Retail Business

The main growth driver came from the continuous expansion of the online shopping business, which surged 15% YoY in 2015. However, given higher expenses from TV channel expansion and a lower revenue mix from its higher-margin TV home shopping business, momo's EBITDA fell short of target, but still contributed 4% to the Company's consolidated EBITDA.

Scope of Business

Business overview

Telecom Business

1. **Telecom products and services**

    Consumer Business Group (CBG)

    The Consumer Business Group is mainly engaged in providing mobile communication services to individual users. The Company offers a wide range of products, including SIM cards for postpaid subscribers, as well as SIM and reloadable cards for prepaid subscribers that can be used for making/receiving calls and value-added services, such as short messaging service (SMS), data and multimedia.

Target customers	Service category	Description	Highlights
Individual consumers	Mobile	Voice	Basic telecommunication voice services, including making and receiving calls from fixed-line and mobile phones
		Data	Value-added services, including voice mail, call forwarding, call waiting, conferencing, SMS, roaming, call barring, video calls, multimedia and content (e.g. mobile TV, music, games, financial information, online bookstore, messaging apps, video clips, video streaming), and internet access using 4G/HSDPA/3G transmission
	IDD	International direct dialing services	

Enterprise Business Group (EBG)

The Enterprise Business Group offers enterprise customers integrated mobile/fixed and cloud services.

Service category	Description
Mobile	• Mobile virtual private network (MVPN) • Mobile data virtual private network (MDVPN) • Mobile broadband service • Business mobility services, including financial, logistics, medical and retail apps, mobile device management, instant messaging (M+ Messages, enterprise edition) • International roaming
Fixed-line voice	• Integrated voice solutions, including multi-port residential gateway (MRG), local calls, long-distance calls, international calls and fixed mobile convergence (FMC) • 080 domestic toll-free service, audio conference, intelligent network services (e.g., 0209 services) and international simple resale (ISR)
Fixed-line data	• Domestic leased line, Metro Ethernet, IP virtual private network • International private leased circuit (IPLC) and ADSL VPN
Internet	• Internet access via leased line, Metro Ethernet, ADSL and FTTx
Cloud	• The only Taiwanese operator of an Uptime Tier III certified cloud data center • Infrastructure as a service (IaaS) • Software as a service (SaaS), including web hosting, mail hosting, domain name system (DNS) management, security operations center (SOC) and video conference
Enterprise total solutions	• Integration services consisting of mobile, fixed network, cloud, information and communication systems, including hardware and software system planning, deployment, maintenance, and network management operations. • Industry-specific solutions, such as e-factories for manufacturing, FinTech for financial industry, e-commerce for retail industry.

2. **Telecom revenue breakdown (including CBG and EBG)**

Unit: NT$mn

Item \ Year	2015	
	Revenue	**% of total**
Service revenue	61,238	73%
Device sales revenue	22,543	27%
Total	83,781	100%

3. **Telecom new products and services**

Consumer Business Group

(1) Voice services: Continue to roll out innovative rate plans to meet the various calling preferences and personal demands of the subscribers.

(2) Value-added services: Focus on mainstream smart devices; develop a diverse range of services and digital content to meet consumers' mobile needs.

Enterprise Business Group

(1) 4G mobile data virtual private network:

TWM Solution provides reliable, high-speed and secure 4G MDVPN, an ideal substitute for ADSL/FTTx networks for enterprises to meet their need for rapid deployment.

(2) Enterprise mobility services:

Steadily develop enterprise mobility applications and mobile commerce services with partners in the medical/financial/utility/security industries.

(3) Cloud storage service:

Provide customers with large, flexible and fast cloud storage space.

4. Mobile business operating status

(1) Postpaid products and services

In response to keen market competition and declines in voice minutes, the Company focused on boosting handset sales and the migration of 3G/4G clients to raise its ARPU. As of January 2016, 3G/4G client ratio was 97%.

The Company has excellent loyalty programs in place to secure its client base and minimize churn rates. With the aid of business intelligence tools and its direct marketing network, the Company uses market segmentation to target and provide customers with services that better match their needs. For high ARPU customers, the Company has an exclusive program called "myVIP". The Company also offers a credit card program that allows customers to earn rebates based on their phone bills.

