LISBON SCHOOL OF ECONOMICS & MANAGEMENT
UNIVERSIDADE DE LISBOA

# MASTER IN

FINANCE

# MASTERS FINAL WORK

PROJECT

# EQUITY RESEARCH: ALIBABA GROUP

ANTONIO SCIAUDONE

OCTOBER-2018

LISBON SCHOOL OF ECONOMICS & MANAGEMENT
UNIVERSIDADE DE LISBOA

# MASTERS IN
FINANCE

# MASTERS FINAL WORK
PROJECT

## EQUITY RESEARCH: ALIBABA GROUP


ANTONIO SCIAUDONE

**SUPERVISOR:**

PROFESSORA DOUTORA ANA ISABEL ORTEGA VENÂNCIO


OCTOBER-2018

# TABLE OF CONTENTS

# INDEX OF FIGURES

# INDEX OF TABLES

# Abstract

This project comprehends an exhaustive analysis and valuation of Alibaba Group's intrinsic value for the end of 2018, according to ISEG's Master's in finance final work project. This work follows the format recommended by the CFA Institute. Alibaba is an international player, which has continuously changed the rules of doing business, focusing primary on small and medium Chinese enterprises. The valuation takes into account the external factors such as macroeconomic trends, industry projections and geopolitical evolution and the company's annual accounts. We compute the intrinsic value by using an absolute valuation method, more specifically the Weighted Average Cost of Capital (WACC) and a relative valuation method, considering the multiples method. Additionally, a sensitivity analysis and Monte Carlo simulations were used to evaluate the robustness of the assumptions. The final target price by the end of 2018 is 237.80 US$, representing a growth potential of 52.44% from the current price of 156 US$ in September 30th, 2018. Considering also the estimated high risk for the company, our final recommendation is BUY.



**Keywords**: Alibaba Group; Equity Research; Weighted Average Cost of Capital; Valuation; Discounted Cash Flow method; Relative Valuation method; Retail Industry; E-commerce

## Resumo

Este projeto compreende uma análise e avaliação detalhada do valor intrínseco do Grupo Alibaba para o final de 2018, de acordo com o projeto final do Mestrado em Finanças do ISEG. Este trabalho segue o formato recomendado pelo Instituto CFA. A Alibaba é uma das maiores empresas multinacional que tem constatemente mudado as regras de fazer negócios, concentrando-se em pequenas e médias empresas chinesas. A avaliação teve em conta fatores externos, como tendências macroeconômicas, projeções da indústria e evolução geopolítica e os relatório e contas da empresa. O valor intrínseco foi obtido pelo método de avaliação absoluta, mais especificamente o Custo Médio Ponderado de Capital (WACC) e pelo método relativo, o método dos múltiplos. Adicionalmente, realizou-se uma análise de sensibilidade e uma simulação de Monte Carlo para testar a robustez dos pressupostos utilizados. O preço-alvo no final de 2018, é de 237.80 US$, representando um potencial de valorização de 52.44%, face ao preço atual de 156 US$, no dia 30 de Setembro 2018. Considerando também o alto risco estimado para a empresa, a nossa recomendação final é COMPRA.



**Palavras-chave**: Grupo Alibaba; Pesquisa de Ações, Custo Médio Ponderado de Capital; Avaliação; Método de Fluxo de Caixa Descontado; Método de avaliação relativa; Indústria de varejo; Comércio eletrônico

## Abbreviations

APV – Adjusted Present Value
B – Beta
B2B- Business to Business
B2C- Business to Consumers
BASE- Beginning, Addition, Subtraction, Ending
BU – Business Unit
C2C- consumer to consumer
CAGR- Constant Annual Growth Rate
CAPEX – Capital Expenditure
CCC – Cash Cycle Conversion
COGS – Cost of Goods Sold
D&A – Depreciation and Amortization
DCF – Discounted Cash Flow
DIO – Days Inventory Outstanding
DPO – Days Payable Outstanding
DSO – Days Sales Outstanding
EBIT – Earnings Before Interest and Taxes
EBITDA – Earnings Before Interest, Taxes, Depreciation and Amortization
ER – Economic Risks
ERP – Equity Risk Premium
FCFF- Free Cash Flow to the Firm
FED- Federal Reserve System
FMCG – Fast Moving Consumer Goods
g – Perpetual Growth Rate
GDP – Gross Domestic Product
GMV- Gross Merchandise Value
IMF- International Monetary Fund
M&A- Mergers and Acquisitions
MR- Market Risks
NWC – Net Working Capital
NYSE – New York Stock Exchange
OR – Operational Risks
OTR- Other Risks
P&L – Profit & Loss (statement)
P.R.C.- Popular Republic of China
PESTEL- Political, Economic, Social, Technological, Environmental, Legal
PRC – Popular Republic of China
Rd – Cost of Debt
Rf – Risk-Free Rate
ROA – Return on Asset
ROE – Return on Equity
Ru – Unlevered Cost of Capital
S.W.O.T. – Strengths, Weaknesses, Opportunities and Threats
SAIC- State Administration for Industry & Commerce
TV – Terminal Value
W.A.C.C. – Weighted Average Cost of Capital
WACC- Weighted Average Cost of Capital
Y.O.Y- Year Over Year

## Alibaba Group

# BUY

### High Risk

### October 2018

**Table 1- Risk Assessment**

| Low Risk | Medium Risk | High Risk |
|---|---|---|

*Source: Author*

**Table 2- Risk Classification Matrix**

| | Low Risk | Medium Risk | High Risk |
|---|---|---|---|
| **Buy** | > 15% | > 20% | > 25% |
| **Hold** | > 10 % and < 15% | > 10% and < 20% | > 10% and < 25% |
| **Sell** | < 10 % | < 10% | < 10% |

*Source: Company Data*

**Table 3- Market Profile**

| **Market Profile** | |
|---|---|
| Ticker | BABA |
| # Shares (M) | 2529 |
| Close Price | 156.53 |
| 52 week High | 135.14 |
| 52 week Low | 211.7 |
| Market Cap (US$ B) | 360,559 |

*Source: Bloomberg; Author*

## 1.Research Snapshot

Alibaba Group is a Chinese conglomerate listed on the New York Stock Exchange. It is mainly specialized in online retail, wholesale and internet services. The company is divided into four business units, which are: Core Commerce (including national and international retail and wholesale commerce); Cloud Computing; Digital Media and Entertainment and Other Innovation Initiatives.

Our recommendation for Alibaba Group, using the discounted cash flow method as absolute method of valuation and considering the investment risk matrix as level of risk, stands for BUY, with a price target of US$ 237.80, using an absolute valuation by the end of 2018, and an upside potential of 52.44% compared to the closing price of 30th of September US$156.53.

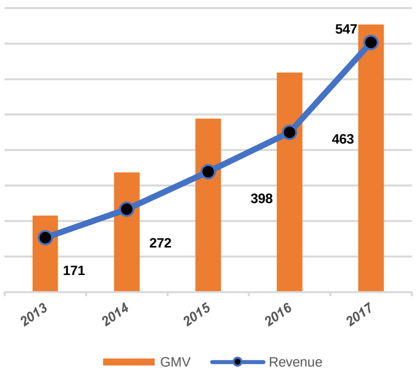
Alibaba Group presents a HIGH level of risk. Since its listing in the stock market, Alibaba's share price has been very volatile. In addition, the company does not plan to pay any dividend in the future. From an operational point of view, the group faces high competition on the national and international arena. From the geopolitical side, the company might be seriously affected from the trade barriers with the United States and other countries.

In 2022, we expect that sales will reach US$ 73,336 million, starting from US$ 24,004 million in 2017. During the forecasted periods the gross margin will be around 60%, while earnings before depreciation and amortization will grow on average approximately 21%. Overall, the net income, which was volatile during the past five years, will rise on average about 20%.

**Table 4 – Alibaba Share Price**

## 2.Business Description

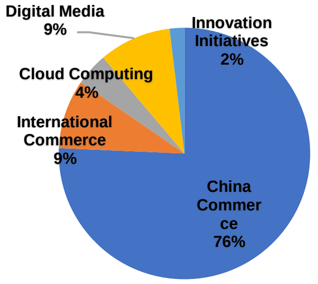
Figure 1 - GMV and Revenue Growth in US$ Billion




*Source: Company Data; Author*

Alibaba, founded in 1999 by Jack Ma is the largest retail platform in the world in terms of Gross Merchandise Value (GMV), with a total of US$ 547 billion and 454 million of active buyers in 2017 (Figure 1). It began as a B2B platform with *1668.com*, then, extend into B2C and C2C through *Tmall* and *Taobao*, reaching the biggest US IPO in history in 2014. Nowadays, the group operates as a middleman company, offering technology infrastructure, payment platform, logistics and marketing tools, to connect and facilitate transactions among merchants and customers all over the world. Despite its presence in more than 200 countries, the Chinese market accounts for more than 80% of total revenue. The new business areas such as Cloud Computing, Digital Media and Entertainment and other Innovative Initiatives increased during the last years, represented 15% of the revenue by the end of 2017 (Figure 2).

Figure 2 - Revenue Generated by Category Provided




*Source: Company Data; Author*

### Key Leading Platforms

#### *Alibaba.com*

It is the first platform launched by the group, becoming in 2014 the world largest B2B trading platform for SME (small medium enterprises). The principal role is to link Chinese manufacturers, distributors and small businesses with more than 240 countries.

#### *1668.com*

It is the second platform launched by the company, with the aim to connect Chinese wholesalers within the nation.

#### *Taobao.com*

It is the biggest C2C e-commerce and the 8th most visited website in the world, counting 617 monthly active users. It is the first C2C marketplace launched by the company, allowing small businesses and individual entrepreneurs to sell in the platform to Chinese speaking regions.

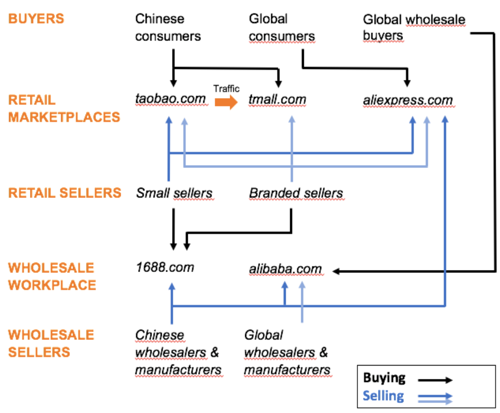
#### *Alimama*

It is an online advertising technology platform, providing a transparent system to both web publishers and advertisers.

#### *Tmall*

It is a B2C online platform for local Chinese and international businesses to sell premium products to Chinese consumers.

**Figure 3 – Operational structure**




*Source: Company Data; Author*

### *Alibaba Cloud*

It is a Cloud computing service to online businesses and for Alibaba's ecosystem.

### *AliExpress*

It is an online retail platform that connects small Chinese businesses and individuals with customers all over the world.

### *Cainiao*

It is a logistic data platform launched in 2013, providing real time information to both merchants and consumers.

### *Ant Financial*

It is a fintech platform focused on small and micro businesses to build an open ecosystem of internet of things and technologies.

## Operational Strategies

Alibaba group aims to help small enterprises to become worldwide players by creating a global commerce platform (Figure 3), using in house innovations and technologies. At the same time, the rural expansion program plays a crucial role in the company's strategy because it connects several hundred millions of Chinese from the countryside area, through high quality service centres that facilitate purchases and deliveries.

Alibaba exploits positive synergies from each platform in order to attract a large number of merchants. Customers acquired through online marketing services are used to cross sell other products from the group. For example, Taobao, drives significant traffic to Tmall and on the other hand Tmall products also appear on Taobao platform, allowing for lower traffic acquisition costs. In 2017, Alibaba listed more than 1.5 billion products and more than 450 million annually active buyers, representing the high penetration rate in the Chinese population.

***Sales & Marketing -*** The breadth of personalized content and the interactive user experience are the core base to enlarge the traffic on platforms (Appendix 1). In fact, online marketing services represent more than 56% of revenue. Alibaba uses big data insights like cloud computing to further optimize relevant content on the platform such as the accuracy of shopping recommendations and targeted marketing while, merchants are offered a complete suite of tools and services to engage consumers and manage efficiently their operations.

***Payment system -*** The principal payment service used by the group's platform in China is Alipay, which also provides escrow provisions in order to let the consumer check first the quality of the products on *Taobao, Tmall, 1668.com, Aliexpress* and other certain platforms. Credit cards are used by international consumers.

***Logistics -*** The logistics data platform, links consumers, vendors and logistics service providers by improving the overall efficiency across the logistics value chain. By the end of 2017 FY, *Cainaio* counted with 15 strategic express courier partners, of those some are specialized on services for large appliances and consumer electronics such as Haier Electronics and Suning. Meanwhile, it employed more than 1.8 million delivery personnel in more than 600 cities and operated more than 180,000 hubs and sorting stations, delivering 16.6 billion packages.

# 3.Management and Corporate Governance

The number of ordinary shares outstanding at 9/06/2017 were 2,529,364,189. The free float accounted for 35.70%. The main institutional investors are SoftBank and Yahoo, with stakes equal to 29.2% and 15%, respectively. The directors and top executive own 10.6% of the total shares and Jack Ma and Joseph Tsai hold 7% and 2.5% of ordinary shares outstanding, respectively.

## The Partnership Model

The governance structure (Appendix 3) follows a particular “dual class ownership structure”, where the partnership approach aims to embody the vision of a large group of management partners. The Alibaba Committee is an upper administrative body composed by: Jack Ma, Joe Tsai, Lucy Peng, Daniel Zhang and Eric Jing, that nominates the partners and the member of the committee itself. The committee serves a three years term and can serve multiple terms. The committee members have the rights to nominate the members itself, while also the partners can vote to remove the committees if fail to promote their mission. Overall, the five members have high decisional power over the company decisions.

The “Alibaba Partnership”, officially constructed in 2010, is made of 36 partners plus the committee members. All partners are entitled to one voting right. The partnership is entitled to vote 11 directors, whose 4 are Alibaba Partnership members.

Since Alibaba is a foreign company listed on the NYSE, it has the exemption to not to have a majority of independent board members when it comes to vote. Consequently, shareholders may not have the same benefits under the NYSE regulation as other listed national companies.

***Board of Directors -*** (Appendix 4) is composed by the three different groups, with 11 members in total. SoftBank nominates one member. Directors are elected for three-year term and may serve multiple terms. The Board of Directors oversees the management of the business and affairs of the company. It establishes the audit committee, the compensation committee and the nominating and corporate governance committee.

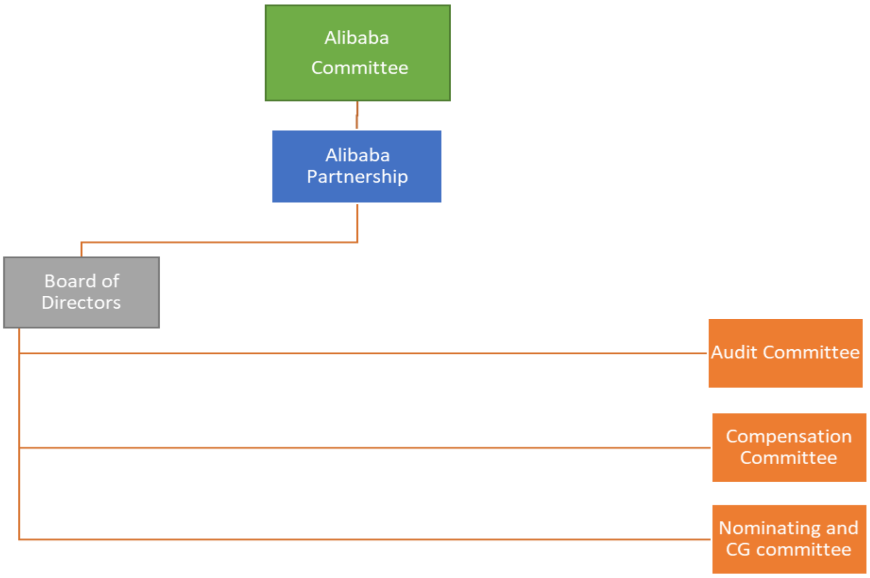
***Audit Committee -*** is composed by three independent directors and they are responsible for overseeing reporting processes and audit financial statements. Price Waterhouse Coopers inspects the group accounts as external auditor.

***Compensation Committee –*** is composed by three independent directors and they define the annual cash bonus pool and revise the compensation policy.

***Nominating and Corporate Governance Committee –*** is composed of three directors, one of them is not independent. They define the board nominees and reviews periodically the board composition.

