

contributions from community shopping websites.

(2) TV home shopping: Enhance the competitiveness in distribution channel by listing more branded products from overseas, cultivating fan bases on social platforms, such as Facebook and Line, and cooperate with e-commerce suppliers to expand product offerings.

(3) Catalogue / Mail order: Strengthen visual editing to refine the design of momo catalogs and develop e-catalog services to boost traction with customer base.

2. Long-term plan

Take a pro-active approach in raising momo's brand image, further exploit Southeast 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.

Customer satisfaction

To create the best experience for its customers, TWM conducts annual customer satisfaction surveys for consumer business clients by telephone to better understand their needs and expectations. Since 2016, annual surveys for enterprise and home business clients have been conducted as well, by online questionnaire and telephone respectively. The findings from these surveys are used as a reference to set new objectives and improve service quality. In all, about 85% of the consumer, enterprise and home business clients were reported to be satisfied in 2017.

Customer satisfaction¹ (%)	Key measurements	2015	2016	2017
Consumer Business Clients	customer hotline service satisfaction	86	87	85
Enterprise Business Clients	customer hotline service satisfaction	-	82	88
Home Business Clients	installation and maintenance service satisfaction	-	81	85

Note 1: Customer satisfaction (%) refers to the percentage of respondents who chose "very satisfied" and "satisfied."

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

As of the end of 2017, the penetration rate for mobile subscribers was 122%, signifying a saturated market. However, along with the fast-increasing adoption of 4G services, rapid innovations in mobile devices and rising demand for mobile internet and value-added services suggest a growing market.

3. Competitive advantages

(1) Better customer mix

The Company has further improved its subscriber mix, with 4G subscribers accounting for 78% of the total as of the end of 2017.

(2) Market leader in wireless broadband

In 2005, the Company became the first mobile communication operator in Taiwan to launch 3G services, and in 2007, it rolled out the nation's first 3.5G services. In 2014, 4G services were launched. As of the end of 2017, the Company had a 3G/4G subscriber base of 7.23 million users, who contributed more significantly to value-added service ARPU than 2G subscribers and have become the main driver of VAS revenue growth.

4. Opportunities and challenges

Positive factors

- (1) The rapid growth in 4G adoption has altered the landscape for mobile internet, enriching the variety of value-added services and bringing a massive influx of data on consumer behavior that promise huge business opportunities
- (2) Telecom operators are industry pioneers in IoT and innovative mobile technologies.

Negative factors

- (1) Changes in how consumers communicate have placed telecom operators' voice revenue under pressure.
- (2) The popularity of 4G unlimited data rate plans limits growth in mobile service revenue.

Countermeasures

- (1) The Company maps out strategies based on big data and concentric diversification.
- (2) The Company adjusts 4G pricing plans in response to changes in the market and proactively develops value-added services to boost overall mobile service revenue

Enterprise Business Group

1. Main products and service areas

EBG provides international services in 247 countries. As of the end of 2017, its roaming services covered the following: GSM: 214 countries, 418 networks; GPRS: 189 countries, 373 networks; 3G: 177 countries, 343 networks; 4G: 84 countries, 130 networks.

2. Market status

Enterprise clients still need voice, data and internet services. Revenue from services related to mobility, IoT, information security, cloud applications and ICT total solutions has potential to grow significantly.

- (1) Voice service: The enterprise clients' needs of fixed lines for local and international calls as well as the unit price for fixed-to-mobile calls are both expected to continue declining because of rising competition from VoIP and mobile services and the NCC's introduction of mobile termination rate cuts.
- (2) Data service: Given the rising demand for enterprise data access, revenue from IP VPN and Metro Ethernet will remain the main contributor.
- (3) Internet service: As internet content services boom, enterprise demand for high-speed internet access service has been rising. However, fierce competition will result in moderate revenue growth.
- (4) Mobile service: As the demand for office mobility increases, TWM is helping enterprise customers incorporate various mobile applications – including online workflow, enterprise mobility management and mobility information security – into their mobile devices through high-speed 4G services. With enterprise users increasingly accessing internet information via their smart devices, mobile data revenue should benefit from the rising demand for mobile internet services.
- (5) Cloud service: Interest in cloud services has swept across industries, with an increasing number of players investing in the business in search of new hardware and software supply chain models. This bodes well for market expansion and rising revenue from cloud services.
- (6) IoT: IoT applications are becoming more mature as time advances. TWM is working with top partners to integrate different IoT solutions, which promise huge revenue potential for enterprise clients.
- (7) Information security: The rapid development of enterprise cloud services and IoT has made enterprises more vulnerable to security attacks, such as DDoS. Regulators are seeking to expand information security rules to combat such attacks. These should boost the number of enterprise information security clients and lift revenue.

