

William Webb's Contrarian Thesis

A Book Review of "The End of Telecoms History"

Jim Holmes

Vice President, TelSoc and Director, Incyte Consulting

Abstract: William Webb's new book, *The End of Telecom's History*, argues that 5G has failed to deliver on its promises and, further, that this is largely because increased data rates and data capacity are approaching sufficiency in the developed world. Thus, the basis of the 5G business case has not materialised. In this book, Web draws an analogy with the end of history generally, meaning the resolution of challenges that have defined an epoch. The implications of his thesis, in terms of industry investment and structure, and the impacts on all stakeholders, are set out. Webb's conclusions are contentious, and there are many in the industry who challenge his basic arguments. Some of the responses are mentioned in this review.

Keywords: William Webb, broadband, 5G, data rates, telecommunications industry

Introduction

Professor William Webb is an independent consultant based in the United Kingdom, who provides advice "across all telecommunications matters" ([Webb, 2024](#), cover bio). He is also a prolific author. According to the biographical material on the back cover of *The End of Telecoms History*, he has published 18 books, 100 papers and 18 patents. With experience in academia, Ofcom, the industry and learned societies, he makes a very serious contribution to public discussion on where the telecommunications industry in general, and the mobile segment in particular, are headed.

Structure of the Book

The End of Telecoms History is a slender paperback of 106 pages, formatted in 1.5 line spacing, with many internal cross references. Consequently, there is an appreciable level of repetition. At \$A24, the book appears to be highly priced – for what it is. The list of abbreviations is neither complete nor consistently applied, but these flaws are minor. The book has an index

of three pages, although the size and structure of the book make this less important than in some lengthier works.

The book is structured as seven chapters dealing with the notion of the end of telecoms history; an abridged telecoms history; user requirements; growth prospects; the implications of the thesis (that our needs in terms of data speeds and capacity have been substantially met) for the sector and more generally; delivering ubiquity; and conclusions.

The structure of the book is logical. I find it difficult to shake the thought that it is a write-up of a presentation that the author has given in PowerPoint, or has planned to give. That is not a criticism as such, but raises the question of an appropriate price for an evolved slide pack.

The End of Telecoms History

The concept of the end of history is derived, with appropriate acknowledgements, from Francis Fukuyama, an American academic and writer, whose book, *The End of History and the Last Man* ([Fukuyama, 1992](#)), was published in 1992, following the collapse of the Soviet Union and the end of the Cold War. Fukuyama argued that “not just ... the passing of a particular period of post-war history, but the end of history as such: That is, the endpoint of mankind’s ideological evolution and the universalization of Western liberal democracy as the final form of human government”. In other words, civil society had reached its goal. In my view, Fukuyama was asserting, at minimum, that a major chapter in human history had concluded, and that whatever comes after would be heavily impacted by that point of major inflection: somehow, with the prevailing of democracy, the story of the human race must be viewed and told differently. Whatever Fukuyama had in mind, subsequent events did not support his forecast. Democracy has been under threat on many fronts, including even on the home front, where adherence to democratic norms have long been assumed to be strong and abiding (for example, [Washington Post, 2024](#)). One thing that Fukuyama succeeded in doing was attracting attention well beyond the levels that his book might otherwise have attracted.

I suspect that Webb has been taken with the catchy notion of “the end of something” and the sense of achievement of a major goal or target, rather than with anything else about Fukuyama’s book. Getting attention on preferred issues is important. I doubt that Webb thought that the unravelling of Fukuyama’s predictions in less than a generation, and arguably within little more than a decade, is something to aspire to.

Webb’s version of the end of history, as applied to telecommunications, is that we now have the data rates that we need for most current and foreseeable broadband applications; and also that we have the data capacity that we need or are likely to need. Therefore, we do not need to continue investing in telecommunications systems to massively increase average rates or

capacity. These challenges, and the challenges that have driven the development of the industry for the last 150 years, have been met in developed Western countries.

Webb provides an impressive range of evidence in support of this argument.

In relation to 5G, he refers to the thesis of his earlier book, *The 5G Myth* (Webb, 2016), in which he predicted that the features being offered through 5G deployments would be of little interest and that the investment would not generate commercial returns. In the 2024 book, Webb notes that his 2016 forecast has been realised, and that three of the main promises of 5G – the increased data rates over 4G; massive machine connectivity known as the Internet of Things (IoT); and anticipated applications for ultra-low latency communications – had turned out to be of little interest to consumers in general (Webb, 2024, p. 7). Although each of these promised features of 5G has materialised to some extent, they have not resulted in the substantial take-up of substantially higher speed services, or in continuing high average growth of data capacity consumed.

