AUGUST 2020

THE VALUATION REPORT OF MOBILE WORLD INVESTMENT GROUP

RMIT University Vietnam
BAFI3194 Investment

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GROUPWORK REPORT

STUDENT NAMES	TASK ALLOCATION
Pham Tran Viet Anh (s3748838)	Distribution Strategy Company Strategy Financial Analysis (Efficiency) Calculation of CAPM
Nguyen Thanh Hung (s3752941)	Financial Analysis (Leverage) Executive Summary FCFE Sensitivity Analysis
Le Nguyen Anh Thu (s3754210)	Corporate Social Responsibility Industry Analysis Financial Analysis (Liquidity) Evaluation Question 3 and 4
Pham Minh Khanh (s3790605)	Corporate Governance Financial Analysis (Dupont Analysis) Relative Valuation Sensitivity Analysis Evaluation Question 2
Quach Thanh Van (s3764474)	Business Description Financial Analysis (Profitability) Investment Risk Evaluation Question 1

Name	**Viet Anh**	**Thanh Hung**	**Anh Thu**	**Minh Khanh**	**Thanh Van**
Contribution to the allocated tasks (%)	100	100	100	100	100
Signature	Anh	Hùng	Anh Thu	**Khanh**	Van

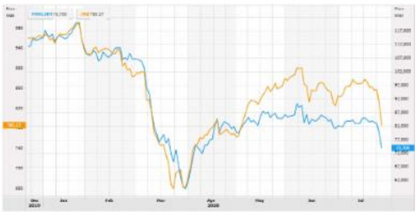
Mobile World Investment Corporation (MWG)

DATE: 27/07/2020 **TARGET PRICE: VND 85,092 (+15.5% UPSIDE)**

CLOSING PRICE: VND 73,700 **RECOMMENDATION: BUY**

Market Profile (Currency: VND)	
Valuation Date	27-Jul-2020
Closing Price	73,700
One-year Target Price	85,092
Upside	15.5%
Recommendation	**BUY**
52-Week Price Low	56,300
52-Week Price High	129,500
Average Daily Volume (52 weeks)	937,900
Shares Outstanding	452,817,426
Market Capitalization (billion)	37.04

Share Price Movement of MWG and VNINDEX



EXECUTIVE SUMMARY

We issued a **BUY** recommendation on Mobile World Investment Corporation (MWG) with a target price of VND 85,092, offering a 15.5% upside potential from its closing price of VND 73,700 as of 27 July 2020. This target price is derived from the Discounted Cash Flow model at 50% weight with the price of VND 83.007 and the Relative Valuation models at 50% weight with the price of VND 87,176. The rationale behind our recommendation is based on the following investment highlights.

Leading Firm in Mobile and Electronics Retail Industry

Accounting for more than 23% of the Electronics & Appliance Specialists Retail market share and more than half of the mobile phone market share, MWG remains at the No. 1 retailer in the industry by having the first and only mobile phone chain (The Gioi Di Dong) to cover all 63 cities and provinces of Vietnam and the most valued brand in the industry in terms of market share (Dien May Xanh).

Aggressive Store Expansion Strategy combined with Digital Transformation

With the aim to gain more market share in the electronics industry, MWG has changed its store opening strategy into converting existing TGDD stores into DMX or mini-DMX. This step is considered as a smart move of MWG when the saturation of the mobile phones market is coming closer. Not only focusing on the electronics industry, but MWG also has the ambition to invest in the FMCG segment as the company also increasing its BHX stores in the next 2 years.

Besides expanding in term of brick-and-mortar stores, MWG also tries to catch up with the changes in customer behaviour by improving some online shopping channel with a more variety of products to serve a portion of customer who likes home delivery or technician supports.

Maintaining superior branding through its competitive advantages

With a huge number of stores located throughout the country, MWG has fruitfully benefited from the high consumer traffic which drove the sales of each outlet to exceed an average of VND 1.5 billion/ month (Minh 2020). Besides, MWG has an outstanding workforce that is professionally trained to provide customers with the best experience, hence 8 out of 10 people has said to satisfy with the service MWG (MWG 2019). Moreover, the e-commerce channel of MWG also indicates the strength of the company since it successfully adapted with the booming of online-retailing while other players tend to fall behind. Concretely, the surge in demand for shopping online has marked the efficiency of MWG's online sales channel as the company has the highest retail sales value in 2019 (Ly 2019).

Sustainable Growth of Earnings while Increasing the Dependence on Debt Leverage

In the past 5 years, MWG has proven to have a strong growth of revenue while being able to meet the expected target performance. As in 2019, the company recorded an increase in revenue growth and net income of 18.1% and 3.76%, respectively. With a rise in net income margin, MWG has successfully managed its operating expenses and is expected to lower the costs in the next few years. However, due to its sharp expansion, MWG has been increasing its short-term borrowings to finance for the company's operation, especially for purchasing inventory to support the increasing demand. Therefore, it may encounter some solvency risk of the company's ability to pay off debts when they are due.

`	2015A	2016A	2017A	2018A	2019A	2020F	2021F	2022F	2023F	2024F
Total Revenue (bil dong)	25,253	44,613	66,340	86,516	102,174	115,058	136,136	158,104	185,575	214,886
EBITDA	1,401	2,125	4,362	4,203	5,262	7,019	8,440	9,961	11,877	13,968
Depreciation	197	387	690	1,161	1,381	1,705	2,020	2,334	2,648	2,962
Capital Expenditure	587	1,279	2,065	1,496	3,067	3,222	3,812	3,953	4,639	5,372
Net Income	1,072	1,577	2,206	2,879	3,834	5,281	6,169	7,261	8,688	10,270
Total Assets	7,266	14,854	22,823	28,123	41,708	45,948	56,468	68,833	83,758	98,091
Total Equity	2,482	3,839	5,906	8,977	12,136	16,600	22,123	28,299	35,463	43,680
EPS (dong)	2,749	3,844	5,374	6,693	8,670	8,930	9,555	10,702	11,986	13,424
DPS	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500

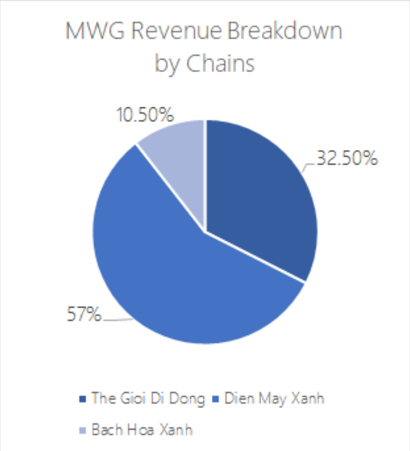


Figure 1: MWG Revenue breakdown by chains. Adapted from: Company report

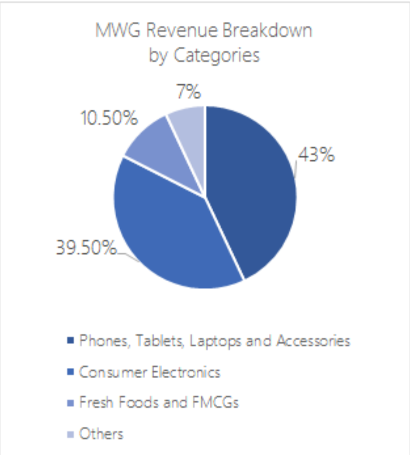


Figure 2: MWG Revenue breakdown by category. Adapted from: Company report.

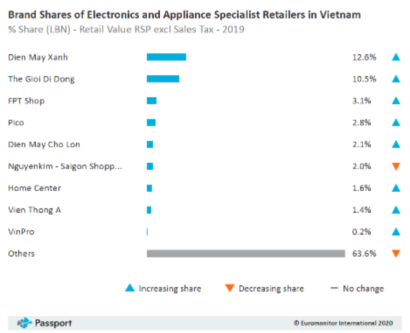


Figure 3: Brand share of MWG in the industry. Adapted from: Euromonitor 2020

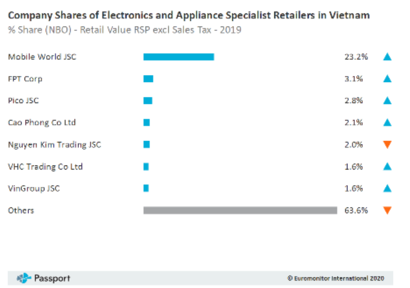


Figure 4: Company share of MWG in the industry. Reproduced from: Euromonitor 2020.

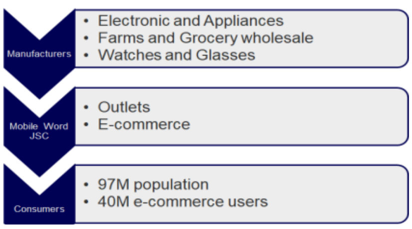


Figure 5: Supply chain of MWG. Reproduced from: Dat 2020.

BUSINESS DESCRIPTION

Mobile World Investment Corporation is the leading firm in the mobile and electronics retail industry of Vietnam. Established in 2004 under the name of Mobile World Co. Ltd, the company's main business covers mobile devices and digital equipment retailing. After successfully calling for investment from Mekong Enterprise Fund II in 2007, the company was then listed on the HOSE in 2014 with the sticker of MWG.

Throughout the years, MWG has continued to expand their business activities by implementing other sectors such as electronic appliances in 2010 (Dien May Xanh), FMCG in 2015 (Bach Hoa Xanh) and wristwatches in 2019. Moreover, MWG owns BigPhone.com, a retailing mobile devices store chain that has 10 stores operating in Cambodia. Not to mention that the company also set foot in the pharmaceutical market by acquiring Phuc An Khang Pharmacy in 2017.

Key Drivers of Revenue

The Gioi Di Dong (TGDD)

Thegioididong is the first and only store system that retails mobile devices in all over 63 provinces of Vietnam. With their products including smartphones, laptops, tablets and accessories, its revenue accounts for 32.5% of total revenue in 2019 (Figure 1). In terms of phones, though their revenue remained flat which is influenced by the rise of 2% in sales volume, the phones segment still leads the market with 52% of market share MWG (2019). Compared to 2018, the revenue of TGDD decreased by 2.5% which is mainly caused by the conversion of TGDD to DMX which leads to lower store count (1032 in 2018 vs 996 in 2019).

Dien May Xanh (DMX)

Registered first position in revenue of MWG with 47,638 billion VND, DMX contributed approximately more than half (57%) of the total revenue of the company in 2019 (Figure 1). With the initial name "Dienmay.com", DMX is specialized in electronics and household appliances which are anticipated to be the main growth driver of MWG in the upcoming years. The revenue of DMX had exceeded that of TGDD since 2017 and became the leading segment in terms of biggest revenue contribution to MWG (MWG 2019).

Bach Hoa Xanh (BHX)

BachHoaXanh, which began their trial in 2015, is a convenience chain that retails fresh food and essentials which hopes to compete directly to the wet markets. The chains' revenue reached 10,770 billion which contributed 10.5% in the revenue structure of MWG in 2019 (Figure 1). Specifically, monthly sales per store were around VND 1.3 billion with the growth of same-store-sales (SSSG) increased more than 20% YoY.

Wristwatches

Regarding watches, which have been sold at an existing TGDD and DMX ('shop in shop' model), experienced a positive performance with approximately 430,000 timepieces sold in 253 stores since March 2019. The main focus is on the middle-income segment with products guaranteed to be 100% authentic and a 1-year warranty. This business has generated around VND 900 bn in 10 months with an average of 500 watches being sold per store (MWG 2019).

E-commerce channel

The online revenue of MWG is equivalent to more than 12% of the MWG's net turnover which reached approximately VND 12,682 bn in 2019. With great performance in their online business, MWG recorded the largest online revenue in Vietnam's total internet retail sales value in 2019 (Ly 2019).

Distribution Strategy

Offline retailing

Figure 6 demonstrates that the offline store chains of MWG are widely distributed all over the nation. The company follows an intensive distribution strategy which means as many outlets as possible to enlarge market share and increase brand awareness and exposure. As of 2019, MWG has more than 2000 stores available spreading from North to South and 18 Bigphone stores in Cambodia. From 2018-2019, the number of shops that MWG offers increased with the CAGR of 38.95% and the rapid expansion of BHX (more than 600 new stores in 2019) helps this brand create 2.5 times higher revenue compared to 2018 (Figure 8).

Online retailing

In addition to brick-and-mortar locations, MWG owns 3 websites for the three segments to target consumers that favour online-shopping. The corporation ranks 1st in e-commerce market shares thanks to the excellent customer service, exclusive promotions, and fast delivery due to a wide distribution of stores all over the country.

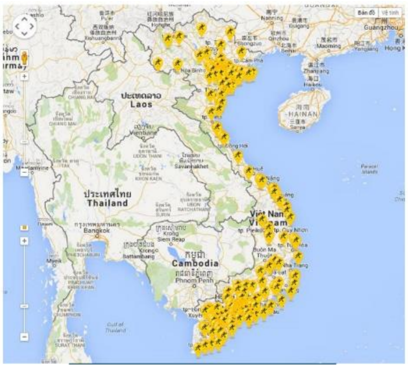


Figure 6: Distribution map of MWG's stores. Reproduced from: Dat 2020

YEAR	2015	2016	2017	2018	2019
Total store count	640	1,254	1,997	2,187	3,039
(*) Stores selling phones	633	1,207	1,714	1,782	2,031

Figure 7: Total store count of MWG. Reproduced from: Dat 2020.

Figure 8: Number of stores breakdown of MWG. Reproduced from: Dat 2020

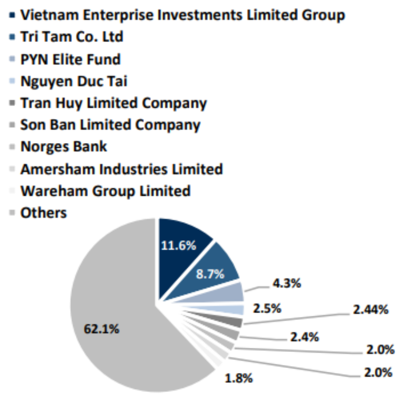


Figure 9: Shareholders' structure of MWG. Reproduced from: Company report.

CORPORATE STRATEGY

Using aggressive store expansion to maximize coverage

With gaining market share is the top priority in their 2020's business plan, rapid stores opening is necessary to strengthen its presence and capture market share. The firm aims to take half of the market share in terms of consumers' electronics and covers approximately 55% of the mobile phones industry in 2022. These objectives will be achieved by the conversion of TGDD to DMX/DMX mini-stores. MWG expects to have 1,350 DMX and 800 TGDD stores by the end of 2020 with the launch of DMX-super-mini to penetrate more into uncovered areas (SSI 2020). Also, MWG plans to achieve 50 stores covering entire Cambodia at the end of 2020, making the company the largest consumer electronics retailer in this country (ACBS 2020).

