundled with fridges, televisions and more.

APPENDIX 1 - BROADBAND FIBRE PRICING

FIGURE A1

Unlimited Data Fibre Plan Retail Pricing

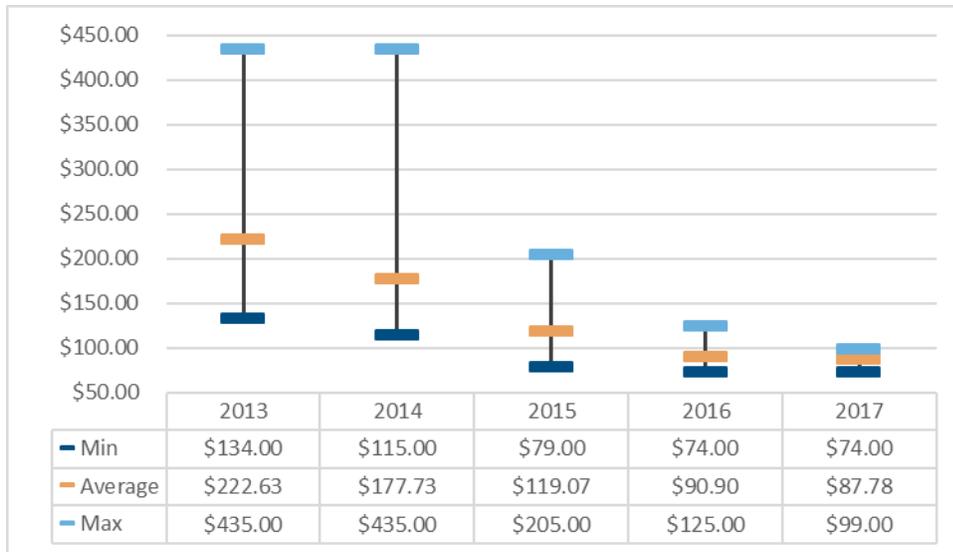
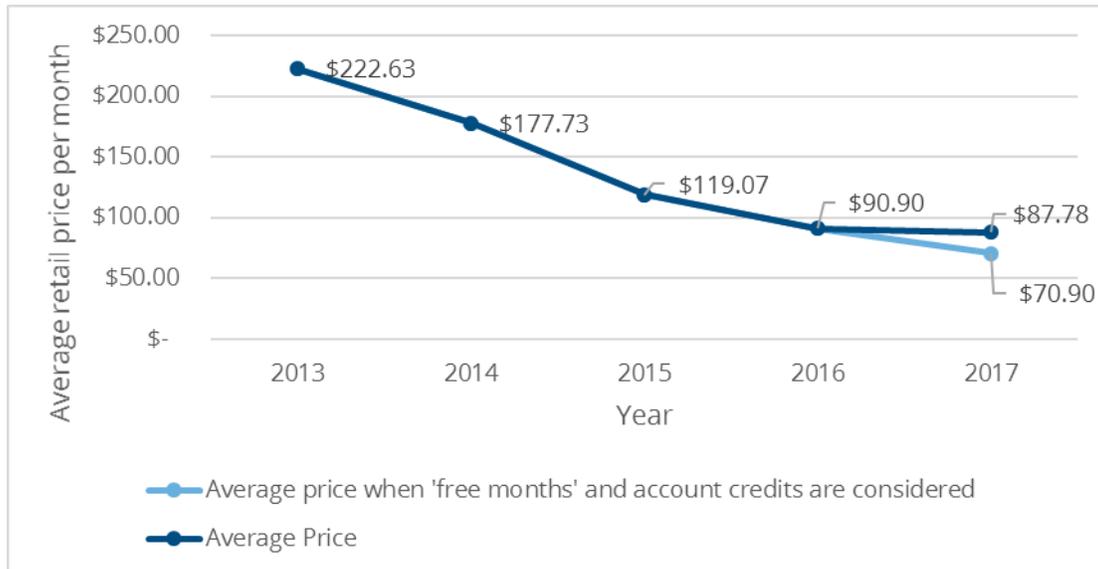


Figure A1 illustrates the fierce competition in the market. While the average price for unlimited naked 100/20 broadband has stayed roughly the same from 2016, the highest and lowest prices are converging. One factor to note, Voyager acquired Actrix and lowered its retail prices for this year. Actrix had the highest price last year of the retailers that IDC tracks for this figure.

The average retail broadband price has shifted down by a couple of dollars since last year but when free months or account credit sign up offers are included, the effective average price becomes NZ\$70.90 per month (across those providers offering free months or account credits, and across the term of the deal), Figure A2 shows that competitive pressure is continuing to reduce retail prices, but that retail service providers are using sign-up deals to mitigate permanent price erosion.

FIGURE A2

Average Historical High Data Cap/Unlimited Data Price on Fibre Across Selected RSPs



Such is the level of introductory/ acquisition offer discounts in the NZ broadband market that the average price for Unlimited fibre broadband plans falls from NZ\$87.78 per month before discounts to NZ\$70.90 after discounts.

Deals in market at August 2017, Figure A2, include:

- **Free months.** Bigpipe offers 2 months free for fibre customers switching from another provider. My Republic offers 6 months' half-price fibre on a 24-month term. Spark 3 months free on a 12-month term and 2degrees offers 6 months free on a 24-month term.
- **Account Credit.** Vodafone offers a NZ\$300 account credit and Worldnet is offering NZ\$360 account credit for 12-month sign ups.
- **Split Term Pricing.** Trustpower is offering a 24-month deal with a lower price for year one.

