

## Chapter 4 Operational Highlights

### Performance by division

	Consumer Business Group	Enterprise Business Group	Home Business Group	Retail Business
Brand name	Taiwan Mobile	Taiwan Mobile Enterprise Services	TWM Broadband	momo
Services	<ul style="list-style-type: none"> <li>● Voice, data and mobile value-added services for consumers</li> </ul>	<ul style="list-style-type: none"> <li>● Voice and data mobile services for enterprises</li> <li>● Fixed-line services</li> <li>● Cloud and enterprise total solutions</li> </ul>	<ul style="list-style-type: none"> <li>● Pay TV services (CATV/DTV)</li> <li>● Cable broadband services</li> <li>● Others</li> </ul>	<ul style="list-style-type: none"> <li>● E-commerce</li> <li>● TV home shopping</li> </ul>

Unit: NT\$m

	Telecom business		Cable TV business	Retail business
	Mobile business	Fixed-line broadband business		
Market position	One of top three mobile operators in a five-player market, with a market share of around 24% in terms of mobile subscribers (w/o 040)	One of top three internet service providers (ISP)	Fourth-largest multiple system operator (MSO), covering about 11% of households in Taiwan	Ranked first in B2C e-commerce
2021 revenue*	64,012		6,237	88,397
2021 EBIT*	9,600		2,176	4,042

\* Source: 2021 financial reports. The difference between the sum of each division and consolidated numbers was due to interdivisional adjustments and eliminations.

## Scope of Business

### Business overview

#### Telecom Business

##### 1. Telecom products and services

###### Consumer Business Group

Besides providing basic mobile voice and broadband services, the Consumer Business Group also offers diversified value-added services to create an integrated mobile entertainment user experience. These value-added services include video and music streaming, mobile commerce, instant messenger, IoT-related services and smart home services.

###### Enterprise Business Group

The Enterprise Business Group offers a full range of information and communications technology (ICT) integration service solutions to enterprise clients. In addition to providing basic telecommunication services, the Enterprise Business Group can

serve as an enterprise's partner in the fields of 5G solutions, cloud services, AIoT, Internet of Vehicles and information security.

## 2. Telecom revenue breakdown

Unit: NT\$mn

Item \ Year	2021	
	Revenue	% of total
Service revenue	45,233	71%
Device sales	18,779	29%
Total	64,012	100%

## 3. New telecom products and services

### Consumer Business Group

- (1) Smarter Home ecosystem: Integrates related services within Fubon Group – smart home appliances, over-the-top media services, home security, smart lighting, etc. – to create an all-in-one solution for Smarter Home users.
- (2) Smarter Home consultant : Assemble product trainers from various brands and provide consulting services for target customers, such as construction companies and interior decorators, to build smarter homes.
- (3) The Company utilizes its unique IoT wearable devices to establish new contact points with subscribers, and through these new methods, collect broader and deeper data to develop new content and apps such as healthcare and fitness services.

### Enterprise Business Group

- (1) Public cloud services and hybrid cloud solutions:

Provide diverse and flexible cloud services through close cooperation with enterprises such as AWS. The Enterprise Business Group also plans to form a strategic alliance with CloudMile, integrating telecom resources with Google cloud to offer businesses AI and industrial solutions.

The Enterprise Business Group launched TWCC AI cloud services to provide AI training platforms and hybrid cloud solutions through joint projects with the government.

- (2) AI and industrial solutions:

Provide one-stop AI services for enterprises based on different industrial scenarios, such as smart manufacturing and smart marketing, while continuously creating innovative services, such as our self-developed software-defined wide area network (SD-WAN), flexible bandwidth pricing, and proactive monitoring of external connection service quality.

- (3) 5G/Internet of Vehicles:

Increase the number of private 5G network POC cases and industry application cases, and actively pursue 5G ORAN and 5G vertical application certification and mechanisms. The goal is to develop new services for MyFleet and new IoT platform services (e.g., IoTBS, IoTA and eSIM).