For the FMCG segment, around 700-800 new stores are planned for 2020 and the same intention may be set for 2021 with the goal to raise awareness in both BHX online and offline for housewives (MWG 2020). Once achieving its coverage objectives, BHX may pause its geographic expansion to optimize the store network as well as distribution centres and enhance revenue per store, aiming to generate a profit in 2021 before expanding further to other regions. Moreover, it aims to open 22 DCs by the end of 2020 to serve the rising demand for BHX Online and minimize delivery cost and time. (SSI 2020)

Enhancing digital transformation through "super app" and e-commerce platform

The company anticipates that their new 'Super App' will be launched in Q4/2020 with the hope to improve the buying experience of consumers by integrating all of the company's retail chains into the app (VDSC 2020). In detail, the application targets the convenience preference which allows consumers to in-app purchase goods, request services, warranty, and join loyalty programs within the least amount of time and effort.

To meet emerging online markets, the brand will keep improving website layouts, infrastructure and a variety of products. Surprisingly, MWG persists on remaining the same prices for offline and online retailing which means higher than prices on other online platforms but brings more benefits to consumers with exclusive services like technical installation, repair, fast delivery and 30-day 1-by-1 replacements to differentiate itself from other e-commerce sites (SSI 2020).

Provided specific strategy to deal with COVID-19

MWG had to close more than 600 stores in April to follow the government's order in coping with COVID-19. The pandemic resulted in a 4% decrease in earnings after tax of MWG in the first five months of 2020 but influenced an increase in online transactions which accounted for 9% of revenue (ACBS 2020).

Expansion strategies were temporarily postponed except BHX as there was a rise in the needs for necessities. To deal with the pandemic, MWG has enacted an emergency plan to respond and adjust its business which clearly stated that "Whenever there is customer demand, they are ready to serve in all circumstances" (MWG 2020). The retailer concentrates on advancing e-commerce and launching "Shopping on behalf of customers" and "Take-away/Home delivery" services to serve customers and maintain its revenue.

CORPORATE GOVERNANCE

Ownership Structure

MWG is financing on charter capital of VND 4,532,100 billion based on the 51/49 rule, of which 49% is owned by foreign shareholders. Vietnam Enterprise Investment Group owns 11.6% of MWG, followed by Tri Tam Co. Ltd and PYN Elite Fund (8.7% and 4.3%, respectively) while the Co-Founder, Chairman and CEO of MWG (Mr Nguyen Duc Tai) owns 2.5% (MWG 2019; Figure 9).

Since the beginning, MWG with its potential has attracted Mekong Capital, who originally invested $3.5 million in MWG for a 35 per cent stake in 2007. In 2018, after 10.5 years, the fund divested completely for a 57x cumulative return on investment, making it one of the most successful private equity investments in the history of Asian Private Equity (Vu 2018).

Corporate Governance

To evaluate the current state and shortcomings of MWG's corporate governance, the ASEAN Corporate Governance Questionnaires Scorecard 2017-2018 is utilized as the assessment framework. The five main principles include (1) Shareholders' rights, (2) Equitable Treatment of Shareholders, (3) Role of Stakeholders, (4) Disclosure and Transparency, and (5) Responsibilities of the Board.

We found that MWG's corporate governance has met numerous criteria written in the evaluation framework (see Appendix D1); however, many standards are not met or deemed as unfilled (due to the absence of this information in MWG's public documents).

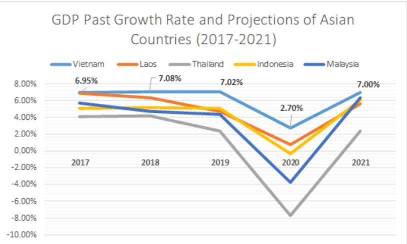


Figure 10: GDP growth rate of Vietnam and some SEA countries.

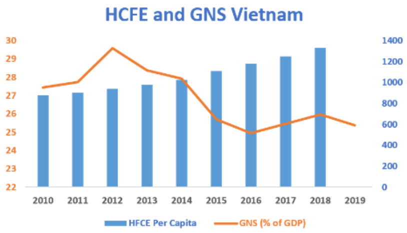


Figure 11: Vietnam's Household Final Consumption Expenditure. Reproduced from: World Bank n.d.

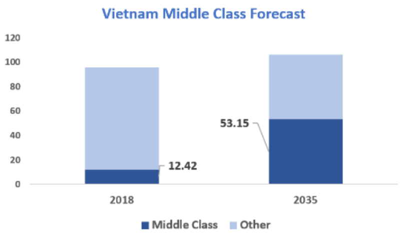


Figure 12: Vietnam Middle Class Forecast. Reproduced from: Statista 2019.

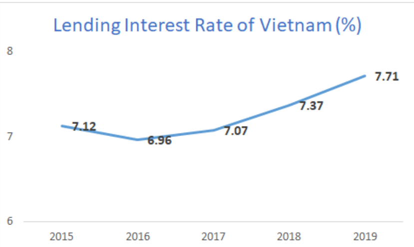


Figure 13: Lending interest rate of Vietnam.

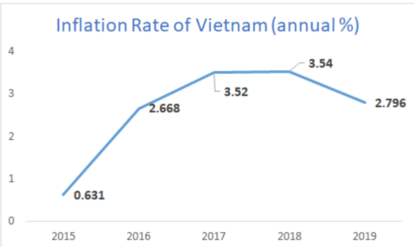


Figure 14: Inflation rate of Vietnam.

Figure 15: Consumer Confidence Index Q1-2020. Reproduced from: Nielsen

Corporate Social Responsibility

The 2019's annual report of MWG indicates that the company's objective is not only to be the market leader in all retail segments but also to build a sustainable business strategy that integrates environmental and social concerns in their operations. Under each category, detailed solutions are mentioned and reviewed annually which address the expectations of stakeholders and resolve problems (see Appendix D2)

INDUSTRY OVERVIEW

Vietnam Macroeconomic Review

Vietnam economic outlook

During the previous years from 2017-2019, Vietnam has achieved a higher economic growth rate than its peers in the region, ranging between 6.5%-7% annually. However, due to the impacts of COVID-19, the estimated GDP growth rate for 2020 is only at 2.33 (Figure 10), which indicates a faster economic recovery than its regional peers. According to Oxford Economics (2020), the effectiveness in controlling the coronavirus outbreak in Vietnam has somewhat resurrected the economy, albeit partially, since exports (which contributes up to 80% of Vietnam's GDP) is dependent on the recovery of trade partners. A rebound in 2021 is expected with the optimism that COVID-19 is contained globally and US-China Trade War leading to Vietnam becoming the next manufacturing destination thanks to its labour market characteristics and geographical proximity with China.

Household final consumption expenditure is expected to withstand the pandemic

Vietnam's Household Final Consumption Expenditure Per Capita (HCFE) increased by 65.98% from 2010 to 2018, at a CAGR of 4.5%, calculated based on constant 2010 US$ (World Bank n.d.). In addition, Gross National Savings (GNI) decreased from 27.45% to 25.38% of GDP from 2010 to 2019 (Figure 11). Despite the impacts of Covid-19 on the economy, the General Statistics Office of Vietnam recorded an increase of 0.69% in HFCE in the first half of 2020 compared to the same period in 2019. This means that, even during times of crisis, disposable incomes of Vietnamese households can still raise. In addition, the newly enacted decision 1635/QĐ-BCT aims to encourage economic activities through annual-held coordinated national price reductions that can further stimulate domestic consumption. These promising outlooks of rising income and spending tendency signals positive impacts to MWG as consumer electronics become more affordable to the overall population, the demands of these products are expected to grow accordingly.

The boom of Vietnam's middle class to drive demand for consumer electronics

In Figure 12, Vietnam's middle class is forecasted to increase at a CAGR of 9.2% from 2018 to 2023 and expected to represent half of the Vietnamese population by 2035 (McKinsey 2019), which is 53.15 million people (out of the estimated 106.3 million provided by Statista (2019). In comparison to other forecasted CAGRs of its regional peers, Vietnam boasts the fastest middle-class growth rate, indicating an impetus for consumption growth. The purchasing behaviour of this group is one of the major driving forces in the demand for consumer electronic products thanks to recent digitization trends in both urban and rural areas of Vietnam (Deloitte 2020).

Decreasing inflation rate boosts demand while lending rate discourage expansion

From Figure 13, the gradual rise in inflation came to a halt in 2017 and 2018, followed by a fall to 2.796 as of 2019. A decrease in inflation is a good sign as it increases the purchasing power, combined with the anticipation of growth in household final consumption (mentioned above) are favourable conditions for MWG to expand; however, the newly enacted Basel II capital requirement has led to the overall lending interest rate in Vietnam to rise during 2016 to 2019 (Figure 14) despite the SBV lowering the benchmark interest rate (Linh 2019). This is a discouraging sign for MWG and other firms that are undergoing expansion as the cost of borrowing escalates annually.

Industry Analysis

Vietnam's mobile and electronics retail outlook:

Overall, the industry of mobile and electronics retailing is characterized by moderate buyer power, degree of rivalry, substitutes but the high threat of new entrants (referring to Porter's five-force analysis in Appendix E)

Great potential despite pandemic consequences

The mobile and electronics retailing in Vietnam saw a growth of 10% and reached a value of VND463.7 trillion in 2019. Moreover, the sector is forecasted to meet an 11% CAGR (6% at 2019's fixed price) over the next 5 years (Euromonitor 2019). According to Nielsen, Vietnam is estimated to be one of the most optimistic nations in the world despite the pandemic impacts (Figure 15). However, Covid19 has negatively affected the consumer spending habits of Vietnamese people in Q1/2020 but home improvements and new tech products still remain as their top priorities when spending spare cash (Figure 16). Therefore, the industry has a huge potential in growing since there will be a rise in the tendency to spend on items that are perceived to improve the quality of life within the next few years.

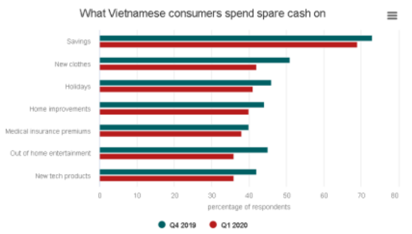


Figure 16: Spending behaviour of Vietnamese consumers.

The rising of online-shopping and e-commerce

Owing to the modern lifestyle of Vietnamese young people, together with the convenience preference of consumers, online-shopping takes off in Vietnam. Additionally, high penetration of smartphones and improvement in internet infrastructure would be reasons for the boom in online retailing of Vietnam. In detail, the e-commerce market has developed significantly, with the revenue hitting USD 5 billion in 2019, annual total online spending growth rising more than 12 per cent and e-commerce traffic growth being the second-highest in Southeast Asia at 11 per cent (Dat 2019; figure 17). Moreover, the Vietnamese government has developed a specific e-commerce development plan that aims to have more than half of the population shop online by 2025 (VNS 2020). Therefore, large retail chains such as Mobile World, FPT Retail and others have benefited from these advantages as its e-commerce has been implemented and proven to be a successful sales channel (Euromonitor 2019).

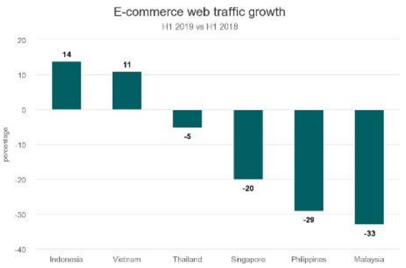


Figure 17: E-commerce web traffic growth. Reproduced from: Dat 2019.

Branded players are taking over the market

The mobile-electronics retailing is still ruled by unbranded medium-to-small retailers which take up over 60% of the market (Figure 18). Big brands such as TGDD and DMX of MWG accounts for most of the left-over (over 20% of the sectors) while the other players' shares combined (FPT shop, Nguyen Kim, etc) only made up for approximately half the shares of MWG. However, the cost of switching retailers is minimal for customers; thus, the degree of competition faced by these medium-to-small independent retailers is paramount, especially when modern consumer preferences have emphasized convenience orientation and competence customer service, in which the branded players are quick to adapt while the rest seem to have lagged. Besides, market-leading incumbents with significantly larger capital can benefit from enormous economies of scale, vast retail network and popular brand image, which makes it hard for smaller stores to compete price-wise and coverage-wise. Lack of capital and slow business operating cycle has led to a few businesses selling deteriorated inventory with price tags of brand new products, leading to consumer distrusts (EVN 2017).

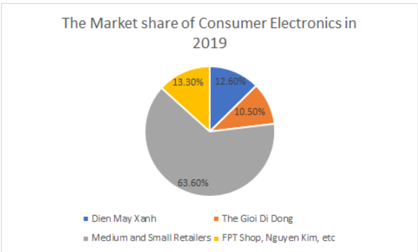


Figure 18: Market share of Consumer Electronics. Adapted from: Euromonitor 2020.

Customer's Purchasing Decisions

Mobile phones market

For Mobile phones and other related devices, since the majority of Vietnamese's consumers are somehow content with their existing gadgets, the possibility of purchasing new phones would be relatively low. In detail, there had been periods when customers were fond of upgrading their phones, however, as there are more players in the market with little difference in the latest models, the demand for replacing smartphones every year will be lessened. It would be more likely for high-income people to frequently upgrade their phones but they tend to be more selective due to strong interests. On the other hand, most middle-to-low income customers would not replace their device within a year unless their phone is broken (Euromonitor 2019).

Figure 19: DMX performance on social media.

Consumer electronics market

As mentioned above, due to the rise of income of Vietnamese consumers, this is correlated with the boost in demand for higher living standards. This means people would be more concerned about their well-being which alters their lifestyle to be healthier. Therefore, there will be growing interest in health, fitness gadgets and also bigger fridges to store a larger amount of fresh foods. Moreover, the need for air-conditioner and air-conditioning fans boost in hot seasons since Vietnam's temperature is relatively high. With the rising cost of electricity, this also impacts consumers' choice of appliances as they will choose to purchase more eco-friendly appliances that can reduce their electricity's fee (TheNationThailand 2020).

COMPETITIVE POSITIONING

Thanks to these competitive positioning advantages below, MWG successfully built their brand and registered high position in mobile & electronic retailing industry.

Figure 20: Discussion about electronics companies on social media.

Superior brand awareness vis-à-vis its competitors

Mobile World always remains as the most competitive retailer of smartphones and electronics compared to other competitors such as FPT Retail or Nguyen Kim. Established in 2009, MWG quickly gained attention from customers thanks to its effective marketing campaign. Specifically, during the opening of DMX, the TV commercial of the 'blue person' had gone viral and attracted more than 3M interactions online mentioning the marketing campaign, which surpassed other large competitors at the time (Figure 19-20). Hence, this helps DMX to raise its awareness to the consumers with a message 'Want to buy a TV? Come visit DMX.'

The largest number of stores available with high customers traffic

Mobile World outpassed other competitors in the numbers of stores available, owned more than 2000 TGDD and DMX stores at Q1 of 2020 (Statista 2020). Also, they proudly present that they are the first phone retailer that has a presence in all 63 provinces of Vietnam. Most of the new-outlets are located in secondary streets (not commercial streets) which influence good customer traffic and generate sufficient revenue (MWG 2019).

