"Beyond Fairness Slogans: Taking Action for Genuine Fairness and Equity for New Zealand"

NZ Commerce Commission
44 The Terrace
Wellington Central
Wellington 6011

April 14th, 2023

Subject: Submission on the statement of issues regarding the application from Connexa Limited seeking clearance to acquire certain passive mobile telecommunications infrastructure assets from Two Degrees Networks Limited and Two Degrees Mobile Limited

To Whom It May Concern,

As an independent expert in the telecommunications sector with over 30 years of experience, I have witnessed firsthand the immense potential these markets hold in fostering innovation, economic growth, and consumer satisfaction. However, I have also observed that new entrants need help establishing themselves in the market due to barriers that impede healthy competition.

New Zealand-based customers paying their monthly subscriptions to the Mobile Network Operators (MNOs) and the Mobile Virtual Network Operators (MVNOs) have built these Towers over decades; where is the control and ownership of our Towers going, and who pulls those strings, and what are the downstream risks for New Zealanders and this rapidly evolving mobile network infrastructure separation?

Background

Brand recognition and reputation: By being the first to introduce a new product or service, a company can establish itself as an innovator and leader in its industry. This can increase brand recognition and a positive reputation among consumers and other businesses.

Market share: Being the first to offer a new product or service allows a company to capture a significant market share before competitors can respond. This can lead to a dominant position in the market and may create barriers to entry for potential competitors.

Customer loyalty: Early adopters of a new product or service often become loyal customers as they appreciate the benefits and innovations the product brings. By being the first to market, a company can foster long-term relationships with these early adopters, leading to repeat business and positive word-of-mouth marketing.

Pricing power: Being the first to the market allows a company to set the initial price for its product or service, which can be higher than the eventual price once competitors enter the market. This can lead to higher profit margins and revenues during the early stages of the product life cycle.

Learning curve advantages: By being the first to market, a company gains valuable experience producing, marketing, and selling its product or service. This experience can help the company improve its operations and create a competitive advantage over later market entrants.

Intellectual property protection advantages: Being first to market often means developing forms of intellectual property unseen before. This can help a company protect its innovations and create barriers to entry for competitors.

Attracting investment and talent: Companies that are first to market are often seen as innovative and forward-thinking, making them more attractive to investors and potential employees. This can help the secure company funding and hire top talent to support its growth.

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The Shift to (MVNOs): Mobile Phone Providers Selling Off Tower Infrastructure - A Global Trend

The mobile telecommunications industry has experienced significant changes in recent years, with some mobile phone providers selling off their tower infrastructure and effectively turning themselves into Mobile Virtual Network Operators (MVNOs). (MVNOs) provide mobile services to customers without owning their network infrastructure. Instead, they lease capacity from existing network operators to offer their services.

Examples of Mobile Phone Providers Selling Off Tower Infrastructure

a) Vodafone - Australia, Europe, and India

Vodafone have sold or leased parts of its tower infrastructure in Australia, Europe, and India. In Australia, Vodafone entered into a joint venture with TPG Telecom to form Vodafone Hutchison Australia (VHA), which sold its passive tower infrastructure to Axicom in 2016. In Europe, Vodafone created Vantage Towers in 2020, an independent tower infrastructure company that manages its mobile towers across several European countries. In India, Vodafone merged its tower infrastructure with Idea Cellular to create Indus Towers, effectively transitioning to an (MVNO) model.

b) AT&T - United States

In the United States, AT&T sold approximately 9,700 of its wireless towers to Crown Castle International Corp. in 2013. AT&T continues to provide mobile services to its customers by leasing capacity from Crown Castle.

c) Telefónica - Spain and Latin America

Telefónica, a prominent Spanish telecommunications company, has divested parts of its tower infrastructure. In 2020, the company sold its tower infrastructure in Europe and Latin America to American Tower Corporation, a leading independent infrastructure provider. Telefónica now operates as an (MVNO) in these regions, leasing capacity from American Tower to provide mobile services.

d) Orange - France and Spain

Orange, a leading telecommunications provider in France, has also sold off some of its tower infrastructure. In 2020, the company created a subsidiary, TOTEM Infrastructure, to manage its mobile towers in France and Spain. This move turned Orange into an (MVNO) in these countries, allowing it to lease capacity from TOTEM Infrastructure to continue providing mobile services.