## **Cable TV and Broadband (Home Business Group)**

### **1. CATV products and services**

Its main operations cover a variety of products and services, including cable TV, HD digital TV, high-speed fiber-optic internet access, over-the-top (OTT) service platform, HomeSecurity services, A1 Box and digital TV channel content agency.

### **2. CATV revenue breakdown**

Unit: NT\$mn

Item \ Year	2021	
	Revenue	% of total
Pay TV service	3,268	53%
Cable broadband service	1,760	28%
TV content agency and others*	1,209	19%
Total	6,237	100%

\* Including channel leasing revenue

### **3. New CATV products and services**

(1) HD digital TV services:

TWM has led the industry in ushering in a whole new era in home entertainment with its introduction of 4K content and multi-angle vision.

(2) High-speed fiber-optic internet access services:

Given the increasing demand for high-speed internet access, TWM Broadband launched its 1Gbps+WiFi 6 service in 2020, and aims to offer even faster access in the near future.

(3) Digital home services:

The Company is developing multiple value-added services, such as IoT, cloud games and smart home applications.

## **Retail Business (momo.com Inc. or “momo”)**

### **1. Retail products and services**

momo offers e-commerce and TV home shopping services

(1) e-commerce

momo sells over 3.5 million stock keeping units (SKUs), a quarter of which offer 24-hour delivery guarantee. It also provides 24-hour online customer service and a supplier contact platform to satisfy customers' shopping needs.

(2) TV home shopping

momo has its own professional studio and filming team that provides momo TV programs to 5 million cable TV and 2.1 million MOD households nationwide.

0800 toll-free hotline and mobile app allow consumers to purchase products featured on momo TV programs or the momo TV app. A customer service team works around the clock to answer questions about product features, as well as purchase and return policy.

## 2. Retail revenue breakdown

Unit: NT\$mn

Item	Year	2021	
		Revenue	% of total
E-commerce		83,067	94%
TV home shopping and others		5,330	6%
Total		88,397	100%

## 3. New categories and services

- (1) momo has continued to introduce more international brands and to enhance long-term relationships with brand partners. With the aid of key opinion leaders, live-streaming, social commerce marketing and cross-selling within Fubon Group, momo has added new categories, such as books, used vehicles and fresh food, to boost sales. Its TV home shopping platform has also developed new product categories, and introduced more overseas niche products to enhance its unique platform and broaden its customer base.
- momo has stepped up its logistics network build-out to accelerate last-mile delivery to offer customers greater convenience. In terms of mobile device application, momo introduced AI technology to enhance visual and voice searches, as well as to ensure information security.
- (2) momo's TV home shopping business has steadily adapted to changes in consumer lifestyle and trends. To enhance engagement with its client base and boost customer stickiness, it has expanded its TV fan clubs' operations, launched a TV app, broadcast live-stream videos on Facebook, and listed on Chunghwa Telecom's MOD. It has also laid out plans for cooperation with livestreaming influencer and major OTT operators.
- (3) momo plans to set up a logistics center in southern Taiwan to improve shipping efficiency.