Competitive e-commerce channel

Though the eCommerce market is highly competitive since it is getting too crowded with a large number of strong foreign and domestic brands, MWG can still develop thanks to its efficiency in the logistics sector which generates higher profits for the firm (Ly 2019).

Thegioididong.com made it to the top 10 most visited e-commerce sites in SouthEast Asia (Figure 21). Despite their niche offering, they managed to record an average of 29 million visits per month (Doanh 2019). For the FMCG segment, BHX website still stands strong while other competitors such as Robins.vn, Adayroi and Lotte.vn ran out of business. By the effective integration of omnichannel marketing (a multichannel sales channel which allows seamless shopping), MWG successfully enhanced its brand awareness and gained market share (Chi 2019).

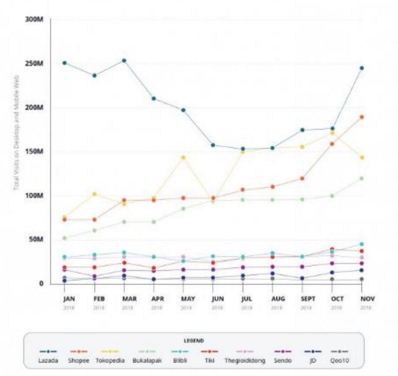


Figure 21: Most visited e-commerce in Southeast Asia.

Excellent customer services formed great customer experience

With companies that have no difference in their offering products, consumer experience will be its most competitive advantage and MWG has successfully provided their customers with a great experience. By designing the procedure of customer journey, the accumulation of touchpoints between clients and MWG at all channels (websites, stores or service centres) is observed and sales strategy is decided based on the customers' satisfaction (Thao 2017). Compared with other competitors, TGDD and DMX are the pioneers to allow customers to return non-faulty products and free shipping nationwide if they change their minds after their purchases (Figure 22). Also, MWG offers at-home hand-test of different models of mobile phones to customers before they decide to purchase and it is acceptable even if no final purchases are made (VPBS 2015).

Shops	Shipping details	Return / Exchange (non-faulty)	Return / Exchange (faulty)
FPT Shop	**Shipping policies** * Nation-wide delivery * <10km from closest store: free * >10km from closest store: fee-based * Time: 30 mins to 60 mins if <10km, 48 hours if >10km	**Mobile phones & tablets** * First 7 days: -10% purchase price (pp) * Next 7 days: -20% pp * Next 14 days: -30% pp * Each day thereafter: additional -0,2% pp **Laptops** * Not applicable	**Mobile phones & tablets** * First 7 days: free * Next 7 days: -10% purchase prices (pp) * Next 14 days: -20% pp * Each day thereafter: additional -0,20% pp **Laptops** * First 7 days: free * After: not applicable
MWG	**Shipping policies** * Nation-wide delivery * Free shipping anywhere * Time: 30 mins if within 5km of the closest store; 48 - 72 hours if outside * Home-showcasing available	**Phones, laptop, tablets, TV, fridges, washing machines** * First 14 days: -10% purchase price (pp) * Next 14 days: -20% pp * Next 14 days: -30% pp * Each day thereafter: additional -0,15%pp **Accessories & other:** * Not applicable	**Mobile phones, laptops, tablets, TV, fridges, washing machines** * First 14 days: free * Next 14 days: -20% purchase price (pp) * Next 14 days: -30% pp * Each day thereafter: additional -0,15% pp **Accessories & others:** * 100% refund within 30 days
Nguyen Kim	**Shipping policies** * Delivery at selected cities / provinces * Free in certain areas	**5-day no-charge policies:** * Only applicable on very few SKUs	* Have to contact the store within 24 hours of the purchases * After 24h: not returnable

Figure 22: Differences between customer services of top electronics retailers.

FINANCIAL ANALYSIS

Profitability

An increase in total revenue annually

In general, the revenue increased annually in the period of 5 years and reached more than VND102 billion in 2019 (Figure 23). Also, it is predicted that the revenue of MWG will increase gradually in the next 5 years due to the expansion in sales centres in addition to rising online demand. Specifically, MWG owned more than 3000 physical stores in total in Vietnam and some TGDD stores have been converted into DMX or DMX mini-stores which generate more revenue. MWG also bought Tran Anh store chain and fully succeeded with 100% revenue targets for 2018. Besides, online purchase in 3 websites contributed significantly to MWG revenue growth with 15% of total revenue in 6M2019. Although the revenue of MWG increased annually, the revenue growth rate has decreased since 2016 because of the saturation of the smartphone market and the appearance of competitors.

Figure 23: Revenue growth of MWG. Team computation.

Efficient cost control influenced positive profit margins

The net profit margin of MWG has dropped YOY to 3.75% in 2019 while the gross profit margin of MWG has increased annually (Figure 24). This means that the company is successfully maintaining its cost lower than the profit produced, however, the profit generated by the revenue has become smaller throughout the years.

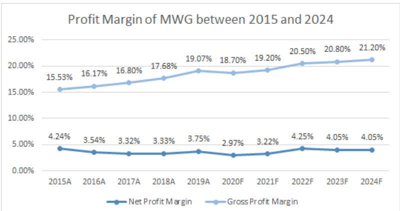


Figure 24: Profit margin of MWG. Team computation.

Thanks to their business activities, including the rapid opening of new shops and service enhancement, the profit margins of MWG showed a positive sign while resulting in the rise of the expenses of MWG in 2015-2019 (Figure 25). However, through the implementation of the ERP system, this successfully enhanced the effectiveness in business management and reduced their administration expenses. Moreover, MWG tried to enter the wristwatch market by utilizing the shop-in-shop model in TGDD and DMX stores to minimize ít cost which generated promising results in revenue with a rise of an average of 10% (Vietnam Economics Times 2019). Also, due to rising demand in COVID-19, MWG continues to optimize the potential of BHX through applying the Double-shop model in well-performing big-format stores, which means BHX will not only sell groceries but also basic small appliances and kitchen-wares. Yet, the results of these initiatives to control the operating expense while still pushing revenue have been very encouraging since revenue recorded a 30% increase versus pre-conversion period (MWG 2019). In the future with more stores opened, we forecast a positive trend regarding the profit margins.

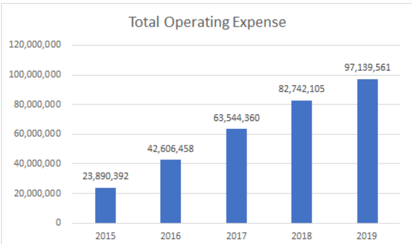


Figure 25: Total Operation Expense of MWG. Team computation.

Positive growth of Earning per Share (EPS)

The Earnings per Share (EPS) of MWG showed a positive sign with gradual growth that is expected to reach VND19,568 in 2024 (Figure 26). From 2015-2018, EPS boosted from VND2,749 to VND8,670 which indicates a positive sign for MWG. This can be explained by the speed of growth in revenue and EPS, EPS rising faster than revenue which indicates a boost in the efficiency of company management as the lower the expenses and taxes, the more profit investors will achieve. Though the EPS at the beginning surpassed the revenue growth, through the years, MWG's EPS caught up with the revenue and forecasted to outperform it in the near future (Figure 27).

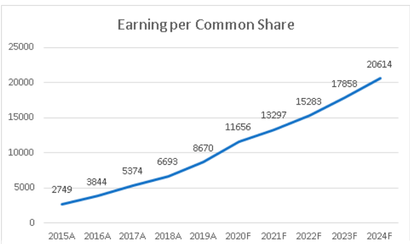


Figure 26: Earning per share of MWG. Team computation.

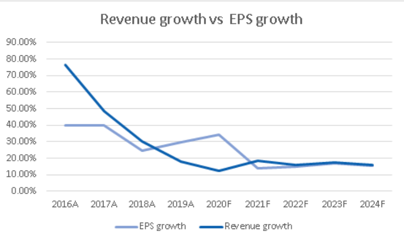


Figure 27: Revenue and EPS growth. Team computation.

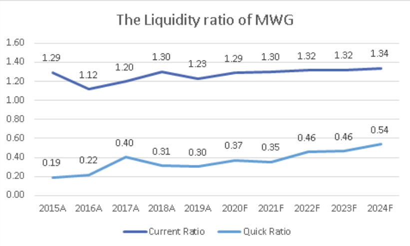


Figure 28: Liquidity ratios of MWG. Team computation.

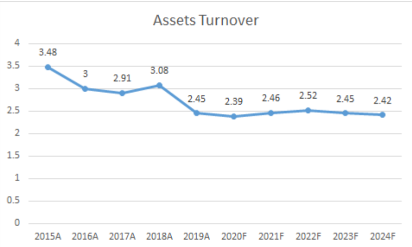


Figure 29: Asset turnover ratio. Team computation.

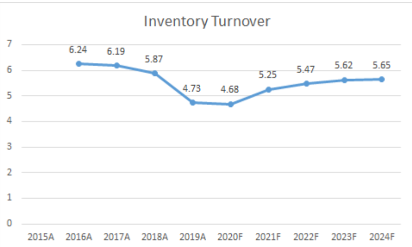


Figure 30: Inventory turnover ratio. Team computation.

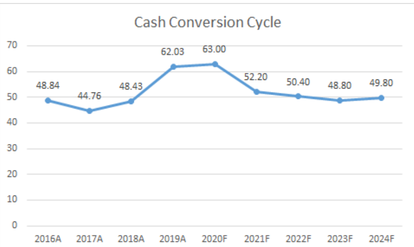


Figure 31: Cash conversion cycle of MWG. Team computation.

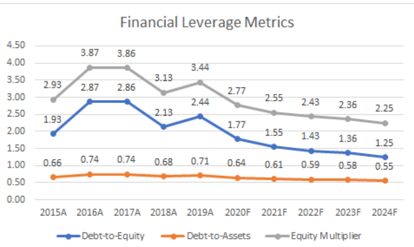


Figure 32: Financial leverage metrics. Team computation.

Liquidity

High inventories decrease MWG's liquidity

Throughout the years, MWG indicated their potential ability to pay short-term obligations with relatively high current ratios at above 1.1 and their quick ratio continued to rise at an increasing pace (Figure 28). The movement tends to fluctuate with a decent drop in the ratio of 2015-2016 and 2018-2019 which can be explained by the gradual growth of current liabilities (approximately 2-3 times). Intending to dominate the market, MWG's target at that time was to 'open 2 stores per day' (ACBS 2016), and 2018-2019 recorded the highest increase in the opening of stores (mainly BHX and DMX) together with their new trial of DienThoaiSieuRe, this contributed to the fast boost in short-term debts in the two periods. Also, their inventories showed a surge over the years, especially in 2019 as year-end inventories were 47% higher than the previous period. This can be explained by the early arrival of Tet in 2020 which led to the rising demand of consumer electronics, phones and groceries, therefore, inventories needed to be stocked 3-4 weeks before (HSC 2020).

Efficiency

A decline in Asset Turnover ratio

The assets turnover ratio of MWG saw a decline over the past years and we believe the reason is MWG not managing assets well to generate sales (Figure 29). As the priority goal is to expand its network, serve customers' demand and remain 1st rank in retailing in terms of revenue, MWG promptly opens new stores, around 3-4 stores a day, stock things up and launch new product lines (watches & glasses), which results in vast assets. Though consumers do purchase more and more at MWG's chains but taking COVID-19 impacts and the saturated mobile market into consideration, the rise in revenue cannot keep pace with the extreme surge in total assets and consequently assets turnover is a bit low. We forecast that the customer spending post-pandemic will improve, which keeps up with the growth of assets (new distribution centres and stores) so that the assets turnover ratio will only fluctuate a bit within the range from 2.4 to 2.5.

Good inventory management

MWG seemed to maintain a good inventory turnover ratio in 2016 - 2018 which means fast, strong sales, efficient restocking process and well-managed cash flow (Figure 30). It dropped in 2019 and 2020 because the company opened new stores and stocked lots of goods but sales were slow and weak due to COVID-19. We predict that in the following years, the Vietnamese economy significantly recovers post-pandemic, sales will grow and inventory turnover will increase.

Effective management of cash flow

MWG did best at management's effectiveness, cash cycled through the flow of business quickly and efficiently in 2017-18 at 45 - 48 days. Nonetheless, it suddenly peaked in 2019 and 2020 at 62 days implying that MWG extends all of its days sales, inventory and payable outstanding. Due to COVID-19, it took MWG longer to use/borrow money to buy goods, process inventories, sell supplies and receive money to pay debtors. However, we foresee that MWG is bound to lessen its receivables, payable days and inventory processing days when the economy fully recovers post-pandemic, consumers have more purchases, inventories are emptied quickly and there is more money to pay its trade creditors. Hence, it can shorten the cash conversion period and maintain around 50 days in the following years (Figure 31).

Financial Leverage

High dependence on debt financing

In the period of 2015 to 2017, all leverage metrics of MWG accelerated because of the store expansion strategies and the opening of BHX chains in 2017, which focused on Fast-moving consumer goods. The ratios decreased in 2018 as MWG issued more shares to the public to finance the purchase of inventory. The debt-to-equity ratio continued to increase in 2019 as the company stocked up more inventories to prepare for the rising in demand in Lunar New Year 2020, which required the company to borrow more short-term debts for the inventory purchase (MWG 2019).

From 2020 to 2024, we projected that MWG will lower its dependence on debts to finance its operating activities but instead, raising capital via issuance of stocks and profits from selling FMCGs and consumer electronics goods, meanwhile decreasing and maintaining the debt-to-assets ratio to 55% from 71% as 2019 (Figure 32).

ROE DuPont Analysis

Competitor Selections and Rationales

FPT Retail (FRT)

FRT operates in the mobile phones retailing sector which holds the second position in the market. As a retailer, FRT also has a wide-spread sales channel (more than 600 stores) that offers homogenous products to other mobile retailing firms, including MWG. Furthermore, the expansion of stores in FRT is based on MWG's actions, specifically, FRT will list out a number of MWG shops that have high revenue where no shops of FRT are available in that area to decide if they should place a store there or not (The 2017). Not to mention that FPT Shop's fanpage on Facebook recorded a total of 7.3 million interactions in the first half of 2020 which will be great competitiveness to compete with other players to enhance their sales (Phong 2020). Therefore, we FRT qualifies as a direct competitor to MWG.

Digiworld Corporation (DGW)

DGW engages in the retail sale of consumer electronic products, which includes mobile phones, laptops, tablets, computers, desktop screens and other computer-related accessories/components. Throughout its history, DGW has gained numerous strategic partnerships and become the authorized distributor of well-known brands such as Acer, HP, Xiaomi, and Samsung. As of recently, they have announced their strategic cooperation with Apple, effectively becoming an authorized distributor of this brand in Vietnam (DGW 2020). This alliance will undoubtedly bring competitive pressure to MWG's mobile phone retail chain as Apple is one of the most beloved brands in the Vietnamese Market as it currently ranks 5ht in terms of traditional retail channel sales (VNS 2020). Moreover, DGW's exclusive MiStore chain, which distributes Xiaomi consumer electronic products and smart home appliances, has doubled their market share during the course of 2019, contributing to 40% of DGW's revenue (DGW 2020). Their momentum is not expected to slow down as they plan to widen their distribution network in the upcoming years through both brick-and-mortar and e-commerce channels. Thus, we consider DGW as a direct competitor of MWG.