(2) Prepaid products and services

The Company was ahead of its peers in launching 4G prepaid cards in 2014 and competitively priced 4G internet packages in 2015. These helped lift the Company's value-added service (VAS) revenue excluding text messages from prepaid users by 32% YoY in 2015.

(3) Value-added services

The Company saw a significant increase in VAS revenue in 2015, surging 38% from a year ago. In particular, revenue from mobile internet access rose 46%, thanks to high-quality mobile internet services and flexible data rate plans, as well as the growing popularity of smartphones, tablets, data cards and netbooks. These helped attract a large number of mobile internet users and encouraged existing subscribers to use value-added services.

Home Business Group (HBG)

1. CATV products and services

TFN Media (TFNM), a subsidiary of the Company, holds a cable television system operator's license and a Type II telecommunication license. Combining the group's resources – from mobile and fixed-line to innovative cloud technology – HBG provides digital convergence services across "four screens and a cloud" to home users. Its subsidiary, TV production company Win TV Broadcasting, operates the "momo family channel" and owns distribution rights to a large number of outstanding domestic and foreign TV content, enabling it to provide subscribers with a wide range of digital audiovisual entertainment services.

Service category	Products / Services	Description
Pay TV	Digital TV	Uses high bandwidth coaxial cable to transmit a wide range of TV channels and programs to home TVs.
	High-definition digital TV	TWM Broadband's CATV networks transmit domestic and international digital TV channels to subscribers' homes; subscribers can use the set-top box provided by TWM Broadband to view high-definition digital video content.
Broadband internet access	Cable fiber-optic broadband internet access	Provides high-speed internet access service via a hybrid fiber/coaxial (HFC) network deployed by the CATV system operator, together with new-generation DOCSIS 3.0 broadband internet access technology.
Content distribution	Analog and digital TV channels	Distributes high-quality domestic and foreign TV content on both analog and digital TV services by licensing the broadcasting rights of these channels to other CATV system operators and video service platforms.
Digital home services	SuperMOD service	The first in Taiwan to provide high-definition on-demand video, audio and interactive applications/content by combining video on demand, internet TV and digital TV onto a single platform. Subscribers can access SuperMOD content on their TVs, computers, smartphones and tablets anytime, anywhere.
	HomePlay service	A multi-screen sharing service that enables subscribers to share and watch TV programs, HD video on demand and internet video content across multiple screens such as TVs, tablets and smartphones. Subscribers can access any content through any device via HomePlay's user-friendly application at home.
	PVR (Personal Video Recorder)	An interactive TV program recording device with 500G storage that enables subscribers to record TV programs through multiple devices including computer, television and handsets.
	HomeSecurity service	Offers round-the-clock protection for households and small and medium-sized businesses by providing a multi-screen monitoring and

		cloud storage system that sends out alerts via apps for smart devices, SuperMOD, SMS and e-mails.

2. CATV revenue breakdown

Unit: NT$mn

Item \ Year	2015	
	Revenue	**% of total**
Pay TV service	4,460	68%
Cable broadband service	1,284	20%
TV content distribution and others	811	12%
Total	6,555	100%

3. CATV new products and services

(1) High-definition digital TV services:

In line with the government's push to achieve 100% digital cable TV penetration, TWM Broadband has positioned itself to maximize the opportunity by expanding the economic scale of HDTV and digitizing audio-visual home entertainment.

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

Consumer demand for high-speed internet access has soared with the fast-growing popularity of online videos and social media. TWM Broadband was ahead of the trend in upgrading its fiber-optic network, enabling it to provide 200M and 300M high-speed broadband access services in the past and even faster 1G services in the near future.

(3) Digital home services:

In 2014, TWM Broadband led the industry in introducing a multi-screen monitoring service called "HomeSecurity," giving users a new form of round-the-clock home protection service. In 2015, "HomeSecurity" was expanded to help small and medium-sized businesses manage their store operations.

Retail Business (momo.com Inc. or "momo")

1. Retail products and services

momo offers TV home shopping, online shopping, mail order service, travel services, and property and life insurance sales.

2. Retail revenue breakdown

Unit: NT$mn

Year Item	2015	
	Revenue	**% of total**
Online shopping	17,224	67%
TV home shopping, mail order service and others	8,416	33%
Total	25,640	100%

3. Retail new products and services

(1) Develop new product categories: As online shopping takes off, offering product variety is critical to maintaining view rates and targeting the right customers. momo has successfully explored and introduced new product categories, including outdoor items, to sustain buyers' interest. Additionally, momo has introduced an e-voucher system to expand its service offerings.

