HANSEN

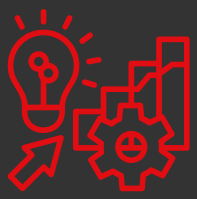
MEETING THE BROADBAND GROWTH CHALLENGE

Introduction

Access to fast, reliable broadband Internet has become essential for modern life. Broadband opens countless opportunities for people anywhere to take part in a growing range of activities, including education, work, healthcare, socialising, entertainment, and more.

In most markets, users can choose from a growing number of Internet service providers (ISPs), ranging from familiar national brands to smaller regional ones. Our own research shows over 19,000 ISPs in regions around the world, including 2,700+ in North America, 8,200+ in Latin America, 6,200+ in Europe, and 2,200+ in Southeast Asia and Australia. This suggests a high degree of market fragmentation where many contenders compete for a limited number of customers. Despite intense competition, there are opportunities for innovative ISPs, including new entrants, who can deliver distinctive value and address unmet market needs.

Most ISPs strive to differentiate themselves through their own combination of geographic coverage, network performance and reliability, service innovation, pricing, and customer experience. Given the continuing development of digital services, evolving user expectations, technology innovation, and growing support for digital inclusion, Hansen sees strong incentives for ISPs to continue seeking new ways to develop and strengthen their competitive capabilities, to drive new growth: new customers, added revenue, increased profit.



In this market point of view, we'll discuss some of the latest drivers pushing ISPs to evolve and grow their business, the associated challenges and opportunities, the critical role of employing flexible, scalable, and adaptive Business Support Systems (BSS) for unlocking new growth, and other key considerations.

Expanding digital infrastructure for the AI age

Since the start of the 2020s a small number of social, business and technological trends have raised the pressure for ISPs to expand the scale and scope of their connectivity infrastructure:

Growing digital divide – The COVID-19 pandemic brought about years of digital adoption in just a few months. This digital leap, enabled by broadband access, has led to the online shift of a large part of social and economic activities across many parts of the world. The lack of fast, reliable Internet access in certain areas, combined with low digital literacy of some populations, further widened the digital divide between those able to participate in an increasingly digital-first society, and those who can't.

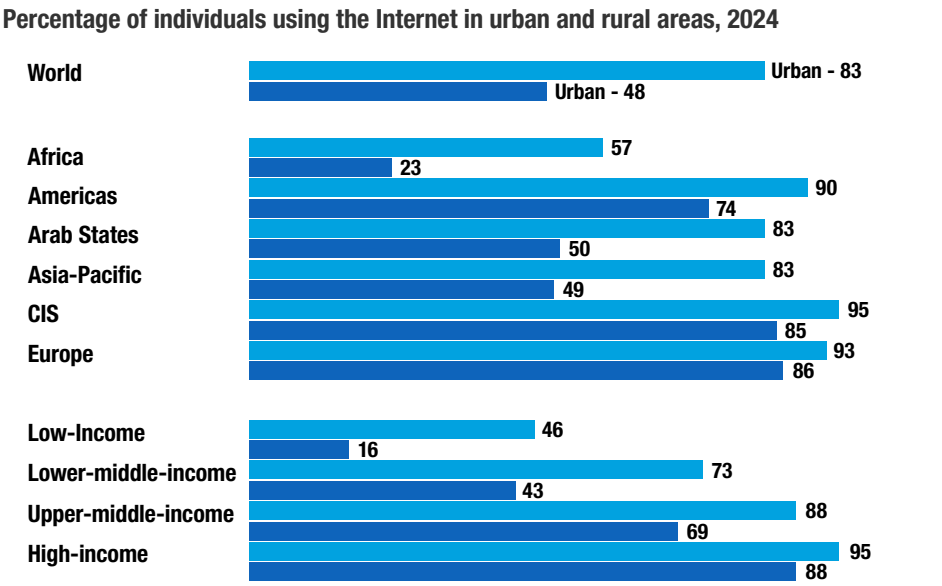


Figure 1 - Source: "Measuring Digital Development, Facts and Figures 2024", ITU

According to the International Telecommunications Union (ITU), globally, 83% of urban dwellers were using the Internet in 2024, compared to just 48% of the rural population (Figure 1). Of the 2.6 billion not yet using the Internet, 1.8 billion live in rural areas. As expected, the urban-rural gap is much wider in low-income countries across the world.

