Consumer Experiences of 5G in Melbourne and Rural/Regional Victoria

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1. Introduction

As the fifth generation of mobile network standards, 5G technology promises faster network speed and improved capacity in comparison to its predecessors, 4G and 3G. It is being currently rolled out in Australia, and the technology has been available for consumers to access since mid-2019.

While there are suggestions that 5G, in its full implementation, will revolutionise mobile communication, there is not much information available about consumer adoption and take-up beyond high-level survey data.

To address this, we present findings from six online group discussions conducted with 5G consumers living in Melbourne and rural or regional Victoria. The group discussions ran for 1.5 hours. Each group contained 5-6 consumers. These consumers were located in inner urban, urban, suburban, and regional settings. The group samples were selected based on varied levels of usage and network coverage:

Group 1: High 5G use and Strong network coverage.
Group 2: High 5G use and Weak network coverage.
Group 3: Low 5G use and Strong network coverage.
Group 4: Low 5G use and Weak network coverage.
Group 5: Regional consumers (North and North-West of Melbourne).
Group 6: Regional consumers (Gippsland).

Participants were asked about their current understandings of 5G, their process of obtaining 5G, their current uses of 5G, their experience of coverage and functionality, their views regarding 5G infrastructures, and their perceptions of 5G in the future.

Our findings highlight the necessity of continued investment in 5G infrastructures to support and expand levels of coverage and connectivity. This was particularly emphasised by consumers in the regional focus groups, who reported notable deficits in coverage and reliability.

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2. Findings

Getting 5G

Most participants obtained 5G as part of an upgrade to their mobile device. As one participant noted, "I just upgraded my phone. But to be honest, the fact that it was 5G didn't factor into it at all." For a minority, obtaining 5G was more deliberate, with some consumers expressing a desire for increased speed, coverage, or the latest technology. This intentional upgrade to 5G was particularly evident among consumers living in rural and regional areas, who were seeking improved levels of connectivity for a variety of functions, including employment, education, healthcare, entertainment, and communication.

> "I wanted speed and reliability. I wanted to be able to do […] business. I do telehealth conferencing with various health professionals about once a fortnight and I need to make sure that that can happen." (Regional respondent, Gippsland)

Using 5G

5G is helping people to do what they want to do online, with better coverage and faster speeds. This includes activities such as streaming video and music content, using social media apps, navigation, video calls and telehealth, and accessing online services more broadly. While some people felt that there was no discernible impact in upgrading to 5G, the majority of our participants reported noticeable improvements.

> "I think it's great. A lot of the times I'm on the train using my laptop and it's connected to my hotspot through my phone. And I've got 5G for most of my ride, which I think is amazing. It never used to be like that. I never used to be able to do that on a train as well. We'd never have coverage, and it'd be a bit crap. So, I think the reliability and the convenience of it has come a long way." (Metropolitan respondent, Group 4)

Improvements in speed and reduced latency have prompted consumers with strong connectivity to substitute their mobile 5G connection for their NBN home internet connection. Some participants noted they would hotspot off their 5G mobile device for Zoom calls or to stream video content, rather than use their home internet connection, which may lag or drop out. It was evident among the cohort that there is a high degree of substitutability for 5G as a solution to home internet connection issues and to engage in data-heavy online activities efficiently and reliably.

> "I went from an old daggy little phone to a 5G phone, and it's been absolutely fantastic. It's taken over from the computer. So, what it does is – when we're having trouble with the NBN, big mistake there, we'll hotspot. And it's super-fast; everything gets done. Never an issue. The best thing we've ever had." (Metropolitan respondent, Group 1)

> "That's probably the biggest area I've noticed a difference is that Zoom calls are a lot smoother on 5G than NBN." (Regional respondent, North and North-West).

Consumers are also using their mobile 5G connection to hotspot outside the home, enabling them to make use of laptops or other networked devices remotely. This is in turn promoting more flexibility, efficiency, and productivity in domains such as work and education, allowing more data-

heavy forms of entertainment and communication to be accessed outside of fixed internet access points (such as homes, workplaces, universities and libraries).