(2) Introduce new brands: Backed by its prolific marketing resources and a stable supply chain, momo has launched new quality brands, such as NARUKO, BEAUTYMAKER, Ido and Epin Lady. Meanwhile, momomall has teamed up with many large and well-known merchants, such as HOLA, Test Rite and Qsquare, and plans to continue seeking new partnership opportunities.

(3) Expand business platforms: With CATV penetration nearly saturated and traditional TV viewership falling while digital TV and mobile devices rise in popularity, TV home shopping is adapting to changes in consumer lifestyle and trends by expanding into other broadcasting platforms. momo is focusing on consumer behavior and new mobile digital trends to keep pace with these changes. In the second quarter of 2015, momo introduced a new version of its TV app. Designed to provide customers with a more user-friendly interface, more diversified promotion campaigns, and a better shopping experience, the TV app helps enhance customer stickiness.

(4) Build up mobile commerce: Sales via mobile devices continued to grow in 2015. momo aims to aggressively promote mobile commerce products by providing a better user experience to increase user stickiness and raise mobile commerce's share of total revenue.

(5) Improve services: Logistics and information technology play a key role in addressing the "last-mile" issue. momo aims to enhance suppliers' delivery capabilities and build logistics and warehousing facilities to provide fast, transparent and timely deliveries.
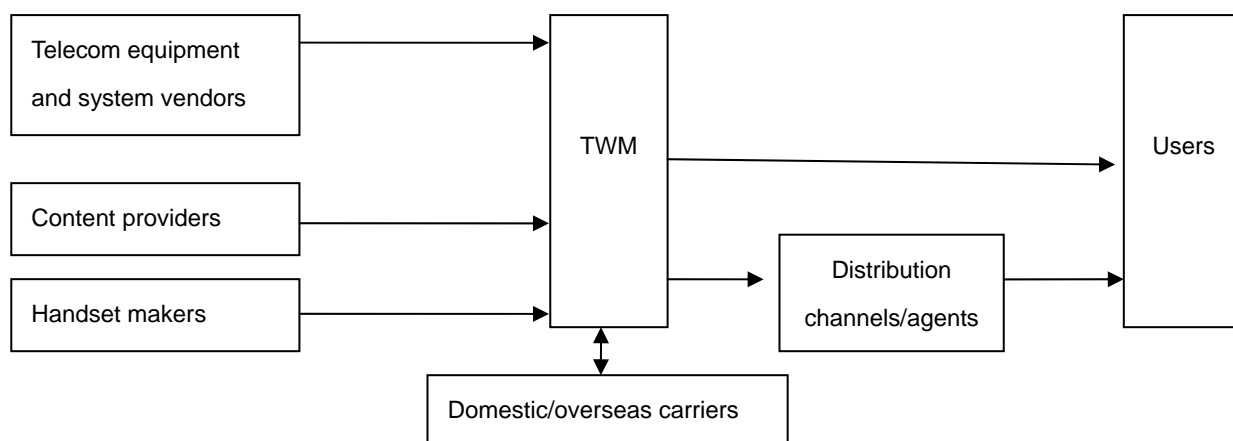
Industry overview

Consumer Business Group

1. Industry status and development

Though telecom operators have launched their 4G services one after the other since 2014, smaller players remain constrained by a lack of competent 4G network infrastructure and subscriber economies of scale. The three major operators will likely continue to dominate the market.