ROE Decomposition

	Year	EBIT Margin	Asset Turnover	Tax Burden	Financial Leverage	Interest Burden	ROE
MWG	2015	5.39%	-	0.77	-	1.02	-
	2016	4.50%	4.03	0.79	3.50	1.00	49.91%
	2017	4.21%	3.52	0.79	3.87	1.00	45.27%
	2018	4.36%	3.40	0.76	3.42	1.00	38.68%
	2019	4.93%	2.93	0.76	3.31	1.00	36.32%
	Average	4.68%	3.47	0.77	3.52	1.01	42.55%

	Year	EBIT Margin	Asset Turnover (x)	Tax Burden	Financial Leverage (x)	Interest Burden	ROE
FRT	2015	-	-	-	-	-	-
	2016	2.12%	-	0.80	-	1.13	-
	2017	2.75%	3.06	0.80	6.54	1.00	44.20%
	2018	3.01%	3.39	0.80	4.62	0.94	35.57%
	2019	2.06%	2.83	0.73	4.82	0.81	16.72%
	Average	2.49%	3.09	0.78	5.33	0.97	32.16%

	Year	EBIT Margin	Asset Turnover	Tax Burden	Financial Leverage	Interest Burden	ROE
DGW	2015	3.68%	-	0.78	-	0.86	-
	2016	2.33%	2.97	0.79	2.07	0.95	10.78%
	2017	2.44%	2.63	0.79	2.20	1.07	11.89%
	2018	2.41%	3.11	0.78	2.62	0.98	15.05%
	2019	2.33%	3.67	0.78	2.74	1.06	19.30%
	Average	2.64%	3.10	0.78	2.41	0.98	14.25%

	Year	EBIT Margin	Asset Turnover	Tax Burden	Financial Leverage	Interest Burden	ROE
Industry Average	2019	4.28%	2.41	0.82	4.06	0.97	20.45%

Figure 33: ROE analysis. Team computation.

The return on equity ratio (ROE) reflects the rate of return that has been achieved by the management of the company upon shareholders' capital contribution. The higher the efficiency, the stronger competitive position the company possesses, making it a significant performance indicator. The Dupont Analysis dissects the ratio into smaller components to provide insights into the causes of a firm's ROE. Its formula is as follows:

$$ROE = EBIT\ Margin * Asset\ Turnover * Tax\ Burden * Financial\ Leverage * Interest\ Burden$$

It can be seen from the past statistics that both the Tax Burden and Interest Burden are quite stable throughout the period, hovering in the region of 0.76-0.79 and 1.00-10.2 respectively (Figure 33). Hence, the major influences must come from EBIT Margin, Asset Turnover, and Financial Leverage. The EBIT margin experienced a sharp decrease through 2015-2017, from 5.39% to 4.21% as operating expenses surged during this period (nearly doubled from 2015-2016 and 50% from 2016-2017) due to the expansionary plan in motion. As for the rest for the observed period, the EBIT margin has improved gradually. Similarly, the asset turnover is decreasing due to the tremendous growth in asset size, which has been discussed prior. In contrast, the financial leverage ratio increased from 3.5x-3.87x (2016-2017) as the asset size growth rate is faster than that of equity; however, this ratio falls constantly for the rest of the period as MWG doubled their common stock in 2017 then this figure increased by another 30% during 2018. Improved retained earnings also contribute to the raise of total shareholder's equity as this figure doubled from 2018-2019. Therefore, the ROE ratios in the observed period exhibit a downward trend, which signals continuous inefficiency in terms of generating revenue (out of assets) and rising solvency risk.

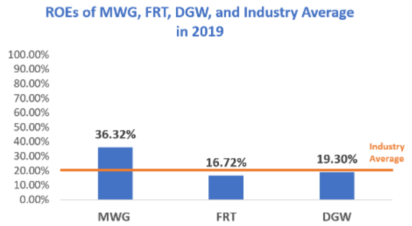


Figure 34: Comparison of ROE with industry average. Team computation.

Cost of Equity Computation	
Adjusted Beta	1.09
Risk-free Rate	2.87%
Market Return	16.00%
Market Risk Premium	13.13%
Cost of Equity	**17.17%**

Figure 35: Cost of equity computation. Team computation.

Share Price	
Equity Value	31,338,461
Cash & Cash Equivalents	3,115,237
Short-term Investments	3,137,000
Adjusted Equity Value	**37,590,698**
Common Stocks	453
Share Price	**83,007**
% Upside	2.73%

Figure 36: Share price computation. Team estimation.

Figure 37: MWG revenue growth rate & projection. Team estimated

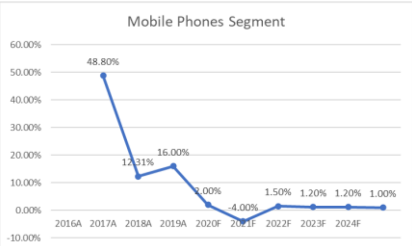


Figure 38: MWG's mobile phone growth projection. Team estimated.

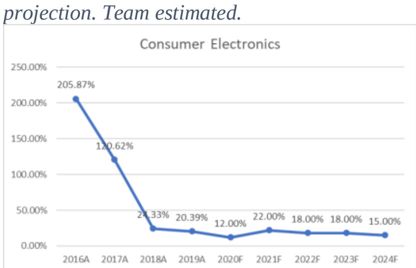


Figure 39: MWG's consumer electronics growth projection. Team estimated.

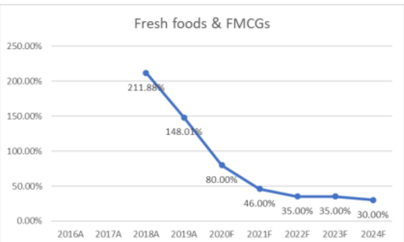


Figure 40: MWG's FMCGs growth projection. Adapted from: Eikon 2020; team estimated.

Peers comparison & Industry average

Figure 34 shows the ROEs between the three firms MWG, FRT, and DGW as of the end of the year 2019, as well as the average of the industry. MWG can be noticed immediately as its ROE is significantly higher than the other two competitors, nearly doubling even the industry average line, making them the most efficient firm in terms of translating shareholders' contributions into profits. This is explained by the fact that the operating margin achieved by MWG surpasses those of FRT and DGW, combined with its asset turnover ranked at second (after DGW). In terms of financial leverage, FRT is the most aggressive firm in regard of financing through debts as it records the highest equity multiplier (5.33x) on average, followed by MWG (3.52x) and DGW (2.41x). The industry average of 4.06x indicates that the tendency to favour debt-financing is a common characteristic of firms in this industry since the mean equity multiplier is above 2x – meaning that more than half of the assets are financed through debts. Despite its negative impact towards ROE, a lower equity multiplier than the industry means is considered favourable as MWG's exposure to solvency risks and incurred debt obligations are less than the average of the industry.

VALUATION

Discounted Cash Flow (DCF) Method

We arrive with the target price of MWG of VND 83,007, which is 12.6% upside from the closing price of VND 73,700 as of 27 July 2020 using FCFE method (Figure 36; see also Appendix F3).

1. The Discount rate — Cost of equity

We applied the Capital Asset Pricing Model to calculate the discount rate. At the time of our valuation, the risk-free rate is 2.87% concerning the Vietnam Government Bond 10-year Yield on Thomson Reuter Eikon (2020) while the market return for VN-Index performance in 20 years is 16% (The World Bank 2020).

By utilizing the regression of the MWG's stock return and the VN-Index's return from July 2014 to June 2020, we determined the beta of MWG is 1.13 (see Appendix F). We take the Adjusted Beta for a long-term period, which is computed as 1.09. Consequently, the cost of equity is assessed at 17.17% (Figure 35).

2. Revenue projection

Our team projected that the revenue of MWG will increase to over 185 million Vietnam dong in 2024, from 102 million in 2019. We also expected that the company revenue growth will reach around 16% in the next 5 years with a decreasing growth rate (Figure 37). There are 3 factors that lead to our projection, which are related to the focused business segments of MWG.

Mobile phones segment — Approaching the maturity stage

According to Euromonitor (2019), the sales of both mobile phones in Vietnam market continues to decelerate, especially in the sales volume of feature phones, which have been declining by 12% in 2019 compared to the previous year. The saturation of mobile phones segment can be explained by the satisfaction of customers on their current smartphones is higher since customers are less likely to purchase a new model that they cannot see any significant difference as their current mobile phones model. However, the sales of this segment are predicted to rise by 3% compound annual growth rate (CARG) from 2019 to 2024 as it is expected that the government will implement the 5G technology and cut the 2G by 2022, meaning that typical feature phone users will have to change to smartphones or feature phones with 3G function; thus, creating a new potential market for internet-connected devices (Vietnamnet)

Yet, the impact of the pandemic has to be taken into account as in the first half of 2020, MWG had to temporarily close more than 600 stores as per the government's requirement to contain the outbreak (MWG 2020). With the negative impact of customer preferences and COVID-19, we expect mobile phones sales of MWG will fall by 4% in 2020 and will remain constant growth at 1.2% from 2022 (Figure 38).

Consumer electronics segment — Focusing on high-end products

Adversely affected by the COVID-19 and the government's lockdown requirements, DMX's sales for this segment is expected to decline down to 12% growth in 2020, compared to nearly 20.4% as of 2019. However, it is expected the sales will recover after the pandemic time and continue to grow at a steady pace of 18% in 2024 (Figure 39).

FMCGs — A rare upstream segment amid the pandemic

At the stage of pre-lockdown, Vietnamese customers altered their normal behaviours from spending on luxury goods and services to cut down unnecessary items and focus more on staple needs such as fresh food and essential consumables as preparations for self-isolation period. The segment grew more than double and triple in pre-COVID and amid-COVID times, respectively, compared to the normal growth rate of 6.3% in 2019. Therefore, we expect that BHX, the specialized chain of FMCG goods of MWG, will witness an 80% growth rate at the end of 2020; and will remain to have a high growth rate of 35% in 2024 thanks to MWG's store expansion strategy (Figure 40).

Figure 41: Gross margin historical and projection. Team computation.

Figure 42: Selling and G&A growth rate. Team estimation.

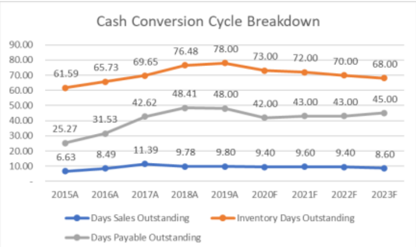


Figure 43: Cash conversion cycle breakdown. Team computation.

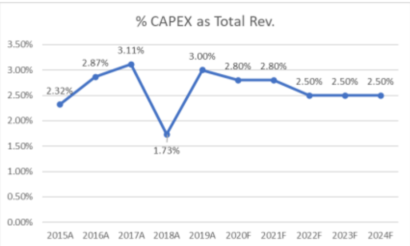


Figure 44: Capital expenditure of MWG. Team computation.

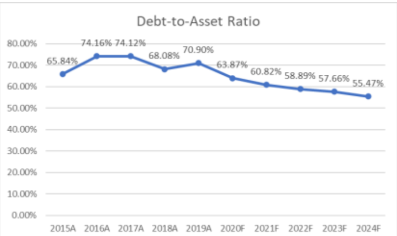


Figure 45: Capital structure of MWG. Team computation.

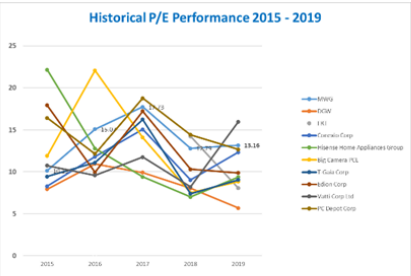


Figure 46: Historical P/E performance. Team computation.

3. Gross margin

We expect that the gross profit margin of MWG will rise from 20.80% in 2020 to 22.80% in 2022, which is in line with the growth of revenue and the speed of opening more BHX stores in the next few years. In addition, with effective cost management strategy, the cost of goods sold is predicted to gradually decrease in the near future, which can be considered as a factor for the rise in gross profit margin (Figure 41).

4. Selling and G&A expenses

Since the all-time goal of MWG is to gain more market share and provide their clients with the best customer service, the opening of more retail stores is ineluctable (MWG 2019). Also, customers nowadays are accompanied with their busy lifestyle so convenience will be their first go-to priority. Therefore, maintaining a large number of stores will enable MWG to fulfil the demand of the majority of customers. However, more stores available also mean higher Selling and general & Administration expenses in the next few years. But the growth in the SG&A is expected to simmer down after 2023 as we anticipate that MWG can utilise its ERP system and its efficient cost-control, hence, the SG&A growth is expected to be at around 19%YOY in the next period (Figure 42).

5. Change in working capital

The changes in Working Capital are computed based on the projected changes in accounts receivable, inventories and account payables from 2020 to 2024. We expect the changes in accounts receivable to be consistent with the number of days sales outstanding at around 9 days. The inventory is expected to increase as MWG continues to expand its stores and its FMCG segment, which results in a lower rate of days inventory at around 70 days in the next few years. MWG accounts payable is also projected to increase with the COGS while maintaining the days payable at 13 days (Figure 43).

6. Capital expenditure and D&A

The physical store expansion scheme in addition to the transition of TGDD to DMX will surely influence the rise of capital expenditure along with the depreciation and amortization. Furthermore, seeing the potential of growth in BHX during the pandemic, MWG has been investing in facilities and equipment to enhance the quality of products (MWG 2019), which also contribute to the increase in Capex as well as D&A. Consequently, we forecast an increase in Capex over revenue to 2.8% in 2021F and begin to fall back to 2.5% in the next 3 years (Figure 44) whereas the cost of D&A will maintain consistency.

7. Capital structure

It can be seen that MWG is financing on debt since the Debt to equity ratio was considerably high that reached to around 74% throughout the period. With the expansion strategy, this is perfectly fitted to the anticipation of high short-term and long-term liabilities over the years in order to fulfil the funds required for investment in infrastructure and store openings. Therefore, Debt to asset ratio is expected to fall between 55-58% in the 2020-2024F period (Figure 45).