These deals cut around ~25% off the revenue per user over the term of the contract. Some players are giving away SVOD, streaming music, SKY TV deals as well as free months or account credits. This indicates how cut throat the market is; 'premium value' players are competing on price, albeit it masked by free months and account credits.

Other non-money based deals have also been offered in the last year, some of these were below-the-line:

- **My Republic:** Free PlayStation (Plus a competition to win an 'internet ready coffin').
- **Trustpower:** Free 40" Samsung smart TV on 100Mbps plan and 55" Samsung TV on 200Mbps plan on a 24-month contract.

- **Orcon:** Free Xbox One S or Apple TV with 24-month contract.
- **Slingshot:** Free Chromecast.

Figure A3 illustrates the decreasing prices for entry level fibre plans over the last five years. In the last twelve months while the average price for entry level retail fibre has shifted only marginally, the lowest price has plummeted. The lowest price of NZ\$59.95 is from Slingshot for 100GB of naked VDSL or 100/20 fibre broadband per month. In fixed wireless, Skinny offer 100GB for NZ\$52.

FIGURE A3

Average Entry Level Fibre Plan Retail Pricing

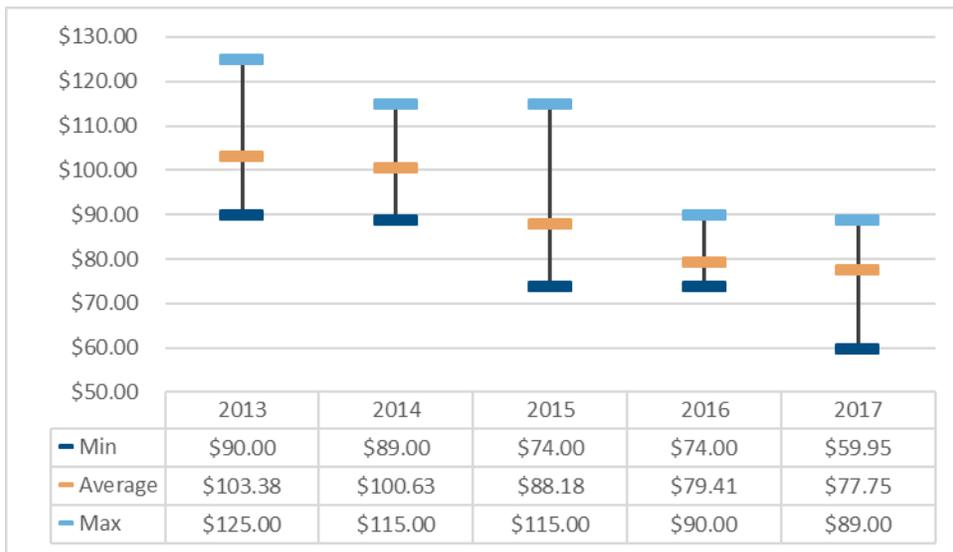
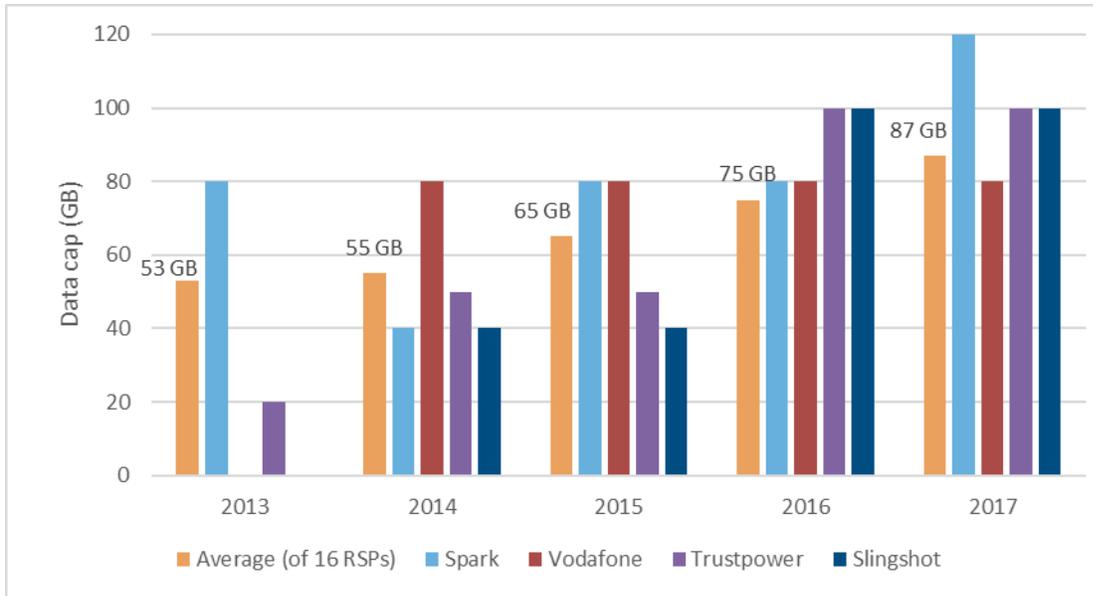


FIGURE A4

Average Entry Level Fibre Plan Data Allowances



Entry level data allowances continue to increase across the market, as shown in Figure A4. While Vodafone's entry level data allowance has not increased in four years, it was ahead of others with its 80GB data cap in 2014. Spark's recent decision to lift data caps to 120GB may result in other retailers following its lead. As more households move to fibre, expect data caps to increase in size to match climbing household data use. Data caps may eventually be phased out as customer demand for a capped product dwindles. Some providers offer unlimited fibre only, to keep product sets simple.

About IDC

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