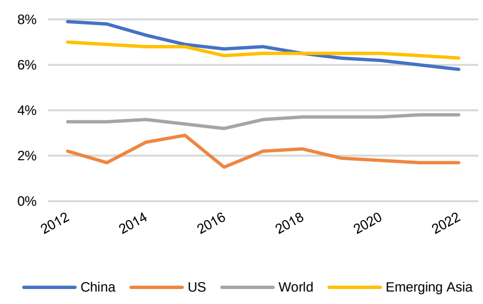
***Governance Structure and Direction***

*(Source: Company Data;Author)*



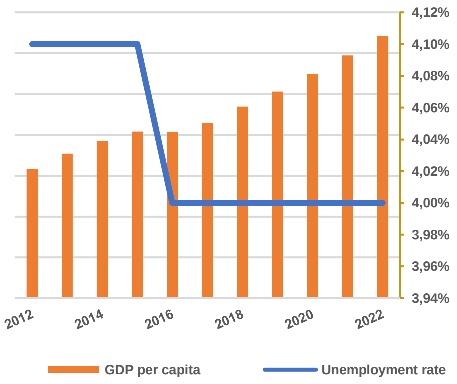

| **Name** | **Position** |
|---|---|
| Jack Yun Ma | Executive Chairman |
| Joseph C. Tsai | Executive Vice Chairman |
| Daniel Yong Zhang | Director and CEO |
| J. Michael Evans | Director and President |
| Masayoshi Son | Director |
| Eric Xiandong Jing | Director |
| Chee Hwa Tung | Independent Director |
| Walter Teh Ming Kwauk | Independent Director |
| Jerry Yang | Independent Director |
| Börje E. Ekholm | Independent Director |
| Wan Ling Martello | Independent Director |

**Figure 4 – GDP Growth Rate**



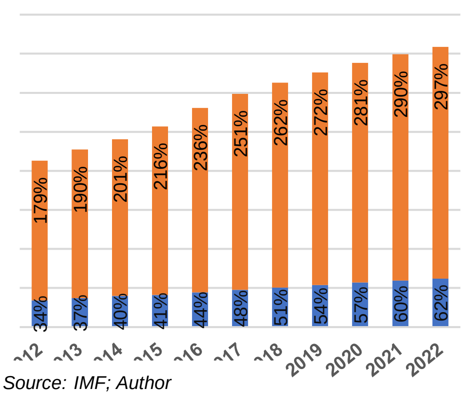

*Source: IMF; Author*

**Figure 5 - China GDP per Capita and Unemployment Rate**




*Source: IMF; Author*

**Figure 6 - China Gross Debt and Non-Financial Debt over GDP expressed in %**




*Source: IMF; Author*

■ Gross Debt ■ Non financial Debt

*Source: Sovereign Analysis*

# 4.Industry Overview and Competitive Positioning

During the past five years, the Chinese economy have faced a slowdown in its GDP (Figure 4). In fact, the growth rate declined around 124 bps, falling from 7.9% to 6.7%. This was a result of capital outflows and constant exchange rates. The People's Republic of China (PRC) set a tightening monetary policy to ensure financial stability. On the other hand, the expansionary fiscal policy saw a huge increase in large scale infrastructure projects, causing a quadruplication of debt from 2008 in the non-financial sector.

## Economic Outlook

China is in line with the Asian economies with a GDP growth rate around 6.5% for the following 5 years. At the same time, according to the International Monetary Fund (IMF), the U.S. and World economy will follow the same trend. By 2022, the U.S. and the global GDP are forecasted to grow around 1.7% and 3.8%, respectively. In terms of households, U.S. citizens have a higher purchasing power and the forecasted growth rate is expected to be 6.9% in year.

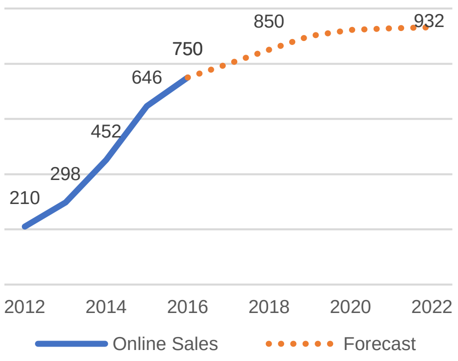
### China

The Chinese economy faces an overall positive trend. In fact, in 2016 the general unemployment rate fell to 4% and it is expected to be constant over the following years (Figure 5); the GDP per capita faced a constant annual growth rate of 693 bps. The current national balance of payments shows a projected downturn of 25%, which is mainly explained by a passive global recovery in the exports, while the imports suffered a weakening of capital goods. The general government gross debt (Figure 6) is expected to increase for the selected period.

### US and World

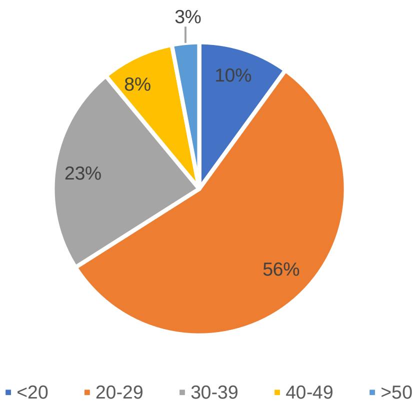
The global growth rate reached a peak in some economies, like in the U.S., the momentum is getting stronger and the U.S. dollar got an appreciation. On the other hand, other economies like the euro area, Japan and United Kingdom will have a slightly decrease in growth expansion. For what concern emerging markets, the future trends are considered to be uneven due to rising oil prices, trade tensions, geopolitical conflicts and market pressure on currencies where the economies have not strong fundamentals.

**Figure 7 - Online Retail sales in China in Billion US $ Source: Sovereign**



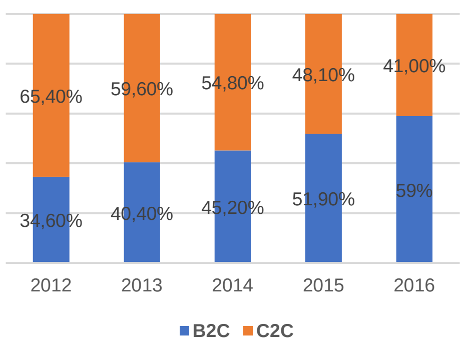

*Source: Sovereign Analysis; Author*

**Figure 8 – Age of Chinese Online Shoppers**




*Source: iResearch; Deloitte; Author*

**Figure 9 – Typology of Transaction**




*Source: iResearch; Deloitte; Author*

In the U.S., the unemployment rate fell to the minimum, creating additional inflationary pressures, while the current account increased during the past years, like the excess global imbalances. The U.S. economy shows higher level of debt compared but it seems to be constant over the years, with a CAGR of 2.23%.

The Euro area growth forecast is expected to slow down to 1.9% in 2019, with a downside revision for Germany, France and Italy. The growth forecast for emerging and developing Europe is expected to increase around 3.6% in 2019, considering tightening financial conditions for some countries like Turkey, with a huge external deficit.

The growth rate for the Latin America region is projected to be around 2.6% in 2019, mainly driven by commodity prices, while on the other side some countries will apply tighter financial conditions.

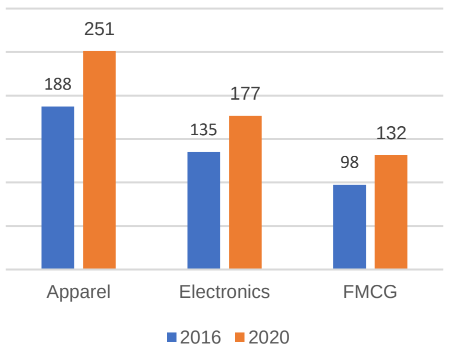
## Online Retail Industry and Trends

Traditional retail channels in China are still highly fragmented, but China's online commerce has become the largest in the world, with more than 460 million shoppers online, reaching US$ 750 billion in 2016 and 13.5% of the total retail market (Figure 7). With a penetration rate of 38%, China online shoppers experience a CAGR of 18% from 242 million users in 2012, expecting to reach 932 million users by 2022. The majority of online shoppers are in the range 20-39 years (Figure 8), representing 79% of total online consumers. During the past five years the online retail sales in China had a CAGR of roughly 29% and the forecasted CAGR is of 23% for the next three years. The main drivers of the growth are the expansion of retail categories, the upgrade in the logistics infrastructures and the continuous online growth in the lower tier cities and rural areas.

In 2012, the online retail C2C represented roughly 66% of total sales in China but during the past years, this category has decreased, leaving place to the B2C category. In fact, in 2016 B2C accounted for 59%, with a CAGR of 16.67%. In terms of Gross Merchandise Value (GMV), the B2C retail online reached US$ 374 billion in 2016, starting from US$ 64 billion in 2012, with an expected increase YOY of 11% for the following three years. The C2C category in 2012 reached a total GMV of US$ 128 billion, levelling off to US$ 303 billion in 2016 and it is expected increase by 741 bps (Figure 9).

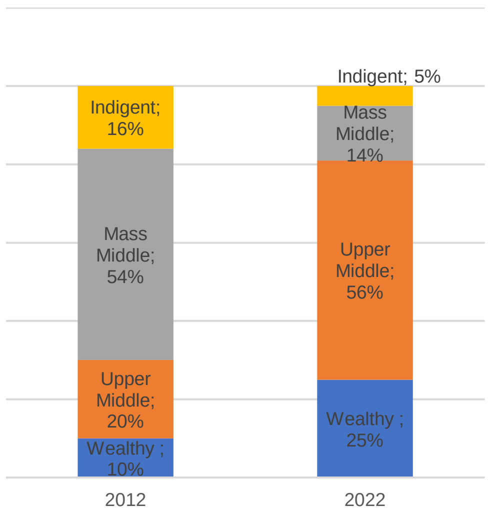
Purchases from smartphone, compared to the laptop are getting more in vogue. In 2015 the transaction scale by mobile terminals amounted to US $46.5 billion, accounting for 55.5% of total online transactions, surpassing for the first-time purchases from laptop. 52% of the Chinese

**Figure 10 - Online growth in US$ billion in terms of category purchased**




*Source: Sovereign Analysis; Author*

**Figure 11 – Urban Private Consumption by class in percentage**




*Source: iResearch; Euromonitor; Author*

shop on a daily or weekly basis from their smartphone, compared to 14% of the consumers globally.

In terms of categories, apparels, electronic appliances and fast-moving consumer goods (FMCG) represent 25%, 18% and 13% of total Chinese online GMV, respectively (Figure 10). Apparel and shoes have the highest penetration rate among all categories. In 2016, it accounted for 31% and it is expected to grow 180 bps by 2020. In contrast, electronic appliances by the end of 2020 will reach an online penetration of 55%. Considering the provinces, Guangdong, Beijing, Zhejiang and Shanghai, represent more than 72% of the total online market.

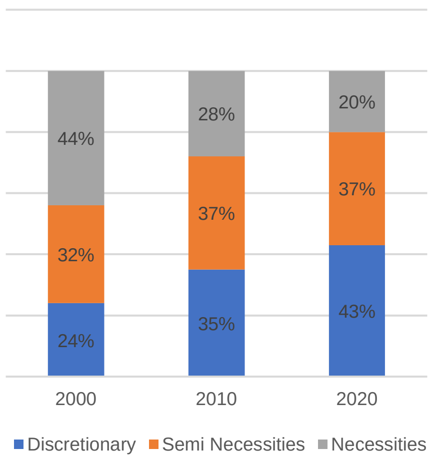
The online commerce in China is characterised by marketplaces where products and services are provided on a single platform by several third parties and processed by the marketplace operator. In China, the main marketplaces for the B2C categories are *JD* and *Tmall* with a market share of 25% and 57%, respectively in 2016, while for the C2C categories, *Taobao* and *Paipai* (Tencent Holding) account for almost total market share.

Merger and acquisition activities in China's retail industry experienced an exponential growth in 2012 and 2015. In 2011, the total transactions increased to US$ 10.3 billion, due to Alibaba's acquisition of Yahoo, for US$ 7.1 billion, while in 2015 the total transactions reached US $15.6 billion and for the first-time Chinese e-commerce enterprises invested abroad, representing 6.91% of total transactions. This phenomenon is explicated by the national strategy "Belt and Road", aiming to support infrastructure construction and favourable policies for international online shopping.

The household consumption in China showed that mass middle class in 2012 represented more than the half of total consumers, spending a total amount of US $1.6 billion, while wealthy and indigent accounted for 11% and 16%, respectively. The upper middle class will experience the highest CAGR of 22.3% and a total volume of US $2.4 billion in 2022 (Figure 11). Geographically, the middle class will move from the coast to the inner part of the country. In fact, by 2020 coastal population will decrease from 87% to 61% and Tier 1 cities will lose their appeal in favour of Tier 3 and Tier 4 cities, thanks to several infrastructure developments. This will have a positive effect on online retailing.

From 2000 to 2010, urban Chinese individuals changed their shopping habits. Discretionary spending experienced a substantial positive increase, with a YOY growth rate of 4.7%, while semi-necessities reached a total value of US $570 billion and essential goods slightly grew. By 2020 the annual household consumption should rise to US

**Figure 12 – Purchases by Category**




*Source: McKinsey; Author*

$4.38 trillion, of those 43% is represented by durable goods and 20% by basic goods (Figure 12).

## Competitive Positioning

Alibaba was one of the first ecommerce companies to operate in China. In fact, being the first mover in a virgin market enabled the firm to have a strong market share in the B2B, B2C and C2C segments. The main strategy of the company has always been to embrace change, be flexible and innovative, expand product and service offerings and improve customer experience.

Alibaba's revenue strategy focuses on a pay for performance marketing service, where merchants bid for keywords that match listed products in the search engine, on a cost per click basis, at prices established by the online platform system, commissions on transactions and storefront fees. Overall, the firm provides a suite of tools to assist merchants in upgrading, decorating and managing their storefronts.

Positive externalities arise from the several platforms. This is beneficial for both the buyers and sellers. In fact, the presence of more buyers gives the sellers more opportunities to exploit, while more sellers lead to lower prices for buyers. Alibaba has been able, since the beginning, to diversify itself, providing better services for its customers, creating higher switching costs.

Local knowledge represented a crucial point to overcome foreign competitors. An example is the payment system which was obtained through a collaboration with a Chinese bank. In addition, foreign companies have faced several hurdles during the past because of Chinese regulatory system, restricted internet access and usage abroad, leaving the Chinese companies with a competitive advantage.

## Main Competitors in the market

In terms of revenue, Alibaba is similar to its main competitors. Most of retailers only have online presence and their trading region is China. Indeed, Gome and Suning have the highest presence offline and Ebay and Amazon revenue represent less than 1% in China. The actual digital buying penetration rate in China is roughly 70% and mobile active users on Alibaba platforms represent 550 million while Tencent's users accounts for 1 billion and the other national players reach a total of 300 million.

*Amazon*

It operates an online retail shopping service; whose products are third party reselling merchandise. Amazon manufactures and sells electronic devices. The company also offers other services, like database offerings, fulfilment, publishing, advertising and co-branded credit cards.

*EBay*

The company operates marketplaces, StubHub and classified platforms, connecting sellers and buyers from all over the world. The platforms are accessible through online experience, mobile devices and application programming interface.

*Gome*

It is one of the main electrical appliance retailers in China and Hong Kong. The company offers household electrical appliances, mobile phones and accessories, logistic services and business management services.

*JD.com*

It is an online direct sales company in electronics and home appliance products and general merchandise products sourced from manufacturers, distributors and publishers in China.

*Suning*

It is a Chinese retail company, selling household appliances, digital products and communication products.  Suning is engaged in the sales of communication products, small household appliances, digital and information technology service products.

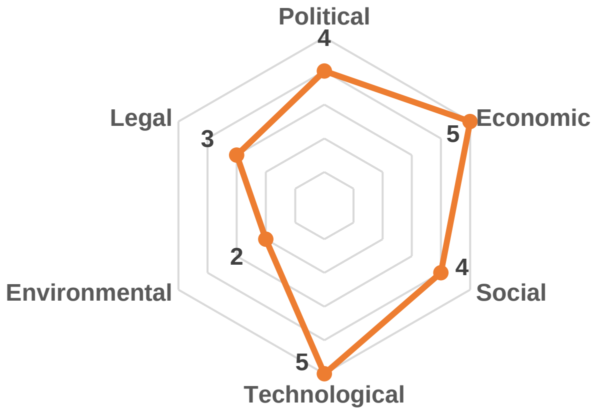
*Tencent*

It is a Chinese company mainly involved in the provision of value-added services, through online games, community value added services and application across various platforms, while the online advertising services segment offer display based and performance-based advertisements.

*Vipshop*

It is an online discount retailer for brands in China. The company offers branded products to consumers in China through flash sales mainly on its website. The flash sales model offers limited quantities of discounted branded products in line for limited periods of time.

## Pestel Analysis




The PESTEL Analysis is conducted in order to evaluate Alibaba competitive positioning, taking into account all external factors that could affect the company

This radar chart goes from 0 to 5, where 0 indicates no impact on the business while 5 represents a high influence on the company

**Political: Moderately High-4**

China is a relatively political stable country. Indeed, the country is run by the same party, for almost 70 years. Furthermore, the recent re-election of Xi Jinping, general secretary of the party, is another proof of the political stability of the People's Republic of China.

Chinese policies are very strict and favourable toward local business, making it difficult for international competitors to do business there. Also, several policies have been settled to the retail industry to stimulate the economy. Therefore, the digital industry positively benefited. Digitalization has been well-developed by the country, and this is part of the plan of the government of dismantling the image of "world's factory".

**Economic: High-5**

The economic environment in China has been stable with 6.9% GDP growth rate in 2017 and it is forecasted to remain as high in 2018, too. China's economy is also stimulated by an important national and international demand. Although, this international demand might decrease due to the new customs duty and trade barriers enacted by US touching particularly China's exports. Although China focus on economic stability, its huge non-financial debt will harm national and international economies.