Fixed-wireless broadband – Another recent development is the adoption of hybrid network models, combining high-speed fixed and wireless access to expand network coverage. By integrating 5G data connectivity with the latest Wifi hotspots, ISPs can deliver high speed broadband on par with cable and fibre services, to previously unserved areas. In the US, mobile service providers T-Mobile and Verizon offer fixed-wireless access (FWA) to a growing number of subscribers. In comparative tests conducted in Q3 2023 by Ookla, they consistently delivered download speeds of 140-150 Mbps in urban areas, and 50-90 Mbps in rural areas.[1] As of September 2024, T-Mobile and Verizon have amassed 6 million and 4.2 million 5G home internet services subscribers, respectively[2], with typical download speeds of 300-400 Mbps. Examples like this show the viability of FWA for expanding broadband coverage to both underserved and unserved markets.

AI-driven traffic surge – The increasing growth of AI during this same period is generating a surge in AI-related data traffic. Globally, Wide-Area Network (WAN) AI traffic is expected to grow at 25% CAGR through 2033, reaching 33% of total global WAN traffic, from just 21% in 2023[3]. Consumer AI usage – from AI-driven applications, and AI algorithms influencing user engagement – will dominate this increase. This rapid expansion will require significant broadband investment by ISPs and other players including hyperscalers. This will require fast, reliable connectivity, able to accommodate bursty and unpredictable, symmetric traffic volumes with low latency. The demand for long-haul, fibre-based interconnectivity for enterprise data centres is also increasing as the usage of AI applications grows across consumer and business segments.

These recent developments create additional opportunities and challenges for ISPs looking to grow.

[1] "US – The rise of 5G FWA and the battle for fixed broadband customers", GSMA; January 25, 2024
[2] "Tefficient's FWA Tracker", Tefficient. https://tefficient.com/analysis/tefficients-fwa-tracker/
[3] "Global Network Traffic Report: understanding the growing impact of advancing technologies on future networks", Nokia, Bell Labs; 2024

The broadband growth conundrum

Today's broadband and digital markets are being driven by several reinforcing factors:

- Digital transformation of a growing share of activities across sectors.
- Growing user expectations for on-demand access to Everything-as-a-Service (EaaS).
- Next-generation access technologies, including fibre, 5G, and satellite, are evolving rapidly to support higher speeds, lower latency, greater reliability, and stronger security.
- In urban and a growing number of rural markets, ISPs are increasingly using a range of fixed and wireless broadband connectivity options (fibre, cable, 5G, satellite, other FWA) to reach customers, leading to enhanced competition and price wars.
- AI is enhancing SaaS and other technologies across industries, making them more intelligent, automated, and adaptive, driving increased data traffic.

Table 1: Selected broadband development programmes
To connect underserved, rural, and remote communities, various governments and non-profit groups have established diverse programmes to foster greater digital development, including billions in seed funding targeting broadband infrastructure development.

North America	• Broadband Equity, Access and Deployment (BEAD) – US • Tribal Broadband Connectivity Program – US • Universal Broadband Fund – Canada • CRTC Broadband Fund – Canada
Latin America	• Microsoft Airband Initiative – Brazil, Chile, Colombia, Guatemala, • Inter-American Development Bank – Brazil, • Plan Integral de Expansión de Conectividad Digital – Colombia
Europe	• Connecting Europe Broadband Fund – E.U. Member States • Connecting Europe Facility – E.U. Member States • Building Digital UK – UK
Southeast Asia	• National Broadband Plan – Philippines • Jendela – Malaysia • National Broadband Development Plan – Vietnam
Africa	• Microsoft Airband Initiative – Ivory Coast, Kenya, Nigeria, Tanzania, and Uganda

- An increase in public-sector funding aimed at fostering greater digital inclusion in underserved, rural and remote markets, combined with growing private sector funding, is fuelling greater investment in broadband infrastructure build out. Table 1 offers an overview of key regional broadband development programmes.