2. Industry value chain

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┌─────────────────────┐
│ Telecom equipment   │──────────────┐
│ and system vendors  │              │
└─────────────────────┘              ▼
                            ┌──────────┐                      ┌────────┐
┌─────────────────────┐     │          │─────────────────────▶│        │
│ Content providers   │────▶│   TWM    │                      │ Users  │
└─────────────────────┘     │          │    ┌──────────────┐  │        │
                            │          │───▶│ Distribution │─▶│        │
┌─────────────────────┐     │          │    │channels/agents│ └────────┘
│ Handset makers      │────▶│          │    └──────────────┘
└─────────────────────┘     └────┬─────┘
                                 ▲
                                 ▼
                     ┌─────────────────────────┐
                     │ Domestic/overseas carriers│
                     └─────────────────────────┘
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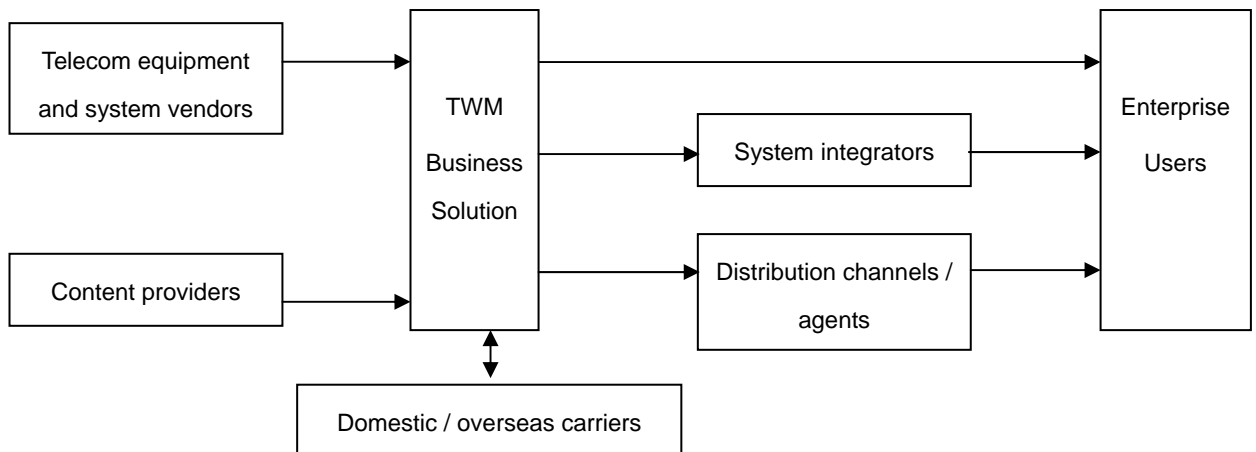### 3. Product development trends and competitive landscape

The operators are seeking to further expand the mobile broadband market in the 4G era. A variety of new rate plans for data services, combined with new terminal devices and new value-added services, has been introduced to stimulate 4G subscriber take-up. This should be an important future revenue growth driver. As for the prepaid segment, pricing competition is intensifying.

Enterprise Business Group

1. Industry status and development

According to statistics provided by the National Communications Commission (NCC), there were 79 Type I telecommunication providers, including four fixed-line operators, six mobile operators and other circuit leasing operators; and 421 Type II telecommunication providers, including international simple resale (ISR), internet service providers (ISP), VoIP and other value-added service providers. Given intense competition in the fixed-line market and the growing trend toward IP network and digital convergence, telecommunication providers have to offer not only infrastructure, but also applications and total solutions.

2.   Industry value chain

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┌──────────────────┐         ┌─────────┐                                    ┌───────────┐
│ Telecom equipment│────────▶│         │───────────────────────────────────▶│           │
│ and system vendors│        │  TWM    │                                    │ Enterprise│
└──────────────────┘         │         │    ┌─────────────────┐             │           │
                             │Business │───▶│System integrators│──────────▶ │  Users    │
                             │         │    └─────────────────┘             │           │
┌──────────────────┐         │Solution │                                    │           │
│ Content providers│────────▶│         │    ┌────────────────────┐          │           │
└──────────────────┘         │         │───▶│Distribution channels/│──────▶  │           │
                             └────┬────┘    │      agents         │          └───────────┘
                                  │         └────────────────────┘
                                  ▼
                        ┌──────────────────────┐
                        │Domestic / overseas carriers│
                        └──────────────────────┘
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3.   Product development trends and competitive landscape

