Chunghwa Telecom Recognized as the

2021

Company of the Year

Taiwan Telecommunication Services Industry Excellence in Best Practices



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 telecommunication services industry space.

AWARD CRITERIA	
Visionary Innovation & Performance	Customer Impact
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

Industry Background

The Taiwanese telecommunication services market is evolving rapidly due to intense competition and the country's rapid expansion of 4G and 5G networks. According to the National Communications Commission, there are 83 Type I telecommunication providers, including four fixed-line operators and 15 mobile operators, and 386 Type II telecommunication providers, such as Internet service providers. As a result of high competition in the fixed-line market and a growing trend towards digital convergence, telecommunication services providers have to offer not only infrastructure, but applications and solutions.

Within the telecommunication market, the mobile services segment is a major growth contributor. There are 29.3 million mobile subscribers in Taiwan, resulting in a mobile penetration rate of 124.3% in 2020. Frost & Sullivan notes the Taiwanese mobile services market is highly saturated and, to mitigate declining revenue, service providers are proactively launching differentiated products and services. Moreover, the launch of 5G in 2020 is expected to increase market revenue by enabling innovative, value-add services. Another key segment within the telecommunication market is fixed services.

Taiwan's fixed broadband market has witnessed an increase in demand for connectivity due to consumers' increasing consumption of bandwidth-intensive multimedia content (e.g., gaming and video streaming services). Therefore, it is critical for service providers in Taiwan to improve residential

broadband connection to address the rise in bandwidth consumption. Advanced technology and an extensive fiber-optic rollout by service providers in Taiwan will enable network speeds up to 1 Gigabit per second, improving the customer experience.

Given the impact of COVID-19, consumer spending on telecommunication services is also under pressure. However, the critical need for telecommunication services as a tool for remote work and eLearning will offset such pressure. For enterprises, spending will increase due to the pandemic highlighting and accelerating the need for digital transformation. Overall, the market is shaped by disruptive technologies, new market entrants, evolving consumer behaviors, and continuing technology convergence. Frost & Sullivan believes that identifying emerging trends and transforming them into actionable strategies is vital to sustaining profitability. In the case of Taiwan, emerging trends, such as the need for higher bandwidth, is prompting service providers to accelerate the rollout 5G and Internet of Things (IoT) services.

Financial Performance

"Taiwan's telecommunication services market has been impacted by intense competition. Moreover, the COVID-19 pandemic resulted in lower consumer spending while also accelerating new market trends. Despite the challenges, Chunghwa Telecom maintained its total telecommunication services revenue at NT\$ 207.6 billion in 2020."

- Sofea Zukarnain, Research Associate, ICT Taiwan's telecommunication services market has been impacted by intense competition. Moreover, the COVID-19 pandemic resulted in lower consumer spending while also accelerating new market trends. Despite the challenges, Chunghwa Telecom maintained its total telecommunication services revenue at NT\$ 207.6 billion in 2020. A decline in mobile service revenue was offset by an increase of 5.5% in fixed broadband revenue in 2020. Chunghwa Telecom has maintained its status as Taiwan's largest telecommunication services provider in terms of revenue and customers. As of 2020, Chunghwa Telecom had a total of 11.3 million mobile subscribers with a market share of 36%. Moreover, the company's telecommunication service revenue reflects a market share of approximately 49.4%.

Implementation of Best Practices

Chunghwa Telecom is investing in next-generation network capabilities to improve the service delivery for existing customers. It is also exploring new ways (e.g., innovative business models for the consumer and enterprise segment to target net new growth opportunities). Unlike their competitors, the company has extensively upgraded its network infrastructure and accelerated its high-speed FTTx household coverage. By doing so, Chunghwa Telecom can provide more customers with access to video streaming services such as video-on-demand, TV programs, and over-the-top services.

The company has extensively collaborated with content providers to offer more than 203 broadcasting channels, 196 of which are high definition, and more than 30,000 hours of on-demand programs. As of 2020, Chunghwa Telecom had 2.1 million multimedia-on-demand (MOD) customers and 1.4 million channel subscriptions. The company's effort to upsell its tiered-pricing channel and digital convergence packages resulted in a 1.2% increase in MOD revenue, for a total of NT\$3.64 billion in 2020.

Addressing Unmet Needs

The small to medium-sized enterprises (SMEs) sector is critical to Taiwan's economy. There are approximately 1.49 million SMEs in Taiwan, creating more than 9 million jobs and accounting for 97% of the private sector labor pool in 2020. In a highly competitive environment, SMEs must invest in digital tools and technologies to help them innovate at scale and efficiently serve emerging customer needs. Recognizing the need to provide solutions that facilitate businesses' digital transformation, Chunghwa Telecom introduced new Information Communication Technology (ICT) solutions to address pressing market needs. For example, in 2020, the company collaborated with Microsoft to create the Artificial Internet of Things Smart Ecosystem (AIoT). The AIoT platform is integrated with key technologies such as cloud computing, Big Data analysis, artificial intelligence, and augmented reality. With the disruptive technologies, it will enable predictive maintenance and ensure data generated from IoT devices are utilized effectively for enterprise. The platform allows developers to create IoT applications such as smart metering, smart lighting, and smart transportation. In the future, the company will focus on its cloud and cybersecurity services to help enterprises decrease management costs and improve business efficiencies. Unlike competitors, Chunghwa Telecom achieved three Amazon Web Services competencies in 2020, underscoring the company's commitment to supporting customers' digital transformation.