Collectively, these factors have renewed the interest and efforts to further the digital economy, starting with the renewed development of broadband infrastructure. In this evolving environment, many ISPs are looking for clarity about the best growth prospects. Key growth questions include:

- **How to monetise changing user demands for the latest generation of digital and AI-powered services?**
- **How to scale broadband coverage and capacity for a digital-first world?**
- **How to consistently deliver the best-available broadband service experience regardless of the networks used?**
- **How to address digital inclusion and affordability challenges in an optimal way?**
- **How to ensure customer satisfaction and retention amid fierce competition?**
- **How to position for future growth in an uncertain, fast-changing environment?**

Opportunities for growth

While there are many perspectives on growth, we see several near-term opportunities for forward-looking, ambitious ISPs looking to expand the scale and scope of their business. Unlocking the value of each opportunity is achievable with the modern capabilities of a commercially agile and extensible BSS.

Develop your digital service offer – With a growing range of digital services and applications available over the Internet, ISPs are uniquely placed to partner with a variety of over-the-top (OTT) digital service providers to target the evolving needs of consumer and businesses. This includes reselling entertainment, premium content, consumer and business SaaS, IaaS and more through new, innovative partnerships. Combining differentiated SLAs, including adapted QoS and security to OTT services opens the possibility for ISPs to differentiate from competitors, and unlock new revenue streams

Cater to remote workers – With companies adopting flexible work arrangements in many markets, there is a rising demand for business-grade broadband services, featuring reliable, secure high-speed connectivity, in contrast to existing residential SLAs. ISPs able to meet this remote worker need can expand their service offering, gaining a competitive advantage.

Expand your broadband service to unserved and underserved markets – Governments in countries across the globe, especially in emerging economies, are prioritising digital inclusions as part of their development strategies. This is creating favourable conditions for ISPs to expand their network reach to underserved, rural, and remote regions, to attract new paying customers through innovative business models and offers, including wholesaling. Intelligently combining a range of fixed and wireless access (i.e. fibre, 5G, satellite), both owned and third-party networks, with innovative broadband offers, can accelerate your time to market and lower the cost of serving remote locations, while making services accessible to every customer.

Serve the growing demand for smart city infrastructure – As more municipalities adopt smart technologies to improve urban management, ISPs are well placed to provide the underlying network backbone. Enabled by 5G and other fixed-wireless access, this allows new applications like intelligent transportation systems, energy management and public safety applications. ISPs that can enable and provide connected smart city devices with varying types of network reliability, service latency, and security, can grow new revenue streams.

Support businesses' growing AI demands – With the surge of AI applications, a growing number of small-to-large businesses will require fast, reliable and secure Internet connectivity for activities like AI model training and development, real-time AI decision-making, and usage of other AI-powered Cloud applications and services. ISPs that can provide highly secure, low-latency, high-bandwidth connectivity to business Cloud services, including data centres, can capitalise on this increasingly lucrative opportunity.

DishHome Fibernet – Case Example

Founded in 2009, DishHome is one of the fastest-growing Internet, TV and Cloud service providers in Nepal, connecting over 2 million dwellings through multiple platforms including fibre, DTH satellite, cable, DTTV, and IPTV. Looking to expand beyond TV, in 2020 they introduced Fibernet broadband connectivity, as a platform for offering a wider range of bundled services to customers, all on a single bill.

Another key growth driver is their expansive reseller network, including 5,000+ dealers, sub dealers and service franchises, present in all parts of this lower middle-income country, where just 22% of the population lives in urban areas. By connecting customers in the most remote parts, with a growing range of services at varying price-levels, with a great experience, DishHome has quickly become the second-largest Nepalese ISP, now serving over 300,000 consumers and 500 business customers.

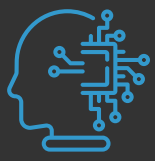
By enhancing its service innovation, coverage, pricing and CX capabilities – all supported by a flexible, scalable BSS – this example shows how an ISP can successfully capitalise on its market opportunities while fending 50+ competing ISPs.