Enterprise integrated solutions: TWM has formed alliances with leading partners from different industries to provide comprehensive enterprise integrated solutions, including mobile applications, IoT, big data applications, security, and vertical solutions. These should boost telecom service revenue.

3. Competitive advantages

- (1) Premium brand equity: The Company provides customer-centric quality services. TWM Business Solution is readily associated with Taiwan Mobile and has won recognition among major enterprises.
- (2) Professional management team and efficient support group: Information security and backup frameworks are key considerations for enterprises adopting IP-based network. EBG fills this need, having won certifications from EuroCloud Star Audit (ECSA) and Cloud Security Alliance (CSA). Its cloud IDC is the first and only data center in Taiwan to have been awarded Uptime Tier III certifications for design, construction and operational sustainability.
- (3) Effective sales teams and channels: The Company's direct sales teams for enterprise clients and retail chains across the nation are an effective channel for developing and expanding services.
- (4) Expanding resources from international alliances: The Company is the sole Taiwanese member of the Bridge Alliance, the largest mobile alliance in the Asia-Pacific region with a combined customer base of about 340

million, and cooperates with other leading telecom operators in the alliance to integrate more services and solutions.

4. Opportunities and challenges

Positive factors

- (1) With the advantages of multiple 4G spectrums and cloud foundations, the developments and clients' needs of mobility and cloud services will drive revenue growth.
- (2) Enterprise clients' needs for bigger fixed-line bandwidth to transport more data will ensure steady demand and revenue growth.
- (3) TWM has cultivated the enterprise market for years and knows the needs of enterprise clients. It has teamed up with enterprise clients to help them integrate their fixed-line, mobile, information system and cloud services.
- (4) Aside from cooperating with existing business partners, TWM is forming alliances with new partners in different fields.

Negative factors

- (1) The local loop bottleneck is a major obstacle to fixed-line operators' business expansion, as market leader Chunghwa Telecom continues to dominate with its last mile advantage.
- (2) Industrial and geographical boundaries have become increasingly blurred because of digital convergence. Domestic telecom operators face tough challenges from transnational large-scale content and cloud service companies.

Countermeasures

- (1) TWM collaborates with Kbro on providing high-speed, high-quality and low-cost enterprise FTTx services to break CHT's "last mile" advantage in the market.
- (2) Enterprise clients nowadays are looking for telecom operators that can provide them not only telecom services, but also serve as a partner in developing mobile, IoT, cloud, and big data solutions. TWM will continue to promote and develop diversified enterprise services and applications to create more value and improve client loyalty.

Home Business Group

1. Main products and service areas

TWM Broadband provides cable TV, HD digital cable TV, fiber-optic broadband internet access and value-added digital application services. Its main service areas are New Taipei City's Sinhuang and Sijhih districts, Yilan County and Kaohsiung's Fongshan District.

2. Market status

(1) Cable TV

Taiwan's CATV penetration rate has reached over 60% of households, according to NCC data. Watching TV is a major leisure activity in Taiwan – one that is relatively unaffected by fluctuations in the economy, ensuring stable market demand.

(2) High-definition digital CATV

Digitalization is the future trend for CATV, and business opportunities abound in this market of 8.6 million households nationwide. TWM Broadband is tapping into this digitalization value chain by offering rich HD content, stable and quality signals, various platforms for viewing TV programs and an affordable TV set promo package to boost digital TV's penetration rate.

(3) Broadband internet access

With the broadband internet access market moving toward higher-speed services, the migration of mid-to-low speed users to faster speeds will be the main growth driver for the market. TWM Broadband expects to expand its market share by offering competitive prices, round-the-clock customer service and superior 500Mbps internet access service quality.

3. Competitive advantages

(1) Optimize broadband network quality

TWM Broadband introduced network quality assurance management (QAM) to optimize management of its network system and bandwidth to ensure that customers get premium broadband access and the best user experience. Aside from lowering the group's broadband costs, this has helped enhance TWM's competitiveness in the broadband access market and facilitate digital convergence.

(2) Strengthen fiber-optic broadband cable networks

TWM Broadband deploys a dense, ring-type fiber-optic backbone network and provides back-up systems for its bi-directional network with advanced DOCSIS 3.1 network technology. TWM Broadband is able to provide up to 500Mbps high-speed internet access services. Unlike ADSL with its range constraints, cable internet provides lower cost, but premium quality, super high-speed broadband services. To cope with clients' increasing need for bandwidth, the company will deploy more and denser fiber nodes to provide them with higher-speed and more stable broadband services.