Relative Valuation Method

The two most popular relative valuation ratios include Price/Earnings (or Earnings Multiple) and Price/Book Value (or Book Value Multiples) (MSUM n.d.). P/E valuation reflects the price that investors are willing to pay for a VND of expected earnings, while the P/B valuation gauges the market value of a firm against its book value – in other words, its share price against book value per share (Reilly & Brown 2015). To determine whether a P/E or P/B of a company is high or low, a set of comparable entities will be identified and its average is utilized. Then, if the P/E and P/B ratio are both higher than the industry averages, the stock price might be overvalued and vice versa. Therefore, the assumption made here is that the markets are correct on average but individual stock prices are not (Pétursson 2016). Since these approaches attempt to estimate the stock value based on different fundamentals, both will be used to determine the intrinsic value of MWG.

Peer selection method

Aside from MWG, the two other local firms that operate in the consumer electronic retail segment are FRT and DGW, totalling only three firms in the domestic market. Thus, to reinforce the estimation of an industry benchmark, regional peers are also taken into consideration. The peer selection process follows the SARD guidelines set out by Knudsen, Overgaard and Plenborg (2017) in addition to the traditional industry classification approach. Through these approaches, seven appropriate regional peers are identified, totalling ten firms to construct the industry benchmark. Please refer to Appendix G for more detailed information.

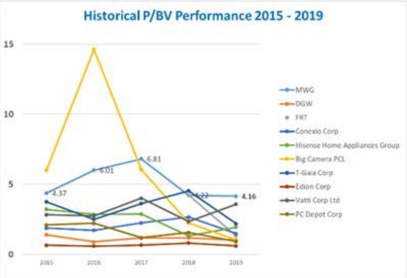


Figure 47: Historical P/B performance. Team computation.

Historical performance

From Figure 46, the 5 years P/E performance between MWG and its peers can be seen to display erratic directions during the observed period of 2015 to 2019. While in Figure 47, the P/BV ratio is more clustered except for Big Camera PCL who saw wild fluctuations. This is expected as firms in different countries are subjected to different valuation, growth prospects, capital structure, and in some cases, accounting standards, ultimately impacting the P/E and P/B ratio (Damodaran n. d.). Nevertheless, the overall trend that can be observed here is that the spread of PE ratios has narrowed down throughout the period, which is visually seen where the PE ratios start to lie within the 10x spread (10x-20x) in 2017, (5x-15x) in 2018 and 2019 – with Hisense Home Appliances Group and DGW being the sole exception in 2017 and 2019 respectively. As for P/BV, the narrowing effect is only seen for MWG and Big Camera after 2018 as the ratios of both companies were above 5x previously. This notion supports the usage of P/E and P/BV valuation as the peer companies are trading at relatively similar multiples.

It is clear that MWG's valuation fluctuated during the observed period and currently evaluated at 13.16x earnings and 4.16x book value (2019), which is higher than both the domestic and regional averages combined (Appendix G2-3). We note that, based on the 5-year average basis, MWG has historically traded at a premium in comparison to other retailers – 10.7% in term of P/E and 74.3% in term of P/BV. We believe this premium can partly be explained by the ROE ratio as investors tend to favour stocks with high ROE performance – hence their higher valuation (Angel Broking 2018). In Appendix G4, MWG has an impressive track record of 42.55% ROE in term of 5 years average. Although 2015 data is not available, the annual average ROE performance of MWG clearly beat both domestic and regional peers. Another reason for the premium is due to the retention rate of the firm. MWG pays a fixed rate of a cash dividend (Appendix G5), which is 1,500 VND per share and this payment ratio has been applied since 2015, as well as several occasions of stock dividends/bonus in 2015, 2017, and 2018. This increases the number of shares while the dividend per share remains fixed, resulting in a much higher percentage of retained profit to be reinvested into the company – signalling growth potentials. Given its current expansionary stance explained above, it is likely that the market perception towards this growth prospect has increased the P/E ratio of the firm. This linkage has been empirically proven to occur for firms with high market-to-book (or price-to-book) ratio (Krishnen & Chen 2017), which is fitting considering for MWG's past ratios. Reputational factors can also contribute to the explanation of this premium. Aside from the aforementioned market-dominant position in mobile and electronics retail segment, MWG is seen as 'capable in seeking out new retail segments' (VDSC 2019) as their Bach Hoa Xanh initiation clears investors' doubts regarding its success feasibility, becoming one of the market darlings with consistent EPS Growth

Forward P/E and P/B reasonings and expectations

Forward P/E and P/BV	Ticker	Market Cap (USD mn)	Forward P/E (2020)	Forward P/B (2020)
Mobile World Investment Corp	**MWG VN**	**1606.10**	**9.14**	**2.46**
Digiworld Corp	DGW VN	78.85	8.74	1.64
FPT Digital Retail JSC	FRT VN	77.53	12.36	-
Domestic Average			**10.08**	**2.05**
Hisense Home Appliances Group	000921 HK	2327.58	13.36	1.76
Conexio Corp	9422 JP	534.78	12.92	2.37
Big Camera PCL	BIG TH	63.89	7.14	2.86
T-Gaia Corp	3738 JP	1122.11	10.08	1.9
Edion Corp	2730 JP	1215.52	11.3	1.28
Vatti Corp Ltd	002035 CN	1544.68	13.85	2.78
PC Depot Corp	7618 JP	326.31	15.76	1.26
Regional Average			**12.06**	**2.03**
Overall Average			**11.07**	**2.04**

Figure 48: Forward P/E and P/B of MWG and peers. Team estimation.

Forward P/E and P/BV are collected and utilized since valuation is a forward-looking process (Figure 48). Furthermore, the growth rate prospects mentioned previously have demonstrated that the earnings of the company are expected to rise, hence it is unreasonable to use historical P/Es with historical earnings. In addition, the book value per share is also expected to rise to 33,839.74 VND (Eikon 2020). While the trailing P/E (and P/BV) has more accuracy since it is computed through historical data, past performance does not necessarily reflect the future performance of the company (EduCBA n. d.)

The above P/Es and P/Bs are taken from Refinitiv Eikon (2020). The forward P/E of 9.14x means that MWG is expected to trade at a discount to both domestic and regional peers due to the impacts of Covid-19 as it deteriorates the market outlook, hurting the confidence that investors had previously when Bach Hoa Xanh beats their expectations. Although the forward P/BV ratio of 2.46x is higher than the overall averages, it has fallen from its 2019 figure of 4.16x because of the expected increase in book value per share. With the pandemic still spreading around the world, the pessimistic view of a second lockdown will persist among investors – decreasing consumption, combined with the current condition of the slow growth in the consumer electronic retail segment will negatively influence the market value of MWG's stock.

P/E Approach	
EPS 2019	8655.24
Growth Rate	3.50%
EPS 2020	8958.17
P/E Industry Benchmark	11.07x
Estimated Price (VND)	**99160.55**

Figure 49: Share price in P/E approach. Team computation.

P/BV Approach	
Expected BVPS 2020	33839.74
P/BV Industry Benchmark	2.04x
Estimated Price (VND)	**69033.07**

Figure 50: Share price in P/BV approach. Team computation.

Valuation Approach	Price (VND)	Weight (%)
P/E	99,160.55	60%
P/BV	69,033.07	40%
Target Price	**87,176.67**	

Figure 51: Share price using relative valuation approach. Team computation.

Valuation computation

As computed in figure 49-50, we derived the estimated price for the P/E approach and P/B approach is VND 99,161 and VND 69,033, respectively

Target price computation

While the primary idea of this section is to incorporate both multiples to estimate the stock price of MWG, the drawbacks of using P/BV must also be taken into consideration. It is recognized that P/BV is more appropriate for financial service firms that periodically revalue its assets and liabilities (marked to market), allowing these items to be more in line with the market value; however, for other firms, their balance sheets are often not marked-to-market but rather under historical prices, undermining the effectiveness of this ratio if the asset ages of companies are different (Rizzo 2017). In addition, the inclusion of intangible assets such as goodwill (resulted from previous acquisitions) can inflate the P/BV ratio (Lin 2012). Similar to MWG's goodwill from acquiring Tran Anh Group (shown in 2018 balance sheet), peer companies could have included their goodwill from their previous M&A deals, which makes their P/BV higher than those who do not engage in M&A. P/BV can also be calculated without intangible assets; however, this excludes the value derived from brand reputation and customer relations, which are the key emphasis of MWG's operations and perhaps of some of its peers as well.

Accounting methods by firms under different national accounting standards can also influence the accuracy of this ratio (Damodaran n. d.) – different in depreciation methods imposed, for instance, will impact the size reduction rate of entities' book value. Similarly, accounting standards can influence the earnings figure as well (MorningStar 2019); however, since the P/BV approach seems to exhibit more shortcomings, we believe the value driven by the bottom-line earning will be more accurate. Therefore, the weighting of 60% is assigned to the P/E approach and 40% is assigned to P/BV, resulting in the estimated price of VND 87,176.67 (Figure 51).

SCENARIO AND SENSITIVITY ANALYSIS

Discounted Cash Flow — FCFE

Under the FCFE valuation method, MWG's share value is highly dependent on the cost of equity and the long-term growth rate. We conducted a sensitivity analysis to measure the possible range of price that MWG can fall into. As a result, the share value of MWG ranges from VND72,847 to VND101,458 (Figure 52)

Long-tem Growth Rate		Cost of Equity				
		15.00%	**16.00%**	**17.17%**	**18.00%**	**19.00%**
	2.50%	90,401	84,937	79,584	76,302	72,847
	3.00%	92,820	86,952	81,235	77,746	74,087
	3.50%	95,449	89,127	83,007	79,290	75,407
	4.00%	98,317	91,484	84,913	80,945	76,816
	4.50%	101,458	94,046	86,970	82,722	78,321

Figure 52: FCFE sensitivity analysis. Team computation.

Relative Valuation

Sensitivity analysis for P/E

To test the sensitivity of the P/E model, we have selected the following two variables: (1) Long-term Growth Rate and (2) Expected Industry P/E Benchmark and assess how they impact the result of this model. In Figure 53, when the growth-rate is kept constant while allowing the P/E ratio to fluctuate from 9x-13x (at 1x interval), it can be observed that the estimated price increases along with the P/E ratio. Similarly, keeping P/E constant while adjusting the long-term growth rate will result in the higher the growth rate, the higher estimated price. Therefore, both variables are concluded to be positively correlated to the estimated price, in which the best scenario is 117,581 VND (13x P/E, 4.5% growth rate) and the worst scenario is 79,845 VND (9x P/E, 2.5% growth rate).

Long-term Growth Rate		Expected Industry P/E Benchmark				
		9x	**10x**	**11.07x**	**12x**	**13x**
	2.50%	79,845	88,716	98,209	106,459	115,331
	3.00%	80,234	89,149	98,688	106,979	115,894
	3.50%	80,624	89,582	**99,161**	107,498	116,456
	4.00%	81,013	90,014	99,646	108,017	117,019
	4.50%	81,403	90,447	100,125	108,537	117,581

Figure 53:Sensitivity analysis for P/E valuation. Team computation.

Sensitivity analysis for P/BV

To test the sensitivity of P/BV approach, the expected industry benchmark for this ratio is also used, along with the expected book value per share. As can be seen in Figure 54, both variables display a positive relationship with the estimated when the other variable remains unchanged, which is the same with the inputs used for P/E sensitivity analysis. The estimated price under the best conditions is 81,400 VND (37,000 VND BVPS, 2.2x P/BV) while the worst conditions result in 52,200 VND (29,000 VND BVPS, 1.8x P/BV).

Expected Book Value Per Share (VND)		Expected Industry P/BV Benchmark				
		1.8x	**1.9x**	**2.04x**	**2.1x**	**2.2x**
	29,000	52,200	55,100	59,160	60,900	63,800
	31,000	55,800	58,900	63,240	65,100	68,200
	33,839.74	60,912	64,296	**69,033**	71,063	74,447
	35,000	63,000	66,500	71,400	73,500	77,000
	37,000	66,600	70,300	75,480	77,700	81,400

Figure 54: Sensitivity analysis for P/BV valuation. Team computation.

EVALUATION

Difference between Company Value and Current Share Price

The current price that is derived through exchange indicates the price that reflects the eagerness of an investor that wishes to obtain the specific stock of a firm. Therefore, this will only reveal the market value which is temporary so the price will alter depending on the supply and demand of the stock (Harmon 2009). While the intrinsic valuation relies on the company's fundamental variables that include the cash flow stream generated in the future, financial status, industry outlook and business development prospects. Hence, this represents the company's ability in enhancing its business in the future ( ).

Difference Company Value across different Valuation Models

The Discounted Cash Flow (FCFE) approach utilizes the remaining cash flow after deducting direct costs, costs of working capital, capital expenditures required for business expansion and payments to debt holders. Therefore, when executing this technique to find the intrinsic value of equity, assumptions concerning both the internal fundamentals of the company and the external economic environment must be made, taking into account the strategies of the firm as well as the industry prospects. For instance, the capital structure is assumed to be consistent from the latest data (2019) so that the marginal cost of capital remains the same (CFI n. d.).

On the other hand, the Relative Valuation (P/E and P/BV) approach aims to estimate the value of equity by focusing on specifying the value of the firm as the function of several relative ratios that compare its stock price with selected fundamentals that impact the valuation of stock then comparing it to similar peers in the same industry/market (Nissim 2012). Hence, the inputs required are mostly from the forecasted key metrics of the company and its peers to construct future benchmarks of their respective industry when valued by the market – our P/E and P/BV industry averages. The stock value is then derived from these benchmarks and the expected fundamentals, which are the future earnings per share (EPS) and book value per share (BVPS).

Consequently, the two models are expected to yield different stock prices as these values are derived from different perspectives, based on different assumptions, and require different inputs.

Most Appropriate Model

For each valuation model, the advantages and drawbacks will be different. In terms of DCF valuation, the benefit of applying the FCFE approach is based on the detailed structure of the financial statement, most of the projected data is mainly derived by the real balance that supports the future objectives of the company. Hence, the estimated result of the FCFE can be more accurate when estimating the genuine value of the company (Larabee et al. 2012). The disadvantage of this approach is that it relies on a myriad of assumptions (Havnaer 2012), which we have made above during the valuation process. Fortunately, the FCFE model poses improved accuracy when utilized for the company whose cash flow to equity throughout the five-year period is positive, which is the same as MWG's financial condition.

As for the relative valuation method, it requires much fewer assumptions than the FCFE approach above (Kumar 2015). In addition, Damodaran (2005) assesses that this approach can reflect the market perceptions and moods - which are deemed important determinants of the market price of a stock. Moreover, the dominance of this technique in practice means that judgments and recommendations of many equity analysts are based on relative valuation, whether fully or partial, influencing the price of the equity (NYU Stern n. d.). The main downfall of this approach is that the peer selection process can be faulty, leading to wrong firms being brought into the valuation process; however, since we have combined two empirically-proven approaches to find comparable peers, we believe that this risk is minimized.

Since there is no perfect or correct way to precisely evaluate the price of a company, we have decided to utilize both approaches and assign diverse weights on each model.