**Social: Moderately High -5**

China's society has been evolving rapidly. The material culture and the abundance of advertising mixed with the increase of income, made them able to afford premium goods. The rapid digitalization of the country also allowed China to upgrade to the citizens life. Chinese are also very present and fond of social media. In 2013, 91% of Chinese had an account on a social network. However, people are still very controlled in particular because of censorship.

**Technological: High - 5**

Trying to escape from this image of "world's factory", the government applied several digitalization policies that companies started to implement quickly. In 2015, 58% of Chinese industries invested in the development of intelligent systems. Also, the rise of e-commerce emphasized this trend and is at the origin of a more effective logistic in the retail industry.

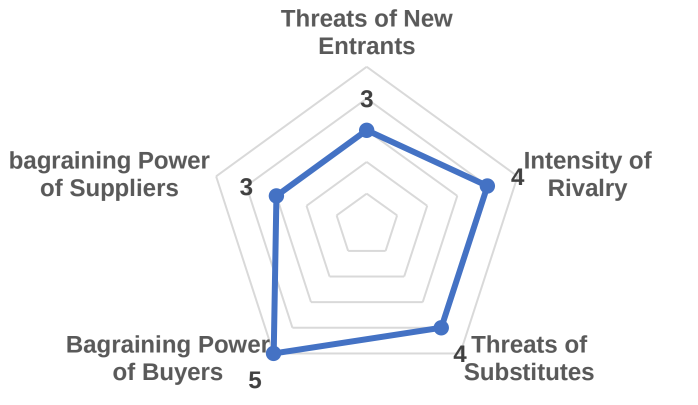
**Environmental: Low - 2**

Even though China is trying to make environmental efforts, this is still causing a lot of ecological issues. The efforts have been not enough, such as tax on pollution, which is still making China one the most polluted country of the world.

**Legal: Moderate - 3**

Strict laws have been implemented in China to protect the consumers and especially the online transactions making the digital retail industry very regulated. Also, China controls the data by stocking data in the country and allowing authorities to consult them if necessary.

## Porter’s Five Forces




The Porter Analysis is conducted in order to evaluate Alibaba competitive positioning, taking into account the main stakeholders that could affect the company performance

This radar chart goes from 0 to 5, where 0 indicates no impact on the business while 5 represents a high influence on the company

**Threats of New Entrants: Moderate – 3**

Ecommerce industry is characterised by high returns and thus competition is quite fierce. Many firms are trying to enter the market and imitate Alibaba’s business model. Since the company has a large loyal base among its customers, new entrants find it very difficult to enter this market. Also, initial investments are quite high and market share is very limited. Despite these issues, several companies have entered by applying differentiation strategies such as narrowing their segments.

**Intensity of Rivalry Among Existing Competitors: Moderately High – 4**

Alibaba and JD represent more than 80% of the market share while several other companies hold a very small slice of the market. All of them compete on price, free takeaways, advertising wars and value-added services. Meanwhile many retailers and brands are experimenting the Online to Offline (O2O) marketing, driving customers to the stores through online channels, while others started to invest in omni channels capabilities improving operational efficiency, customer experience and profitability.

**Threats of Substitute: Moderately High – 4**

Even if shopping in the stores is becoming a bit less popular, offline retailer still represents an alternative to online commerce. In fact, online shopping lifestyle has entered only few years ago into Chinese habits.

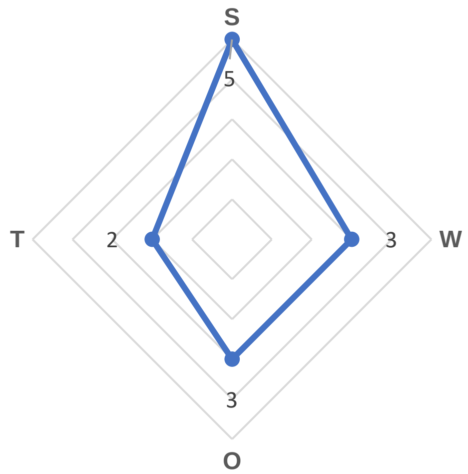
**Bargaining Power of Buyers: High – 5**

Transaction and switching costs from a platform to another are relatively low. For this reason, buyers bargain for services and quality and prices cuts keep the profitability of the industry in check. Chinese population is very large in volume reducing its bargaining power. Nevertheless, overall the bargaining power of buyers is very high.

**Bargaining power of suppliers: Moderate – 3**

The abundance of suppliers and the ease of buyers of checking prices instantaneously, lower their power in terms of negotiation and margins.

## SWOT Analysis




The SWOT Analysis is conducted in order to evaluate Alibaba's Strengths, Weaknesses, Opportunities and Threats.

This radar chart goes from 0 to 5, where high value for Strengths and Opportunities have a positive impact while the opposite for Weaknesses and Threats.

***Strengths***

**Leader in the market**

With US$ 547 billion in GMV and a 79% mobile penetration in 2017, Alibaba is the market leader in the Chinese market and the largest retail company in the world. This result is due to a strong presence in the B2B, B2C and C2C platforms, providing a very comprehensive set of services when compared to other local competitors. In addition, the robust consumer base enables the company to attract more users on the different platforms and thus leading to a virtuous cycle.

**Synergic effects**

The business structure requires a significant operating leverage, which Alibaba has been able to soften thanks to the ecosystem effects, using a vast amount of consumer base and enabling cross selling opportunities from a platform to another. Indeed, these synergies allowed for lower traffic acquisition costs, reaching 6.77% savings in 2015.

***Weaknesses***

**Merchandise transparency**

Alibaba does not own any stock and for this reason, it cannot check for the authenticity of the listed product. In fact, in 2015 the Chinese State Administration for Industry & Commerce (SAIC) blamed Alibaba that 15% of the products were non-authentic and on the same year, Kering indicted Alibaba for trademark infringing. At the same time, the company does not provide enough information about vendors.

**Governance Structure**

The company was refused by the HKSE (Hong Kong Stock Exchange) because of the high concentration of power in Alibaba's Partnership. This partnership nominates the board of directors even if the number of shares they hold are less than the half.

**Logistic issues**

Even if Alibaba operates through *Cainiao*, a logistics data platform, linking their information system with those of logistics service providers, it does not deliver any product and for this reason is not able to manage slow shipping times and inefficiencies reaching final customers.

***Opportunities***

**Global presence**

Chinese market represents more than 80% of its total revenue, but Alibaba aims to serve the global market by acquiring new foreign companies. At the time same, through "Rural Taobao Program", it aims to reach around 600 million people which have limited access to goods and services and help farmers to sell agricultural products to urban consumers.

**Online to Offline (O2O)**

The Chinese market is moving into an online to offline model, linking online purchases to physical stores, this trend is given by the fact that more people are connected to internet through mobile phones than laptops. In fact, Alibaba and *JD* started to invest respectively in *Yiguo* and *Fruit Day* to increase their brick-and -mortar presence.

***Threats***

**Trade war**

The $250bn tariffs imposed by the United States on finished consumer goods produced in China represents a barrier to Chinese exports, and at the same time, the tariffs imposed by Chinese government over U.S. products give instability to the geopolitical trading.

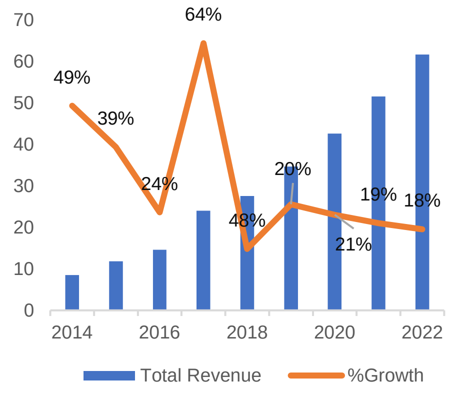
**Government influence**

Since the Communist Party plays a central role in the economy, Alibaba could be harmed by government regulations, such as intensification of ecommerce rules and open boarders to foreign companies.

**Logistics restrains**

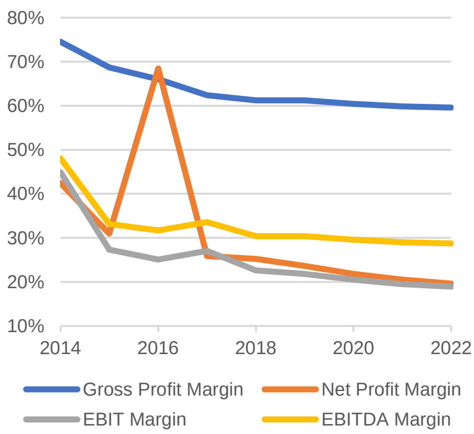
Chinese highway systems are not very extensive, and it is quite difficult to reach rural areas in a timely and inexpensive manner. In addition, railway system is well developed for passengers while the access for freight is very limited. Outside large cities, warehouse space is very restrained and less than 20% are fully equipped with computerized system.

**Figure 14 – Revenue Forecast in US$ Billion**



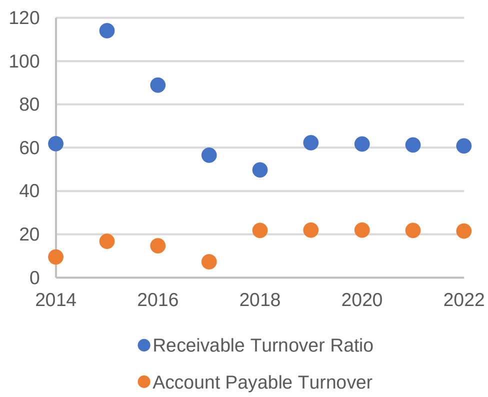

*Source: Company Data; Author*

**Figure 15 – Profitability Indicators**




*Source: Company Data; Author*

**Figure 16 – Efficiency Indicators in Days**




*Source: Company Data; Author*

# 5.Financial Analysis

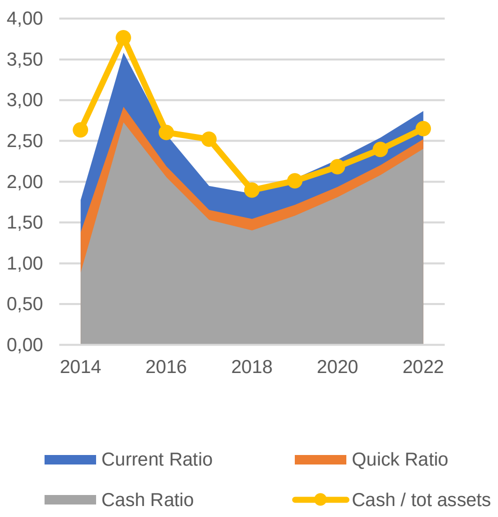
## Revenue and main costs

Alibaba's sales come mainly from Chinese online retail commerce, in fact it represents 72% of total business in 2017, while in 2015 and 2016 it was 78% and 79%. On the other hand, the cloud computing and digital media and entertainment divisions had a sharp growth rate, 121% and 199% respectively. Indeed, digital media and entertainment accounted 13% of total revenue in 2017 and cloud computing division reached 4% in the same year. For the coming years, we expect the same composition of business lines, with online retail representing the main revenue driver and the other keeping the same portion (Figure 14). Total sales will continue to grow, but at a slower rate, as a result of the forecasted slowdown in the Chinese economy. Operating costs, instead, will have a significant impact in this period, indeed the investing program planned by the company in Chinese businesses and other foreign unicorns will impact on Alibaba's profitability (Figure 15; Appendix 12) in the short term, going from an average cost of goods sold of 31% in the past years to 40% in the forecasted period. The main costs such as product development, sales and marketing expenses, general and administrative expenses will be constant in the future, keeping the same percentage rate as in the previous four years

## DuPont Analysis

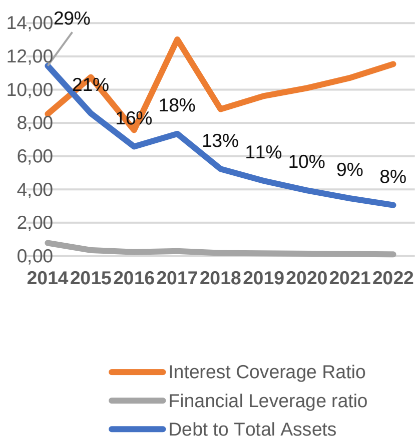
The return on Equity over the past years suffered huge ups and downs, in fact in 2014 it was around 53% while in 2017 and in 2022, it will be on a 13% level. This is a result of a huge reduction in net profit margin, going from 41% in 2014, to 27% in 2017 and 22% in 2022 mainly due to the slowdown on revenue's growth rate. The asset turnover ratio in 2022 will be on the same level as in 2014, around 47%, recovering from 31% in 2017 due to revenue development and constant increase in total assets. The equity multiplier suffered a steep decrease from 2.73 in 2104 to 1.56 in 2017, till 1.3 in 2022 because equity grew more than doubled compared to 2017.

**Figure 17 – Liquidity indicators**




*Source: Company Data; Author*

**Figure 18 – Solvency Indicators**




*Source: Company Data; Author*

## Liquidity & Efficiency

The company was very liquid during the past years (Figure 17). In fact, the current and quick ratios were always above 1, proving to be solid for short term obligations. Liquidity is driven by good working capital management and good account receivable and payable days. Sales outstanding is 5 days and payable outstanding is 23 days. In the coming years, we expect Alibaba to start paying its vendors back on an average of 18 days to be more attractive than the other competitors (Figure 16). Consequently, liquidity performance will slightly worsen to an average of 25% for cash over total assets. Alibaba's average operating cycle over the past years was -17 days, meaning that the cash conversion was efficient, but if compared to the national competitors, they only did better than Suning and JD.com. Tencent and Gome collected cash over -65 days.

Since 2014, Net debt was always negative but during the last years, it increased considerably. Due to the fact that Alibaba is an internet company, it has huge amount of cash and cash equivalents, while the level of financial debt is represented mainly by unsecured senior notes and bank borrowings. The later item experienced an increase in 2017.

## Solvency

Alibaba has reduced its debt over total assets along the years from 29% in 2014 to 18% in 2017 (Figure 18; Appendix 13). Its main competitors, Tencent and Vipshop, had a similar capital structure, 25% and 20%, respectively in 2015, while Suning appeared to have a higher ratio, mainly because it is an offline retailer. On the other hand, the financial leverage was in line with Tencent's, while JD.com and Suning showed a lower gearing during the past periods

Looking at the Altman's Z-score, credit strength indicators, Alibaba falls into the middle interval of 2,14, meaning that the risk to fall into bankrupt is low. Over the past four years, the company improved its profitability level, reaching a ratio of 0,22 in 2016, however the EBIT/Total Asset ratio decreased considerably.

# 6.Valuation

Absolute and relative valuation methods were used to estimate the intrinsic value on a 5-year investment horizon.

## DCF Model

We used a Discount Cash Flow model, with a Free Cash Flow to the Firm (FCFF) method to generate the intrinsic value for Alibaba Group. This procedure includes a 5-year projection of Income Statement, Balance Sheet and Cashflow Statement (Appendix 6-11) and a Discount Cash-Flow (DCF) analysis.

**Table 5 – Sales Breakdown**

| Business Segment | CAGR |
|---|---|
| Online Retail | 31% |
| Online Wholesale | 14% |
| Cloud Computing | 21% |
| Digital Media & Innovation Initiatives | 20% |

*Source: Company Data; Author*

**Table 6 – Cost of Capital**

| Variable | Value |
|---|---|
| Risk free rate | 2.80% |
| Adjusted Beta | 1.89 |
| Market Risk Premium | 5.72% |
| Cost of Equity | 13.63% |
| Cost of Debt | 4.50% |
| Marginal Tax Rate | 19% |
| Capital Structure (E:D) | 66:34 |
| Weighted Average Cost of Capital | 10.23% |

*Source: Company Data; Author*

Since the company has never paid dividends and does not assume to pay them in the future, we excluded the Dividend Discount model. At the same time, The Adjusted Present Value is not appropriate considering the current and future leverage of the company. For this reason, we applied the Weighted Average Cost of Capital as absolute valuation method.The main assumptions of the model rely on the Chinese macro-economic context. In fact, the main factors that drive revenues come from the Chinese population growth and its expected level of income. In addition, to compute the total sales for each business unit, we analyzed external studies in order to understand the growth of each industry.

## Sales Revenue

The sales projection is made by analyzing the revenues of each business unit, namely core commerce, cloud computing, digital media & entertainment and innovation initiatives. For each business unit, we evaluated its historical performances, industry trends and company internal notes, to set the growth rates for the next years. Overall, Alibaba's average annual growth rate for the following 5 years will be 26%, with the core commerce representing 85% of total sales and the Chinese market representing the biggest share (76%).

The cloud computing is the division which is expected to grow more, with an average growth rate of 21%, while core commerce is leading in terms of absolute values (Table 5).

## Gross Margin

Gross margins were computed considering the cost of goods sold of all the business units. Overall, the costs are expected to slightly increase in the short run, reducing the margins from 62% in 2017 to 60% in 2022. This is mainly explained by the increase in online media properties, logistic services, marketing and external services.

## Capital Expenditure

Capital expenditure covers the investments made on fixed and intangible assets. We apply the BASE method[1] to forecast investments in both assets categories, with the assumption of a constant annual growth rate of 14% and fixed proportion on intangible and tangible assets over the years. This is due to the fact that Alibaba is expected to expand its digital content and strength its position in the cloud computing area and at the same time the company wants to keep up with traditional competitors.