Connectivity

Coverage remains the biggest pain point for consumers in making the most of their 5G connection. Two thirds of participants noted some degree of underperformance in their 5G coverage or reliability, including all members of the groups comprising consumers living in rural and regional Victoria.

Half the participants also highlighted inconsistencies when comparing their provider's 5G coverage map with their personal experience of connectivity. This was not always negative, as some providers depicted 5G as being unavailable in areas where participants were able to access it. However, in most cases these inconsistencies related to poorer connectivity than was conveyed on the coverage maps. Some consumers expressed concern at overpaying for a level of connection they were not able to access or make meaningful use of.

> "If I'm paying for that 5G connectivity and it's not even connecting then why am I paying money for that?" (Metropolitan respondent, Focus Group 3)

Regional and Rural Concerns

Issues around coverage were particularly pronounced among participants living in rural and regional Victoria. All participants in these groups reported experiencing drop-outs and some degree of unreliable coverage. While these participants acknowledged that living outside metropolitan areas meant diminished access to telecommunications infrastructure, and therefore diminished telecommunications capabilities, they hoped that this would improve in the future.

> "I think in the regional areas […] we're conditioned to accept what we get. So, if we can get something that's an improvement, we're lucky to get that, and it's just part and parcel of living where we live. So, maybe in the city, I'm guessing you're noticing the speed and those sorts of things. But we're so conditioned to having gaps in our service, that perhaps the 5G experience isn't even there, because we just want to get some reception" (Regional respondent, Gippsland).

> "Our Telstra line was literally hanging off a paddock fence post. We asked Telstra to fix it, and they're like 'Nope'. So, we're regional, 'Just accept that you've got your telephone line hanging off a fence post'. And, of course, it didn't work. But, yeah, 'You're regional, what do you expect?' was pretty much the response that we got" (Regional respondent, Gippsland).

The stakes for this improvement only grow higher as extreme weather events are predicted to increase, with those living in rural and regional locations exposed to higher risk of danger from bushfires and flooding.

> "When I was in the Western District, my husband and I purposely had a Telstra phone and an Optus phone. The idea that pretty much one would have reception, one wouldn't. And when you're in a fire prone area – and we did have fires come through a few years ago, it became a real safety issue that we had to. We're sitting there going, 'Do I have to carry two phones? Or do I have to get a dual sim phone to carry both networks, to even have reception?'" (Regional respondent, Gippsland).

Infrastructure

We showed a range of images of infrastructure to consumers, from small cells to mobile towers. Consumers conveyed a low level of confidence in their understanding of 5G infrastructures, and the degree to which they are already present in their local communities. There was a preference for the less invasive examples of infrastructure. However, their appearance was ultimately considered less important than their functionality by most. This was particularly the case for consumers in the regional focus groups, and the metropolitan groups with weak network coverage.

> "I'm just wondering though, if you asked regional people with low connectivity if they'd want a pretty [smart] pole or that one on the far right [a picture of a cell tower]? If they've got connectivity – and I think you're seeing that from our reactions here – we don't care what it looks like." (Regional respondent, Gippsland)

> "I was overjoyed to see another tower go up. […] I could actually make a phone call without going outside." (Metropolitan respondent, Focus Group 2)

Imagined Futures of 5G

In line with the above findings, when asked to imagine what 5G might achieve or enable in the future, participating consumers highlighted their desire for consistent and reliable coverage across the country.

> "I'm disappointed that I can be in the main street of a main regional town, and not have reception. So, in couple of years, I would hope that they'd caught up." (Regional respondent, Gippsland)

Consumers also noted advancements in healthcare and medicine, smart home technologies, virtual reality, and automated vehicles as potential future beneficiaries of 5G networks. Nonetheless, they underscored that reliable and seamless connectivity should be prioritised. Participants recognised that without coverage and connectivity, the full benefits of 5G cannot be utilised.