The stock markets in Europe and elsewhere reflect the declining value of mobile network operator (MNO) shares compared to overall share indices over the past 15 years. MNO share prices in Europe have declined by around 50%, compared to an overall share price index increase of around 65% since 2008 (Webb, 2024, p. 10).

Data Rates

Webb discusses why optimum data rates have already been achieved and concludes: “Beyond a certain speed there is no benefit in going faster. The user experience will not change. The speed appears to be around 10 Mbit/s for mobile connections and around 20 Mbit/s for fixed connections. ... [T]here may be multiple fixed users in a house. So 50 Mbit/s per house may be a safer upper limit” (Webb, 2024, p. 34).

Data Capacity

In terms of capacity, Webb notes that “fixed capacity is, in essence, unlimited. Most broadband subscribers have a dedicated connection and the amount they use it makes little difference, other than requiring relatively low-cost core network upgrades” (Webb, 2024, p. 34). As he notes, the situation is completely different with mobile networks.

There have been major stimulants for mobile data usage, such as the launch of the iPhone in 2007. However, Webb treats this change as essentially one-off, with nothing of similar impact being foreseeable in 2024. The annual growth rate in mobile data use has declined from 2016 and is continuing to decline (Webb, 2024, p. 36).

Webb points out that video applications drive mobile data consumption, and cites Ericsson reports to show that video accounted for around 70% in 2022 and an anticipated 80% of mobile data consumption in 2028 (Webb, 2024, pp. 10–11; Ericsson, 2022). However, no new source of increased video usage demand is in sight. What we are seeing, according to the information Webb has assembled, is a continued growth in mobile data consumption but at an ever-declining rate. The annual growth has declined from 80% in 2013 to around 20% at present. Webb’s extrapolation suggests that there will be no growth, a plateauing, by 2027, (Webb, 2024, p. 43). This contrasts with Nokia’s assessment of current growth at around 30% per annum and continuing at that rate (Nokia, 2023).

New Services and Applications

Chapter 4 of *The End of Telecoms History* is entitled “Is there anything that could reignite growth?” Webb considers a range of candidate applications and services that might generate renewed data capacity growth. Fifteen candidates, including high resolution person-to-person calling, smart wearables, remote surgery, sensor networks and automated driving (all of which Webb describes as “5G hopefuls”), are considered, and all are found wanting because they either have had no traction in the market, and are unlikely to in future, or because they are insufficiently data intensive to support a return to 30% annual growth levels (Webb, 2024, pp. 50–52).

But what about 6G? Will that be justified by meeting demands for new high-capacity services? Webb refers to the lists put forward by Ericsson and by the European Union (Webb, 2024, p. 53). The Ericsson list includes e-health for all, precision health care, smart agriculture, earth monitoring, digital twins, collaborative robots (or ‘cobots’) and robot navigation. The EU list includes ‘truly, immersive extended reality (XR), high fidelity mobile holograms and digital twins of real-world objects’. Webb reviews the main items and dismisses their likely impact on data capacity requirements. This analysis is quite valuable for the general reader who might be unaware of what these applications are or entail. Whether they will be further developed and gain traction in the market is unclear. Webb makes the case that, whether or not they are taken up, they do not individually or collectively appear to be the magic bullet needed to reverse the decline in data growth. He concludes that 6G, like 5G, is a solution in search of a problem (Webb, 2024, p. 65).

Implications

Webb is careful to exclude coverage from the list of requirements that have been met, especially in developing economies and high-cost rural areas. However, extending coverage is costly and not a priority for a mobile sector that is struggling to achieve commercial returns

on its recent investments ([Webb, 2024](#), p. 92). He notes that coverage extensions have been subsidised and will continue to require subsidies. Chapter 6 (“Delivering ubiquity”) is devoted to ways to improve coverage and connectivity for all.

Webb sets out the implications of his thesis for each category of stakeholder in the industry, including manufacturers and operators. He sees operators as needing to recognise that they are utilities, albeit important ones, and they “should ideally restructure and cut costs to adjust to this new reality” ([Webb, 2024](#), p. 71). Readers will be aware of staffing and other cost cutting measures announced with inevitable regularity in Australia (for example, Telstra – see [ABC News, 2024](#)), although without the recognition of the utility-reality mentioned by Webb.

Amongst the cost cutting options suggested for consideration, Webb mentions transformation to a project management entity, through massive outsourcing and becoming purely online operations without shops or physical presence ([Webb, 2024](#), pp. 70–71). Unfortunately, that is the emerging reality now for many operators and for their under-appreciated customers. It may address the problem of declining profitability in the sector.