[1] The base method considers the Beginning of the asset, then add the investment, subtract the depreciation or amortization and at the end it shows the final value of the asset

**Table 7 – Intrinsic Value**

| In Millions US$ | |
|---|---|
| **EV** | **583,806** |
| Net Debt | -7,887 |
| Other Assets | 3,078 |
| Minority Shareholder's equity | 6,420 |
| Other Non current Liabilities | 196 |
| **Equity Value** | **601,386** |
| | |
| #shares | 2529 |
| **Intrinsic Value** | **237.80** |

*Source: Company Data; Author*

## Weighted Average Cost of Capital (WACC)

The cost of equity is obtained by applying the Capital Asset Pricing Model (CAPM), using U.S. risk free rate of 2.80%, a market risk premium of 5.72% and an adjusted Beta of 1.89. The total cost of equity equals 13.63%. In addition, we used the current yield to maturity on current debt and an average of tax rate, respectively of 4.50% and 19%. Since the equity and debt account for 66% and 34% of the capital structure of the company, we derived a weighted average cost of capital of 10.23% (Table 6 and Table 7.1; Appendix 14)

## Terminal Value

For the terminal growth rate, we took into account nominal GDP per capita growth rate on China, which was on average 9.15% in the past five years. At the same time, we also looked at the average growth rate of MSCI's China Onshore Consumer Discretionary index from 2012 to 2017, which is 13.36% and the CAGR from 2018 to 2022 on real GDP growth rate in China is estimated to be 8,38%. Since we assume that all these factors have an impact on the terminal growth rate, we apply a rate of 9.3%. (Table 7). Thus, considering all these factors, the final price will reach a level of US$ 237.80.

**Table 7.1 – FCFF**

| **In Millions US$** | **2018 F** | **2019 F** | **2020 F** | **2021 F** | **2022 F** |
|---|---|---|---|---|---|
| EBIT | 8,682 | 10,265 | 12,120 | 14,252 | 16,762 |
| Taxes | - 1,662 | - 1,965 | - 2,320 | - 2,728 | - 3,209 |
| EBIT*(1-t) | 7,020 | 8,300 | 9,800 | 11,524 | 13,554 |
| Depreciation | 1,169 | 1,606 | 1,907 | 2,203 | 2,608 |
| Amortization | 977 | 1,104 | 1,300 | 1,502 | 1,706 |
| Delta NWC | - 406 | - 690 | - 763 | - 904 | - 1,060 |
| CAPEX | | | | | |
| Tangible Assets | - 1,889 | - 2,205 | - 2,522 | - 2,839 | - 2,608 |
| Intangible Assets | - 1,579 | - 1,843 | - 2,108 | - 2,372 | - 1,706 |
| | | | | | |
| FCFF | 5,293 | 6,272 | 7,614 | 9,114 | 12,494 |
| WACC | 10.23% | 10.23% | 10.23% | 10.23% | 10.23% |
| | | | | | |
| PV FCFF | 4,802 | 5,162 | 5,685 | 6,173 | 7,677 |

**Table 8 – EV/EBITDA Multiples**

| EV/EBITDA | |
|---|---|
| Amazon | 47.6 |
| JD | 106.7 |
| Suning | 44.3 |
| Average Multiple | 66.2 |
| **Price Target** | **218** |

*Source: Company Data; Author*

## Multiples Valuation

We used enterprise and equity value ratios (Table 8 and 9) to compare Alibaba peers in the market. Among the competitors, we chose those that are more comparable in terms of equity, capital structure and performances. The EV/EBITDA gives a share price of 218.03 US$. On the other side, the equity multiple, the forward P/E, gives a final value of 263.49 US$, (Appendix 17). If we combine both results, we would have an average price of 240 US$, which is consistent with the discounted cash flow method of 237.80 US$ (Appendix 15).

**Table 9 – P/E Multiples**

| Forward P/E | |
|---|---|
| Ebay | 13.8 |
| Suning | 12.4 |
| Gome | 12.58 |
| Vipshop | 15.44 |
| **Price Target** | **263.50** |

*Source: Bloomberg; Yahoo Finance*

**Table 10 – Monte Carlo Statistics**

| Statistical Description | In US$ |
|---|---|
| Mean | 237.80 |
| Standard Deviation | 52.03 |
| 5% Percentile | 6.420 |
| Median | 237.63 |
| 95% Percentile | 601.386 |

*Source: Bloomberg; Yahoo Finance*

**Table 11 – Risk Matrix**

| Probability | | | | | |
|---|---|---|---|---|---|
| High | | | | | |
| | | | ER1 | OR1 | |
| Medium | | MR2 | MR1 | OR2 | OTR2 |
| | | OR4 | | OR3 | |
| Low | | | OTR1 | | |
| Impact | Low | | Medium | | High |

*Source: Author*

## Monte Carlo Simulation and Sensitivity Analysis

We applied the Monte Carlo Simulation (Appendix 19) method in order to see how several factors influence Alibaba's target price (Table 10). The key drivers are: total revenue, cost of goods sold, WACC and terminal growth value. Sales are mainly affected by the state of Chinese economy, including the consumer purchase power, population growth and real GDP per capita; cost of goods sold are mainly driven by expenses in research and development and all the expenses related to the services. After running 100,000 simulations, on a random basis, taking into account the above-mentioned factors, we find that with a 50% confidence level, the target stock price will fall between US$ 193 and US$ 265. Considering that the average value is US$ 237.80, the median value is US$237.63, a 2.94 kurtosis and a 51,63% probability that the stock will be above US$ 237, our recommendation is BUY.

We also conducted scenario and sensitivity analysis, mainly on the Weighted Average Cost of Capital (WACC), terminal growth rate (g) and the Adjusted Beta, which are those that have a higher impact on the discounted cash flows and thus a higher sensitivity.

# 7. Investment Risks

This section shows how different internal and external factors can impact on company's outcome (Table 11 and 12; Appendix 20).

## Economic Risk

Alibaba's business is mainly focused on the Chinese market and at the same time, it is tied to consumer discretionary goods and for this reason the state of economy has a massive impact on Alibaba transactions. Nowadays, Chinese economy has faced an economic downturn, for this reason the GDP growth rate was around 6.5% last year and it is expected to fall below 6% for the next couple of years. Also, Chinese household yearly income is expected to increase, mainly explained by the rise of upper middle class, with discretionary goods forecasted to represent 43% of the consumption basket.

## Market Risks

**Exchange Rate**

Alibaba's internationalization plan will affect its business. In 2015, 2016 and 2017 the value of CNY depreciated approximately 4.4%, 7.2% and 6.3% against the US$, respectively. The foreign market exchange is influenced by both governments and it is really difficult to predict the interest policy by the Federal Reserve System (FED) and the currency policy by the Chinese Communist party. A substantial percentage of revenue, costs and financial assets are denominated in Renminbi, while the majority of debt is held in US$. Thus, a fluctuation in the CNY has a huge impact on liquidity and cash streams, and an appreciation of US$/CNY would have a negative impact on financial results, that is also the reason why Alibaba enters into hedging activities with regard to exchange rates risks.

#### Interest Rate

The main exposure on interest rate risks is related to bank borrowings, which are based on a spread over LIBOR. Over the total debt, around 30% carries floating interest rates, while the remaining part is made of fixed interest rates.

### Operational Risks

#### Growth Potential

During the recent years, Alibaba experienced an average revenue growth rate of 45%. Sales growth mainly depends on the ability to grow in the retail sector and at in the other business areas. These business areas may not deliver outstanding results in the future due to operational, technological and legal difficulties given by Alibaba inexperience. At the same time, the company could face slowdown in growth opportunities because of decreasing in consumer spending, intense price wars and deceleration in online industries.

#### Technology infrastructure

Alibaba's performance and reliability also depends on the technological infrastructure, which is constantly updated. Meanwhile, during events such as Singles day, the platform experienced unanticipated system disruptions and slow time response. If these events continue to occur, the functionality and effectiveness of the platform are seriously affected, and this could result in a loss of customers and transactions.

#### Logistic Service Providers

All the merchants on Alibaba use third party logistic service providers, which are connected with Caniao Network in terms of logistic data. These services could be affected or interrupted by business disputes or industry consolidation. Conversely, this could cause a delay in finding an alternative in a reliable manner.

#### Regulatory Proceeding

Alibaba has been involved in high volume of litigation in China and a small volume abroad, which were mainly related to intellectual property infringement and consumer protection claims. Overall, this causes a loss of reputation, while deter management's attention, harming the whole ecosystem.

## Other Risks

### Governance Model

The corporate governance model follows a dual class ownership, giving a higher percentage of voting rights to the partners, while institutional investors such as Softbank and Yahoo have limited voting rights. This could represent excessive power over investment and operational decisions, increasing risks in corporate governance.

### International War trade

The recent barriers to trade imposed by the U.S. to China have a significant impact on the national economy and indirectly impacted Alibaba's share price. This war can harm not only the relationship with the US but also with other European countries, which represent a possible target.

**Table 12 – Risk Drivers**

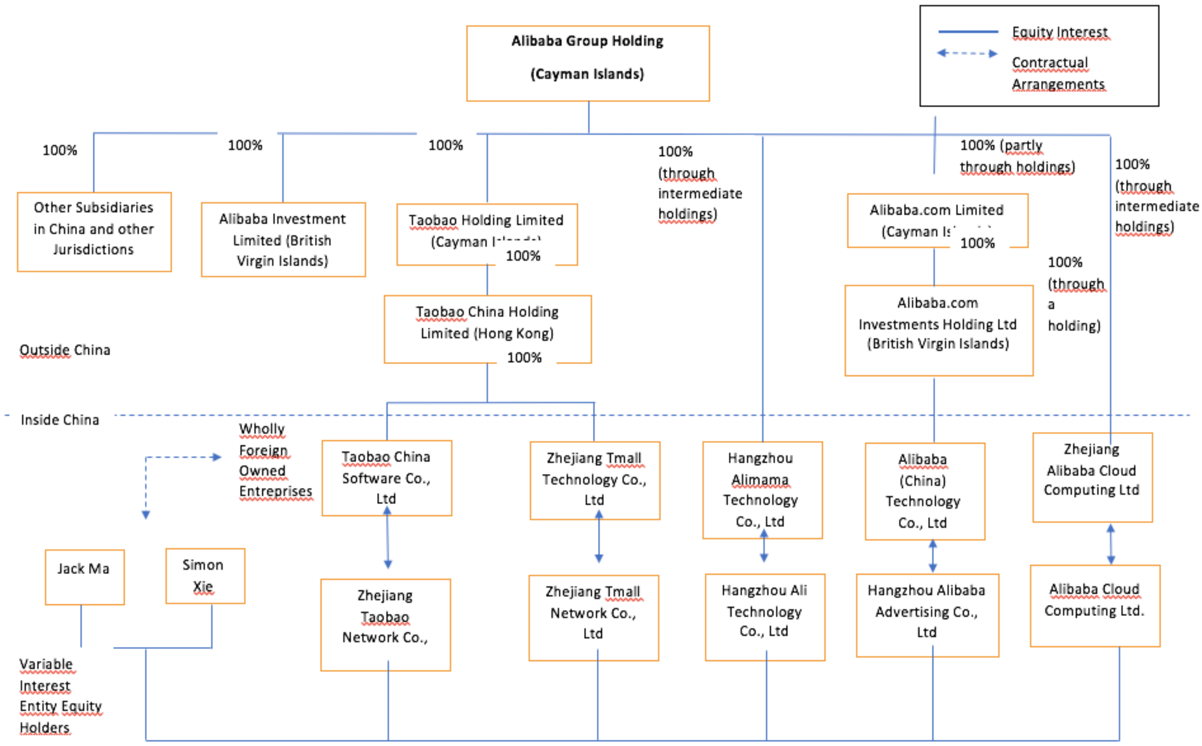
| Risk | Index | Rating | Driver |
|---|---|---|---|
| Economic | ER1 | 11 | GDP; Discretionary Goods |
| Market | MR1 | 9 | Exchange Rate |
| Market | MR2 | 7 | Interest rates |
| Operational | OR1 | 12 | Investments and Growth |
| Operational | OR2 | 9 | Technological Infrastructure |
| Operational | OR3 | 6 | Logistic Services |
| Operational | OR4 | 5 | Regulations |
| Other | OTR1 | 3 | Corporate Governance |
| Other | OTR2 | 12 | Geopolitical Trade Conflicts |

*Source: Author*

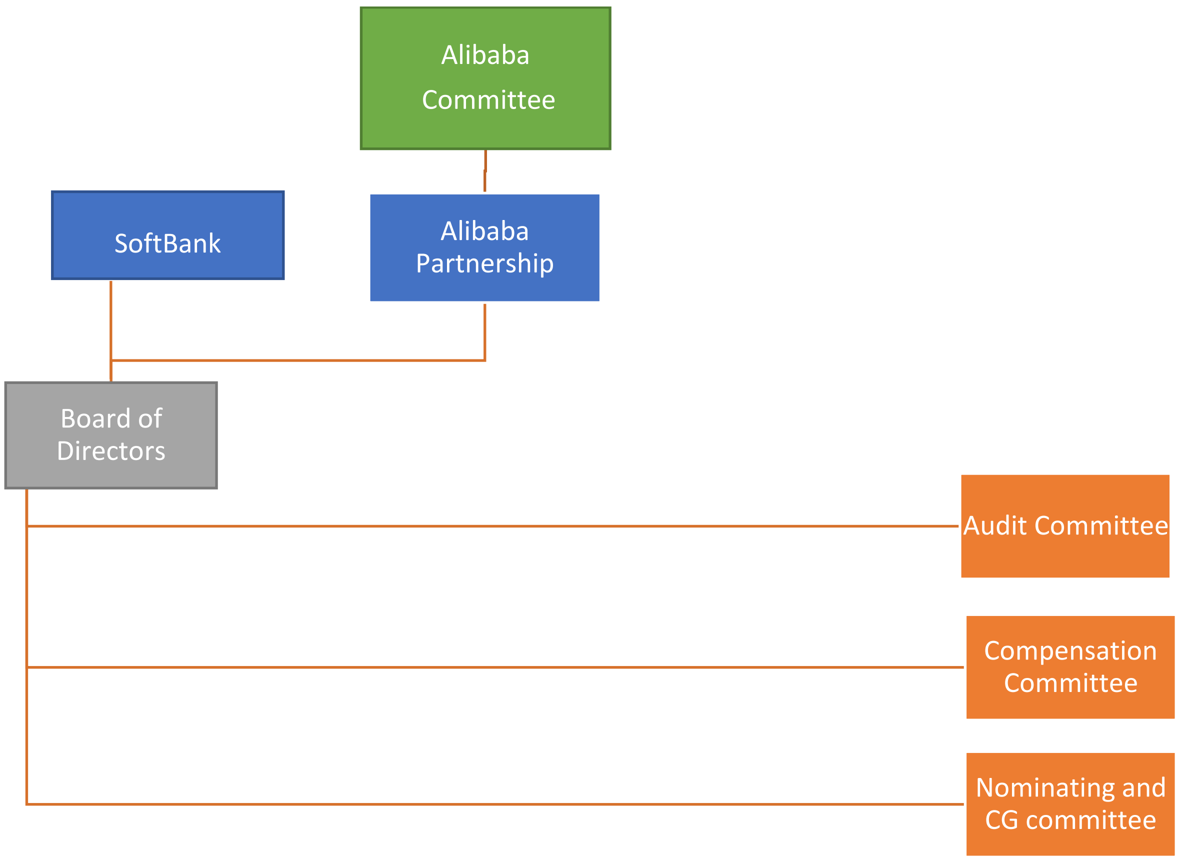
## Appendix 1- Main Business Units

| Name | Logo | Description | Launch |
|---|---|---|---|
| **Alibaba.com** | | The first B2B platform launched by the company to connect Chinese manufacturers, distributors and small businesses to international wholesalers, trade agents and manufacturers. | **1999** |
| **1688.com** | 1688.com 全球最大的采购批发市场 | Online wholesale platform that allows Chinese merchants to obtain products from domestic wholesalers. | **1999** |
| **Taobao.com** | 淘宝网 Taobao.com | C2C commerce-oriented marketplace, providing an engaging and personalized experience, Consumers can interact with other consumers and with merchants. | **2003** |
| **Alimama** | | Marketing technology platform, that offers various marketing services on websites and mobile apps. | **2007** |
| **Tmall** | 天猫 TMALL | B2C platform that offers branded products and premium shopping experience for increasingly sophisticated Chinese consumers, looking for high end national and international products | **2008** |
| **Alibaba Cloud** | Alibaba Cloud | Cloud computing arm of the group. It provides a comprehensive suite of cloud computing for online and mobile commerce ecosystem, including marketplaces, start-ups, businesses and government organizations. | **2009** |
| **AliExpress** | AliExpress | Global retail marketplace that allows consumers from all over the world to buy directly from manufacturers and distributors in China | **2010** |
| **Cainiao** | CAINIAO | Cainiao is a logistics data platform operator that provides real time information to both merchants and consumers to fulfil their transactions and improve delivery efficiency through data insights and technology. | **2013** |
| **Ant Financial** | 蚂蚁金服 ANT FINANCIAL | Financial services provider focused on serving small and micro businesses and consumers, dedicated to build an open ecosystem of internet thinking and technologies. It includes, Alipay, Ant Fortune, Zhima Credit and MYbank. | **2014** |