Final Target Price and Recommendation

Valuation Approach	Weight (%)	Price Estimated (VND)
Discounted Cash Flow (FCFE)	50%	83,007
Relative Valuation (60% P/E and 40% P/BV)	50%	87,176
Final Target Price (VND)		**85,092**

Figure 55: Final target price of MWG. Team computation.

When comparing the final target price of MWG to its closing price at VND 73,700 on 27 July 2020, the final price was relatively higher which reach VND 85,092- upside 15.5% which is derived from 50% of the Discounted Cash Flow (FCFE) while the other half is from the Relative method (60% P/E and 40% P/BV) (Figure 55). As provided above, each method of calculating the company value will encounter their pros and cons. Furthermore, based on the characteristics of the company, we can see that both approaches can amplify the speciality potential of the company, therefore, equal weights will be placed for the two valuations.

From the analysis of both models together with the substantial growth rate, strong financial position and appropriate strategy for the future, we believe that MWG has great potential for further growth in the upcoming years, therefore, their price is being undervalued so MWG will surely be a captivating stock that investors do not want to miss.

INVESTMENT RISKS

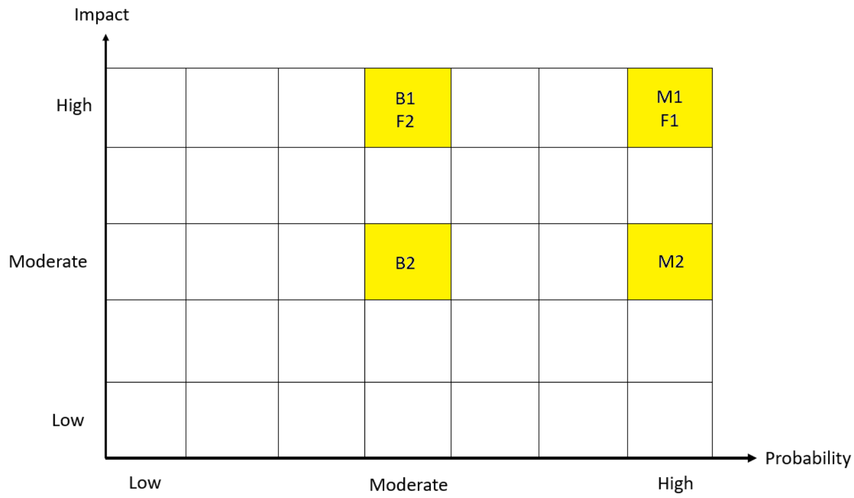


Figure 56: Risk matrix. Team estimation.

Business Risks

[B1] Unfavorable impact of COVID-19 (MODERATE probability, HIGH impact)

The sales growth of MWG has been influenced negatively since Covid-19 outbreak in Vietnam. The government encouraged social-distancing especially in Ho Chi Minh and Hanoi where around 20% of MWG's stores across the country are, hence, the performance of MWG has been impacted seriously, smartphone sales in 02/2020 gained $61.8 million, down 35% on-year (Van Anh 2020). Moreover, Vietnam experienced the highest unemployment rate over a decade with 30.8 million have been fired and a tremendous wage cut because of Covid-19 (Daisy 2020). Therefore, the demand for new phones or electronic devices drops that interrupt the supply chain (Ngoc 2020), which negatively affect the revenue of MWG.

[B2] The saturation of the smartphone market (MODERATE probability, MODERATE impact)

Thegioididong.com chain began to slow down after 5 years of high expansion, this segment's sales marginally dropped over 2017 in 2018. Specifically, the MWG chain of The Gioi Di Dong stores is exhibiting signs of exhaustion, according to Ho Chi Minh City Securities Corporation (HSC). Since these stores contributed the greatest share of MWG 's sales, the rate of growth is declining. The market share stayed constant at 42%, while in each quarter it used to grow by 1-2% (Trang 2017). Since 2018, MWG has closed nearly 50 TGDD stores, some of it was converted into DMX stores. Moreover, in the cell phone and consumer electronics industry, space for growth is shrinking, and that puts tremendous pressure on businesses, like MWG. MWG is also searching for new areas to invest in to ensure its growth and at the same time reinforcing the current strengths of the group (Trang 2017). Thus, if the growth rate of MWG continues to be unchanged, it will be struggling to attract new investors.

Market Risks

[M1] Rising of e-commerce competitors (HIGH probability, HIGH impact)

In addition to major e-commerce firms with a low-cost approach such as Lazada (Alibaba), Shopee (SEA Group) and Tiki (JD.com), prominent e-commerce players from established markets such as Rakuten (Japan), AeonEshop (Japan), Lotte (Korea) and even Amazon (US) may enter the business on a long-term basis, helping to introduce premium goods to consumers and build substantial pricing competition in the coming years for Vietnam's e-commerce cookie (Thien 2019). Moreover, to achieve market share, these companies have burnt significant amounts of money on promotional campaigns to boost shopping (Nghi 2019). For example, Tiki and Shopee usually organize 'hot deal programs' to sell authentic electronic devices such as smartphones, laptops and tablets with 10-40% discount. Besides, since May 2019, MWG has shut off web platform sales to unify its online and offline prices. Consequently, online revenue of MWG suddenly plunged below VND1 trillion (Tan 2019). Thus, the E-commerce competition can be a potential threat to the revenue and financial health of MWG.

[M2] Unexpected changes in the economy (HIGH probability, MODERATE impact)

Unstable exchange rate, high unemployment rate (Daisy 2020) and inflation rate declined trust from consumers to the future. This kind of risk is almost uncontrollable to MWG but it is trying to minimize the possible effects of exchange rate risk on MWG's business performance by utilizing financial measures and risk provisions.

Financial Risks

[F1] Inventory devaluation (HIGH probability, HIGH impact)

The introduction of a new product type into the market usually contributes to a reduction in the sales price of the older model developed by the same manufacturer. If inventory control is not performed well, manufacturers will not offer the price shield for this old model's outdated inventories. Similarly, the modern field of fresh and live food trade, and fast-moving consumer products (FMCG) that have a limited life cycle. Fresh and live food (vegetables) can only be stored until 9:00 p.m. each day, with a maximum of 1-2 additional days for fruit. If the business is unable to monitor the rate of rotting at the lowest appropriate point, the risk to product devaluation would be high.

[F2] Stock price depreciation (MODERATE probability, HIGH impact)

The stock price of MWG has dropped seriously since the first Covid-19 case was detected in Vietnam. For concreteness, the price decreased significantly to 40% in March (Mai Huong 2020). Many reasons lead the price fall such as divestments of investment funds, financial crisis, losses or company's bad news. The decrease in the stock price will discourage investors to trust and make an investment in the company.

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APPENDICES

APPENDIX A — INCOME STATEMENT PROJECTIONS

A1 — Revenue Projections

REVENUE PROJECTION

Time Period	2015A	2016A	2017A	2018A	2019A	2020F	2021F	2022F	2023F	2024F
Mobile Phones Segment	20,769,000	30,904,000	34,708,000	40,261,280	41,066,506	39,423,845	40,015,203	40,495,385	40,981,330	41,391,143
% growth YoY		*48.80%*	*12.31%*	*16.00%*	*2.00%*	*-4.00%*	*1.50%*	*1.20%*	*1.20%*	*1.00%*
Consumer Electronics	4,482,000	13,709,000	30,245,000	37,603,378	45,270,731	50,703,218	61,857,926	72,992,353	86,130,977	99,050,623
% growth YoY		*205.87%*	*120.62%*	*24.33%*	*20.39%*	*12.00%*	*22.00%*	*18.00%*	*18.00%*	*15.00%*
Fresh foods & FMCGs	-	-	1,387,000	4,325,814	10,728,296	19,310,932	28,193,961	38,061,847	51,383,494	66,798,542
% growth YoY				*211.88%*	*148.01%*	*80.00%*	*46.00%*	*35.00%*	*35.00%*	*30.00%*
Others	-	-	-	4,325,814	5,108,712	5,619,583	6,069,150	6,554,682	7,079,057	7,645,381
% growth YoY					*18.10%*	*10.00%*	*8.00%*	*8.00%*	*8.00%*	*8.00%*
Total Revenue	**25,252,733**	**44,613,333**	**66,339,804**	**86,516,287**	**102,174,244**	**115,057,579**	**136,136,240**	**158,104,268**	**185,574,857**	**214,885,689**
% growth		*76.67%*	*48.70%*	*30.41%*	*18.10%*	*12.61%*	*18.32%*	*16.14%*	*17.37%*	*15.79%*

A2 — Income Statement Projections

INCOME STATEMENT

Time Period	2015A	2016A	2017A	2018A	2019A	2020F	2021F	2022F	2023F	2024F
Total Revenue	**25,252,733**	**44,613,333**	**66,339,804**	**86,516,287**	**102,174,244**	**115,057,579**	**136,136,240**	**158,104,268**	**185,574,857**	**214,885,689**
Cost of Sales	21,330,302	37,399,226	55,198,025	71,224,159	82,686,445	91,125,603	107,139,221	123,637,537	144,191,664	165,891,752
Gross Profit	**3,922,431**	**7,214,107**	**11,141,779**	**15,292,128**	**19,487,799**	**23,931,976**	**28,997,019**	**34,466,730**	**41,383,193**	**48,993,937**
Selling/General/Admin. Expenses, Total	2,600,410	5,222,473	6,995,246	11,344,412	14,511,066	17,258,637	20,964,981	24,980,474	30,063,127	35,671,024
Depreciation & Amortization	-	-	1,367,313	76,943	-	-	-	-	-	-
Interest Exp.(Inc.),Net-Operating, Total	38,711	118,053	198,976	352,286	227,702	354,738	635,507	800,344	959,877	1,117,459
Other Operating Expenses	(79,031)	(133,294)	(215,199)	(255,696)	(285,652)	(345,173)	(408,409)	(474,313)	(556,725)	(644,657)
Operating Income	**1,362,341**	**2,006,875**	**2,795,443**	**3,774,183**	**5,034,683**	**6,663,774**	**7,804,939**	**9,160,225**	**10,916,914**	**12,850,111**
Other Non-Operating Income (Expense)	23,443	(961)	13,868	12,136	18,764	23,012	27,227	31,621	37,115	42,977
Net Income Before Taxes (EBT)	**1,385,784**	**2,005,914**	**2,809,311**	**3,786,319**	**5,053,447**	6,686,786	7,832,167	9,191,846	10,954,029	12,893,088
Provision for Income Taxes	310,013	427,663	602,415	906,010	1,217,207	1,403,702	1,660,862	1,928,872	2,264,013	2,621,605
Net Income After Tax	**1,075,771**	**1,578,251**	**2,206,896**	**2,880,309**	**3,836,240**	**5,283,083**	**6,171,305**	**7,262,974**	**8,690,016**	**10,271,483**
Minority Interest	(3,877)	(879)	(1,217)	(1,585)	(1,970)	(1,970.00)	(1,970.00)	(1,970.00)	(1,970.00)	(1,970.00)
Net Income	**1,071,894**	**1,577,372**	**2,205,679**	**2,878,724**	**3,834,270**	**5,281,113**	**6,169,335**	**7,261,004**	**8,688,046**	**10,269,513**

A3 — Vertical Income Statement Analysis

VERTICAL ANALYSIS

Time Period	2015A	2016A	2017A	2018A	2019A	2020F	2021F	2022F	2023F	2024F
Total Revenue	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**
Cost of Sales	84.47%	83.83%	83.20%	82.32%	80.93%	79.20%	78.70%	78.20%	77.70%	77.20%
Gross Profit	**15.53%**	**16.17%**	**16.80%**	**17.68%**	**19.07%**	**20.80%**	**21.30%**	**21.80%**	**22.30%**	**22.80%**
Selling/General/Admin. Expenses, Total	10.30%	11.71%	10.54%	13.11%	14.20%	15.00%	15.40%	15.80%	16.20%	16.60%
Depreciation & Amortization	0.00%	0.00%	2.06%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Interest Exp.(Inc.),Net-Operating, Total	0.15%	0.26%	0.30%	0.41%	0.22%	0.31%	0.47%	0.51%	0.52%	0.52%
Other Operating Expenses	-0.31%	-0.30%	-0.32%	-0.30%	-0.28%	-0.30%	-0.30%	-0.30%	-0.30%	-0.30%
Operating Income	**5.39%**	**4.50%**	**4.21%**	**4.36%**	**4.93%**	**5.79%**	**5.73%**	**5.79%**	**5.88%**	**5.98%**
Other Non-Operating Income (Expense)	0.09%	0.00%	0.02%	0.01%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
Net Income Before Taxes (EBT)	**5.49%**	**4.50%**	**4.23%**	**4.38%**	**4.95%**	**5.81%**	**5.75%**	**5.81%**	**5.90%**	**6.00%**
Provision for Income Taxes	1.23%	0.96%	0.91%	1.05%	1.19%	1.22%	1.22%	1.22%	1.22%	1.22%
Net Income After Tax	**4.26%**	**3.54%**	**3.33%**	**3.33%**	**3.75%**	**4.59%**	**4.53%**	**4.59%**	**4.68%**	**4.78%**
Minority Interest	-0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Net Income	**4.28%**	**3.54%**	**3.33%**	**3.33%**	**3.76%**	**4.59%**	**4.53%**	**4.59%**	**4.68%**	**4.78%**