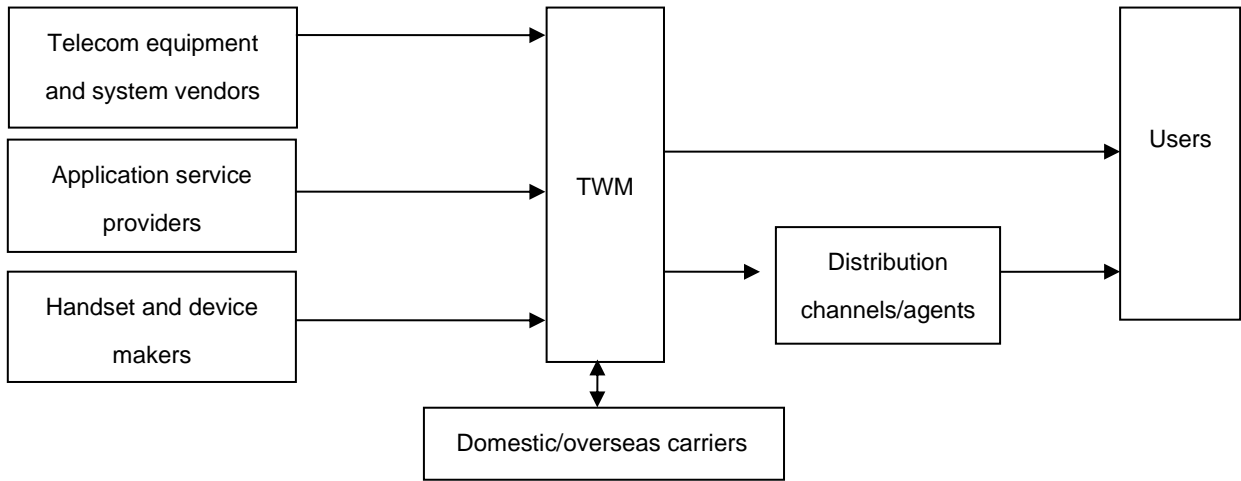
## Industry overview

### Consumer Business Group

#### 1. Industry status and development

5G network infrastructure buildout has peaked since 5G services were launched nearly two years ago. Taiwan's 5G population coverage has reached more than 80% to 90%. The massive investment that 5G required has compelled smaller telecom firms to form alliances with major telecom companies, such as Asia Pacific and Far EasTone sharing 5G spectrum and network, and Taiwan Mobile signing a merger agreement with Taiwan Star, which would establish a new milestone once it is approved by the National Communications Commission.

#### 2. Industry value chain



### 3. Product development trends and competitive landscape

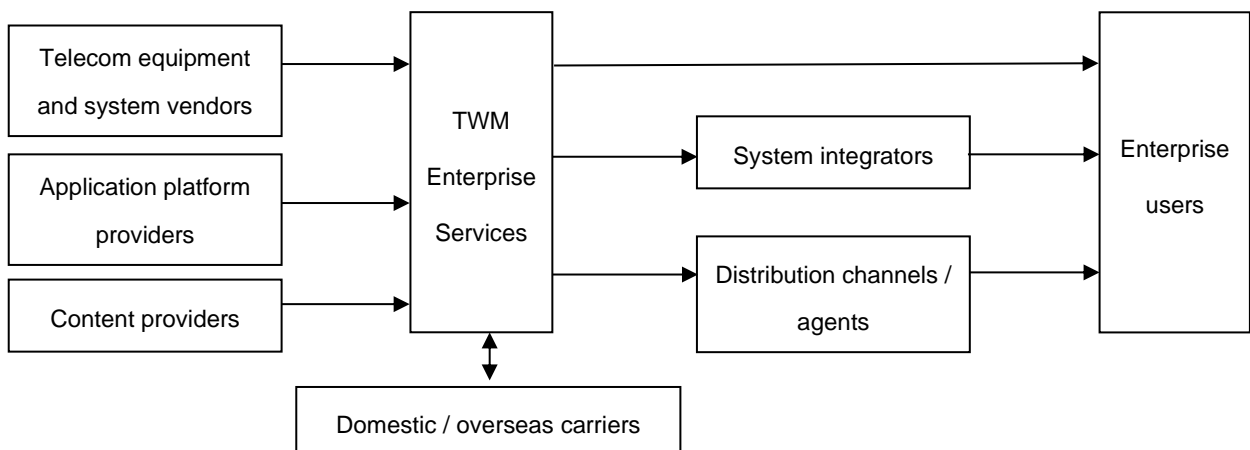
As telecom companies focus on upgrading users' revenue contribution, competition in the market should become more rational. Low-priced unlimited full-speed data plans would be phased out, as smaller telecom operators are acquired by big players. Telecom companies would offer a variety of mobile-OTT mixed plans to enhance product differentiation. The battle for 5G consumers would move from the mobile market to smart home and IoT devices, ushering in a new and better communication experience for users.