## Appendix 2- Organization structure



## Appendix 3 - Corporate Governance Structure



## Appendix 4 - Board of Directors

| Name | Position | Career history | Position in other companies |
|---|---|---|---|
| Jack Yun Ma | Executive Chairman | | Yes |
| Joseph C. Tsai | Executive Vice Chairman | One of the founders, served as CFO until 2013 and now is serving on the board of several investee companies | No |
| Daniel Yong Zhang | Director and CEO | Joined the group in 2007 and became CEO in 2015. He serves as board of directors and founding member of the Alibaba Partnership | No |
| J. Michael Evans | Director and President | Member of the Board until the IPO, then nominated president in 2015. now he is in charge to spearhead in Americas and Europe | Yes |
| Masayoshi Son | Director | One of the founding members, is a director since early 2000 | Yes |
| Eric Xiandong Jing | Director | Served until 2009 as corporate finance director at Alibaba.com. currently he is CEO at Ant Financials and director since 2016 | Yes |
| Chee Hwa Tung | Independent Director | Joined as director in 2014 | Yes |
| Walter Teh Ming Kwauk | Independent Director | Started as independent non-executive director and chairman of the audit committee for Alibaba.com. he is director since 2014 | Yes |
| Jerry Yang | Independent Director | Re-joined as director in 2014 | Yes |
| Börje E. Ekholm | Independent Director | Joined as director in 2015 | Yes |
| Wan Ling Martello | Independent Director | Joined as director in 2015 | Yes |

## Appendix 5 - Alibaba Partnership (* Partnership Committee Members)

| | | |
|---|---|---|
| Jingxian Cai | Senior Researcher | Alibaba Group |
| Li Cheng | Chief Technology Officer | Ant Financial Services |
| Trudy Shan Dai | Senior Vice President and President of Wholesale Marketplaces | Alibaba Group |
| Luyuan Fan | Chief Executive Officer | Alibaba Pictures |
| Yongxin Fang | Senior Director of Human Resources | Alibaba Group |
| Felix Xi Hu | Vice President | Ant Financial Services |
| Simon Xiaoming Hu | President | Alibaba Cloud |
| Jane Fang Jiang | Deputy Chief People Officer | Alibaba Group |
| Jianhang Jin | President | Alibaba Group |
| Eric Xiandong Jing (*) | Chief Executive Officer | Ant Financial Services |
| Zhenfei Liu | President | AutoNavi |
| Jack Yun Ma (*) | Executive Chairman | Alibaba Group |
| Xingjun Ni | Senior Researcher | Ant Financial Services |
| Lucy Lei Peng (*) | Chairwoman | Ant Financial Services |
| Sabrina Yijie Peng | Vice President | Ant Financial Services |
| Xiaofeng Shao | Director of the Office of the Chairman | Alibaba Group |
| Timothy A. Steinert | General Counsel and Secretary | Alibaba Group |
| Lijun Sun | General Manager of Public Welfare | Alibaba Group |
| Judy Wenhong Tong | Chief People Officer | Alibaba Group |
| Joseph C. Tsai (*) | Executive Vice Chairman | Alibaba Group |

| | | |
|---|---|---|
| Jian Wang | Chairman of Technology Steering Committee | Alibaba Group |
| Shuai Wang | Chairman of Marketing and Public Relations Committee | Alibaba Group |
| Winnie Jia Wen | Vice President | Alibaba Group |
| Sophie Minzhi Wu | Senior Vice President and Chief Customer Officer | Alibaba Group |
| Maggie Wei Wu | Chief Financial Officer | Alibaba Group |
| Eddie Yongming Wu | Senior Vice President, Alibaba Group and Chairman | Alibaba Health |
| Zeming Wu | Vice President | Alibaba Group |
| Sara Siying Yu | Vice President | Alibaba Group |
| Yongfu Yu | Head of eWTP Strategic Investment Committee | Alibaba Group |
| Ming Zeng | Chief Strategy Officer | Alibaba Group |
| Sam Songbai Zeng | Senior Vice President | Ant Financial Services |
| Jeff Jianfeng Zhang | Chief Technology Officer | Alibaba Group |
| Daniel Yong Zhang (*) | Chief Executive Officer | Alibaba Group |
| Yu Zhang | Vice President | Alibaba Group |
| Angel Ying Zhao | Vice President and Head of Alibaba Globalization Leadership Committee | Alibaba Group |
| Jessie Junfang Zheng | Vice President, Chief Risk Officer and Chief Platform Governance Officer | Alibaba Group |

# Appendix 6- Balance Sheet

| As of March 31, in millions US$ | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Balance Sheet** | **2014** | **2015** | **2016** | **2017** | **2018 F** | **2019 F** | **2020 F** | **2021 F** | **2022 F** |
| Cash and Cash Equivalents | 5,338 | 16,778 | 15,425 | 21,799 | 13,164 | 17,176 | 22,419 | 29,111 | 37,902 |
| Short Term Investment | 1,710 | 2,194 | 679 | 457 | 422 | 422 | 422 | 422 | 422 |
| Restricted Cash | 795 | 356 | 194 | 403 | 294 | 294 | 294 | 294 | 294 |
| Investment Securities | 2,126 | 567 | 603 | 615 | 878 | 878 | 878 | 878 | 878 |
| Account Receivables | 43 | 165 | 175 | 665 | 637 | 765 | 928 | 1,107 | 1,312 |
| Advances to Customers and Merchants | 7 | 58 | 63 | 120 | 57 | 57 | 57 | 57 | 57 |
| Interest Receivables | 37 | 87 | 45 | 68 | 54 | 54 | 54 | 54 | 54 |
| Vat Receivable | 13 | 536 | 951 | 1,336 | 881 | 881 | 881 | 881 | 881 |
| Other Current Assets | 655 | 1,296 | 1,225 | 2,218 | 3,233 | 3,880 | 4,708 | 5,619 | 6,659 |
| **Total Current Assets** | **10,724** | **22,038** | **19,361** | **27,680** | **19,622** | **24,409** | **30,643** | **38,426** | **48,461** |
| | | | | | | | | | |
| Investment Securities | 721 | 2,266 | 4,244 | 4,770 | 4,720 | 5,050 | 5,404 | 5,783 | 6,188 |
| Deferred Tax Assets | 11 | 24 | 4 | 59 | 16 | 16 | 16 | 16 | 16 |
| Prepayments | 265 | 292 | 629 | 858 | 933 | 937 | 1,019 | 1,107 | 1,204 |
| Other Non-Current Asset | 62 | 317 | 234 | 305 | 265 | 265 | 265 | 265 | 265 |
| Investment in Equity Investees | 2,854 | 5,254 | 13,208 | 18,255 | 21,001 | 26,150 | 32,022 | 38,857 | 46,911 |
| Property and Equipment (Net) | 901 | 1,417 | 1,968 | 3,064 | 3,784 | 4,383 | 4,998 | 5,634 | 6,181 |
| Land Use Rights | 268 | 482 | 415 | 711 | 499 | 499 | 499 | 499 | 499 |
| Intangible Assets | 308 | 1,020 | 775 | 2,140 | 2,741 | 3,480 | 4,288 | 5,159 | 6,090 |
| Goodwill | 1,905 | 6,503 | 11,790 | 19,021 | 24,784 | 28,939 | 33,094 | 37,249 | 41,404 |
| **Total Assets** | **18,018** | **39,612** | **52,629** | **76,863** | **78,364** | **94,128** | **112,248** | **132,995** | **157,218** |
| **% Growth** | | **120%** | **33%** | **46%** | **2%** | **20%** | **19%** | **18%** | **18%** |
| Liabilities | | | | | | | | | |
| Current Bank Borrowings | 178 | 309 | 622 | 2,259 | 208 | 243 | 278 | 313 | 348 |
| Income Tax Payable | 1,496 | 424 | 403 | 929 | 724 | 778 | 835 | 914 | 1,034 |
| Account Payable | 219 | 202 | 223 | 472 | 699 | 840 | 1,040 | 1,259 | 1,502 |
| Accrued Expenses | 2,201 | 2,691 | 3,480 | 6,529 | 7,096 | 7,713 | 8,384 | 9,113 | 9,905 |
| Other Current Liabilities | 134 | 183 | 244 | 507 | 616 | 594 | 728 | 883 | 1,066 |
| Merchant Deposit | 761 | 1,117 | 1,056 | 1,242 | 1,061 | 1,061 | 1,061 | 1,061 | 1,061 |
| Deferred Revenue and Customer Advances | 1,049 | 1,227 | 1,487 | 2,283 | 2,768 | 3,447 | 4,221 | 5,122 | 6,184 |
| **Total Current Liabilities** | **6,038** | **6,152** | **7,515** | **14,221** | **13,173** | **14,677** | **16,548** | **18,665** | **21,101** |
| | | | | | | | | | |
| Deferred Revenue | 69 | 69 | 60 | 97 | 70 | 70 | 70 | 70 | 70 |
| Deferred Tax Liabilities | 345 | 697 | 934 | 1,540 | 1,573 | 1,958 | 2,398 | 2,909 | 3,513 |
| Non-Current Bank Borrowings | 4,961 | 250 | 270 | 4,695 | 2,480 | 2,896 | 3,312 | 3,727 | 4,143 |
| Unsecured Senior Notes | - | 7,598 | 7,451 | 6,958 | 6,846 | 6,846 | 6,846 | 6,846 | 6,846 |
| Other Non Current Liabilities | 12 | 333 | 313 | 196 | 262 | 262 | 262 | 262 | 262 |
| **Total Liabilities** | **11,425** | **15,099** | **16,543** | **27,707** | **24,404** | **26,709** | **29,436** | **32,481** | **35,935** |
| **% Growth** | | **32%** | **10%** | **67%** | **-12%** | **9%** | **10%** | **10%** | **11%** |
| **Owner's Equity** | | | | | | | | | |
| Common Stock and Capital Reserves | 313 | 281 | 366 | 540 | 375 | 375 | 375 | 375 | 375 |
| Additional Paid in Capital | 4,368 | 18,166 | 19,091 | 24,961 | 27,390 | 32,505 | 38,576 | 45,780 | 54,330 |
| Other Comprehensive Income | 1,547 | 357 | 555 | 771 | 525 | 525 | 525 | 525 | 525 |
| Retained Earnings | 191 | 3,852 | 11,372 | 16,464 | 22,209 | 29,861 | 38,297 | 47,819 | 58,926 |
| **Total Common Equity** | **6,419** | **22,657** | **31,385** | **42,736** | **50,499** | **63,266** | **77,773** | **94,499** | **114,155** |
| | | | | | | | | | |
| Minority Shareholder's Equity | 174 | 1,857 | 4,701 | 6,420 | 3,461 | 4,153 | 5,040 | 6,015 | 7,128 |
| | | | | | | | | | |
| **Total Owner's Equity** | **6,593** | **24,513** | **36,086** | **49,156** | **53,960** | **67,419** | **82,812** | **100,514** | **121,283** |
| | | | | | | | | | |
| **% Growth** | | **272%** | **47%** | **36%** | **10%** | **25%** | **23%** | **21%** | **21%** |

# Appendix 7- Common Size Balance Sheet

| Balance Sheet | 2014 | 2015 | 2016 | 2017 | 2018 F | 2019 F | 2020 F | 2021 F | 2022 F |
|---|---|---|---|---|---|---|---|---|---|
| Cash and Cash Equivalents | 30% | 42% | 29% | 28% | 17% | 18% | 20% | 22% | 24% |
| Short Term Investment | 9% | 6% | 1% | 1% | 1% | 0% | 0% | 0% | 0% |
| Restricted Cash | 4% | 1% | 0% | 1% | 0% | 0% | 0% | 0% | 0% |
| Investment Securities | 12% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% |
| Account Receivables | 0% | 0% | 0% | 1% | 1% | 1% | 1% | 1% | 1% |
| Advances to Customers and Merchants | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Interest Receivables | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Vat Receivable | 0% | 1% | 2% | 2% | 1% | 1% | 1% | 1% | 1% |
| Other Current Assets | 4% | 3% | 2% | 3% | 4% | 4% | 4% | 4% | 4% |
| **Total Current Assets** | **60%** | **56%** | **37%** | **36%** | **25%** | **26%** | **27%** | **29%** | **31%** |
| | | | | | | | | | |
| Investment Securities | 4% | 6% | 8% | 6% | 6% | 5% | 5% | 4% | 4% |
| Deferred Tax Assets | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Prepayments | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% |
| Other Non-Current Asset | 0% | 1% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Investment in Equity Investees | 16% | 13% | 25% | 24% | 27% | 28% | 29% | 29% | 30% |
| Property and Equipment (Net) | 5% | 4% | 4% | 4% | 5% | 5% | 4% | 4% | 4% |
| Land Use Rights | 1% | 1% | 1% | 1% | 1% | 1% | 0% | 0% | 0% |
| Intangible Assets | 2% | 3% | 1% | 3% | 3% | 4% | 4% | 4% | 4% |
| Goodwill | 11% | 16% | 22% | 25% | 32% | 31% | 29% | 28% | 26% |
| **Total Assets** | **100%** | **100%** | **100%** | **100%** | **100%** | **100%** | **100%** | **100%** | **100%** |
| Liabilities | | | | | | | | | |
| Current Bank Borrowings | 1% | 1% | 1% | 3% | 0% | 0% | 0% | 0% | 0% |
| Income Tax Payable | 8% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% |
| Account Payable | 1% | 1% | 0% | 1% | 1% | 1% | 1% | 1% | 1% |
| Accrued Expenses | 12% | 7% | 7% | 8% | 9% | 8% | 7% | 7% | 6% |
| Other Current Liabilities | 1% | 0% | 0% | 1% | 1% | 1% | 1% | 1% | 1% |
| Merchant Deposit | 4% | 3% | 2% | 2% | 1% | 1% | 1% | 1% | 1% |
| Deferred Revenue and Customer Advances | 6% | 3% | 3% | 3% | 4% | 4% | 4% | 4% | 4% |
| **Total Current Liabilities** | **34%** | **16%** | **14%** | **19%** | **17%** | **16%** | **15%** | **14%** | **13%** |
| | | | | | | | | | |
| Deferred Revenue | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Deferred Tax Liabilities | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Non-Current Bank Borrowings | 28% | 1% | 1% | 6% | 3% | 3% | 3% | 3% | 3% |
| Unsecured Senior Notes | 0% | 19% | 14% | 9% | 9% | 7% | 6% | 5% | 4% |
| Other Non Current Liabilities | 0% | 1% | 1% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Total Liabilities** | **63%** | **38%** | **31%** | **36%** | **31%** | **28%** | **26%** | **24%** | **23%** |
| **Owner's Equity** | | | | | | | | | |
| Common Stock and Capital Reserves | 2% | 1% | 1% | 1% | 0% | 0% | 0% | 0% | 0% |
| Additional Paid in Capital | 24% | 46% | 36% | 32% | 35% | 35% | 34% | 34% | 35% |
| Other Comprehensive Income | 9% | 1% | 1% | 1% | 1% | 1% | 0% | 0% | 0% |
| Retained Earnings | 1% | 10% | 22% | 21% | 28% | 32% | 34% | 36% | 37% |
| **Total Common Equity** | **36%** | **57%** | **60%** | **56%** | **64%** | **67%** | **69%** | **71%** | **73%** |
| | | | | | | | | | |
| Minority Shareholder's Equity | 1% | 5% | 9% | 8% | 4% | 4% | 4% | 5% | 5% |
| | | | | | | | | | |
| **Total Owner's Equity** | **37%** | **62%** | **69%** | **64%** | **69%** | **72%** | **74%** | **76%** | **77%** |

