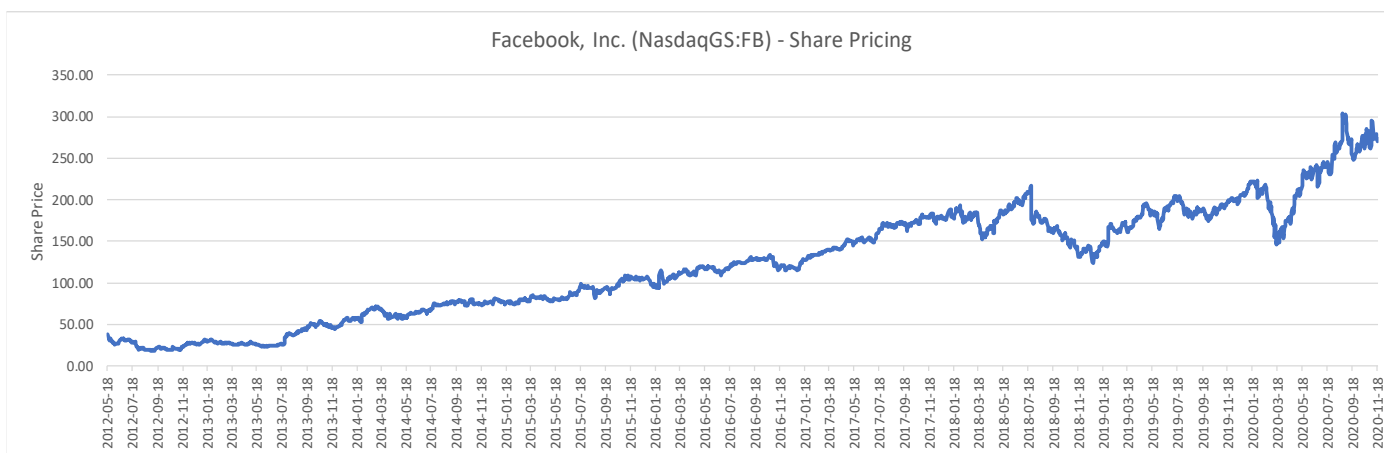


Facebook, Inc.

Last Price	\$ 271.65	Quality	2	Quadrant	III	Holder Name	% of S/O	\$ millions	
Shares O/S	2,850 million	T12M EPS	\$ 8.78	Proj. ROE	25%	Zuckerberg, Mark Elliot	12.69	Market Capitalization	777,413
Mkt Cap Bil	\$ 777.4	T12M PE	30.9x	NPE	26.35x	The Vanguard Group, Inc.	6.51	- Cash + ST Investments	54,855
Float %	83.98	BVPS	\$ 41.33	IGR	25%	BlackRock, Inc.	5.56	+ Total Debt	10,219
	Low - High	PB	6.6x			Capital Research and Manage	5.10	+ Pref. Equity	0
52 Wk Price	137.1 - 304.67	R&D Adj. EPS	\$ 13.93	Dividend	\$ -	FMR LLC	4.26	+ Minority Interest	0
		R&D Adj PE	19.5x	Yield (%)	0.00%			= Enterprise Value	732,777

Company Overview

Facebook, Inc. develops products that enable people to connect and share with friends and family through mobile devices, personal computers, virtual reality headsets, and in-home devices worldwide. The company's products include Facebook that enables people to connect, share, discover, and communicate with each other on mobile devices and personal computers; Instagram, a community for sharing photos, videos, and private messages; Messenger, a messaging application for people to connect with friends, family, groups, and businesses across platforms and devices; and WhatsApp, a messaging application that is used by people and businesses to communicate in a private way. It also provides Oculus, a hardware, software, and developer ecosystem, which allows people to come together and connect with each other through its Oculus virtual reality products. Facebook, Inc. was founded in 2004 and is headquartered in Menlo Park, California.



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Section 1: FACEBOOK BACKGROUND

For those of you who haven't seen the movie The Social Network, Facebook (FB) grew out of a Harvard dormitory room. Mark Zuckerberg (MZ), in his second year studying computer science, created the predecessor, Facemash. Facemash allowed visitors to compare two photos, side by side, of two females from various student dormitories. The user could then select which female was more attractive. In its first four hours of launch, it attracted 450 users and 22 000 photo views. The site caught on quickly but was shut down by the Harvard administration for breach of security, violating copyrights and violating individual privacy. Ultimately the charges were dropped. This pattern of stirring up trouble with ruling administrations is a repeated pattern in Facebook's history.