APPENDIX B — BALANCE SHEET PROJECTIONS

BALANCE SHEET

Time Period	2015A	2016A	2017A	2018A	2019A	2020F	2021F	2022F	2023F	2024F
Assets										
Current Assets										
Cash & Cash Equivalent	343,873	996,983	3,410,983	3,749,550	3,115,237	5,204,761	7,887,027	11,071,628	16,483,581	20,942,133
Short Term Investments	-	-	-	50,922	3,137,000	-	-	-	-	-
Total Receivables, Net	571,795	1,397,335	2,945,604	1,821,475	2,332,184	5,283,375	3,832,159	6,979,574	5,446,315	7,717,641
Total Inventory	4,932,685	9,370,732	12,050,163	17,446,005	25,745,428	25,070,194	30,642,201	32,768,613	39,129,696	41,225,542
Prepaid Expenses	328,079	523,092	456,112	304,042	682,047	747,874	884,886	1,027,678	1,206,237	1,396,757
Total Current Assets	**6,176,432**	**12,288,142**	**18,862,862**	**23,371,994**	**35,011,896**	**36,306,204**	**43,246,272**	**51,847,493**	**62,265,828**	**71,282,074**
Property/Plant/Equipment, Total - Net	869,780	2,150,229	3,471,306	3,561,756	5,462,710	8,359,588	11,857,256	15,495,715	19,820,939	24,878,933
Goodwill, Net	12,526	2,505	-	552,527	491,135	436,564	388,057	344,940	306,613	272,545
Intangibles, Net	22,222	26,614	27,810	28,224	28,498	28,498	28,498	28,498	28,498	28,498
Other Long Term Assets, Total	184,802	386,772	460,688	608,031	713,856	817,149	948,114	1,116,544	1,336,573	1,629,001
Total Assets	**7,265,762**	**14,854,262**	**22,822,666**	**28,122,532**	**41,708,095**	**45,948,003**	**56,468,196**	**68,833,189**	**83,758,451**	**98,091,051**
Liabilities										
Current Liabilities										
Accounts Payable	1,971,272	4,680,039	7,373,230	8,244,614	12,055,385	15,804,246	13,781,910	15,850,144	19,622,558	21,799,041
Accrued Expenses	364,661	999,738	1,724,047	2,327,820	2,110,239	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000
Notes Payable/Short Term Debt	2,052,946	4,788,992	5,603,506	5,836,455	13,031,016	8,868,451	15,887,685	20,008,603	23,996,914	27,936,463
Other Current liabilities, Total	393,331	544,137	1,013,032	1,520,544	1,245,726	1,245,726	1,245,726	1,245,726	1,245,726	1,245,726
Total Current Liabilities	**4,782,210**	**11,012,906**	**15,713,815**	**17,929,433**	**28,442,366**	**28,218,423**	**33,215,321**	**39,404,473**	**47,165,198**	**53,281,230**
Long Term Debt	-	-	1,199,933	1,208,167	1,122,137	1,122,137	1,122,137	1,122,137	1,122,137	1,122,137
Minor Interest	1,639	2,316	2,776	6,249	7,786	7,786	7,786	7,786	7,786	7,786
Deferred Tax	-	-	-	1,896	-	-	-	-	-	-
Total Liabilities	**4,783,849**	**11,015,222**	**16,916,524**	**19,145,745**	**29,572,289**	**29,348,346**	**34,345,244**	**40,534,396**	**48,295,121**	**54,411,153**
Shareholders' Equity										
Common Stock, Total	1,468,890	1,539,509	3,169,884	4,434,962	4,435,462	4,961,017	5,548,844	6,206,323	6,941,706	7,764,223
Additional Paid-In Capital	36,718	36,718	36,718	551,452	555,207	-	-	-	-	-
Retained Earnings (Accumulated Deficit)	977,630	2,261,763	2,698,573	3,989,604	7,149,694	11,638,640	16,574,108	22,092,471	28,521,625	35,915,674
Other Equity, Total	(1,324)	1,051	965	768	(4,557)	-	-	-	-	-
Total Equity	**2,481,914**	**3,839,041**	**5,906,140**	**8,976,786**	**12,135,806**	**16,599,657**	**22,122,952**	**28,298,793**	**35,463,330**	**43,679,897**
Total Capitalization	**7,265,763**	**14,854,263**	**22,822,664**	**28,122,531**	**41,708,095**	**45,948,003**	**56,468,196**	**68,833,189**	**83,758,451**	**98,091,051**

APPENDIX C — CASH FLOW STATEMENT PROJECTIONS

CASH FLOW STATEMENT

Time Period	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Operating Cash Flow										
Net Income Before Tax	**1,385,784**	**2,005,914**	**2,809,311**	**3,786,319**	**5,053,447**	**6,686,786**	**7,832,167**	**9,191,846**	**10,954,029**	**12,893,088**
Depreciation	197,056	386,635	689,714	1,160,832	1,380,695	1,705,429	2,019,576	2,333,724	2,647,871	2,962,019
Amortization	-	-	-	62,036	62,132	62,228	62,324	62,420	62,516	62,612
Other Non-Cash Items	70,086	197,988	324,746	477,536	317,411	350,000	350,000	350,000	350,000	350,000
Changes in Working Capital	**(2,294,398)**	**(3,177,018)**	**(1,160,108)**	**(3,225,588)**	**(8,099,766)**	**(3,066,696)**	**(3,963,946)**	**(4,755,620)**	**(3,079,583)**	**(4,674,079)**
Accounts Receivable	(476,685)	(989,518)	(1,322,949)	1,246,647	(675,980)	(1,949,834)	1,116,320	(2,421,089)	1,179,430	(1,747,174)
Inventories	(2,756,192)	(4,503,949)	(2,796,298)	(4,672,944)	(8,374,797)	377,303	(4,286,159)	(1,635,702)	(4,893,141)	(1,612,189)
Prepaid Expenses	(63,387)	(164,867)	(96,806)	126,753	(227,805)	(48,902)	(105,393)	(109,840)	(137,353)	(146,554)
Accounts Payable	1,235,357	3,124,565	3,970,337	1,331,043	2,823,942	524,538	1,624,798	2,068,234	3,772,414	2,176,483
Other Operating Cash Flow	(233,491)	(643,249)	(914,392)	(1,257,087)	(1,645,126)	(1,969,801)	(2,313,512)	(2,657,223)	(3,000,934)	(3,344,645)
Cash from Operating Activities	**(641,472)**	**(586,481)**	**2,663,663**	**2,261,135**	**(1,286,081)**	**5,737,746**	**6,300,121**	**7,182,369**	**10,934,834**	**11,593,641**
Investing Cash Flow										
Capital Expenditures	(586,518)	(1,278,789)	(2,065,070)	(1,495,932)	(3,066,921)	(3,221,612)	(3,811,815)	(3,952,607)	(4,639,371)	(5,372,142)
Other Investing Cash Flow Items, Total	(71,326)	2,751	(55,145)	(848,462)	(2,805,840)	(1,460,000)	(1,460,000)	(1,460,000)	(1,460,000)	(1,460,000)
Cash from Investing Activities	**(657,844)**	**(1,276,038)**	**(2,120,215)**	**(2,344,394)**	**(5,872,761)**	**(4,681,612)**	**(5,271,815)**	**(5,412,607)**	**(6,099,371)**	**(6,832,142)**
Financing Cash Flow										
Total Cash Dividends Paid	(1,834)	(220,130)	(231,719)	(485,862)	(665,093)	(792,167)	(1,233,867)	(1,742,641)	(2,258,892)	(2,875,464)
Issuance (Retirement) of Stock, Net	-	(315)	92,226	703,111	85,605	525,555	587,827	657,479	735,383	822,518
Issuance (Retirement) of Debt, Net	1,434,256	2,736,046	2,009,789	202,956	7,103,991	1,300,000	2,300,000	2,500,000	2,100,000	1,750,000
Other Financing Cash Flow - Increase/(Decrease)	(2,154)	-	240	1,515	-	-	-	-	-	-
Cash from Financing Activities	**1,430,268**	**2,515,601**	**1,870,536**	**421,720**	**6,524,503**	**1,033,388**	**1,653,960**	**1,414,838**	**576,491**	**(302,946)**

APPENDIX D — CORPORATE GOVERNANCE IN DETAILS

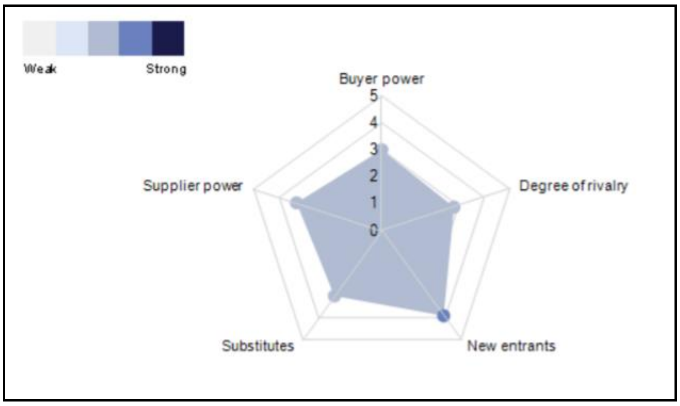
D1 — Corporate Governance—Rights of Shareholders

<table>
<tr><th>Current State</th><th>Rooms for Improvement</th></tr>
<tr><td>The basic rights of shareholders are clearly identified and written in the company's 'Internal Management Regulation' document, which is also accessible publicly.
Shareholders will be informed and invited to participate in the general meetings (GMs) regarding decisions for vital organizational changes. This includes the rules and voting procedures that govern GMs.</td><td>While the announcement dates of dividend were consistent in the past (around April-May), this has not been the case for 2020.
Policies to encourage the participation of shareholders.
Increase the minimum duration for notice to be given prior to Annual General Meetings (AGMs) from 15 days (currently) to 21 days.</td></tr>
<tr><th colspan="2">Equitable treatment for Shareholder</th></tr>
<tr><td>'One-share, one-vote' standard is applied.
Each resolution proposed at AGMs is presented with only one item and absence of any bundling practice.</td><td>Provisions regarding the protection of minority shareholders in events of oppression.
Measures to resolve possible conflicts between minority and large shareholders.</td></tr>
<tr><th colspan="2">Role of stakeholders</th></tr>
<tr><td>Employee Training, Health, Safety, Welfare, Reward, and Benefits programs are disclosed publicly.</td><td>Communication channel for employees to voice their concerns regarding possible unethical practice/behavior to the board without retaliation.
Disclosure on matters such as anti-corruption and supplier-selection criteria.
Clarification concerning the rights of creditors.</td></tr>
<tr><th colspan="2">Disclosure and Transparency</th></tr>
<tr><td>The ownership structure of MWG is featured on their website and in annual reports, which details direct and indirect shareholding of BOD, executives and other managerial roles, as well as information regarding its subsidiaries.
Dedicated Investor Relation website containing latest information, including downloadable past and current financial statements, EGMs/AGMs Meeting Minutes, Resolutions, Listing Documents, and Analyst Reports in both Vietnamese and English. This also includes disclosure of related party transactions.
MWG utilizes the Vietnamese Accounting System (VAS), which is developed based on International Financial Reporting Standards, ensuring compliance with local and international standards.
Audit procedure employs both an internal audit committee and an external auditor (Ernst and Young).</td><td>Provide separate financial statements for each retail segment operated by their three subsidiaries.
Disclosure regarding audit and non-audit fees.</td></tr>
<tr><th colspan="2">Responsibilities of the Board</th></tr>
<tr><td>Roles and responsibilities of BOD are clearly disclosed in the Charter.
Mission statement and Corporate vision are updated and strategically devised and closely monitored.
Clearly laid out code of ethics and procedures to avoid conflict of interests are required to be complied by all personnel.</td><td>Remuneration Committee
The recently-assembled internal audit committee members do not have accounting qualification.
Only 3/9 BOD members are independent.</td></tr>
</table>

D2 — Corporate Social Responsibility

Corporate Social Responsibility (MWG 2019)		
Environmental	**Community**	**Employees**
• All devices at stores are energy saving (recyclable materials, LED which completely satisfied fire preventions requirements) • Use automatic sensor for signboard lights since 2013 which can turn on when dark and off at 10 pm • Apply a smart system at all stores to turn on and off lights and AC automatically. • Implement biodegradable bags in all point-of-sales to mitigate the usage of plastic bags.	• Established a charity fund in Binh Duong (Mai Am The Gioi Di Dong) that provides scholarships and support living costs for poor households and build houses for the orphan children. • Collaborate with large brands: Kangaroo, Midea, Happycook etc to hand out free 10.000 rice cookers to help the disadvantaged families on Tet 2019. • Launch 3 blood donations in 2019 for internal staff.	• Monthly and yearly bonuses on productivity are provided. • Health, safety and welfare of workers are ensured in addition to the social insurance provided by the Vietnamese government. • Proper training courses are usually opened to build employee's specialized and soft skills.

APPENDIX E — PORTER'S FIVE FORCES ANALYSIS OF MWG



Threat of new entrants

As shown in the above figure, Vietnam's electronics retail sector is still fragmented as independent retailers account for more than 60% of the market share. In addition, with high growth potential and increase in the number of electronics stores, it is expected to attract more new entrants to the market. Since there is no regulatory or financial restriction on establishing new electronics retailers with barely any difference in the products offered, it is not hard for small scale entrants to enter the growing market. Also, e-commerce has been increasing its importance in the market which reduces the barriers to entry by lowering the need for a network of physical stores. By promoting online, the reputation of new entrants can be achieved much quicker and at a lower cost.

However, new retailers without strong financial positions may struggle to compete against the top leading retailers such as MWG, FPT or Nguyen Kim. These companies not only have strong brand awareness but also large resources to expand multiple stores across the country. Hence, they can be benefited from large economies of scale, lowering the per-unit costs which make them difficult to beat on price. Moreover, e-retail websites have been implemented by large players and generate huge revenue which increases the entry barriers.

Therefore, we assess a **MODERATELY HIGH** degree of new entrants threat in the electronics retail market.

The threat of substitutes within the Industry

As MWG is considered as a retailer, substitutes within the industry do not directly affect MWG. New developments and innovations would be put on products and manufacturers, whereas the main goal of MWG or retailers is only to sell them with competitive prices and promotions. However, it needs to take some factors into consideration. First, choosing the right brand and product line to offer based on consumer trends is a way to optimize store display and boost sales. Second, it should enhance its e-commerce website since more and more younger consumers prefer convenience and time-saving and hence make online purchases, even expensive products or household appliances. For instance Tiki, Shopee and Lazada may not completely replace offline retailing but they still dominantly gain more consumers and sales. Lastly, the second-hand market may contribute a small threat to MWG as there are consumers seeking for cheapest and already-used products.

Hence, as analysed above, we assess the threat of substitutes for the electronics retailing industry on MWG is **LOW**.

Rivalry among competitors

In the Vietnamese market, there are not many retailers as enormous and powerful as MWG, especially in the electrical and electronic segment. FPT Retail - considered as the only fierce competitor - operates with more than 600 stores and generates about 27.17 thousand billion VND compared to more than 2000 TGDD, DMX stores and 90 trillion VND revenue. However, FPT does not sell consumer electronics or white goods, it only focuses on mobile phones, laptops, tablets and accessories.

Nguyen Kim, Dien May Cho Lon - rivals towards the electronics segment of MWG - hasn't performed well and seems to be knocked out with a small market share around 1% - 2% (Euromonitor 2020). As stated in its recent annual report, the wholesaler Digiworld considers MWG as a consumer since Digiworld does distribute goods to MWG.

The booming e-commerce in Vietnam leads to new online competitors such as Tiki, Shopee, Lazada and Sendo. With reduction in operating costs, these e-commerce offers a wide range of promotions and discounts, more convenient features like 2-hour delivery, appealing return and exchange policy.

We expect that rivalry among competitors remains **LOW** as MWG leads 1st in the retail industry and the large gap between MWG and its peers is substantially increasing.

Bargaining power of Buyers

Except for high-end electronics specialists or retail stores of manufacturers, most retailers usually provide the same products made by the major electronics manufacturers, so it is hard for a firm to differentiate itself from others in this market. Furthermore, customers in the market are sensitive to price differentiation, with the popularity of the internet, if the price they are offered at stores is higher than the price they observed online, consumers will choose not to purchase which boosts the buying power. Also, customers will take more time to deliberate when it comes to expensive appliances as they expected these products to have a longer lifespan and warranty service. Therefore, these deliberations can boost the power of purchasing of customers as it requires retailers to consider price and quality sensitiveness of clients. Overall, buyer power is relatively **MODERATE**.