# Appendix 8- Income Statement

| As of March 31, in millions US$ | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Income Statement** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018 F** | **2019 F** | **2020 F** | **2021 F** | **2022 F** |
| Online Retail | 3,404 | 4,996 | 6,224 | 8,253 | 13,541 | 22,905 | 27,844 | 34,556 | 42,022 | 50,236 |
| Online Wholesale | 1,055 | 2,064 | 3,521 | 4,014 | 5,740 | 6,800 | 7,753 | 8,863 | 9,972 | 11,082 |
| Cloud Computing | 837 | 829 | 997 | 1,101 | 1,613 | 1,803 | 2,220 | 2,863 | 3,623 | 4,215 |
| Digital Media & Innovation Initiatives | 385 | 592 | 1,075 | 1,238 | 3,109 | 4,098 | 4,913 | 5,573 | 6,271 | 7,803 |
| **Total Revenue** | **5,682** | **8,481** | **11,818** | **14,606** | **24,004** | **35,606** | **42,731** | **51,855** | **61,888** | **73,336** |
| **%Growth** | | **49%** | **39%** | **24%** | **64%** | **48%** | **20%** | **21%** | **19%** | **18%** |
| | | | | | | | | | | |
| **Operating Costs** | **(1,600)** | **(2,159)** | **(3,696)** | **(4,961)** | **(9,021)** | **(13,796)** | **(16,575)** | **(20,533)** | **(24,842)** | **(29,639)** |
| | | | | | | | | | | |
| Gross Profit | 4,082 | 6,321 | 8,121 | 9,645 | 14,982 | 21,811 | 26,155 | 31,321 | 37,047 | 43,697 |
| Product Development Expenses | (618) | (823) | (1,653) | (1,991) | (2,587) | (4,199) | (5,040) | (6,116) | (7,299) | (8,649) |
| Sales and Marketing Expenses | (595) | (734) | (1,320) | (1,633) | (2,474) | (3,688) | (4,425) | (5,370) | (6,409) | (7,595) |
| General and Administrative Expenses | (476) | (681) | (1,210) | (1,329) | (1,856) | (3,096) | (3,715) | (4,509) | (5,381) | (6,376) |
| Impairment of Goodwill | (29) | (7) | (27) | (66) | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | | | | | |
| **EBITDA** | **2,365** | **4,076** | **3,912** | **4,626** | **8,065** | **10,828** | **12,975** | **15,327** | **17,957** | **21,076** |
| %Growth | | **72%** | **-4%** | **18%** | **74%** | **34%** | **20%** | **18%** | **17%** | **17%** |
| | | | | | | | | | | |
| Depreciation | (133) | (216) | (361) | (544) | (801) | (1,169) | (1,606) | (1,907) | (2,203) | (2,608) |
| Amortization | (21) | (51) | (324) | (423) | (777) | (977) | (1,104) | (1,300) | (1,502) | (1,706) |
| | | | | | | | | | | |
| **EBIT** | **2,211** | **3,809** | **3,227** | **3,658** | **6,487** | **8,682** | **10,265** | **12,120** | **14,252** | **16,762** |
| **%Growth** | | **72%** | **-15%** | **13%** | **77%** | **34%** | **18%** | **18%** | **18%** | **18%** |
| | | | | | | | | | | |
| Financial Expenses | (259) | (355) | (426) | (281) | (405) | (707) | (787) | (864) | (938) | (1,010) |
| Net Interest and Investment Income | 6 | 266 | 1,466 | 7,546 | 1,298 | 2,018 | 2,018 | 2,018 | 2,018 | 2,018 |
| Net Other Income | 147 | 392 | 386 | 297 | 923 | 902 | 1,132 | 1,393 | 1,686 | 2,015 |
| | | | | | | | | | | |
| **Pretax Income** | **2,106** | **4,113** | **4,652** | **11,220** | **8,303** | **10,895** | **12,628** | **14,667** | **17,018** | **19,786** |
| | | | | | | | | | | |
| Income Taxes | (240) | (516) | (995) | (1,220) | (2,089) | (2,085) | (2,417) | (2,807) | (3,257) | (3,787) |
| | | | | | | | | | | |
| **Net Income** | **1,866** | **3,597** | **3,657** | **10,000** | **6,213** | **8,809** | **10,211** | **11,859** | **13,760** | **15,998** |
| **%Growth** | | **93%** | **2%** | **173%** | **-38%** | **42%** | **16%** | **16%** | **16%** | **16%** |
| | | | | | | | | | | |
| Minority Interest Income | (41) | (86) | (27) | 25 | 371 | 200 | 200 | 200 | 200 | 200 |
| | | | | | | | | | | |
| **Net Income for Shareholders** | **1,825** | **3,511** | **3,631** | **10,025** | **6,585** | **9,009** | **10,411** | **12,059** | **13,960** | **16,198** |
| **%Growth** | | **92%** | **3%** | **176%** | **-34%** | **37%** | **16%** | **16%** | **16%** | **16%** |

# Appendix 9 - Common Size Income Statement

| Income Statement | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 F | 2019 F | 2020 F | 2021 F | 2022 F |
|---|---|---|---|---|---|---|---|---|---|---|
| Online Retail | 60% | 59% | 53% | 57% | 56% | 64% | 65% | 67% | 68% | 69% |
| Online Wholesale | 19% | 24% | 30% | 27% | 24% | 19% | 18% | 17% | 16% | 15% |
| Cloud Computing | 15% | 10% | 8% | 8% | 7% | 5% | 5% | 6% | 6% | 6% |
| Digital Media & Innovation Initiatives | 7% | 7% | 9% | 8% | 13% | 12% | 11% | 11% | 10% | 11% |
| **Total Revenue** | **100%** | **100%** | **100%** | **100%** | **100%** | **100%** | **100%** | **100%** | **100%** | **100%** |
| | | | | | | | | | | |
| **Operating Costs** | **-28%** | **-25%** | **-31%** | **-34%** | **-38%** | **-39%** | **-39%** | **-40%** | **-40%** | **-40%** |
| Gross Profit | 72% | 75% | 69% | 66% | 62% | 61% | 61% | 60% | 60% | 60% |
| Product Development Expenses | -11% | -10% | -14% | -14% | -11% | -12% | -12% | -12% | -12% | -12% |
| Sales and Marketing Expenses | -10% | -9% | -11% | -11% | -10% | -10% | -10% | -10% | -10% | -10% |
| General and Administrative Expenses | -8% | -8% | -10% | -9% | -8% | -9% | -9% | -9% | -9% | -9% |
| Impairment of Goodwill | -1% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| | | | | | | | | | | |
| **EBITDA** | **42%** | **48%** | **33%** | **32%** | **34%** | **30%** | **30%** | **30%** | **29%** | **29%** |
| | | | | | | | | | | |
| Depreciation | -2% | -3% | -3% | -4% | -3% | -3% | -4% | -4% | -4% | -4% |
| Amortization | 0% | -1% | -3% | -3% | -3% | -3% | -3% | -3% | -2% | -2% |
| | | | | | | | | | | |
| **EBIT** | **39%** | **45%** | **27%** | **25%** | **27%** | **24%** | **24%** | **23%** | **23%** | **23%** |
| | | | | | | | | | | |
| Financial Expenses | -5% | -4% | -4% | -2% | -2% | -2% | -2% | -2% | -2% | -1% |
| Net Interest and Investment Income | 0% | 3% | 12% | 52% | 5% | 6% | 5% | 4% | 3% | 3% |
| Net Other Income | 3% | 5% | 3% | 2% | 4% | 3% | 3% | 3% | 3% | 3% |
| | | | | | | | | | | |
| **Pretax Income** | **37%** | **48%** | **39%** | **77%** | **35%** | **31%** | **30%** | **28%** | **27%** | **27%** |
| | | | | | | | | | | |
| Income Taxes | -4% | -6% | -8% | -8% | -9% | -6% | -6% | -5% | -5% | -5% |
| | | | | | | | | | | |
| **Net Income** | **33%** | **42%** | **31%** | **68%** | **26%** | **25%** | **24%** | **23%** | **22%** | **22%** |
| | | | | | | | | | | |
| Minority Interest Income | -1% | -1% | 0% | 0% | 2% | 1% | 0% | 0% | 0% | 0% |
| | | | | | | | | | | |
| **Net Income for Shareholders** | **32%** | **41%** | **31%** | **69%** | **27%** | **25%** | **24%** | **23%** | **23%** | **22%** |

# Appendix 10- Cashflow Statement

| In millions US$ | 2015 | 2016 | 2017 | 2018 F | 2019 F | 2020 F | 2021 F | 2022 F |
|---|---|---|---|---|---|---|---|---|
| **Operating Activities** | | | | | | | | |
| Net Income | 3,657 | 10,000 | 6,213 | 8,809 | 10,211 | 11,859 | 13,760 | 15,998 |
| Depreciation | 361 | 544 | 801 | 1,169 | 1,606 | 1,907 | 2,203 | 2,608 |
| Amortization | 324 | 423 | 777 | 977 | 1,104 | 1,300 | 1,502 | 1,706 |
| Δ in Account Receivables | -122 | -9 | -491 | 28 | -127 | -163 | -180 | -205 |
| Δ in Advances to Customers and Merchants | -51 | -5 | -57 | 62 | - | - | - | - |
| Δ in Vat Receivable | -524 | -415 | -385 | 455 | - | - | - | - |
| Δ in Other Current Assets | -640 | 71 | -994 | -1,015 | -647 | -828 | -911 | -1,039 |
| Δ in Deferred Tax Assets | -14 | 20 | -54 | 43 | - | - | - | - |
| Δ in Prepayments | -27 | -337 | -229 | -75 | -5 | -81 | -89 | -96 |
| Δ in Income Tax Payable | -1,073 | -21 | 526 | -205 | 53 | 57 | 79 | 120 |
| Δ in Account Payable | -17 | 21 | 249 | 227 | 141 | 201 | 218 | 243 |
| Δ in Accrued Expenses | 490 | 789 | 3,049 | 568 | 617 | 671 | 729 | 792 |
| Δ in Other Current Liabilities | 48 | 61 | 263 | 108 | -21 | 134 | 155 | 183 |
| Δ in Deferred Revenue and Customer Advances | 178 | 260 | 796 | 486 | 679 | 774 | 901 | 1,062 |
| Δ in Deferred Revenue | -0 | -9 | 37 | -27 | - | - | - | - |
| Δ in Deferred Tax Liabilities | 352 | 238 | 605 | 33 | 385 | 440 | 512 | 603 |
| | | | | | | | | |
| **Net Cashflow from operating Activities** | **2,943** | **11,631** | **11,108** | **11,644** | **13,996** | **16,269** | **18,881** | **21,975** |
| | | | | | | | | |
| **Investing Activities** | | | | | | | | |
| Δ in Short Term Investment | -484 | 1,515 | 222 | 34 | - | - | - | - |
| Δ in Investment Securities | 1,558 | -36 | -11 | -263 | - | - | - | - |
| Δ in Investment Securities | -1,545 | -1,979 | -526 | 50 | -331 | -354 | -379 | -405 |
| Δ in Other Non-Current Asset | -255 | 83 | -71 | 39 | - | - | - | - |
| Δ in Investment in Equity Investees | -2,818 | -7,721 | -7,290 | -3,239 | -5,888 | -6,680 | -7,706 | -8,985 |
| Δ in Property and Equipment (Net) | -705 | -857 | -1,227 | -1,889 | -2,205 | -2,522 | -2,839 | -3,155 |
| Δ in Land Use Rights | -213 | 66 | -296 | 213 | - | - | - | - |
| Δ in Intangible Assets | -324 | -423 | -777 | -977 | -1,104 | -1,300 | -1,502 | -1,706 |
| Δ in Goodwill | -4,625 | -5,353 | -7,231 | -5,763 | -4,155 | -4,155 | -4,155 | -4,155 |
| Δ in Other Non Current Liabilities | 322 | -21 | -117 | 66 | - | - | - | - |
| | | | | | | | | |
| **Net Cashflows from Investing Activities** | **-9,089** | **-14,724** | **-17,324** | **-11,728** | **-13,682** | **-15,011** | **-16,580** | **-18,406** |
| | | | | | | | | |
| **Financing Activities** | | | | | | | | |
| Δ in Interest Receivables | -50 | 42 | -22 | 13 | - | - | - | - |
| Δ in Current Bank Borrowings | 131 | 313 | 1,638 | -2,051 | 35 | 35 | 35 | 35 |
| Δ in Merchant Deposit | 356 | -61 | 186 | -181 | - | - | - | - |
| Δ in Non-Current Bank Borrowings | -4,711 | 21 | 4,425 | -2,215 | 416 | 416 | 416 | 416 |
| Δ in Unsecured Senior Notes | 7,598 | -147 | -493 | -111 | - | - | - | - |
| Δ in Common Stock and Capital Reserves | -32 | 85 | 174 | -165 | - | - | - | - |
| Δ in Additional Paid in Capital | 13,798 | 925 | 5,869 | 2,429 | 5,115 | 6,071 | 7,204 | 8,550 |
| Δ in Other Comprehensive Income | -1,190 | 198 | 216 | -246 | - | - | - | - |
| Δ in Retained Earnings | 4 | -2,480 | -1,122 | -3,064 | -2,559 | -3,423 | -4,238 | -4,891 |
| Δ in Minority Shareholder's Equity | 1,683 | 2,844 | 1,719 | -2,959 | 692 | 887 | 975 | 1,113 |
| | | | | | | | | |
| **Net Cashflows from Financing Activities** | **17,587** | **1,740** | **12,590** | **-8,550** | **3,699** | **3,985** | **4,392** | **5,221** |
| | | | | | | | | |
| **Cash Beginning of the Period** | **5,338** | **16,778** | **15,425** | **21,799** | **13,164** | **17,176** | **22,419** | **29,111** |
| **Cash End of the Period** | **16,778** | **15,425** | **21,799** | **13,164** | **17,176** | **22,419** | **29,111** | **37,902** |

# Appendix 11- Common Size Income Statement

| | 2015 | 2016 | 2017 | 2018 F | 2019 F | 2020 F | 2021 F | 2022 F |
|---|---|---|---|---|---|---|---|---|
| **Operating Activities** | | | | | | | | |
| Net Income | 31% | 68% | 26% | 25% | 24% | 23% | 22% | 22% |
| Depreciation | 3% | 4% | 3% | 3% | 4% | 4% | 4% | 4% |
| Amortization | 3% | 3% | 3% | 3% | 3% | 3% | 2% | 2% |
| Δ in Account Receivables | -1% | 0% | -2% | 0% | 0% | 0% | 0% | 0% |
| Δ in Advances to Customers and Merchants | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Δ in Vat Receivable | -4% | -3% | -2% | 1% | 0% | 0% | 0% | 0% |
| Δ in Other Current Assets | -5% | 0% | -4% | -3% | -2% | -2% | -1% | -1% |
| Δ in Deferred Tax Assets | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Δ in Prepayments | 0% | -2% | -1% | 0% | 0% | 0% | 0% | 0% |
| Δ in Income Tax Payable | -9% | 0% | 2% | -1% | 0% | 0% | 0% | 0% |
| Δ in Account Payable | 0% | 0% | 1% | 1% | 0% | 0% | 0% | 0% |
| Δ in Accrued Expenses | 4% | 5% | 13% | 2% | 1% | 1% | 1% | 1% |
| Δ in Other Current Liabilities | 0% | 0% | 1% | 0% | 0% | 0% | 0% | 0% |
| Δ in Deferred Revenue and Customer Advances | 2% | 2% | 3% | 1% | 2% | 1% | 1% | 1% |
| Δ in Deferred Revenue | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Δ in Deferred Tax Liabilities | 3% | 2% | 3% | 0% | 1% | 1% | 1% | 1% |
| | | | | | | | | |
| **Net Cashflow from operating Activities** | **25%** | **80%** | **46%** | **33%** | **33%** | **31%** | **31%** | **30%** |
| | | | | | | | | |
| **Investing Activities** | | | | | | | | |
| Δ in Short Term Investment | -4% | 10% | 1% | 0% | 0% | 0% | 0% | 0% |
| Δ in Investment Securities | 13% | 0% | 0% | -1% | 0% | 0% | 0% | 0% |
| Δ in Investment Securities | -13% | -14% | -2% | 0% | -1% | -1% | -1% | -1% |
| Δ in Other Non-Current Asset | -2% | 1% | 0% | 0% | 0% | 0% | 0% | 0% |
| Δ in Investment in Equity Investees | -24% | -53% | -30% | -9% | -14% | -13% | -12% | -12% |
| Δ in Property and Equipment (Net) | -6% | -6% | -5% | -5% | -5% | -5% | -5% | -4% |
| Δ in Land Use Rights | -2% | 0% | -1% | 1% | 0% | 0% | 0% | 0% |
| Δ in Intangible Assets | -3% | -3% | -3% | -3% | -3% | -3% | -2% | -2% |
| Δ in Goodwill | -39% | -37% | -30% | -16% | -10% | -8% | -7% | -6% |
| Δ in Other  Non Current Liabilities | 3% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| | | | | | | | | |
| **Net Cashflows from Investing Activities** | **-77%** | **-101%** | **-72%** | **-33%** | **-32%** | **-29%** | **-27%** | **-25%** |
| | | | | | | | | |
| **Financing Activities** | | | | | | | | |
| Δ in Interest Receivables | 1% | 2% | 7% | -6% | 0% | 0% | 0% | 0% |
| Δ in Current Bank Borrowings | 3% | 0% | 1% | -1% | 0% | 0% | 0% | 0% |
| Δ in Merchant Deposit | -40% | 0% | 18% | -6% | 1% | 1% | 1% | 1% |
| Δ in Non-Current Bank Borrowings | 64% | -1% | -2% | 0% | 0% | 0% | 0% | 0% |
| Δ in Unsecured Senior Notes | 0% | 1% | 1% | 0% | 0% | 0% | 0% | 0% |
| Δ in Common Stock and Capital Reserves | 117% | 6% | 24% | 7% | 12% | 12% | 12% | 12% |
| Δ in Additional Paid in Capital | -10% | 1% | 1% | -1% | 0% | 0% | 0% | 0% |
| Δ in Other Comprehensive Income | 0% | -17% | -5% | -9% | -6% | -7% | -7% | -7% |
| Δ in Retained Earnings | 14% | 19% | 7% | -8% | 2% | 2% | 2% | 2% |
| Δ in Minority Shareholder's Equity | 14% | 19% | 7% | -8% | 2% | 2% | 2% | 2% |
| | | | | | | | | |
| **Net Cashflows from Financing Activities** | **149%** | **12%** | **52%** | **-24%** | **9%** | **8%** | **7%** | **7%** |
| | | | | | | | | |
| **Cash Beginning of the Period** | **45%** | **115%** | **64%** | **61%** | **31%** | **33%** | **36%** | **40%** |
| **Cash End of the Period** | **142%** | **106%** | **91%** | **37%** | **40%** | **43%** | **47%** | **52%** |

## Appendix 12- DuPont Analysis

We use DuPont analysis over three different periods in order to appraise Alibaba's profitability and return on shareholders. The overall returns on shareholders dwindled over the years mainly because the operating costs increased steeply and thus margins on profitability scaled down consequently. At the same time, this affected also the profitability on the earnings before interests and taxes, slashing the asset turnover ratio. On the other hand, the equity multiplier reduced considerably as well because the company passed from 63% to 36% financing from debt.