MZ subsequently engaged himself in creating TheFacebook (circa January 2004) which aimed to unify all of the individual "facebook" (essentially student directories with photos and basic facts) of Harvard dormitories. Upon finishing his code, his roommate and co-founder Dustin Muskovitz (DM) suggested putting the site on the Kirkland (the name of their dormitory) online mailing list. Within 24 hours, there were more than 1200 registrants, including students outside of Kirkland.

Within a few days of this launch, three other students, Cameron Winklevoss, Tyler Winklevoss and Divya Narendra accused MZ of intentionally misleading them into believing that he would help them build a social network called HarvardConnection.com, but instead using their idea to build a competing product. The three complained to the Crimson (Harvard student newspaper). MZ found out about the Crimson investigation and actually gained access to two Crimson journalists' emails via cross-referencing memberships on TheFacebook with Crimson backgrounds, and failed login attempts (i.e., the site would email a new password to the user that failed to login). Three Crimson members filed a lawsuit against MZ, but it was settled.

Despite the drama around TheFacebook, it became very popular. Within half of a month, half the undergraduate population at Harvard was enrolled on the site. Fellow students and friends Eduardo Saverin, Andrew McCollum, and Chris Hughes, and DM invested with MZ to promote the site. They incorporated the business in February 2004. In March 2004, the site expanded to Stanford, Columbia and Yale.

Between March and June 2004, MZ met Sean Parker (SP), an early social media pioneer/entrepreneur. SP convinced MZ about the large potential of his site, and raised funds from the first investor, Peter Thiel for 10.2% ownership at

\$500K. MZ moved to Palo Alto in June 2004 and SP became the President of FB. The site's popularity kept growing, essentially reached all university campuses in US & Canada and many in the UK.

In 2005, MZ changed the name of the domain to facebook.com. From that point to late 2007, FB raised more money implying larger valuations. This includes Microsoft for 1.6% stake at \$240M in October 2007.

In 2008, FB was still deciding the best way to monetize the site. In March, they hired Sheryl Sandberg (SS). SS led many internal brainstorming sessions with employees and decided upon advertising as the best monetization vehicle. In September 2009, FB became cash-flow positive.

In February 2012, FB filed for an IPO. The company went public in May with an offering price of \$38 valuing FB at \$104B, the largest valuation for a new company, at that time. The IPO raised \$16B, which was the third largest at that time and the stock price closed at \$38.23 on the first day. Since the IPO, revenues, profits and market capitalization have grown at impressive rates.

1.1. What is Social Media?

Social Media is an umbrella term used to describe any software application, typically consumed on a mobile device or web browser that enables users to communicate and share content. User-created content typically includes videos, photos, discussions, articles, or other such material. Usually, the application is interactive through messaging, posting or streaming content.

Facebook, the public holding company (FB), is the world's largest social network as measured by monthly average users (MAUs), with ≈ 2.7 billion monthly average users. FB's platforms enable people to connect, communicate and share opinions, ideas, photos, videos and numerous other activities and content with others anywhere in the world through an internet connected device. FB encompasses the core facebook social network website, Instagram, Messenger, WhatsApp, and Oculus.

FB does not charge users any fee for service. Instead, it relies on advertising revenue. **Advertising makes up >98 % of total revenues. The advertising revenue comes from the facebook and Instagram platform.** WhatsApp, Facebook Messenger are essentially not monetized. Oculus as of now, makes immaterial revenues.

As users use the site, algorithms record and analyze the user's movements within the site and even beyond the site. With such a large active user base, FB has amalgamated an enormous database which they then monetize through advertising. FB does not sell individual data. It goes beyond this. FB attempts to create a predictive model on each user, trying to gauge what variable/parameter will work as an effective one for advertisers to exploit. This predictive power is the main selling feature for advertisers, but it simultaneously creates interventionist regulatory risk, as **discussed in the Section 5.2.** As of now, no other company can sell targeted advertising as FB does.

Exhibit 1 displays a flowchart on converting user activity into current revenue or into future revenue. When a user is on the site, there are three simultaneous, interdependent objectives that FB is striving for: 1) Engagement; 2) Growth; and 3) Advertising. The first two points are pointing towards generating future revenues, while the third point is mapped towards immediate revenue generation. It is very important to note, that there is no sales person involved. The three activities referenced above are all algorithm-driven.