Strategic Considerations

Developing new growth paths is vital to remain competitive and avoid becoming a commodity provider. This has important implications and considerations for ISPs looking to thrive, including the key capabilities required from their BSS to unlock new value and continue powering their business well into the future:

Play your strengths – Most ISPs are well positioned to evolve their business to meet today's challenges thanks to their distinctive strengths and capabilities. This includes a strong local presence, including an established customers base and a network of sales channels often spanning consumer and business segments; know-how in service bundling and engaging in the Everything-as-a-Service economy; strong expertise in deploying and managing high-capacity, low-latency data networks, using a range of access technologies (fibre, cable, 4/5G fixed-wireless access); growing expertise in AI-driven automation, predictive maintenance, and intelligent routing, and experience working with government and navigating evolving regulation. Capitalising on such strengths requires flexible customer management and reseller capabilities, and flexible, extensible business support systems, including unified broadband resource management.

Leverage commercial innovation to grow – In a highly competitive market, innovation is often a key differentiator helping attract, engage, and retain customers. Driving new growth may require rethinking customer segmentation models and targeting them with distinctive offers – including AI-driven personalisation, innovative pricing schemes making services accessible to low-income customers or accommodating seasonal vacation home owner, for example; service innovation to expand your portfolio of distinctive broadband offers to include an evolving set of OTT digital services targeting a broader range of customer needs; business model innovation to make service subscriptions more flexible and adapted to local market realities, or offer enhanced loyalty programs using AI-driven, usage-based benefits. This requires highly flexible offer creation combined with streamlined onboarding, management and settlement capabilities for product partners.



Differentiate your customer experience with AI – In many markets, communication service providers have been considered among the worst-performing industries for customer satisfaction and overall experience. Recent advances in AI give service providers, including ISPs, the chance to get back in the game by improving their service and customer experience in key ways. This includes minimising service incidents and outages using targeted, predictive-AI driven actions; efficiently addressing common, time-sensitive customer service requests by combining virtual agents and AI-assisted live agents; increasing customer satisfaction through personalised, AI-driven offers, and next-best offer and related products algorithms.

Nurture a rich, agile partner network – Engaging the right set of product partners to address evolving customer needs along with agile networks of resellers to drive growth, is critical for building a strong, sustainable business. This includes developing new capabilities and process to recruit the most suitable product and sales partners, enabling fast and easy onboarding, delivering timely, accurate settlement, while managing the partner experience, all at scale.

The way forward

It's critical for ISPs to continue innovating to fuel growth in today's crowded and quickly evolving market. For many organisations this path is filled with uncertainty, and requires careful consideration in several key areas:

Re-confirm your business' strategic intent.	• Who are our most important customers? How are their needs and expectations evolving? What unique value can we offer them? • How should we set ourselves apart from competitors? • What are our short and long-term goals for growth? What KPIs should be used to measure success? • Can we grow organically? Do we need to partner?
Identify your transferable capabilities and key gaps to fill.	• What capabilities are critical to develop and expand our business? • What are our distinctive / unique capabilities? • What are our transferable assets, processes, people? • What partnerships and additional capabilities should we source externally?
(Re-)design an adapted operating model.	• What technology-based capabilities are needed to support our business ambitions? • What are the limits of our existing BSS? What new capabilities should a new system offer? • How can we streamline our service concept-to-cash process? • How can we onboard / offboard product partners in an automated, efficient way? • How do we handle payment processing and partner settlement? • What systems and touchpoints are needed to deliver market-leading customer / partner service?
Select credible business enablement partners.	• What regulatory requirements must be fulfiled? • What are our BSS interoperability requirements? Who can satisfy them? • What are our expectations for vendor-led technology innovation and improvement? • What investment is needed to get started? How quickly can we generate new value?

NEXT STEPS

If you're trying to grow your broadband business but find that your existing BSS is limiting your ability to meet evolving customer expectations and business demands, Hansen can help. We'll assess your current needs, pinpoint any gaps in your plans, and apply field-proven strategies to help you overcome your broadband business challenges, reduce the risks of evolving your business, and help accelerate your time to new value. Talk with a Hansen expert today.

Hansen Technologies (ASX: HSN) is a leading global provider of software and services to the energy, water and communications industries. With offices and development centers around the globe, including four offices in the United States, Hansen delivers its award-winning software portfolio to 550+ customers in over 80 countries, helping them to create, sell, and deliver new products and services, manage and analyse customer data, and control critical revenue management and customer support processes.

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