Dupont analysis highlights how Alibaba's investments impact on the overall profitability, in fact depreciation and amortization increased considerably during the past years and will grow in the short period, squeezing efficiency and profitability ratios. The financial leverage shows that the company preferred to be less leveraged during the years and thus carrying less risk.

| ROE | | |
|---|---|---|
| 2014A | 2017A | 2022E |
| 53% | 13% | 13% |

| Net Profit Margin | | |
|---|---|---|
| 2014A | 2017A | 2022E |
| 41% | 27% | 22% |

| Asset Turnover | | |
|---|---|---|
| 2014A | 2017A | 2022E |
| 47% | 31% | 47% |

| Equity Multiplier | | |
|---|---|---|
| 2014A | 2017A | 2022E |
| 2,73 | 1,56 | 1,30 |

| Tax Efficiency | | |
|---|---|---|
| 2014A | 2017A | 2022E |
| 85% | 79% | 94% |

| Interest Efficiency | | |
|---|---|---|
| 2014A | 2017A | 2022E |
| 108% | 128% | 76% |

| EBIT Profit Margin | | |
|---|---|---|
| 2014A | 2017A | 2022E |
| 45% | 27% | 23% |

## Appendix 13- Altman's Z- score Analysis

| Multiple | Factor | Calculation | Measure | 2014 | 2015 | 2016 | 2017 | Average |
|---|---|---|---|---|---|---|---|---|
| **1.2** | **A** | Working capital/Total Assets | Liquidity | 0.26 | 0.40 | 0.23 | 0.18 | 0.27 |
| **1.4** | **B** | Retained Earnings/ Total Assets | Profitability | 0.01 | 0.10 | 0.22 | 0.21 | 0.13 |
| **3.3** | **C** | EBIT/Total Assets | Efficiency | 0.21 | 0.08 | 0.07 | 0.08 | 0.11 |
| **0.6** | **D** | Equity Book Value/ Debt Book value | Leverage | 0.58 | 1.62 | 2.18 | 1.77 | 1.54 |
| **1** | **E** | Revenue/ Total Assets | Efficiency | 0.47 | 0.30 | 0.28 | 0.31 | 0.34 |
| **Z-Score** | | **1.21*A+1.4*B+3.3*C+0.6*D+1*E** | | **1.84** | **2.16** | **2.39** | **2.17** | **2.14** |

The Altman's Z-score is an indicator of credit strength that tests the likelihood of bankruptcy. Alibaba's score falls into the middle, meaning that a score below 1,8 indicates bankruptcy, while a score above 3 shows solid financial strengths. During the years it showed that the company was able to increase the score, mainly because it preferred the usage of Equity instead of Debt while the efficiency ratio decreased slightly.

# Appendix 14- Cost of Capital Analysis

## Cost of Equity

We assume the cost of equity was calculated using the Capital Asset Pricing Model (CAPM)

1. Risk free rate and Market Risk Premium

The risk-free rate is the result Damodaran Database (2018), taking into account the USA, having as result 2.80%. At the same time, for the market risk premium, we applied a ratio of 79:21 to find out the combined Market Risk Premium between China and U.S., respectively, using Damodaran Database (2018), for a total of 5.72%.

2. Beta

The beta is calculated by running a linear regression of Alibaba monthly returns over the New York Stock Exchange Composite Index returns for the same period. The time range goes from September 2014 until June 2018.

The Adjusted Beta we estimated is 1.89

According to the classical CAPM model, we calculate the cost of equity as 13.63%

## Cost of Debt

Since the short-term debt, including bank borrowings have a fluctuation that goes from 1.7% to 4.8% and the long-term debt that includes either bank borrowings and bonds, with a yield to maturity of 4.5 and maturity in 2034, we decided to apply a rate of 4.5%.

## Tax Rate and Weighted Average Cost of Capital

Since the company operates mainly in China and for the rest of the world the sales in detail are not disclosed, we decided to take into account an average of 19%, considering previous years effective tax rate for the corporation.

Alibaba’s leverage represents 34%, while equity consists of 66%, that is the reason why we decided to use the weighted average cost of capital. As result, we apply a cost of capital of 10.23%.

## Appendix 15- DCF Table

| In Millions US$ | 2018 F | 2019 F | 2020 F | 2021 F | 2022 F |
|---|---|---|---|---|---|
| EBIT | 8,682 | 10,265 | 12,120 | 14,252 | 16,762 |
| Taxes | - 1,662 | - 1,965 | - 2,320 | - 2,728 | - 3,209 |
| EBIT*(1-t) | 7,020 | 8,300 | 9,800 | 11,524 | 13,554 |
| Depreciation | 1,169 | 1,606 | 1,907 | 2,203 | 2,608 |
| Amortization | 977 | 1,104 | 1,300 | 1,502 | 1,706 |
| Delta NWC | - 406 | - 690 | - 763 | - 904 | - 1,060 |
| CAPEX | | | | | |
| Tangible Assets | - 1,889 | - 2,205 | - 2,522 | - 2,839 | - 2,608 |
| Intangible Assets | - 1,579 | - 1,843 | - 2,108 | - 2,372 | - 1,706 |
| | | | | | |
| FCFF | 5,293 | 6,272 | 7,614 | 9,114 | 12,494 |
| WACC | 10.23% | 10.23% | 10.23% | 10.23% | 10.23% |
| | | | | | |
| PV FCFF | 4,802 | 5,162 | 5,685 | 6,173 | 7,677 |

| | |
|---|---|
| Sum PV FCFF | 29,499 |
| TV growth rate (g) | 9.3% |
| TV | 902,096 |
| PV TV | 554,307 |
| **Enterprise Value** | **583,806** |
| Other Assets | 3,078 |
| Net Debt | -7,887 |
| Other non Current Liabilities | 196 |
| Minority Shareholder's Equity | 6,420 |
| **Equity Value** | **601,386** |
| # Shares | 2529 |
| **Intrinsic Value** | **237.80** |

# Appendix 16- DCF Details

## Sales forecast

In order to forecast future sales, we look at past macro-economic indicators, while we use the IMF World Economic Outlook average growth rate respectively estimations of 6%, 8% and 1% for the Chinese real GDP, per capita GDP and Population.

| Growth Rate % | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 F | 2019 F | 2020 F | 2021 F | 2022 F |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chinese real GDP (YOY) | 7.90 | 7.80 | 7.30 | 6.90 | 6.70 | 6.80 | 6.50 | 6.30 | 6.20 | 6.00 | 5.80 |
| Chinese real GDP per capita (YOY) | 13.37 | 11.87 | 8.77 | 6.04 | -0.53 | 5.66 | 9.25 | 7.94 | 8.55 | 8.20 | 7.97 |
| Chinese Population (YOY) | 0.50 | 0.49 | 0.52 | 0.50 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 |

Source: IMF World Economic Outlook

## Business Units

We broke down Alibaba's sales according to its four business units: Core Commerce; Cloud Computing; Digital Media & Entertainment; Innovation Initiatives and others. The core commerce represents 85% of the total sales and was divided into China and the rest of the world.

## 1.Core Commerce

Alibaba's Core Commerce revenue was estimated by taking into account the sales from China and the rest of the world, and furthermore splitting them into ì retail and wholesale. Given the fact that the public information the company showed, did not provide any details concerning the pricing policy for each category of product, either retail and wholesale, and the units of categories sold during the past fiscal years, we analysed each category individually in order to better understand the future trends. We forecasted the online retail revenue considering a weighted average of the general growth rate for China (80%) and the rest of the world (20%) and at the same time we projected sales from the previous years. For the wholesale category, we forecasted the sales both for China and the rest of the world, considering an average of the global online wholesale growth and a projection of sales from the past years.

| | FORECAST | | | | |
|---|---|---|---|---|---|
| **Growth Rate (YOY)** | **2018** | **2019** | **2020** | **2021** | **2022** |
| Online Retail in China * | 20% | 17% | 14% | 11% | 9% |
| ** | 30% | 28% | 25% | 22% | 20% |
| Online Retail in the World * | 23% | 21% | 20% | 18% | 15% |
| ** | 23% | 35% | 28% | 24% | 20% |
| Online Wholesale in the China * | 12% | 12% | 12% | 12% | 12% |
| ** | 4% | 13% | 11% | 10% | 9% |
| online Wholesale in the World * | 9% | 9% | 9% | 9% | 9% |
| ** | 11% | 10% | 10% | 10% | 9% |

*External projection ** Author projection

Source: Statista, Forrester Research

## 2. Cloud Computing

The Cloud Computing segment represents 4% of the total revenue in 2017 and it originates from China, Europe, Asia and North America. The cloud business line offers different services for different kind of companies and for this reason we projected future sales considering, an average of the global cloud computing growth and the projection of previous year's sales.

| | FORECAST | | | | |
|---|---|---|---|---|---|
| **Growth Rate (YOY)** | **2018** | **2019** | **2020** | **2021** | **2022** |
| Cloud Computing * | 30% | 30% | 30% | 30% | 30% |
| ** | 33% | 36% | 29% | 25% | 21% |

*External projection ** Author projection

Source: Forward Intelligence

## 3.Digital Media & Entertainment and Innovation Initiatives and Others

These two segments are the newest investments. In fact, the former one was born in 2014 mainly from an acquisition. This business consists largely of acquisition of other business in the media and entertainment industry; while the latter represents a mix of small businesses, either acquired or built- in house, that include cloud computing, communication and digital map platforms. To ease the calculation and the forecast, we grouped these two segments due to the fact they represent a small portion of the total business and under certain aspects, they embed similar operating business units.

| | FORECAST | | | | |
|---|---|---|---|---|---|
| **Growth Rate (YOY)** | **2018** | **2019** | **2020** | **2021** | **2022** |
| DME+ II * | 9% | 8% | 7% | 7% | 7% |
| ** | 0.2% | 22% | 18% | 15% | 13% |

*External projection ** Author projection

Source: Deloitte

## Gross Margin

The main costs related to operational activity refer to contents acquisition for online media properties, logistics costs associated to fulfilment services, marketing expenses paid to affiliates, processing fees concerning online payments, external services, costs linked to the website's maintenance and salaries. In order to forecast future expenses, we took into account the proportion of previous costs over revenue and, since Alibaba focuses on long terms goals, it expects to increase short term costs mainly to improve existing technological infrastructure, expand the current offer and make strategical acquisitions. For the projected five years we expect a constant increase of operating costs and thus impacting negatively on short term profitability.

| | HISTORICAL | | | | | FORECAST | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** | **2020** | **2021** | **2022** |
| Gross Margin | 72% | 75% | 69% | 66% | 62% | 61% | 61% | 60% | 60% | 60% |

## Business and Management Expenses

This category represents mainly costs associated to business development, marketing campaigns and administrative charges and since during the past years they had a similar portion compared to revenue, for simplicity reasons, we keep the same portion for the following years.

| **Account** | **Assumption** |
|---|---|
| Product Development Expenses | Percentage of Sales Revenue |
| Sales and Marketing Expenses | Percentage of Sales Revenue |
| General and Administrative Expenses | Percentage of Sales Revenue |

## Depreciation, Amortization & Financial Expenses

Depreciation and Amortization represents all the non-cash expenses and are forecasted according to previous portions of tangible and intangible investments. On the other hand, we expect that Financial Expenses have the same rate over the financial debt.

| **Account** | **Assumptions** |
|---|---|
| Depreciation | Percentage of Beginning Tangible Assets Net |
| Amortization | Percentage of Beginning Intangible Assets Net |
| Interest Expenses | Derived from Short- and Long-Term Financial Debt |

## Other Accounts of Income Statements

Net Interest and investment Income mainly represent deconsolidation of previous investments, revaluation of previously held equity interest and gains coming from disposal over certain investments. During past years this account was not related neither to revenue nor capital expenditure, we assumed an average of previous years as a constant amount for the following periods. Minority interest income shows how the non-controlled companies perform, while Other Comprehensive Income we expect no changes. The amount of paid taxes during the past years was never the same given by the fact the sources of revenue of the company were always different. For this reason, for the following periods we kept a constant tax rate, considering an average of previous rates.

| Account | Assumptions |
|---|---|
| Net Interest and Investment Income | Average of the past five years |
| Net Other Income | Percentage of sales revenue |
| Minority Interest Income | Percentage of Net Income |
| Tax Ratio | Average of the past three years |
| Goodwill Impairment | equal to 0 |
| Other Comprehensive Income | Average of the past three years |

## CAPEX

Property plant and equipment and intangible assets we applied the BASE (Beginning, Adding, Subtracting, End Value) method. We assume that Alibaba will invest more on the short term, making strategical acquisition that concern either the core commerce and the other business lines, while on the long term it will focus more on financial results, improving margins and income. In addition, given the fact that the company does not show how investments will be split, we assume the same proportion over the years for both typology of investments.

| **Account in BLN US$** | **FORECAST** | | | | |
|---|---|---|---|---|---|
| | **2018** | **2019** | **2020** | **2021** | **2022** |
| **Fixed Assets** | | | | | |
| Balance at the Beginning of Year | 3.06 | 3.78 | 4.38 | 4.99 | 5.63 |
| Addition (CAPEX) | 1.89 | 2.20 | 2.52 | 2.84 | 3.16 |
| Subtraction (Depreciation) | - 1.17 | - 1.61 | - 1.97 | - 2.20 | - 2.61 |
| **End Balance** | **3.78** | **4.38** | **4.99** | **5.63** | **6.18** |
| **Intangible Assets** | | | | | |
| Balance at the Beginning of Year | 2.14 | 2.74 | 3.48 | 4.29 | 5.16 |
| Addition (CAPEX) | 1.58 | 1.84 | 2.11 | 2.37 | 2.64 |
| Subtraction (Depreciation) | - 0.98 | - 1.10 | - 1.3 | - 1.5 | - 1.71 |
| **End Balance** | **2.74** | **3.48** | **4.29** | **5.16** | **6.09** |

## Operating Working Capital

We mainly consider current assets and current liabilities that have an impact on the operating working capital.

| Account | Assumptions |
|---|---|
| Account Receivables | Average DSO Times Daily Sales |
| Advances to Customers and Merchants | Average of Previous Years |
| Other Current Assets | Percentage of Sales Revenue |
| Account Payable | Average DPO Times Daily Operating Costs |
| Accrued Expenses | Percentage of General Expenses |
| Other Current Liabilities | Percentage of Sales Revenue |
| Advances to Customers and Merchants | Average of Previous Years |
| Prepayments | Percentage of General Expenses |

## Net Working Capital (NWC)

| In Millions US$ | 2014 | 2015 | 2016 | 2017 | 2018 F | 2019 F | 2020 F | 2021 F | 2022 F |
|---|---|---|---|---|---|---|---|---|---|
| Investment Securities | 2,126 | 567 | 603 | 615 | 878 | 878 | 878 | 878 | 878 |
| Account Receivables | 43 | 165 | 175 | 665 | 637 | 765 | 928 | 1,107 | 1,312 |
| Advances to Customers and Merchants | 7 | 58 | 63 | 120 | 57 | 57 | 57 | 57 | 57 |
| Interest Receivables | 37 | 87 | 45 | 68 | 54 | 54 | 54 | 54 | 54 |
| Vat Receivable | 13 | 536 | 951 | 1,336 | 881 | 881 | 881 | 881 | 881 |
| Other Current Assets | 655 | 1,296 | 1,225 | 2,218 | 3,233 | 3,880 | 4,708 | 5,619 | 6,659 |
| Deferred Tax Assets | 11 | 24 | 4 | 59 | 16 | 16 | 16 | 16 | 16 |
| Prepayments | 265 | 292 | 629 | 858 | 933 | 937 | 1,019 | 1,107 | 1,204 |
| **Total Current assets** | 3,157 | 3,026 | 3,696 | 5,939 | 6,690 | 7,469 | 8,542 | 9,721 | 11,062 |
| | | | | | | | | | |
| | | | | | | | | | |
| Income Tax Payable | 1,496 | 424 | 403 | 929 | 724 | 778 | 835 | 914 | 1,034 |
| Account Payable | 219 | 202 | 223 | 472 | 699 | 840 | 1,040 | 1,259 | 1,502 |
| Accrued Expenses | 2,201 | 2,691 | 3,480 | 6,529 | 7,096 | 7,713 | 8,384 | 9,113 | 9,905 |
| Other Current Liabilities | 134 | 183 | 244 | 507 | 616 | 594 | 728 | 883 | 1,066 |
| Deferred Revenue and Customer Advances | 1,049 | 1,227 | 1,487 | 2,283 | 2,768 | 3,447 | 4,221 | 5,122 | 6,184 |
| Deferred Revenue | 69 | 69 | 60 | 97 | 70 | 70 | 70 | 70 | 70 |
| **Total Current Liabilities** | 5,169 | 4,796 | 5,897 | 10,817 | 11,974 | 13,443 | 15,279 | 17,362 | 19,762 |
| | | | | | | | | | |
| **NWC** | - 2,012 | - 1,770 | - 2,201 | - 4,879 | - 5,284 | - 5,974 | - 6,737 | - 7,641 | - 8,700 |
| **Δ NWC** | - | 242 | - 431 | - 2,677 | - 406 | - 690 | - 763 | - 904 | - 1,060 |

