

F R O S T & S U L L I V A N



中華電信
Chunghwa Telecom

2022 COMPANY OF THE YEAR

*TAIWAN
TELECOMMUNICATIONS SERVICES
INDUSTRY*

Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each award category before determining the final award recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. Chunghwa Telecom excels in many of the criteria in the Taiwan telecommunication services space.

AWARD CRITERIA	
<i>Visionary Innovation & Performance</i>	<i>Customer Impact</i>
Addressing Unmet Needs	Price/Performance Value
Visionary Scenarios Through Mega Trends	Customer Purchase Experience
Implementation of Best Practices	Customer Ownership Experience
Leadership Focus	Customer Service Experience
Financial Performance	Brand Equity

Market Overview of Taiwan’s Telecommunication Industry

Taiwan is one of the most advanced and saturated markets for telecommunication services. For example, the country’s mobile penetration has reached more than 120% as of 2021, indicating market saturation. The market faces some notable challenges, including intense competition that leads to pricing compression and weakened customer spending on legacy services. While telcos have reported declining average revenue per user (ARPU), the rising demand for high-speed broadband services, ICT, and digital services is expected to offset the losses from other telecommunication services.

The industry is witnessing growth opportunities, driven by market trends, such as remote working and learning and entertainment needs, thus accelerating customers’ consumption of digital applications, services, and platforms. The consumer segment is adopting digital services, including video streaming, digital financial services, and eCommerce, to meet their digital habits and needs. On the other hand, the enterprise segment is acquiring next-generation ICT solutions that leverage cloud technology, Big Data, cybersecurity, and data centers to enable digital transformation. In this environment, delivering reliable, high-performance connectivity solutions is critical to support the communication, collaboration, and entertainment needs of individuals and enterprises. As a result, telcos in Taiwan have invested in network quality, digital business models, and value-added services to meet customers' needs and drive their competitive advantage to increase revenue.

Furthermore, telcos are evaluating new business models to monetize new services delivered through disruptive technologies, such as 5G. As a vital technology, 5G has transformed the industry, and the rollout of 5G in Taiwan is impressive, with major telcos launching 5G services for the consumer and enterprise segments. Moreover, 5G presents telcos with the opportunity to address rising network traffic volume, innovate and launch new products and services, and transform business models for the consumer and enterprise segments.

Financial Performance

Founded in 1996, Chunghwa Telecom is the largest telecommunication service provider in Taiwan that offers mobile broadband, fixed-line, Internet, and ICT services to consumers and enterprises. Despite operating in a challenging market, Chunghwa Telecom garnered a year-on-year (YoY) revenue growth of 1.4% in 2021, reaching NT\$210.48 billion (\$7.37 billion), driven by revenue growth in its mobile and Internet services.

In 2021, Chunghwa Telecom's mobile services revenue increased by 5.6%, reaching NT\$ 95.25 billion (\$3.34 billion). In addition, the company improved its video service offerings and drove customer value with higher-speed broadband services, which increased its YoY revenue in Internet services by 3%,

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reaching NT\$33.08 billion in 2021. To validate its success in 2021 even further, the company recorded a YoY growth of 5.9% for EBITDA, reaching NT\$83.33 billion (\$2.92 billion), indicating the soundness of the company's operational and financial strategies.

Frost & Sullivan commends Chunghwa Telecom for its effective growth strategy and believes that the company will maintain its growth momentum by disrupting existing markets and by implementing new business models based on 5G and edge computing.

Visionary Scenarios through Mega Trends

The proliferation of 5G technology is expected to reshape societies dramatically. By delivering enhanced data rates and high-quality, reliable network services, 5G will become fundamental in supporting the digital transformation efforts of all major industries. 5G development in Taiwan is robust because major telcos were focused on 5G migration and development in 2021. Chunghwa Telecom maintains its market leadership, ending 2021 with over 12,000 5G stations and achieving a 5G penetration rate of about 20% in Taiwan.

Chunghwa Telecom deploys its 5G network in high-traffic locations and tourist hotspots and has been a pioneer in private 5G network solutions for enterprises. In particular, the company leverages 5G technology to develop innovative 5G applications and smart city services to enhance the customer experience and drive future smart cities.

With 5G, Chunghwa Telecom aims to transform vertical industries, such as retail, tourist and hospitality, by providing enterprises with new ways to support digital customer interactions. For example,

Chunghwa Telecom can provide immersive 5G experiences, such as augmented guided tours, virtual reality interactions, remote joint performances, and multi-view broadcasts. The company is a global first mover in 5G development and has demonstrated the extensive scope and potential of innovative 5G-powered applications that encourage customers to adopt 5G services, thus boosting the company's leadership in Taiwan's 5G technology deployments.

Leadership Focus

Chunghwa Telecom continues to leverage disruptive technologies and partnerships with content providers to enhance its content and video services and platforms. Chunghwa Telecom's multimedia-on-demand (MOD) platform and Hami Video services are the largest video-on-demand and over-the-top (OTT) platforms in Taiwan that offer a wide variety of content, from live sports and music concerts to interactive services. In 2021, Chunghwa Telecom's MOD business recorded a 2% YoY revenue growth because of the company's success in broadcasting exclusive access to sports events, such as the Tokyo Olympic Games.

In addition, Chunghwa Telecom continues to strengthen its 5G services and applications by providing customers with more value and an immersive viewing experience. For instance, 5G VIP subscribers can access the company's Hami Video's 360 virtual reality broadcasting technology that enables multi-angle perspectives. As a result, the number of subscribers of the Hami Video service increased by 20% YoY in 2021, allowing the company to maintain its leadership position in the video platform space.