Data provided by the NCC show that Chunghwa Telecom (CHT) has a virtual monopoly of the telecom market, accounting for over 90% of local network service revenue, about 50% of long-distance network service revenue and international network service revenue. Since CHT has the "last mile" advantage, other internet service providers find it hard to effectively compete with the carrier.
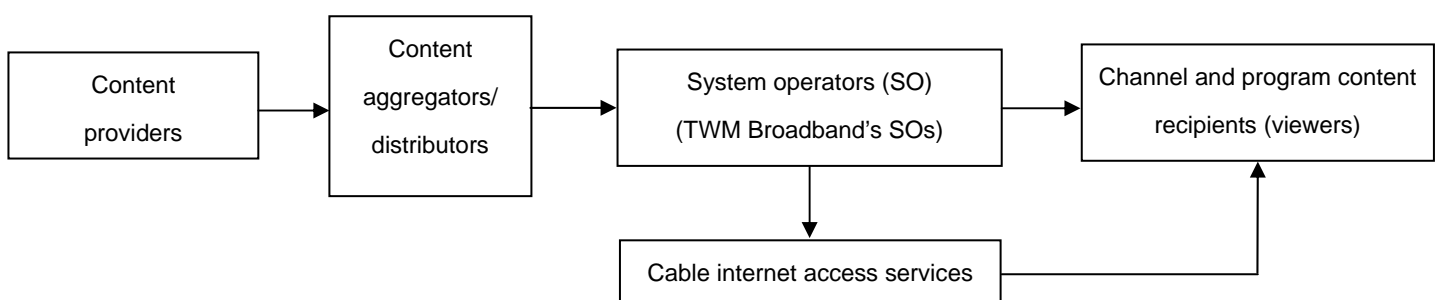
Cloud and enterprise mobility will be the main trends in the future. Carriers will provide various efficient and effective mobile commercial application services to enhance the competitiveness of enterprise clients.

Home Business Group

1.   Industry status and development

Cable TV has become a must-have video platform, but it faces challenges from alternative services such as IPTV, digital terrestrial TV and other emerging media such as OTT (Over the Top) video streaming that have successively entered the market. The cable TV industry must digitalize aggressively and continue to provide innovative digital TV value-added services to attract traditional cable TV subscribers to switch to digital TV.

2.   Industry value chain

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┌──────────┐    ┌──────────┐    ┌─────────────────┐    ┌────────────────────────┐
│ Content  │───▶│ Content  │───▶│System operators (SO)│─▶│Channel and program content│
│providers │    │aggregators/│   │(TWM Broadband's SOs)│  │  recipients (viewers)  │
└──────────┘    │distributors│   └─────────┬───────┘    └────────────────────────┘
                └──────────┘              │                         ▲
                                          ▼                         │
                               ┌──────────────────────┐            │
                               │Cable internet access services│────┘
                               └──────────────────────┘
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TWM Broadband has the advantage of controlling "last mile" access to customers. TWM Broadband aims to take the lead in vertical integration to build up its core competitiveness and explore new business opportunities in the age of digitalization.

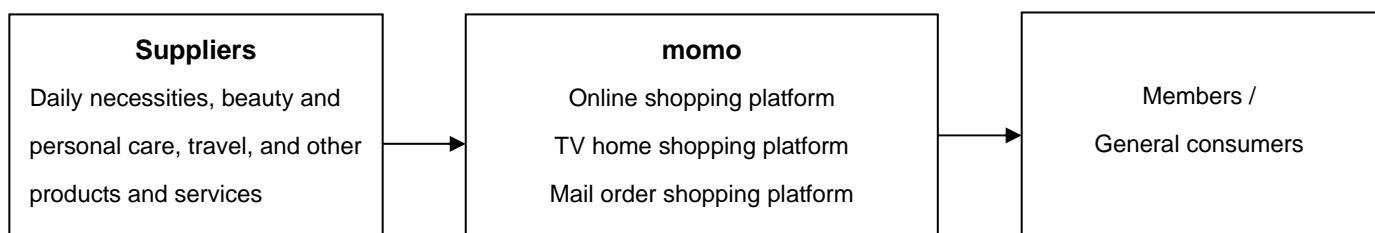3. **Product development trends and competitive landscape**

Despite a saturated market that is dominated by Chunghwa Telecom, TWM Broadband managed to grow its subscriber numbers in the cable internet business by bundling cable broadband products with HD DTV services in its cable TV service areas, following the example of leading global operators such as PCCW in Hong Kong, as well as AT&T and Comcast in the US. To fend off competition, TWM Broadband provides high-speed broadband internet access service, increases the number of high-definition programs and develops more innovative digital value-added services to let subscribers enjoy a whole new experience in home entertainment.

Retail Business

1. Industry status and development

The proliferation of cable TV, digital TV and smart devices has given rise to a new breed of home shoppers. Consumers can order a product by telephone or through virtual shopping platforms, choose from a host of convenient payment systems and receive the product in a short period.