Customer Ownership Experience

"Unlike competitors, the company has maintained its market leadership position in Taiwan's broadband market with a subscriber market share of 65.6%."

- Sofea Zukarnain, Research Associate, ICT There is a rising need for higher-speed connectivity and higher bandwidth driven by the emerging trends of remote work, online learning and demand for home-based entertainment. To address such requirements, Chunghwa Telecom accelerated its FTTx rollout to enable faster connection speeds and nearly unlimited bandwidth capacity, a necessity for high-data intensive applications. Expanding FTTx's reach has positioned Chunghwa Telecom in a uniquely advantageous position to address market needs.

To encourage customers' migration to its FTTx services, Chunghwa Telecom has offered various promotional packages. The strategy has been successful; in 2020, the company's FTTx revenue comprised 94.6% of its total broadband revenue, while subscriber migration to packages with speeds of 300 megabits per second or higher increased by 69.0% year-over-year. Unlike competitors, the company has maintained its market leadership position in Taiwan's broadband market with a subscriber market share of 65.6%.

Customer Purchase Experience

Consumer behavior has shifted from a demand for low-margin mobile services to high-margin advanced applications and services. Chunghwa Telecom is leveraging its core telecommunication infrastructure and services to expand ICT services that cater to customer needs. For example, in 2020, Chunghwa Telecom invested in Next Commercial Bank (NCB), an Internet-only bank that supports banking, insurance, and retail partners. NCB is currently awaiting business license approval from local authorities

and is expected to launch services in the first half of 2021. The development will provide Chunghwa Telecom's customers with increased access to banking services, thereby improving the customer experience.

Customer Service Experience

Chunghwa Telecom is at the forefront of 5G innovation and is currently exploring how the technology can help deliver a differentiated service experience. The company is already planning how to leverage 5G to support immersive viewing experiences (e.g., sporting events with 4K service and music concerts with augmented and virtual reality.)

Chunghwa Telecom is utilizing 5G to improve the service experience for consumers and enterprises. In 2020, in collaboration with Qualcomm, Chunghwa Telecom launched a smart factory powered by the private 5G Millimeter Waves network. Such an approach is a notable achievement for Chunghwa Telecom and an industry first. Three use cases are arising from the collaboration: the efficient deployment of artificial intelligence, the development of automated guided vehicles, and the creation of remote augmented reality assistance and experience technology. The development demonstrates the extensive scope and potential of 5G-powered applications, boosting Chunghwa Telecom's leadership in Taiwan's 5G technology deployments.

Conclusion

Despite Taiwan's saturated consumer and enterprise mobile segment, Chunghwa Telecom has successfully increased its competitive positioning by delivering next-generation information and communication technology platforms to support customers' digital transformation and 5G technology deployment. Through strategic partnerships with vertical market participants, the company facilitates small and medium-sized enterprises' digital transformation and ability to leverage disruptive technologies. Chunghwa Telecom continually demonstrates its strong commitment to innovation, further strengthening its position as a market leader in Taiwan's telecommunication services market.

With its strong overall performance, Chunghwa Telecom earns Frost & Sullivan's 2021 Company of the Year Award in the Taiwan 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

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Key Impacts:

- Growth Pipeline: Continuous flow of Growth opportunities
- Growth Strategies: Proven Best Practices
- Innovation Culture: Optimized Customer Experience
- ROI & Margin: Implementation Excellence
- Transformational Growth: Industry Leadership

OPPORTUNITY UNIVERSE Capture full range of growth opportunities and prioritize them based on key criteria OPPORTUNITY EVALUATION Conduct deep, 360-degree analysis dynamics and unearth new opportunities OPPORTUNITY EVALUATION Conduct deep, 360-degree analysis opportunities OPPORTUNITY EVALUATION Conduct deep, 360-degree analysis opportunities OPPORTUNITY EVALUATION Conduct deep, 360-degree analysis opportunities FIGURE OPPORTUNITY EVALUATION Conduct deep, 360-degree analysis opportunities OPPORTUNITY EVALUATION Conduct deep, 360-degree analysis opportunities oppor

The Innovation Generator™

Our six analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- Mega Trend (MT)
- Business Model (BM)
- Technology (TE)
- Industries (IN)
- Customer (CU)
- Geographies (GE)