(3) Enrich digital content and VAS to increase digital TV service ARPU

TWM Broadband aims to increase the variety and quantity of value-added services, such as HomeSecurity, HealthCare, personal video recorder and OTT services, and offer bundled services (i.e., broadband access, digital TV and VAS) to increase its subscriber base and ARPU.

(4) Leverage Taiwan Mobile Group's integrated resources to develop innovative digital convergence products and services

The Company's resources cover mobile communication, fixed network, CATV, ISP and channel content. The integration of these resources, together with the Group's extensive technical support, as well as sales and marketing resources, forms the core of TWM Broadband's competitive advantage in the home market.

4. Opportunities and challenges

Positive factors

- (1) Riding on the 100% household digital set-top-box installation, pushed by the government, and the launch of its HomeSecurity, HealthCare, PVR and OTT services, TWM Broadband will further enhance its digital TV value-added services to boost its revenue stream.
- (2) High-speed cable internet service has become the mainstream
Consumer demand for downloading, uploading and sharing HD videos is increasing and 200Mbps high-speed cable internet service has become the mainstream. TWM Broadband has finished upgrading its ring-type fiber-optic backbone network and infrastructure in its operating areas and adopted the latest high-speed DOCSIS 3.1 cable internet technology, which can provide high-speed broadband internet access speeds of 500Mbps to help expand its market share, as well as increase customer stickiness and ARPU.

Negative factors

- (1) There is still a risk that local governments might lower the price cap on basic TV monthly subscription during their annual review.
- (2) Chunghwa Telecomm is aggressively pushing airing of CATV content on its IPTV platform, posing a threat to CATV operators.
- (3) The rise of OTT and illegal internet video service has cannibalized CATV viewership.
- (4) The NCC has been granting licenses to new cable MSOs to increase competition.
- (5) The NCC plans to implement tiered pricing schemes on pay TV, which might change the revenue sharing mechanism in the food chain.

Countermeasures

- (1) TWM Broadband has been able to utilize its extensive resources (e.g., technology, marketing, sales and distribution) to promote high-speed internet access services and market digital convergence services with Taiwan Mobile Group's telecommunication, information and media content services. TWM Broadband aims to provide a "one-stop shopping" service that meets all of its customers' needs in order to boost its CATV, high-speed broadband internet access and HD digital TV subscriber numbers and their contribution to revenue.
- (2) TWM Broadband is using its digital cable TV platform to cultivate Taiwan's cultural and creative industries, enrich the nation's digital channel and connected TV content, and stimulate the development of digital content and innovative connected TV services. Owning the right to broadcast Fubon Guardians 2018 home games has allowed TWM Broadband stand out from other video service providers.
- (3) TWM Broadband is expected to roll out the latest high-speed DOCSIS 3.1 cable internet technology and infrastructure to deliver speeds of up to 1Gbps to customers. In addition, OTT service is built as a multi-tenant platform for future cooperation with other OTT operators. This strategy should attract more partners and help expand its OTT business' scale.
- (4) TWM Broadband seeks to maintain good relations with local governments and communities. With the help of Taiwan Mobile Group's extensive resources – such as the Taiwan Mobile Foundation – TWM Broadband sponsors local artistic, cultural and charitable activities, while also subsidizing the cost of network deployment in remote areas, working to bridge the digital divide, and fulfilling its responsibilities as a good corporate citizen, thereby strengthening its corporate image of "community-based growth and giving back to the community."

- (5) TWM Broadband is closely monitoring developments in regulatory authorities' policies on digitization and relevant laws and regulations. TWM Broadband will take the initiative in formulating countermeasures to deal with changes in the market.

Retail Business

1. Main products and service areas

momo mainly provides e-commerce and TV home shopping services in Taiwan, mainland China and Thailand.

2. Market status

New types of marketing platforms, such as shopping via mobile devices, are growing alongside rising 4G adoption. Mobile platforms attract younger consumers and could lead them back to cable or digital TV channels, boosting growth in these sales channels.