2. Industry value chain

Suppliers	**momo**	Members /
Daily necessities, beauty and personal care, travel, and other products and services	Online shopping platform TV home shopping platform Mail order shopping platform	General consumers

momo sources its products from suppliers of daily necessities, beauty and personal care, travel services, and other products and services, and sell 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) Online shopping: Although momo entered the market later than peers Yahoo! Taiwan and PChome Online, it has made major strides as a comprehensive business-to-consumer (B2C) e-commerce player, growing rapidly by leveraging its know-how in TV home shopping.

(2) TV home shopping: The rise of virtual shopping platforms has helped e-commerce and mobile commerce gain a foothold in Taiwan's TV home shopping market. Moreover, as digital TVs become more popular, TV home shopping programs are finding greater opportunities to reach out to consumers. Aside from momo, leading players in the field are Easter Home Shopping (EHS), U-Life and viva. momo aims to provide better broadcasting programs that cater to consumers' needs in a timely manner.

(3) Mail order: The mail order business attracts different types of players, from TV home shopping operators (e.g., momo, EHS, U-Life and viva) to multilevel marketing players (e.g., Amway, Avon, Herbalife and Nu Skin), and Japanese mail order companies (e.g. DHC and Orbis). momo's main rivals in this business are multilevel marketing players and Japanese mail order companies.

Research and development expenditure

Investment in research and development and its ratio as a percentage of total revenue are shown in the table below. For 2016, the Company plans to spend NT$826mn on the research and development of more advanced technologies to increase customer satisfaction, which in turn should boost value-added service revenue and overall operations growth.

Year	2015	2016 (As of February 29)
R&D expense (NT$'000)	764,669	114,472
As a % of total revenue	0.66%	0.58%

Major research and development achievements

Project name	Description
LTE new technology research	• LTE-Advanced small cell deployment strategy design to increase spectrum efficiency while saving energy • Massive multiple input and multiple output (MIMO) and small cell network in LTE-Advanced performance analysis • Beyond 4G mobile network architecture • Study of communication technologies for the "Beyond LTE-Advanced Era"
Extension of TWM billing system to external merchants	Provided innovative payment services to external merchants by using TWM billing – which supports various e-commerce and m-commerce business models – as a payment method
M+ Messages	Enhanced enterprise instant messaging functions. Built system on private cloud to improve communication efficiency, productivity and security
TAMedia mobile advertisement platform	Provided new video ads and native ads. Utilized big data technology to optimize advertising performance.
myVideo	Developed support for "download to own" and "download to rent" models to provide best quality video streaming and video services via Google Chromecast.
Mobile payment	Provided a mobile wallet service based on Near Field Communication (NFC) and QR Code technologies. This wallet can function as a credit card, membership/reward card and conduct online/offline transactions. It also supports coupon and advertising functions for merchants.
Value-added services for Voice over LTE (VoLTE)	Developed an entitlement server for iPhone users. VoLTE subscribers can also use MVPN to enjoy discounted rates.
Mobile game marketing platform	Built a market promotion platform for mobile games that supports game downloads, in-app payment, game tips, reward points, virtual item redemption, customer reviews and social networking functions.
myBook	Developed an end-to-end mechanism to enhance the reading experience of magazines on mobile devices. Provided a new reading system on mobile app to support interactive multimedia e-books.

Sales development plans

Consumer Business Group

1.   Short-term plan

(1) Continue to expand 4G LTE services and provide faster and more stable mobile internet services to attract more subscribers and encourage existing users to upgrade in order to increase 4G LTE penetration and user contribution.

(2) Develop various rate plans to meet the needs of different types of customers and introduce a new store concept that provides optimal service processes and quality in order to give customers the best service experience.

(3) Strengthen channel performance and competitiveness through management and deployment.

(4) Leverage 4G LTE services to extend value-added services, including digital music, video and mobile commerce. Integrate virtual and physical channels to offer more instant and convenient consumption options.

2. Long-term plan

The Company aims to provide subscribers with a variety of digital convergence services through 4G's faster transmission speed. The focus will be on the following:

(1) Establishing a "quadruple-play" platform that integrates mobile communication, fixed-line, broadband internet access and cable TV services to give the Company a lead over its competitors in offering digital convergence services in Taiwan.