## Enterprise Business Group

### 1. Industry status and development

The COVID-19 pandemic is accelerating the digital transformation of enterprises. Telecom companies now have more opportunities: Aside from basic telecommunication services, they can also provide customers with more diverse and flexible integrated solutions in the fields of 5G, AIoT, cloud services and information security.

### 2. Industry value chain



### 3. Product development trends and competitive landscape

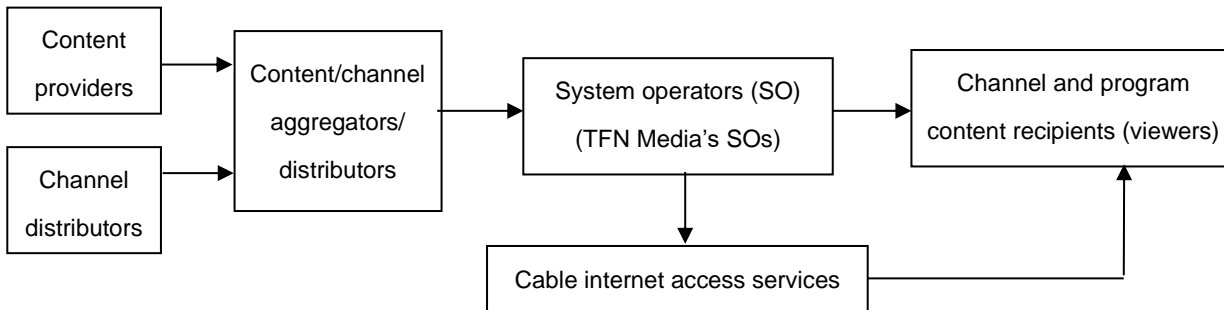
Chunghwa Telecom (CHT) is TWM's primary rival in the enterprise market. With the vigorous development of the 5G sector, the IoT, AI and 5G fields are becoming more closely connected, and cloud services are now adopting multi-cloud deployment models and hybrid clouds. Furthermore, the demand for vertical integration applications continues to increase, making cross-discipline cooperation even more important.

## Home Business Group

### 1. Industry status and development

Cable TV faces challenges from alternative services, such as IPTV, digital terrestrial TV and other emerging media (e.g., OTT video streaming) that have successively entered the market. The cable TV industry is facing a critical period of transformation.

### 2. Industry value chain



Thanks to its control over last mile access to customers, TWM Broadband is aiming to take the lead in vertical integration to build up its core competitiveness and explore new business opportunities in the digital age.

### 3. Product development trends and competitive landscape

Fixed broadband is a saturated market that is dominated by Chunghwa Telecom and characterized by slowing growth. However, with the advancements in technology and the demand for 5G indoor coverage, operators now compete on price and speed. Furthermore, with the CATV industry becoming fully digitalized, user demand for high-definition digital TV channels and OTT content has increased. 4K content and smart home applications, such as internet-connected and voice control devices, are the future trends.

## Retail Business

### 1. Industry status and development

In 2021, the penetration rate of e-commerce in Taiwan was about 15%, which was still lower than South Korea's and China's, implying ample room for growth.

As a leader in the B2C market, momo continues to build up its logistics and warehousing system, providing fast delivery services and a one-stop shopping experience for consumers, while expanding its economies of scale and raising barriers to entry in the B2C industry.

## 2. Industry value chain



momo sources its products from suppliers and sells them through its TV home shopping networks, online shopping sites and mail order catalogues for members and general consumers.