Reasons Behind the Shift to (MVNOs)

a) Monetising Tower Assets

One primary reason mobile phone providers are selling off their tower infrastructure is to monetise their assets. Building and maintaining network infrastructure is capital-intensive, and selling these assets can generate significant revenue for the company. The proceeds from these sales can be used to invest in other areas, such as new technologies or reducing debt.

b) Focusing on Core Business

Another reason for selling off tower infrastructure is to allow the company to focus on its core business - providing mobile services to customers. As an (MVNO), a mobile phone provider can concentrate on its service offerings, marketing, and customer relationships without being burdened by the capital and operational expenses associated with owning and maintaining a network infrastructure.

c) Increased Flexibility and Scalability

By becoming an (MVNO), mobile phone providers can enjoy increased flexibility and scalability. They can quickly adapt to market changes, launch new products and services, and scale up or down their offerings based on customer demand without significant capital investment in network infrastructure.

Conclusion

In recent years, several mobile phone providers in various countries, such as Vodafone in Australia, Europe, and India; AT&T in the United States; Telefónica in Spain and Latin America; and Orange in France and Spain, have sold off their tower infrastructure, effectively turning themselves into (MVNOs). The reasons behind this shift include monetising tower assets, focusing on core business, and increasing flexibility and scalability.

The Evolution of Mobile Network Operators: Exploring Hybrid Business Models in Telecommunications and the Role of Spectrum

Introduction:

The mobile telecommunications industry is witnessing a significant transformation as network operators continue to explore new and innovative business models. One such trend is the divestiture of passive tower assets, prompting (MNOs) to lease back the infrastructure while focusing on core service offerings.

This shift has raised questions about the classification of (MNOs) as they move toward business models resembling mobile virtual network operators (MVNOs). Below outlines the distinctions between (MNOs) and (MVNOs), the role of the spectrum as part of an active network, and consider whether (MNOs) adopting new approaches to infrastructure management can be classified as thick-end (MVNOs) or hybrids of the two models.

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Passive Tower Assets in Mobile Telecommunications:

In the mobile telecommunications sector, passive tower assets refer to the physical infrastructure supporting active telecommunications equipment operation. Examples of passive tower assets include tower structures, antenna mounting systems, grounding and lightning protection, power supply and backup, shelters or cabinets, security fencing and access control, tower foundations and anchors, and cable management systems. Telecom companies often lease these passive assets from specialised infrastructure providers known as tower companies or TowerCos. This enables them to reduce capital expenditure and operational costs while focusing on their core telecommunications services business.

Spectrum as Part of the Active Network:

The spectrum is considered part of the active network of a mobile network operator. The active network components transmit and manage the wireless signals that enable communication between devices and the network infrastructure. Spectrum, or radio frequency spectrum, is the range of frequencies over which wireless communication can occur.

Regulatory bodies allocate mobile network operators specific frequency bands within the spectrum to transmit and receive signals. These frequency bands are essential to their active network, as they determine the mobile network's capacity, coverage, and performance.

Operators use various wireless technologies, such as 4G (LTE), 5G, or earlier generations like 3G, within their allocated spectrum to provide mobile services to their customers. It is important to note that the spectrum is a limited resource, and its efficient utilisation is crucial for providing high-quality mobile services. The spectrum allocation is typically managed by national or regional regulatory authorities overseeing its distribution and use.

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Transitioning to (MVNOs): The Global Trend of Mobile Service Providers Divesting Tower Infrastructure

Typical TowerCo structures

In the mobile telecommunications sector, passive tower assets refer to the physical infrastructure and components of a cell tower that supports the operation of active telecommunications equipment. These passive assets do not directly participate in transmitting or processing mobile signals but are essential for maintaining the overall functionality of the tower. Some common examples of passive tower assets include:

- Tower structures are the actual steel lattice or monopole structures supporting the antennas and other equipment. Depending on the coverage and capacity requirements, tower structures come in various designs and heights.

- Antenna mounting systems are brackets, mounts, and frames used to secure antennas and other active equipment to the tower structure at various heights.

- Grounding and lightning protection: This system provides a path for electrical surges, such as those caused by lightning strikes, to be safely dissipated into the ground, protecting the tower and equipment from damage.

- Power supply and backup: This includes transformers, electrical panels, and backup power systems (such as generators or batteries) to ensure continuous operation of the tower, even in the event of a power outage.