3. Competitive advantages

- (1) A solid reputation: Backed by years of experience, momo has built a solid reputation with suppliers and customers in the TV home shopping industry. Besides winning customers' confidence, momo has enhanced suppliers' willingness to entrust their brands to the Company, boosting its diverse range of products.
- (2) Strong support: momo is able to leverage the resources of affiliates – including TWM's mobile, fixed-line and CATV businesses – to set up digital convergence, mobile platforms and mobile payment mechanisms.
- (3) Expanding economies of scale: momo's B2C e-commerce business ranks among the top two in the industry. This has given momo even stronger negotiating power with suppliers and made it more attractive to first-tier merchants, enabling it to increase its offerings of higher-quality products.

4. Opportunities and challenges

Positive factors

- (1) A rising mobile device penetration rate should foster rapid growth in the mobile shopping market.
- (2) E-commerce should continue to benefit from the rollout of fiber-optic and 4G wireless broadband networks.
- (3) A low birthrate and an aging population are creating a new social trend that is worth tapping into.

Negative factors

- (1) Substitution from competing channels/platforms and intensifying market competition.
- (2) High product homogeneity and cutthroat pricing competition lead to lower product gross margins.

Countermeasures

- (1) Having started in TV home shopping, momo has an extensive system of suppliers and a professional product development team. This facilitated its expansion into online shopping, as it already has a trove of best-selling products to tap into, which not only prolonged their product life cycle, but also increased sales volumes and differentiated it from the competition.
- (2) momo has an online shopping mobile app to tap into the mobile commerce market and optimize customer experience. By promoting limited time and livestream promotions, momo is able to reach more consumers and stimulate buying willingness. The mobile platform also offers convenience, encouraging consumer to increase their shopping frequency.
- (3) momo has a quality control team that visits factories to ensure that suppliers meet manufacturing safety standards. It also outsources product testing and examinations to ensure that products' raw materials, ingredients as well as labels are in compliance with food safety standards.

- (4) momo will further strengthen new sales platforms, such as mobile apps, shopping via remote control and digital TV interactive shopping, to meet potential changes in consumer buying behavior.
- (5) momo has enforced measures to filter out controversial or risky products and clearly define obligations between supplier and the company if and when fined.

Main features and production process of major products: The Company provides wireless/fixed-line telecom services, digital TV subscription, cable broadband, e-commerce/TV home shopping and integrated information/communication services.

Supply of raw materials: Not applicable as the Company is not a manufacturer.

Major suppliers and customers in the past two years

- A supplier/customer that accounts for at least 10% of consolidated procurement/revenue

Major suppliers

Unit: NT\$'000

	2016				2017			
	Company	Procurement amount	% of consolidated procurement	Nature of relationship	Company	Procurement amount	% of consolidated procurement	Nature of relationship
1	Company A	7,630,557	13	Third party	Company A	9,686,463	16	Third party
2	Company B	6,096,355	11	Third party				
	Others	43,184,204	76		Others	50,661,116	84	
	Total	56,911,116	100		Total	60,347,579	100	

Major customers: Not applicable as the Company's revenue from a single customer does not exceed 10% of its total operating revenue.

Reasons for variation

Procurements from suppliers varied as the Company purchased handsets and other 3C – computer, communication and consumer electronics – products from different vendors to meet its business development needs and market demand.

Production volume in the past two years: Not applicable as the Company is not a manufacturer.

Sales volume in the past two years

Services		2016		2017	
		Sales volume	Revenue (NT\$'000)	Sales volume	Revenue (NT\$'000)
Mobile	Mobile services (‘000 subs at the year end)	7,439	52,624,338	7,227	49,278,207
Domestic fixed telephony	Local calls (‘000 minutes) ¹	332,634	558,769	293,180	501,421
	Long distance calls (‘000 minutes) ¹	120,851	91,583	107,565	80,317
International fixed telephony	International calls (‘000 minutes) ¹	306,650	2,500,771	196,779	1,827,835
Fixed line data transmission (‘000 lines)		190	2,150,261	202	2,272,813
Sales revenue ²		NA	48,112,301	NA	52,221,069
Others		NA	10,609,475	NA	10,989,445
Total			116,647,498		117,171,107

1: Outgoing minutes only.

2: Including retail sales of handsets, accessories, information products, 3C home appliances, etc.

Human Resources

Employee statistics in the past two years up to publication date

Year		2016	2017	2018 (as of February 23)
Number of employees	Consolidated	7,663	7,836	7,890
	Stand-alone	3,983	3,949	3,974
Education level	Ph.D.	0.16%	0.18%	0.18%
	Master's	14.30%	14.14%	14.04%
	University	57.13%	61.54%	61.75%
	College	18.34%	17.71%	17.66%
	Others	10.07%	6.43%	6.37%
Average age		36.23	36.67	36.73
Average years of service		6.82	7.25	7.32