## 3. Product development trends and competitive landscape

- (1) E-commerce: Competition is no longer limited to e-commerce channels. Fast delivery and cold chain logistics services are maturing. Groceries have become a new focus of competition between e-commerce platforms and hypermarket chains.
- (2) TV home shopping: The rise of virtual shopping platforms, such as e-commerce and mobile commerce, has intensified competition in TV home shopping. momo has countered this challenge by collaborating with key opinion leaders or influencers, launching its own mobile apps and leveraging its social platform and capabilities, including livestreaming, to bolster engagement with its members and customer base.

## Research and development expenditure

Research and development expenses totaled NT\$242.608 million in 2021 and NT\$21.34 million in January 2022. Continued investment in the research and development of more advanced technologies is expected to increase customer satisfaction, which in turn should boost value-added service revenue and overall operations growth.

## Major research and development achievements

Project name	Description
Deep learning-based network slicing resource management for 5G networks and path loss modeling based on path profile	Applying deep reinforcement learning to build an optimal model for network slicing resource management to achieve high-efficiency network resource sharing, dynamic slicing management, isolation and a highly flexible mobility management for network slicing. Path profile is used to build an accurate model to estimate path losses in metropolitan areas between base stations and receivers.
M+	Improve office collaboration functions and integrate cloud PBX to enrich voice communication for enterprise customers.
myVideo	Provide new types of content, including multi-angle livestreaming and interactive films. Integrate video service with Google smart speakers.
Smarter Home	Enable 070 VoIP service on Google smart speakers. Integrate more diversified home appliances and devices into our Smarter Home ecosystem.
MyMusic	Build a podcast platform with hybrid cloud architecture to provide more audio services. Integrate the recommendation system built by the Industrial Technology

Project name	Description
	Research Institute to provide more personalized experiences.
Number masking service	Establish a communication platform as a service (CPaaS), enabling people to communicate with each other without revealing their real phone number. This can help resolve data leak problems.
Cloud intelligent warehousing application using big data	Increase shipments by satellite warehouses to reduce repackaging, allowing for faster deliveries to customers and lowering logistics costs.

## Sales development plans

### Consumer Business Group

#### 1. Short-term plan

- (1) The Company has an exclusive cooperation agreement with Disney+ to provide Disney+ bundle plans to attract telecom customers to convert to higher-rate plans and bolster customer stickiness.
- (2) The Company has deepened its cooperation with Google and approached potential smart home users by selling Google Nest products. To promote wireless speakers, Taiwan Mobile Smarter Home has launched related services, such as carrier calling (070), to benefit from cross-selling and increase customer stickiness.
- (3) To bolster 5G competitiveness, the Company has deepened its cooperation with momo and launched "momo plus" rate plans. The Company also offers TWM customers the choice of paying their mobile bills using momo coins. The Company plans to build a new channel on momo Shop to expand the momo ecosystem and benefit from the synergy of resources within Fubon Group.

#### 2. Medium to long-term plan

- (1) To fulfill its Smarter Home vision, the Company is integrating its network environment, devices, data and services to provide users personalized intelligent automation services. It has provided Smarter Home-related installation services and smart home design consulting, and launched subscription-based services, such as home security, to achieve its goal of being the best smart home platform in Taiwan.
- (2) To accelerate the deployment of 5G in emerging fields and cross-industrial cooperation, the Company has developed applications for IoT devices, wearable devices and the Metaverse. It has also partnered with Nvidia to provide users with the ultimate 5G ultra-high-speed gaming experience, aiming to be a leader in the domestic cloud gaming market and increasing 5G penetration and overall revenue.

### Enterprise Business Group

#### 1. Short-term plan

- (1) Actively develop solutions for the financial and manufacturing industries; combine 5G with comprehensive information security, cloud, Internet of Vehicles and integrated services; launch multiple smart applications; and enter the industrial market.
- (2) Accelerate the development of cloud services and information security services to meet the cloud requirements of different types of enterprises and provide elite information security diagnostic services.



- (3) Develop innovative services for Internet of Vehicles, information security, M+ Enterprise Operator, cloud services, and private 5G networks; provide professional value-added services; and create value-added products.