- Shelters or cabinets: These are weatherproof enclosures that house active equipment, batteries, and other electronics, protecting them from environmental factors such as rain, dust, and temperature fluctuations.

- Security fencing and access control: This involves the physical barriers, locks, and surveillance systems used to secure the tower site and protect it from unauthorised access, theft, or vandalism.

- Tower foundations and anchors: These concrete or steel structures provide stability and support to the tower, ensuring it remains upright and secure even in adverse weather conditions.

- Cable management systems include cable trays, conduits, and other structures that organise and protect the power and data cables between the equipment and the supporting infrastructure.

Telecom companies often lease these passive tower assets from specialised infrastructure providers known as tower companies or TowerCos. This enables them to focus on their core business of providing telecommunications services while reducing capital expenditure and operational costs associated with building and maintaining the passive infrastructure.

When a mobile network operator (MNO) sells its passive tower assets, it typically enters into a lease agreement with the tower company TowerCo which owns the infrastructure. In this scenario, the (MNO) still owns and operates the active equipment (such as antennas, radios, and base station controllers) and retains control over its radio spectrum licenses. This means the (MNO) is still responsible for managing its network and directly providing mobile services to its customers.

On the other hand, an (MVNO) generally does not own any network infrastructure, whether active or passive. Instead, (MVNOs) enter agreements with (MNOs) to utilise their network capacity and provide mobile services to their customers. (MVNOs) typically focus on marketing, customer service, and billing while relying on the (MNOs) infrastructure to deliver connectivity. They may differentiate by offering unique service plans, pricing, or customer experiences.

So, while selling passive tower assets might change an (MNOs) approach to infrastructure ownership, it does not automatically transform the (MNO) into an (MVNO). As long as the (MNO) continues to own and operate its active network equipment and maintains control over its spectrum licenses, it remains an (MNO), not an (MVNO).

A thick or "light" (MVNO) is still an (MVNO), not an (MNO). The distinction between a thick (MVNO) and a thin (MVNO) lies in the extent of control and infrastructure they manage. A thick or light (MVNO) controls its network infrastructure, operations, and services more than a thin or "full" (MVNO). A thick (MVNO) might own and operate some core network components, such as the Home Location Register (HLR), authentication servers, or billing systems, allowing them to manage their customer base and value-added services more directly. However, they still rely on the host (MNOs) radio access network (RAN) and spectrum to connect with their customers.

Even though an (MNO) that sells off its passive tower assets might take on some characteristics similar to a thick (MVNO) by leasing the infrastructure back, it should be more accurate to categorise them as a thick-end (MVNO). The critical distinction is that an (MNO) still owns and operates the active network equipment, maintains control over its spectrum licenses, and manages its radio access network. In some circumstances, this level of control over the network infrastructure and services may be present in (MVNOs), whether thick or thin.

By way of example, in the United States, Dish Network has created a position within the telecommunications industry as it combines spectrum ownership and Mobile Virtual Network Operator (MVNOs) operations. The company's recent strategic investments include a $3.6 billion acquisition of valuable spectrum and a $1.4 billion purchase of Boost Mobile, a prominent (MVNO).

By leveraging both spectrum ownership and (MVNO) operations, Dish Network has the potential to enhance its service offerings and network infrastructure for its customer base. Additionally, this dual approach enables the company to fortify its presence within the highly competitive US mobile market.

Suppose this TowerCo provides a 'Radio-Network-as-a-Service' (RANaaS) solution to the (MNO) through one of the other companies it owns, and the (MNO) enters into a spectrum swap agreement like Spark has with Dense Air. Factoring in Connexa's related Company structures and that Dense Air acts as a "carrier of carriers," providing shared wireless infrastructure and working with multiple carriers simultaneously. In that case, a more accurate description of Connexa's TowerCo status might be a hybrid between an (MNO) / (MVNO) or, even more accurately, a mobile virtual network enabler (MVNE), depending on the specific details of the arrangement.

In this scenario, the (MNO) would relinquish some of its control over the active network components (such as antennas and radios) and share its spectrum licenses with the TowerCo this would mean the TowerCo would be more responsible for managing the radio access network. At the same time, the (MNO), now a type of (MVNO), focuses on other aspects of its business, such as marketing, customer service, and billing.

While this arrangement might have similarities to a thick-end (MVNO), it is essential to remember that the (MNO) is still involved in the operation of the network and is not solely relying on another (MNO) for connectivity.