(2) Leveraging Internet of Things (IoT) technology to integrate mobile phone, network and cloud-computing technologies to expand the Company's service range and support development of innovative, profitable business models.

Enterprise Business Group

1.   Short-term plan

(1) Complete phase III construction of the cloud data center by 2016 and promote the data center to international clients.

(2) Continue to develop dedicated M+ enterprise instant messaging system to offer unique and differentiated services.

(3) TFN will launch an Anti-DDoS (Distributed Denial of Service) solution for Internet customers in 2016.

(4) Promote fixed mobile convergence (FMC) by improving fixed broadband bandwidth and quality to increase the competiveness of EBG's mobile services.

2.   Long-term plan

EBG's vision is to expand enterprise services from network-centric to IP solutions, mobile applications and cloud services through steady investments in the following:

(1)   Cloud computing and enterprise mobility

(2) Develop IoT integrated solutions for enterprise clients

(3) Raise sales productivity and expand the small-and-medium enterprise market segment through channel integration

Home Business Group

1. Short-term plan

(1) TWM Broadband will continue to optimize its network infrastructure in regions where it is already operating cable TV systems, and provide high-definition digital content and video on demand to set the foundation for its digital services.

(2) TWM Broadband has commercially launched its 300Mbps super high-speed internet access service bundled with high-definition digital TV to boost its cable broadband and digital TV service penetration rates in hopes of raising its subscriber mix of high-speed broadband service users and number of DTV customers.

2. Long-term plan

In line with the Executive Yuan's goal of raising the digital TV penetration rate to 100% by the end of 2016, TWM Broadband aims to become a one-stop shop for home digital services by integrating high-definition digital content, multiple-viewing terminal devices, high-speed fiber-optic broadband services and cloud technology, allowing families and individual subscribers to enjoy the benefits of "four screens and a cloud" (i.e., mobile phones, PCs, tablets and TVs).

Retail Business

1. Short-term plan

(1) Online shopping: Provide differentiated value-added services, enhance competitive advantages in the mobile market, perform big data analytics and recommend more individualized products to clients. Make use of social shopping platforms and profit-sharing mechanisms to create a bigger impact on community websites. Develop a B2B2C business model to introduce more leading brands as well as mid-and-big physical suppliers to provide customers with more diverse product choices.

(2) TV home shopping: Increase scale of products, expand mobile and digital platforms, and incorporate main suppliers into the company's supply chain management system.

(3) Mail order: Strengthen visual editing to refine the design of momo catalogs and develop e-catalog services to expand touch points with customers.

2. Long-term plan

Take a pro-active approach in increasing momo's brand image, explore Southeast Asia's TV shopping market to export best-selling products, leverage the Group's marketing resources and sales channels to enhance operating efficiency, and provide innovative services though mobile and cloud platforms.

Customer satisfaction

To create the best experience for customers, TWM conducts annual customer satisfaction surveys by telephone to better understand their needs and expectations. Customers are asked to evaluate call quality, rates, bills, customer hotline service, store service, value-added services, and the Company's website among others. The findings from these polls are used as a reference to set new objectives and improve service quality.

Customer satisfaction key indicators	2013	2014	2015
Overall satisfaction	3.7	3.7	3.7
Call quality	3.7	3.7	3.7
Customer hotline service	4.4	4.3	4.2
Store service	4.2	4.1	4.2
Note: Customer satisfaction is rated based on the following scores: Very satisfied (5), Satisfied (4), Neither satisfied nor dissatisfied (3), Dissatisfied (2) and Very dissatisfied (1).			

Market and Sales Overview

Market analysis

Consumer Business Group

1. **Main products and service areas**

   The Company provides mobile services nationwide, covering Taiwan and the outlying islands of Kinmen and Matsu.

2. **Market status**

   By the end of 2015, the penetration rate for mobile subscribers had reached 125%, implying a saturated market. However, along with the fast increasing adoption rate of 4G services, rapid innovations in mobile devices and rising demand for mobile internet and value-added services all suggest a growing market, encouraging new entrants to venture into the market.

3. **Competitive advantages**

   (1) Better customer mix

   In January 2016, the Company succeeded in improving its subscriber base structure, with 3G/4G subscribers accounting for 97%.

   (2) Market leader in wireless broadband

   In 2005, the Company became the first mobile communication operator in Taiwan to launch 3G services, and