## Debt Financing

In this part, we make assumptions on how the company will be financed, estimating interest costs and interest revenue.

| Account | Assumptions |
|---|---|
| Current Bank Borrowings | Kept the Same Interest Rate Over Years |
| Merchant Deposit | Kept Constant Over Years |
| Non-Current Bank Borrowings | Percentage of Capital Expenditure |
| Unsecured Senior Notes | Kept Constant Over Years |

## Net Debt

| In Millions US$ | 2014 | 2015 | 2016 | 2017 | 2018F | 2019F | 2020F | 2021F | 2022F |
|---|---|---|---|---|---|---|---|---|---|
| Cash and Cash Equivalents | 5,338 | 16,778 | 15,425 | 21,799 | 13,164 | 17,176 | 22,419 | 29,111 | 37,902 |
| Current Bank Borrowings | 178 | 309 | 622 | 2,259 | 208 | 243 | 278 | 313 | 348 |
| Non-Current Bank Borrowings | 4,961 | 250 | 270 | 4,695 | 2,480 | 2,896 | 3,312 | 3,727 | 4,143 |
| Unsecured Senior Notes | - | 7,598 | 7,451 | 6,958 | 6,846 | 6,846 | 6,846 | 6,846 | 6,846 |
| **Net Debt** | **- 199** | **- 8,622** | **- 7,083** | **- 7,887** | **- 3,630** | **- 7,191** | **- 11,983** | **- 18,225** | **- 26,565** |

## Other Assets and Liabilities

In this section, we make assumption on all the other elements of the balance sheet.

| Account | Assumptions |
|---|---|
| Cash and Cash Equivalents | Derived from Cash Flow Statement |
| Short Term Investment | Kept Constant Over Years |
| Restricted Cash | Kept Constant Over Years |
| Investment Securities | Kept Constant Over Years |
| Interest Receivables | Kept Constant Over Years |

| Account | Assumptions |
|---|---|
| Vat Receivable | Kept Constant Over Years |
| Deferred Tax Assets | Kept Constant Over Years |
| Other Non-Current Asset | Kept Constant Over Years |
| Investment in Equity Investees | Same Growth Rate of Sales Revenue |

| Account | Assumptions |
|---|---|
| Land Use Rights | Average of Previous Years |
| Goodwill | Same Growth Rate of Capital Expenditure |
| Income Tax Payable | Same Growth Rate of Income Taxes |
| Deferred Tax Liabilities | Percentage of Sales Revenue |
| Other Non-Current Liabilities | Kept Constant Over Years |
| Deferred Revenue | Kept Constant Over Years |

## Owner's Equity

Common stock and capital reserves is forecasted considering a stock-based compensation since no secondary offerings is expected. Thus, we assume that the average of previous share-based compensation over revenue will predict future common stock and capital reserves. On the other hand, for Additional paid in capital and Minority Shareholder's equity we suppose a constant increase, while for Retained Earnings and Minority Shareholder Equity we apply the BASE method.

| **Retained Earnings** | | | **FORECAST** | | |
|---|---|---|---|---|---|
| **Account in MLN US$** | **2018** | **2019** | **2020** | **2021** | **2022** |
| Balance at Beginning of the year | 15,223 | 22,053 | 30,075 | 39,182 | 49,544 |
| Addition (Net Income) | 6,829 | 8,022 | 9,107 | 10,362 | 11,867 |
| Subtraction (Dividends) | 0 | 0 | 0 | 0 | 0 |
| **Ending Balance** | **22,053** | **30,075** | **39,182** | **49,544** | **61,412** |

| Account | Assumptions |
|---|---|
| Common Stock and Capital Reserves | Kept Constant Over Years |
| Additional Paid in Capital | Average Growth Rate of Previous Years |
| Minority Shareholder's Equity | Percentage of Sales Revenue |

## Appendix 17- Multiples Method

To carry out the multiple valuation, we selected several Chinese and international companies, operating mainly in the online retail commerce, valuing primarily the similarity in the business. For the Chinese company we selected: Gome, JD.com, Suning, Tencent and Vipshop, while for the international companies, we picked up Amazon and Ebay. In addition, valuing the characteristic of each company, we applied EV/EBITDA and P/E as multiples for the comparative valuation, collecting data from the past 5 years.

| **EV/EBITDA** | | |
|---|---|---|
| **Company** | **Average** | **Median** |
| Amazon | 80.9 | 83.2 |
| Ebay | 35.9 | 35.6 |
| Gome | 12.6 | 12.4 |
| JD | -219.9 | 114.8 |
| Suning | 44.3 | 52.9 |
| Tencent | 7.1 | 8.5 |
| Vipshop | 2.5 | 2.1 |

| **In millions US$** | |
|---|---|
| Entreprise Value | 533,837 |
| Net Debt | -7,887 |
| Other Assets | 3,078 |
| Other Non-Current Liabilities | 196 |
| Minority Shareholder's Equity | 6,420 |
| Equity Value | 551,418 |
| # shares oustanding | 2,529 |
| **Estimated Price** | **218.03** |

For the Enterprise Value multiple, we only selected Amazon, JD and Suning median value for an average value of 66.2, which is in line with Alibaba's. The intrinsic value generated by this multiple is 218.03 US$, which is slightly lower compared to the DCF result.

| Forward P/E | |
|---|---|
| Amazon | 149.06 |
| Ebay | 13.80 |
| Gome | 12.58 |
| JD | 30.32 |
| Suning | 12.40 |
| Tencent | 30.72 |
| Vipshop | 15.44 |

| | |
|---|---|
| Equity Value | 666,369 |
| # shares oustanding | 2,529 |
| **Estimated Price** | **263.50** |

For the Equity multiples, we took into account Ebay, Suning, Gome and Vipshop, which on average have a Price-earnings ratio of 13.56. The intrinsic value generated by the trailing P/E is 263.50, which is 10.8% higher than the cash flow computation.

## Appendix 18- Rating Definition

**Benchmark**: New York Stock Exchange

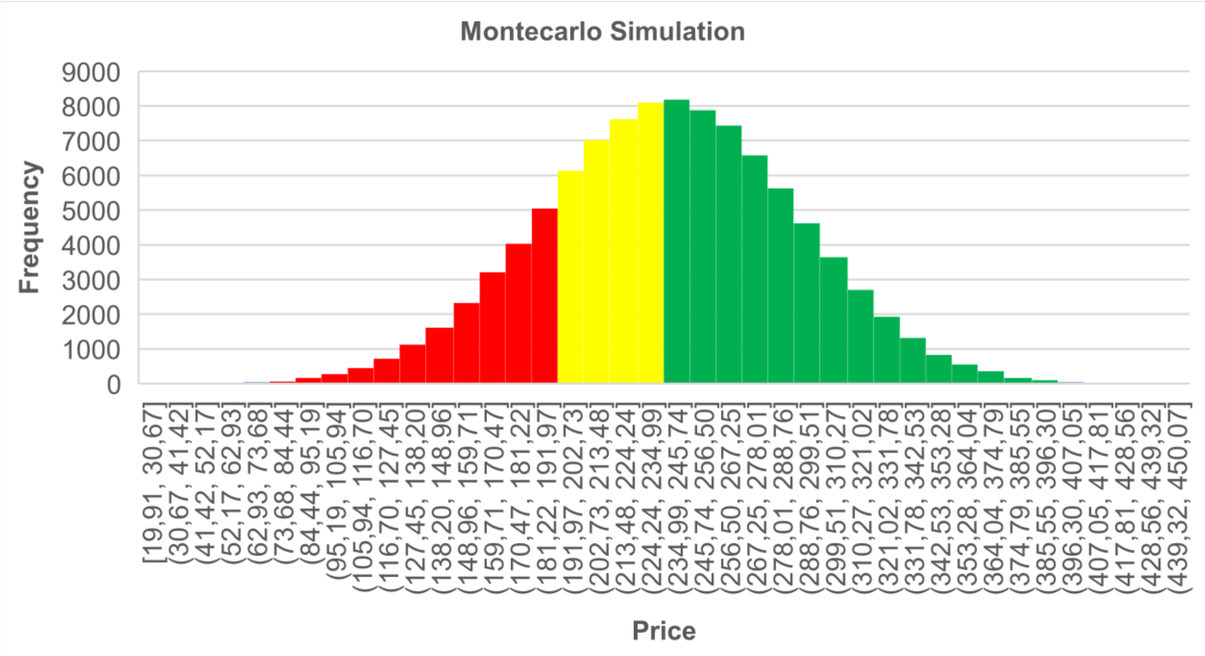
**Investment horizon**: 5 years

| | Low Risk | Medium Risk | High Risk |
|---|---|---|---|
| **Buy** | > 15% | > 20% | > 25% |
| **Hold** | > 10 % and < 15% | > 10% and < 20% | > 10% and < 25% |
| **Sell** | < 10 % | < 10% | < 10% |

## Appendix 19- Monte Carlo Simulation, Sensitivity and Scenario Analysis

We used the Monte Carlo simulation to test Alibaba price target sensitivity. We analyzed four factors, which are total sales revenue, cost of goods sold, weighted average cost of capital and terminal growth rate and for each of them we assumed to follow a normal distribution. Except for Sales revenue, we used a triangular distribution. We then ran 100,000 random simulations and obtained intrinsic value for each trial.

| Factor | Statistical Parameters | |
|---|---|---|
| | Mean | Std |
| Sales Revenue | 21% | 4.08% |
| Cost of Goods Sold | 39.50% | 10% |
| Ru | 10.23% | 1.12% |
| g | 9.30% | 0.08% |




After the 100,000 trials, the simulation produced a series of intrinsic values with a mean of 237.48 US$ and a median value of 237.63 US$, starting from the base case of 237.80 US$. We then derived a 90% confidence interval values, going from 170 to 304.04 US$.

| Statistical Description | In US$ |
|---|---|
| Mean | 237.80 |
| Standard Deviation | 51.98 |
| 5% Percentile | 165.04 |
| Median | 237.63 |
| 95% Percentile | 306.23 |

## Sensitivity and Scenario Analysis

We performed a sensitivity analysis for the weighted average cost of capital and the growth rate, keeping all the other variables constant, because they showed to be the main sensitive drivers. On the other hand, we also adopted the scenario analysis, focusing on the adjusted Beta, the terminal growth rate and the weighted average cost of capital individually, in order to see what the final effect on the forecasted stock price is.

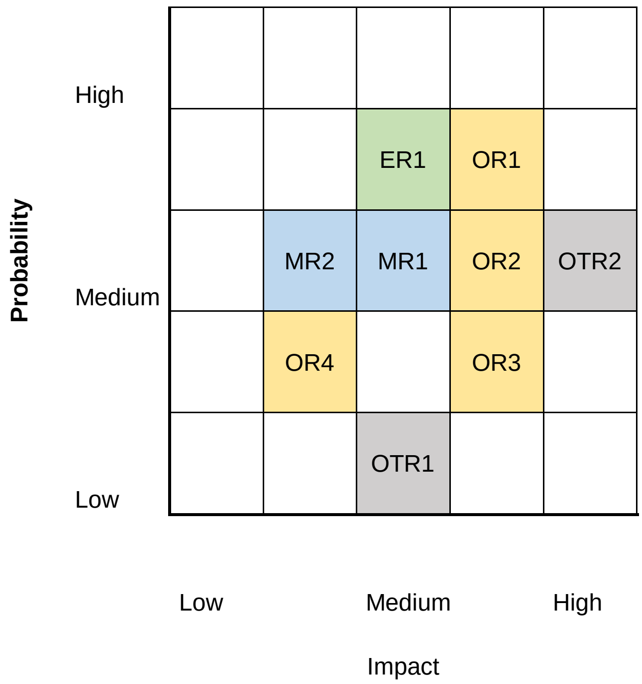
| | **Base Case** | **Change in Weighted Average Cost of Capital** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 237.80 | 9.93% | 9.95% | 10.00% | 10.03% | 10.23% | 10.43% | 10.63% | 10.83% | 11.03% |
| **Change in the Terminal growth rate (g)** | 8.98% | 236 | 231 | 220 | 214 | 181 | 157 | 139 | 125 | 114 |
| | 9.06% | 256 | 250 | 237 | 230 | 192 | 166 | 146 | 130 | 118 |
| | 9.14% | 280 | 273 | 258 | 249 | 205 | 175 | 153 | 136 | 122 |
| | 9.22% | 310 | 301 | 283 | 272 | 220 | 185 | 160 | 142 | 127 |
| | 9.30% | 347 | 336 | 313 | 300 | 238 | 197 | 169 | 148 | 132 |
| | 9.31% | 352 | 341 | 317 | 304 | 240 | 199 | 170 | 149 | 133 |
| | 9.32% | 358 | 347 | 322 | 308 | 243 | 201 | 171 | 150 | 133 |
| | 9.33% | 363 | 352 | 326 | 313 | 245 | 202 | 173 | 151 | 134 |
| | 9.34% | 369 | 357 | 331 | 317 | 248 | 204 | 174 | 152 | 135 |

| **Base Case** | **Change in Adjusted Beta** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.89 | 1.70 | 1.75 | 1.80 | 1.85 | 1.89 | 1.95 | 2.00 | 2.05 | 2.10 |
| 237.80 | 261.18 | 259.03 | 256.81 | 254.81 | 237.79 | 232.68 | 218.64 | 205.41 | 202.18 |

| **Base Case** | **Change in the Terminal Growth rate (g)** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9.30% | 8.98% | 9.06% | 9.14% | 9.22% | 9.30% | 9.32% | 9.34% | 9.36% | 9.38% |
| 237.80 | 181.22 | 192.46 | 205.35 | 220.30 | 237.79 | 242.65 | 247.73 | 253.16 | 259.60 |

| **Base Case** | **Weighted Average Cost of Capital (WACC)** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10.23% | 9.55% | 9.75% | 10.00% | 10.15% | 10.23% | 10.43% | 10.63% | 10.93% | 11.13% |
| 237.80 | 244.92 | 242.79 | 240.18 | 238.62 | 237.79 | 235.75 | 233.72 | 230.73 | 228.76 |

# Appendix 20 - Risk Matrix




| **Risk** | ER1 | MR1 | MR2 | OR1 | OR2 | OR3 | OR4 | OTR1 | OTR2 |
|---|---|---|---|---|---|---|---|---|---|
| **Rating** | 11 | 9 | 7 | 12 | 9 | 6 | 5 | 3 | 12 |

# 8. References


**Books**

Berk, J., Demarzo, P. (2013). *Corporate Finance,* 3ª Ed. Boston: Pearson.

Damodaran, A. (1997). *Corporate Finance- Theory and Pratice*, 1ª Ed. John Wiley & Sons. Damodaran, A. (2006). *Valuation Approaches and Metrics: A Survey of the Theory and Evidence,* Stern School of Business: New York University.

Damodaran, A. (2012). *Investment Valuation: Tools and Techniques for the determining the value of any asset.* 3ª Ed. Hoboken, New Jersey: John Wiley and Sons.

Defusco, R. A., Mcleavey, D. W. and Pinto, J. E. (2007). *Quantitative Investment Analysis*. CFA Institute Investment Series, 2ª Ed. John Wiley & Sons.

Pinto, J. E., Henry, E., Robinson, T. R. and Stowe, J.D. (2010). *Equity Asset Valuation,* CFA Institute Investment Series, 2ª Ed. John Wiley & Sons.

**Articles**

Blume E. Marshall (Mar. 1971). On the Assessment of Risk. The Journal of Finance Vol. 26, No1., 1-10.

Fernandez P. Bilan A. (2007). 110 Common Errors in Company Valuation. IESE Business School. 1- 40.

Steven N. Kaplan, Richard S. Ruback (Sep. 1995). The Valuation of Cash Flow Forecast: An Empirical Analysis. The Journal of Finance Vol. 50, Issue 4, 1059-1093.

Jonathan B. Berk, Jules H. Van Binsbergen (Jun. 2017). How Do Investors Compute the Discounted Rate? They use the CAPM. Financial Analysts Journal. Vol 73, No. 2, 25-32.

Jing Liu, Doron Nissim, Jacob Thomas (2007). Is Cash Flow king in Valuations?. Financial Analysts Journal. Vol 63, No. 2, 56-69.

**Investor Relations – Company Consolidated Reports**

Alibaba Group Consolidated Annual Reports & Accounts from 2014 to 2017

**Databases and Websites**

Aswath Damodaran, http://pages.stern.nyu.edu/~adamodar/

Bloomberg Database

IMF World Economic Outlook April 2018 Database

Statista- https://www.statista.com/

Alibaba Group- https://www.alibabagroup.com/

OECD- https://www.oecd.org/china/

Deloitte- https://www2.deloitte.com/content/dam/Deloitte/cn/Documents/cip/deloitte-cn-cip-china-online-retail-market-report-en-170123.pdf

McKinsey- https://www.mckinsey.com/featured-insights/asia-pacific/meet-the-chinese-consumer-of-2020

iResearch- http://www.iresearchchina.com/

Euromonitor- https://www.euromonitor.com/

Yahoo Finance- https://finance.yahoo.com/