In conclusion, (MNOs) that sell off their passive tower assets, enter into a RANaaS-type agreement like Spark and Dense Air and engage in a spectrum swap to maximise the efficient delivery of 4G and 5G services would more likely fit into an (MVNO) category. It may be viewed as a hybrid model, with the (MNO) taking on some characteristics of an (MVNO) while still retaining some (MNO) elements. The exact classification would depend on the specific details of the arrangement and the level of control the (MNO) retains over its network infrastructure and operations. views the model more as an (MVNO) description.

Examining New Zealand's Network Structural Separation in Response to Monopolistic Practices

Splitting Telecom New Zealand (now Spark) and creating Chorus as a separate entity began in 2011. This structural separation was part of the New Zealand government's Ultra-Fast Broadband (UFB) initiative, which aimed to accelerate the deployment of high-speed fibre-optic broadband across the country.

The New Zealand government required Telecom to separate its retail and wholesale divisions as a condition for participating in the UFB initiative. This was done to promote competition in the retail market and ensure fair access to the new fibre-optic infrastructure for all retail service providers.

On November 30, 2011, Telecom New Zealand demerged, creating Chorus as an independent, publicly traded company responsible for managing and maintaining the country's wholesale fixed-line telecommunications infrastructure. This allowed Chorus to focus on the roll-out and management of the UFB network while Spark, the former Telecom retail division, continued to compete as a retail service provider.

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The Wholesale Broadband War: Chorus Fixed Line Network vs. Mobile Network Operators

The wholesale broadband market has experienced a seismic shift as competition intensifies between Chorus, New Zealand's fixed-line network provider, and mobile network operators (MNOs). As (MNOs) choose to sell mobile broadband services instead of purchasing capacity from Chorus' fixed-line network, the battle lines have been drawn. This essay delves into the wholesale broadband war between Chorus and the (MNOs), exploring the reasons behind the struggle, the strategies employed by both parties and the potential impact on the industry.

The War Ignites: Reasons Behind the Conflict

The wholesale broadband war's catalyst lies in the (MNOs)' quest for enhanced market share and profitability. By offering mobile broadband services independently, (MNOs) can bypass Chorus' fixed-line network, thus avoiding the associated costs and increasing their profit margins. This shift is driven by rapid technological advancements in mobile broadband, which now offer comparable speeds and reliability to fixed-line services. Consequently, consumers increasingly view mobile broadband as a viable alternative to traditional fixed-line services.

Strategies Employed by Both Parties

Chorus has undertaken several measures to improve its service offerings and retain customers to maintain its market dominance. Key strategies include investing in network upgrades, such as the Ultra-Fast Broadband (UFB) rollout, and implementing competitive pricing models to entice (MNOs) to continue purchasing capacity from its fixed-line network. Chorus has also focused on promoting its fixed-line services as the backbone of New Zealand's digital infrastructure, emphasising its role in supporting emerging technologies like the Internet of Things (IoT).

On the other hand, (MNOs) have pursued aggressive marketing campaigns to promote their mobile broadband services, highlighting their affordability and flexibility compared to fixed-line offerings. They have also invested in network expansions and innovations such as 5G technology, which promises even faster speeds and reduced latency.

Furthermore, (MNOs) have formed strategic partnerships with content providers and technology companies to create a comprehensive ecosystem that further entices customers away from Chorus' fixed-line services.

Impact on the Industry

The wholesale broadband war between Chorus and (MNOs) has profound implications for the industry. As (MNOs) continue to gain traction in the market, Chorus faces the risk of declining revenue and market share. The company may need to reassess its business model and diversify its offerings to remain competitive.

Conversely, (MNOs) may need help providing reliable, high-speed mobile broadband services to a growing customer base. Network congestion and coverage limitations may hamper their ability to deliver consistent performance, particularly in rural areas. This could create opportunities for Chorus to emphasise the reliability and stability of its fixed-line services, particularly for business customers and those requiring robust connectivity.

Conclusion

The wholesale broadband war between Chorus' fixed-line network and (MNOs) has undoubtedly disrupted the industry landscape as both parties vie for market share and consumer favour. As technology evolves and consumer preferences shift, which party will emerge victorious in the long run remains to be seen. Ultimately, the outcome of this battle will shape the future of broadband services in New Zealand, with far-reaching implications for both the industry and consumers alike.