Customer Ownership Experience

The market trends of remote working and learning and entertainment needs have rapidly changed customers' behavior and expectations. In addition to the continued growth in network traffic volume, the increase in network traffic continues in residential and rural areas. Telcos' network infrastructures are challenged to meet the rapid change in customer behavior, impacting the customer experience and intensifying the digital divide within the country. Furthermore, Taiwan is a mountainous country with many remote locations; therefore, deploying network infrastructure can be challenging and expensive.

Chunghwa Telecom's growth strategy to drive social inclusion with connectivity sets the company apart from competitors by ensuring that the population nationwide receives a high-quality network. The company has worked extensively with the local government and invests over NT\$500 million (\$17.5 million) annually to drive the construction and equipment of network infrastructure in rural areas, mountainous regions, and offshore islands in Taiwan, to eliminate the digital divide. As a result, Chunghwa Telecom can expand the coverage and reach more customers with 99% 4G coverage, thus offering data services to individuals and businesses in remote and rural areas.

Price/Performance Value

The rising need for higher-speed connectivity and higher bandwidth has increased the demand for connectivity; however, the shift in network consumption patterns has constrained telcos' network infrastructure and impacted the customer experience. Chunghwa Telecom has been evolving its fiber services by collaborating with industry ecosystem participants to address the increasing network traffic volume. In 2021, Chunghwa Telecom and Sterlite Technologies (STL) accomplished the proof-of-concept

for open broadband access networks based on software functions to transform the fiber-to-the-x (FTTx) network into a cloud-native network architecture. This strategic collaboration enables Chunghwa Telecom to increase its capacity with STL's XGS-PON, a 10 gigabit symmetric passive optical network technology for broadband speeds of up to 10 Gbps, thereby enabling the company to provide high-speed broadband access and to enhance its MOD services.

With a strategy to evolve the network infrastructure, the company has been driving broadband businesses and encouraging subscribers to migrate to higher-speed services. In 2021, Chunghwa Telecom recorded a 45% YoY subscriber growth for services with speeds of 300 megabits per second. As a result, the company recorded a broadband ARPU YoY growth of 3%.

Customer Purchase Experience

“Chunghwa Telecom leverages its robust network infrastructure, combined with disruptive technologies, and its extensive experience in data centers, Big Data, security, and cloud applications to ensure enterprises receive the optimal partner to address their distinctive needs in digitalization.”

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The small-to-medium-sized enterprise (SME) sector is critical to Taiwan’s economy. The country’s more than 1.5 million SMEs have accelerated the digital transformation to compete in the digital world. As SMEs digitalize, the demand for ICT services continues to increase; however, SMEs in Taiwan are lacking in readiness and in-house capabilities to take up the digital transformation.

Telcos such as Chunghwa Telecom are uniquely positioned to introduce new ICT solutions to address pressing market needs. Through extensive partnerships,

Chunghwa Telecom can integrate core competencies and disruptive technologies, such as cloud, 5G, Big Data, and artificial intelligence, to enable new business models and meet the unique needs of enterprises. For example, with its private 5G network, Chunghwa Telecom enabled smart factory applications, such as automated guided vehicles and remote augmented reality assistance, for a leading company in the semi-conductor industry.

Chunghwa Telecom’s growth strategy involves collaborating with leading companies in vertical industries to identify and develop successful use cases that can be duplicated and sold to other companies in the same industry. Chunghwa Telecom leverages its robust network infrastructure, combined with disruptive technologies, and its extensive experience in data centers, Big Data, security, and cloud applications to ensure enterprises receive the optimal partner to address their distinctive needs in digitalization.

Conclusion

Emerging trends, such as remote working and learning and entertainment needs, have increased network traffic volume and digital consumption, providing telcos with growth opportunities.

Chunghwa Telecom successfully drives its competitive positioning through its consumer-centric strategies and business models to provide customers with more value. Chunghwa Telecom delivers next-generation network services with disruptive technologies, such as 5G, edge computing, cloud, and open access systems, to facilitate market trends. The company continues to demonstrate and maintain its market leadership position in the industry by being the frontrunner in innovation.

With its strong overall performance, Chunghwa Telecom earns Frost & Sullivan's 2022 Taiwan Company of the Year Award in telecommunication services industry.

What You Need to Know about the Company of the Year Recognition

Frost & Sullivan's Company of the Year Award is its top honor and recognizes the market participant that exemplifies visionary innovation, market-leading performance, and unmatched customer care.

Best Practices Award Analysis

For the Company of the Year Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

Visionary Innovation & Performance

Addressing Unmet Needs: Customers' unmet or under-served needs are unearthed and addressed by a robust solution development process

Visionary Scenarios Through Mega Trends:

Long-range, macro-level scenarios are incorporated into the innovation strategy through the use of Mega Trends, thereby enabling first-to-market solutions and new growth opportunities

Leadership Focus: Company focuses on building a leadership position in core markets and on creating stiff barriers to entry for new competitors

Best Practices Implementation: Best-in-class implementation is characterized by processes, tools, or activities that generate a consistent and repeatable level of success

Financial Performance: Strong overall business performance is achieved in terms of revenue, revenue growth, operating margin, and other key financial metrics

Customer Impact

Price/Performance Value: Products or services provide the best value for the price compared to similar market offerings

Customer Purchase Experience: Quality of the purchase experience assures customers that they are buying the optimal solution for addressing their unique needs and constraints

Customer Ownership Experience: Customers proudly own the company's product or service and have a positive experience throughout the life of the product or service

Customer Service Experience: Customer service is accessible, fast, stress-free, and high quality

Brand Equity: Customers perceive the brand positively and exhibit high brand loyalty

