

contributions from community shopping websites.

Integrate offline and online loyalty programs: Use big data technologies to optimize product portfolios and create synergies between brands and momoshop.

- (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, and facilitating short-chain logistics efficiency.
- (2) TV home shopping: 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.

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 2018, the penetration rate for mobile subscription was 124%, signifying a saturated market. However, along with the fast adoption of mobile internet and rapid innovation of mobile devices, the demand for mobile broadband, smart devices and value-added services have grown dramatically.

3. Competitive advantages

- (1) Diversification strategy

The Company integrates telecom, cable and e-commerce to provide diversified telecom bundle plans and increase user stickiness through cross-selling.

- (2) Low frequency spectrum advantage

The Company is the only operator in the industry with a low-band 700MHz spectrum of up to 20MHz, giving it high coverage and penetration in urban areas and allowing it to provide high-quality telecommunication services at a reasonable cost.

- (3) Universal service for digital convergence

The Company provides customers with universal service for digital convergence, such as myVideo, MyMusic and myBook.

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) Based on the diversification strategy, the Company provides diversified mobile bundle plans and proactively develops innovative 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 2018, its roaming services covered the following: 3G: 182 countries, 352 networks; 4G: 97 countries, 152 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) Mobile and data services: Given the rising demand for enterprise data access, revenue from IP VPN and Metro Ethernet should remain the main contributor. As the demand for office mobility increases, TWM is helping enterprise customers incorporate various mobile applications 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.
- (2) Cloud and IoT services: Cloud and IoT applications are becoming more mature as time advances. TWM is working with top partners to integrate different cloud and IoT solutions, which promise huge revenue potential for enterprise clients, and test them in field experimentations.
- (3) 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. This should boost the number of enterprise information security clients and lift revenue.
- (4) 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.
- (5) Voice and internet services: Enterprise clients' need for fixed lines for local and international calls and unit prices 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. Enterprise demand for high-speed internet access service has been rising, but fierce competition should result in moderate revenue growth.

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) Customized integrated solutions: Based on enterprise clients' needs, TWM provides customized, one-stop-shopping integrated solutions.
- (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) Thanks to its multiple 4G spectrums and cloud foundation, TWM should be able to ride on clients' need for mobility and cloud services to drive revenue growth.
- (2) Enterprise clients' need for bigger fixed-line and wireless bandwidth to transport more data and develop more IoT applications should 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

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, AI and information security 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's main service areas are New Taipei City's Sinhuang and Sijhih districts, Yilan County and Kaohsiung's Fongshan District among others.

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. However, with the NCC granting new licenses to new cable multiple-system operators (MSO), competition has intensified and affected market pricing.

(2) HD digital TV and broadband internet access

Thanks to rich HD content, stable and quality signals, expanding platforms for viewing TV programs and rapid development of online video services and social media, the high demand for HD digital TV and high-speed broadband Internet access should continue to increase.

3. Competitive advantages

- (1) TWM Broadband offers high-speed broadband network transmission.
- (2) Rich digital content and value-added services drive digital TV revenue growth.
- (3) TWM Broadband can leverage off the group's rich resources to offer innovative digital convergence products and services.

4. Opportunities and challenges

Positive factors

- (1) The comprehensive digitalization of cable TV should help in the development of HD digital TV services.
- (2) High-speed broadband internet service has become the mainstream.
- (3) Demand for multi-screen viewing of video content has increased, demonstrating the growing importance of digital convergence for families.

Negative factors

- (1) At its 840th meeting on Jan. 23, 2019, the NCC approved proposed changes to Chunghwa Telecom's operation of its multimedia content transmission platform, allowing the company to form its own channel packages, as well as add or remove channels, for its MOD system. The changes place cable TV operators at a disadvantage as they must still obtain the NCC's approval to switch channels, while their pricing schemes have to be reviewed by city/county governments on an annual basis. This unequitable competition could have an impact on the cable TV industry's future.
- (2) With the NCC allowing cable system operators (SO) to expand their service areas, new entrants might resort to cutthroat pricing to grab market share, increasing the risk of subscriber losses for TWM Broadband.

Countermeasures

- (1) TWM Broadband is observing developments in Taiwan's digital content industry and global industry trends, focusing on providing a richer assortment of digital channels and connected TV content.
- (2) TWM Broadband is working on rolling out the latest high-speed DOCSIS 3.1 cable internet technology and headend infrastructure to deliver speeds of 1Gbps to customers in the near future. Its OTT service is built as a multi-tenant platform to facilitate cooperation with other operators and expand its business scale.

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

TV home shopping growth is limited due to declining viewership. On the other hand, B2C e-commerce topline growth is accelerating, bolstered by share gains from offline and continued expansion in mobile and streaming platforms. TWM expects competition to ease in 2019 as its peers are eager to see a turnaround.

3. Competitive advantages

- (1) Scale benefit: momo is the largest B2C e-commerce operator in Taiwan. Thanks to its strengthened market position, its bargaining power has increased, and more and more first-tier brands are doing direct business with momo, broadening its offerings of high-quality products.
- (2) Solid reputation: 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.
- (3) Strong support from the group: momo is able to leverage the resources of affiliates – including TWM's mobile, fixed-line and CATV businesses – to create opportunities in digital convergence, mobile platforms and mobile payment mechanisms.

4. Opportunities and challenges

Positive factors

- (1) Mobile usage time and mobile shopping continue to increase.
- (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) High product homogeneity and intensifying market competition have led to margin pressure.
- (2) Risk management of product quality and food safety are increasingly important as momo's scale continues to increase.

Countermeasures

- (1) momo has an extensive system of suppliers and a professional product development team. This facilitated its expansion into mobile and streaming platforms, 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 live-stream promotions, momo is able to reach more consumers and stimulate buying willingness. The mobile platform also offers convenience, encouraging consumers 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 raw materials, ingredients as well as labels comply with food safety standards.
- (4) 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

1. Major suppliers

Unit: NT\$'000

	2017				2018			
	Company	Procurement amount	% of consolidated procurement	Nature of relationship	Company	Procurement amount	% of consolidated procurement	Nature of relationship
1	Company A	9,686,463	16	Third party	Company A	7,094,670	11	Third party
	Others	50,661,116	84		Others	55,601,722	89	
	Total	60,347,579	100		Total	62,696,392	100	

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

3. Reasons for variation

Procurements from suppliers varied as the Company purchased handsets 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		2017		2018	
		Sales volume	Revenue (NT\$'000)	Sales volume	Revenue (NT\$'000)
Mobile	Mobile services ('000 subs at year-end)	7,227	52,069,597	7,266	47,890,846
Domestic fixed telephony	Local calls ('000 minutes) ¹	293,180	501,421	262,751	469,171
	Long distance calls ('000 minutes) ¹	107,565	80,317	96,074	74,391
International fixed telephony	International calls ('000 minutes) ¹	196,779	1,827,835	126,916	1,357,753
Fixed-line data transmission ('000 lines)		202	2,298,919	190	2,441,281
Sales revenue ²		NA	52,221,069	NA	58,023,078
Others		NA	8,171,949	NA	8,475,808
Total			117,171,107		118,732,328

1: Outgoing minutes only.

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