We believe that the Commerce Commission, in part, needs to focus on the shareholder relationship between Connexa and Dense Air. This union results in a TowerCo structure combining all Spark's and 2degrees' towers into one entity. Consequently, this creates a market situation in New Zealand where the only other TowerCo providers form part of the recent Vodafone Tower arrangement, which includes InfraRed Capital Partners and Northleaf Capital Partners.

The transaction is concerning due to Connexa and Dense Air's shareholding structures and the previously mentioned hybrid-type situation. If these transactions advance, the distribution model adapted could quickly develop into a Chorus-like wholesale-type MVNE (Mobile Virtual Network Enabler) model. Although not a typical MVNE model, it does have similar underlying principles.

Dense Air currently has spectrum-sharing arrangements with Spark, there is a growing concern that Connexa is attempting to foster a unique New Zealand environment. Although not a whole network environment, it is creating a back-end type infrastructure TowerCo with spectrum arrangements via Dense Air which has uncomfortably close shareholding relationships, i.e. OTPP-Backed Connexa owns Dense Air, in part or whole via Sidewalk Infrastructure Partners (SIP) which leverages strategic and flexible capital and resources from Alphabet Inc, which is the parent company of Google. Alphabet Inc was created in 2015 as a holding company for Google and its various subsidiaries, including YouTube, Google Maps, and Google Cloud. Google remains Alphabet's largest subsidiary, accounting for most of the company's revenue.

As per publically available information, Google indirectly participates in several wireless services, mainly through partnerships, investments, and technology licensing. These services include

- **Google Fi (formerly Project Fi):** Google's Mobile Virtual Network Operator (MVNO) that uses a combination of networks from different carriers, such as T-Mobile, U.S. Cellular, and previously Sprint, to provide users with wireless service.

- **Android OS:** Google develops and licenses the Android operating system, which numerous wireless carriers and smartphone manufacturers worldwide use. Although Google does not directly provide wireless services through Android, the company plays a significant role in the wireless industry by supporting a vast ecosystem of devices and applications.

- **Google WiFi and Nest WiFi:** These mesh networking devices Google developed to improve home WiFi coverage. While Google WiFi and Nest WiFi do not provide the actual ISP wireless service, these devices help users access the internet through their existing wireless service providers.

- **Google Fiber:** Although primarily a fibre-optic internet service provider, Google Fiber does offer some wireless connectivity options through WiFi hotspots in select locations for its customers.

- **Google Station:** This initiative aimed to bring public WiFi hotspots to various locations worldwide, particularly in countries with limited internet access. While not a direct wireless service, Google partnered with local internet service providers (ISPs) to deploy the infrastructure for these hotspots. Google discontinued Google Station in 2020 due to its target markets' increasing availability of affordable mobile data.

Overall Conclusion

We consider the Proposed Acquisition will likely result in conditions of entry to downstream telecommunications markets becoming materially less competitive.

would consider supporting another independent of Spark / Connexa party transaction of this type; it **does not** support the parties involved now and in this form. In addition, any other later-date proposals would enable a delayed rollout, minimise the risk for New Zealand, and provide time to view the international and national market dynamics as they play out. At the same time, believes that 2degrees has a unique position to be the only remaining full-blown (MNO) in New Zealand; its preference is that 2degrees does not sell its Tower assets. The Commerce Commission should pay close attention to these proposed developments and proceed cautiously to ensure a fair and competitive market evolves, not a market dynamic that syphons everyday New Zealanders hard earned dollars to Global offshore corporates while at the same time allowing them to dominate their market positions in monopolistic ways.

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If the Commerce Commission approves this transaction, it would likely create an incubation-type environment for Google via Dense Air and Connexa and create an effect where they evolve into a duopolistic TowerCo that governs the entire mobile sector and the wholesale fixed wireless broadband market and 5G segments with Vodafone, InfraRed and Northleaf. This development will likely create market conditions that harken back to the pre-Chorus days and the period before Government intervention in Telecom's structural separation. In addition, it would create a similar set of conditions that enabled a duopoly reminiscent of the Telecom and Vodafone mobile network era before the entry of 2degrees as a third network provider. It is highly likely to negatively affect the competitive landscape in New Zealand's telecommunications sector while stifling competition and holding prices higher for consumers. These losses incurred in New Zealand would benefit the majority-owned international Shareholders, who are highly likely to funnel these financial gains offshore.

Ends:

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