He also advocates substantial infrastructure sharing, especially in high-cost areas, and the use of HAPs (high altitude platforms, such as tethered balloons) and satellites, especially for rural coverage ([Webb, 2024](#), p. 73).

Reactions

If Webb was seeking attention and encouraging reaction, he has been successful. It is not as though his ideas are new or that the issues of continued growth and the justification for major industry investments have not been raised by Webb and many others in the past. Webb anticipates much of the reaction in his book and seeks to address it there, with references to the views of major vendors, such as Ericsson and Nokia, and to the EU.

However, the book and its attendant publicity has elicited a new wave of responses. I have selected some of those responses, mainly from Australian sources.

One argument, in relation to data rates, is that certain applications will need greater data speeds some of the time. Rob Joyce, NBN Co’s Executive General Manager, Customer Strategy and Innovation, was quoted in *Communications Day* as saying that increased speed was critical for some customers: “Whether you’re downloading a large presentation when you’re working from home, or whether it’s your kids downloading a Fortnite or Call of Duty update, in these moments that matter, speed is essential and fast is never enough.” He [Joyce] noted Webb’s suggestion that most households do not require more than 50 Mbps. Joyce countered by observing that the upcoming Sony PlayStation 5 Pro console being released later this year was not equipped with a disk drive and relied on a network to download games, with many

titles in excess of 100 GB. He contrasted the seven hours it would take to download a title over 50 Mbps to the 20 minutes on a gigabit connection” ([Communications Day](#), 17 October 2024, p. 3).

It seems to me that the question here is whether those who demand speed for certain applications are prepared to pay for it, or whether the costs associated with additional investment are going to be cross-subsidised by the majority of users, many of whom might have ongoing requirements that are met by at most 50 Mbps. It is possible that NBN Co has specific problems in convincing its customers to pay for data speeds above 100 Mbps. The latest ACCC *NBN Wholesale Market Indicators Report* suggests that around 5.5% of services have data speeds above 100 Mbps, and around 71% of services have data speeds of up to 50 Mbps ([ACCC, 2024](#)). This compares unfavourably with New Zealand ([Canstar Blue, 2021](#)).

Another line of criticism was that Webb relied too much on averages and that many countries, including the United States, India and Finland, had monthly data usage in excess of the 20 GB per month that Webb suggested was sufficient for users ([Zehle, 2024](#)). Without wishing to defend Webb in relation to the specifics of this argument, it seems to me that Webb is making a broader argument that the rate of data usage growth that the industry was accustomed to in the recent past is slowing and there is no basis on which to assume that the reduction will be reversed; and, hence, investment in greater capacity and higher data rates needs to be seriously reviewed. When viewed this way, the fact that some countries have average data usage levels above the 20 GB per month that Webb calculates is needed (possibly with the UK in mind) is not fatal to his overall argument.

A study by Robert Kenny of Communications Chambers, entitled *Patterns of Fixed Traffic Growth, 2024*, is consistent with Webb’s overall thesis ([Kenny, 2024](#)). The study suggests that fixed traffic growth per line of around 10% per year (it was 11% for the year ending June 2024 for the aggregate of the countries covered by Kenny) is the “new normal”, well down from the 40% growth rate 10 years ago and during the COVID years ([Kenny, 2024](#), p. 1). Kenny attributes the decline in part to the reduced rate of growth of streamed video, and suggests that demographic usage might cause the decline to accelerate in future ([Kenny, 2024](#), pp. 3–4).

Conclusion

It is not the purpose of this review to attempt to offer a final view on the arguments that Webb (or his commentators and critics) have made about the sufficiency of broadband data speeds and capacity, or about the forecasts that he has made about future growth-rate declines and industry impacts. However, I do think that Webb has made a sufficiently compelling case that the growth and service assumptions that underpin current sector investment strategies and

industry business plans need to be reviewed. Many stakeholders have a vested interest, as Webb notes, in the narrative of continued high growth (Webb, 2024, p. 43). Webb himself has a vested interest in his role and reputation as a serious contrarian and forecaster. Nevertheless, there appears to be a serious ongoing public dialogue which might not have emerged in the way it has without the book. Inevitably the dynamics of the industry will play out and plans will be adjusted accordingly, so the influence of one particular book might need to be assessed in a broader context.

I found the book interesting and thought-provoking. Others who want to see the evidence assembled and the detailed arguments made by Webb might think the same.

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