## **2. Long-term plan**

In addition to operating telecommunications services, the Company is targeting simultaneous development of AIoT, cloud services, information security, Internet of Vehicles and 5G test fields through the following:

- (1) Actively expand the industrial ecosystem, create cross-discipline vertical integration solutions, help corporate customers in their industrial transformation, and expand overseas markets.
- (2) Continue to develop diversified cloud services and information security services to speed up enterprise customers' digital transformation.
- (3) Improve the productivity growth of sales and strengthen the relationship between customers and our products.

## **Home Business Group**

### **1. Short-term plan**

- (1) TWM Broadband will continue to optimize its network infrastructure in regions where it is already operating CATV systems and provide more HD digital content and video on demand to set the foundation for its digital services.
- (2) TWM Broadband launched 1Gbps super high-speed internet access service and HD digital TV service to boost its cable broadband and digital TV service penetration rates, as well as increase its ratio of high-speed broadband internet users.

### **2. Long-term plan**

The Home Business Group plans to integrate HD digital content, multiple-viewing terminal devices, high-speed fiber-optic internet access services and cloud technology to introduce more innovative and value-added digital TV services, allowing families and individual subscribers to enjoy the benefits of “multi-screens and a cloud” (i.e., mobile phones, PCs, tablets and TVs) and experience smart living.

## **Retail Business**

### **1. Short-term plan**

- (1) E-commerce: Provide differentiated and value-added services by leveraging big data analysis to optimize product portfolios and recommend more personalized products to customers; deepen cooperation between momo and leading brands; and integrate offline and online loyalty programs.
- (2) TV home shopping: Enhance distribution channel's competitiveness by listing more branded products from overseas, cultivating fan bases on social platforms, such as Facebook and LINE, and cooperating with e-commerce suppliers to expand product offerings.

### **2. Medium to long-term plan**

- (1) E-commerce: Increase market share to further dominate B2C market by implementing a multi-channel sales strategy, optimizing search functions, facilitating short-chain logistics efficiency, and improving user experience (UX) and user interface (UI).

- (2) Take a pro-active approach in raising momo's brand image, further explore Asia's TV shopping market, export best-selling products across multiple countries, leverage the group's marketing resources and sales channels to enhance operating efficiency, and provide innovative services through mobile and cloud platforms.

## Market and Sales Overview

### Market analysis

#### Consumer Business Group

##### 1. Main products and service areas

The Company provides nationwide and international roaming services. The coverage includes Taiwan and the outlying islands of Kinmen and Matsu.

##### 2. Market status

As of November 2021, the mobile subscription penetration rate was 126.5%. Although it is a mature market, 5G's commercialization offers exciting opportunities as demand for IoT, broadband, smart devices and value-added services surges.

##### 3. Competitive advantages

- (1) Fubon Group's internal synergy
- (2) The Company provides integrated and diversified telecom-cable-e-commerce rate plans to increase customer stickiness and create a win-win ecosystem.
- (3) The Company has developed various services based on customers' problems and usage scenarios, such as multiple OTT-video and music streaming, online cloud gaming, and mobile plan rebates from e-commerce purchases. It has also launched the Taiwan Mobile Smarter Home app to solve connection issues across different brands. These solutions are aimed at enhancing service value and brand differentiation.

##### 4. Opportunities and challenges

###### Positive factors

- (1) Diversified 5G applications should boost value-added services and increase revenue.
- (2) With the rise of the lazy economy, users are more concerned with life convenience, ushering in opportunities for smart home.
- (3) Smart home and an aging society should further promote related needs and business opportunities, such as home security.

###### Negative factors

- (1) Low knowledge and low involvement of smart home.
- (2) The cost of IoT production is still high, and users are unwilling to pay a high price for it.

###### Countermeasures

- (1) The Company plans to attract potential users with Google's brand power to encourage them to upgrade to smart home.
- (2) The Company is cooperating with more Taiwanese home appliance brands, helping them convert their products into IoT and co-developing the smart home market.