Bargaining Power of Suppliers

Suppliers of MWG - brand manufacturers - depend on MWG along with other retailers and mom-and-pop stores to purchase and sell their products. These manufacturers can affect commission, stock priority and distribution strategy for each retailer. In the electrical and electronics industry, there are many retailers relative to buyers, switching costs are low for buyers and forward integration is low. Therefore, bargaining power of suppliers is **LOW** for MWG.

APPENDIX F — CAPITAL ASSET PRICING MODEL IN DETAILS

F1 — Raw Beta Computation & Explanations

Regression Statistics	
Multiple R	0.538525879
R Square	0.290010122
Adjusted R Square	0.279720414
Standard Error	0.106195523
Observations	71

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.317850214	0.318	28.18	1.2707E-06
Residual	69	0.778146751	0.011		
Total	70	1.095996965			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.022826441	0.012707926	1.796	0.077	-0.002525178	0.04817806	-0.002525178	0.04817806
Monthly return	1.133295724	0.213470666	5.309	1E-06	0.707433398	1.559158051	0.707433398	1.559158051

The above figure shows the beta of MWG is equal to 1.13, meaning that for every percentage rises in return on VN Index, MWG's return will grow by 1.13% provided all other variables remain the same. Besides, adjusted R square amounts 0.2797 representing that 27.97% of variation in MWG's return can be explained by variation in VNIndex return and 72.03% left may be caused by other factors. Thus, an ascending market return results in a modest increment of MWG's stock. The p-value of Beta is approximately 0 indicating that there is a strong relationship between MWG's return and VNIndex return (0<0.05), with 95% of confidence level (0.05 significant level).

F2 — Adjusted Beta Computation

$$Adjusted\ beta = 0.67 * Raw\ beta + 0.33 * 1 = 0.67 * 1.13 + 0.33 = 1.09$$

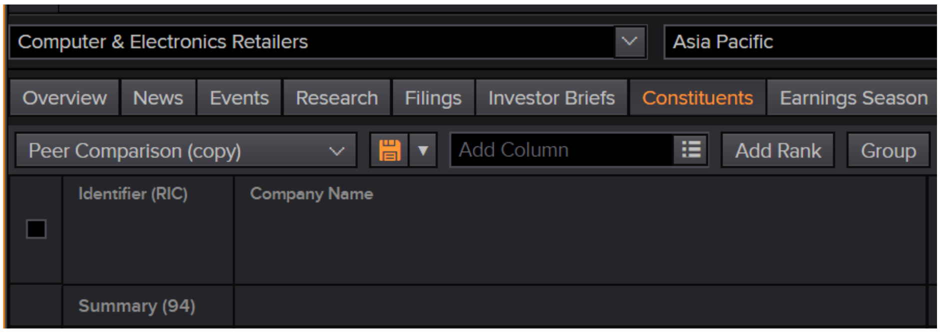
APPENDIX G — PEERS SELECTION APPROACH FOR RELATIVE VALUATION METHOD

G1 — The SARD Approach & The Industry Affiliation Approach Rationales

Sum of Absolute Rank Difference or abbreviated as SARD is the approach that focuses on the fundamentals of companies when determining whether they are relevant to be used in the peer comparison process. Preposition of this method is, according to Knudsen, Overgaard and Plenborg (2017), to find comparable firms by calculating and selecting those with the least sum of absolute rank differences among a set of variables that are expected to affect multiples. The other approach, Industry Affiliation is much more straightforward as it simply refers to selecting peers through industry classification under the rationale that companies in the same industry tend to display similar economic characteristics. As for our group, we have decided to utilize both approaches so that we get the best of both worlds, further strengthening our peer comparison process.

Step One (1): Base Sample Selection

The sample selection process follows the industry affiliation approach. Mobile World Investment Corp is classified as a Computer & Electronic Retailers operating in the Asia Pacific region on Eikon. Therefore, our sample consists of firms from the Computer & Electronic Retailers Industry and within the Asia Pacific region. This results in a 94-firms sample.



Step Two (2): Estimate Relevant Value Drivers

Profitability: Return on Equity

ROE ratio is used as the proxy for profitability as it has been widely seen as a profitability indicator in various scholarly research articles (Alford 1992; Cheng and McNamara 2000).

Risk: Net Debt/EBIT & Market Capitalization

Net Debt/EBIT is selected as the surrogate for risk due to its ability to measure the payback capability of a company. This ratio is also a vital component in credit analysis (Palepu, Healy & Peek 2013). The addition of Market Capitalization as a proxy for risk is from the idea of size premium, in which the researchers plan to capture the illiquidity risk often characterizing smaller companies (Dittmann and Weiner 2005).

Growth: Projected Earnings-Per-Share (T+2)

Analyst forecast of EPS serve as the proxy for growth, the period of T+2 means this is projected earnings between the first and second forward years. The rationale for this period is to avoid normalization of earnings. In our case, the forecast EPS is obtained on Eikon, projected by the StarMine SmartGrowth Model.

**EBIT Margin is suggested to be a notable value driver; however, it only shows strong relationship when assessing EV/Sales multiples while increase the errors when applying P/E and P/BV; hence this ratio is not taken into account here.*

Step Three (3): Convert into ranks

Identifier (RIC)	Company Name	Market Cap (USD)	Return On Equity	Net Debt over EBIT	Earnings Growth Projection (T+2)	Rank (Market Cap)	Rank (ROE)	Rank (Net Debt / EBIT)	Rankl (EPS Growth T+2)
9831.T	Yamada Denki Co Ltd	5,134,450,316	4.0%	5.17	17.6%	2	17	1	3
2468.TW	Fortune Information Systems Corp	34,646,070	5.7%	-3.82	12.7%	17	16	17	7
2730.T	Edion Corp	1,215,515,971	6.1%	3.53	-12.1%	9	15	3	17
ERAA.JK	Erajaya Swasembada Tbk PT	379,659,474	6.2%	2.79	36.5%	12	14	6	2
7618.T	PC Depot Corp	326,307,410	6.8%	-1.71	5.0%	13	13	13	13
8282.T	K'S Holdings Corp	3,361,525,300	8.5%	0.71	-6.5%	3	12	9	16
3048.T	Bic Camera Inc	2,039,947,121	10.6%	2.85	126.6%	5	11	5	1
MSC.BK	Metro Systems Corporation PCL	59,499,358	12.4%	-0.12	13.2%	16	9	11	5
9422.T	Conexio Corp	534,781,963	15.8%	-1.97	5.1%	11	8	14	12
9435.T	Hikari Tsushin Inc	11,211,301,559	19.0%	1.83	3.7%	1	7	7	15
3738.T	T-Gaia Corp	1,122,110,848	23.0%	-3.28	4.6%	10	5	16	14
SIS.BK	SIS Distribution Thailand PCL	140,484,056	26.4%	3.24	13.2%	14	3	4	5
MWG.HM	Mobile World Investment Corp	1,606,103,055	36.3%	1.50	7.0%	6	2	8	10
COM7.BK	Com7 PCL	1,530,808,729	39.6%	0.56	13.9%	8	1	10	4
BIG.BK	BIG Camera Corporation PCL	63,890,147	11.2%	-0.18	7.2%	15	10	12	9
000921.SZ	Hisense Home Appliances Group	2,327,583,906	22.32%	4.83	6.2%	4	6	2	11
002305.SZ	Vatti Corp Ltd	1,544,684,387	25.7%	-2.40	7.3%	7	4	15	8

We remove the firms that do not have the above variables available, reducing the sample size to 17 firms. All of value drivers are transformed into ranks, for instance, the firm with the highest market capitalization is ranked 1 in this term of this variable (EXCEL =RANK function). The full rankings are as above.

Step Four (4): Calculate Rank Difference

Calculate the sum of difference in ranks of value drivers between each firm in the sample, including MWG. For instance, The rank difference between Yamada Denki Co Ltd and Fortune Information Systems Corp = |2-17|+|17-16|+|1-17|+|3-7| = 36. The results are as follow.

	Yamada Dı	Fortune In	Edion Corp	Erajaya Sw	PC Depot (	K'S Holding	Bic Camera	Metro Syst	Conexio Cc	Hikari Tsus	T-Gaia Cor	SIS Distribu	Mobile Wc	Com7 PCL	BIG Camer	Hisense Hc	Vatti Corp
Yamada Denki Co Ltd	0	36	25	19	37	27	15	34	40	29	46	31	33	32	37	22	37
Fortune Information Systems Corp	36	0	33	23	17	35	35	16	22	43	26	31	37	34	15	42	25
Edion Corp	25	33	0	22	20	16	26	33	25	22	27	30	11	35	28	21	34
Erajaya Swasembada Tbk PT	19	23	22	0	20	28	12	17	25	32	33	18	28	23	20	29	30
PC Depot Corp	37	17	20	20	0	18	30	17	9	26	15	28	18	29	10	29	22
K'S Holdings Corp	27	35	16	28	18	0	22	29	21	10	23	36	20	29	24	19	26
Bic Camera Inc	15	35	26	12	30	22	0	23	29	24	35	22	22	21	26	19	26
Metro Systems Corporation PCL	34	16	33	17	17	29	23	0	16	31	24	15	25	18	7	30	21
Conexio Corp	40	22	25	25	9	21	29	16	0	21	8	25	16	22	11	22	13
Hikari Tsushin Inc	29	43	22	32	26	10	24	31	21	0	21	30	30	27	28	13	24
T-Gaia Corp	46	26	27	33	15	23	35	24	8	21	0	27	19	22	19	24	11
SIS Distribution Thailand PCL	31	31	30	18	28	36	22	15	25	30	27	0	23	15	20	21	22
Mobile World Investment Corp	33	37	11	28	18	20	22	25	16	30	19	23	0	28	19	13	12
Com7 PCL	32	34	35	23	29	29	21	18	22	27	22	15	28	0	23	24	13
BIG Camera Corporation PCL	37	15	28	20	10	24	26	7	11	28	19	20	19	23	0	27	18
Hisense Home Appliances Group	22	42	21	29	29	19	19	30	22	13	24	21	13	24	27	0	21
Vatti Corp Ltd	37	25	34	30	22	26	26	21	13	24	11	22	12	13	18	21	0

**The results are symmetrical along the diagonal 0 lines*

Step Five (5): Find the Firms with Lowest SARD

The firms that have the least sum of absolute rank difference are selected as they are closer to MWG in term of the selected variable. A cut-off is decided where we will only select firms with SARD score lower than 20, which leaves us 7 region peers as follow.

Peers	Sum of Absolute Rank Differences With Mobile World Investment Corp
Edion Corp	11
Vatti Corp Ltd	12
Hisense Home Appliances Group	13
Conexio Corp	16
PC Depot Corp	18
T-Gaia Corp	19
BIG Camera Corporation PCL	19

G2 — P/E Ratios of MWG and Peers

Price/Earnings Ratio	2015	2016	2017	2018	2019	5 years AVG
MWG	**10.13**	**15.07**	**17.73**	**12.79**	**13.16**	**13.78**
DGW	7.92	10.95	9.91	8.04	5.67	8.50
FRT	-	-	-	14.23	8.06	11.15
Domestic Average	**9.03**	**13.01**	**13.82**	**11.69**	**8.96**	**11.30**
Hisense Home Appliances Group	22.16	12.79	9.40	6.99	9.37	12.14
Conexio Corp	8.28	11.80	15.06	9.02	12.32	11.30
Big Camera PCL	11.90	22.08	14.09	7.50	8.83	12.88
T-Gaia Corp	9.43	11.09	16.24	7.39	9.04	10.64
Edion Corp	17.92	9.94	17.22	10.30	9.87	13.05
PC Depot Corp	16.42	12.14	18.78	14.42	12.65	14.88
Vatti Corp Ltd	10.73	9.58	11.74	8.19	15.97	11.24
Regional Average	**13.83**	**12.77**	**14.65**	**9.12**	**11.15**	**12.30**
Overall Average	**11.43**	**12.89**	**14.23**	**10.40**	**10.06**	**11.80**

G3 — P/BV Ratios of MWG and Peers

Price/Book Value	2015	2016	2017	2018	2019	5 years AVG
MWG	**4.37**	**6.01**	**6.81**	**4.22**	**4.16**	**5.114**
DGW	1.40	0.90	1.16	1.17	1.02	1.13
FRT	-	-	-	4.23	1.31	2.77
Domestic Average	**2.89**	**3.46**	**3.99**	**3.21**	**2.16**	**3.14**
Hisense Home Appliances Group	3.21	2.86	2.88	1.31	1.93	2.44
Conexio Corp	1.88	1.71	2.24	2.66	1.48	1.99
Big Camera PCL	6.02	14.63	6.06	2.24	1.03	6.00
T-Gaia Corp	3.75	2.50	3.63	4.53	2.19	3.32
Edion Corp	0.65	0.59	0.66	0.81	0.60	0.66
PC Depot Corp	2.09	2.22	1.19	1.56	0.92	1.60
Vatti Corp Ltd	2.83	2.74	4.01	2.35	3.58	3.10
Regional Average	**2.92**	**3.89**	**2.95**	**2.21**	**1.68**	**2.73**
Overall Average	**2.90**	**3.67**	**3.47**	**2.71**	**1.92**	**2.93**

G4 — ROE Ratios of MWG and Peers

Return on Equity (%)	2015	2016	2017	2018	2019	5 years AVG
MWG	**-**	**49.91%**	**45.27%**	**38.68%**	**36.32%**	**42.55%**
DGW	-	-	44.20%	35.57%	16.72%	32.16%
FRT	-	10.78%	11.89%	15.05%	19.30%	14.25%
Domestic Average	**-**	**30.34%**	**33.79%**	**29.77%**	**24.11%**	**29.50%**
Hisense Home Appliances Group	15.47%	24.41%	35.26%	19.78%	22.32%	23.45%
Conexio Corp	21.25%	22.13%	20.26%	18.67%	17.24%	19.91%
Big Camera PCL	67.45%	77.39%	50.26%	29.71%	11.20%	47.20%
T-Gaia Corp	29.40%	29.26%	29.74%	30.88%	33.28%	30.51%
Edion Corp	3.38%	4.20%	8.94%	5.58%	6.71%	5.76%
PC Depot Corp	13.56%	14.76%	10.24%	8.47%	6.55%	10.72%
Vatti Corp Ltd	36.00%	27.34%	30.47%	37.46%	33.39%	32.93%
Regional Average	**26.64%**	**28.50%**	**26.45%**	**21.51%**	**18.67%**	**24.35%**
Overall Average	**26.64%**	**29.42%**	**30.12%**	**25.64%**	**21.39%**	**26.93%**

G5 — Retention Ratio of MWG

MWG	2015	2016	2017	2018	2019
Retention Rate	**45.28%**	**61.01%**	**71.30%**	**76.92%**	**82.67%**
Dividend Payout Ratio	54.72%	38.99%	28.70%	23.08%	17.33%
Retained Earnings (000,000 VND)	977,630	2,261,763	2,698,573	3,989,604	7,149,694