1.2. Open Source

FB also allows outside developers to interact with the database. In the tech world, the term "open source" refers to freely lending your code or data (with some restrictions of course). Under open source, enthusiasts and/or

entrepreneurs can build new applications that work on the platform in question, in this case facebook.com. There are several advantages for FB to enable open source:

1. Users want “cool” apps. Thus, externally developed cool apps keep FB’s users engaged on the site (so FB can accumulate data) and potentially attract new users which keeps advertisers interested. Having the largest dataset keeps 3rd parties interested in developing apps on the site.
2. Open source usually means a two way street. So FB gets to see their users’ interactions with the 3rd party’s app and use that information to augment their profile on that respective user.
3. App developers advertise on FB to drive traffic to their site.
4. If the app involves any e-commerce, FB offers payment infrastructure. E-commerce payments usually involve a credit or debit card and in these type of transactions, merchants give up a % of the sale proceeds to enable the payment. This transaction charge is shared amongst several parties, and in this particular case, FB will share in the transaction charge.

Some examples of 3rd party apps include games, e-cards, dating, quizzed, movie-rating, etc. **Discussed in Section 5.2,** of the Risks section, open source & 3rd party applications got FB in trouble through Cambridge Analytica.

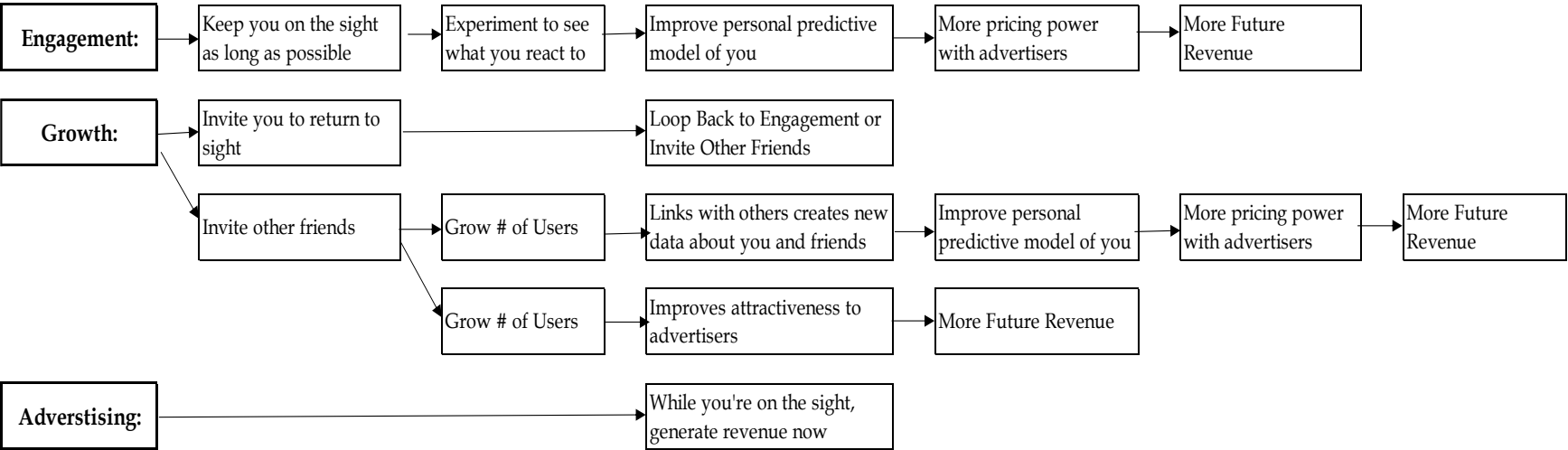
The cornerstone of FB is the facebook.com site along with Instagram. This is where the advertising revenue is generated. As of now, even though Whatsapp and Messenger don’t earn revenue, FB uses that data to further build its models on you. So for example should a Whatsapp user join facebook, FB already has good information on that user and s/he is ready to be monetized. So right now they could be viewed as a feeder to facebook or Instagram, at least in part, but FB’s accounting would not show that. Moreover, the data on Whatsapp and Messenger are conceptually still assets (not reflected on Balance Sheet) that are monetizable under the right circumstances.

Exhibit 1: Facebook User Activity Flowchart

FACEBOOK User Activity Flowchart

3 Objectives

- 1. Engagement
- 2. Growth
- 3. Advertising



Section 2: FB MOAT

FB's moat depends on two interrelated factors: the number of users and the data accumulated per user. As both factors increase in size, the platform becomes more attractive to advertisers (i.e. the customer). As the first mover, FB has the most users and the best data.

Exhibit 2: #USERS and Data make up the moat

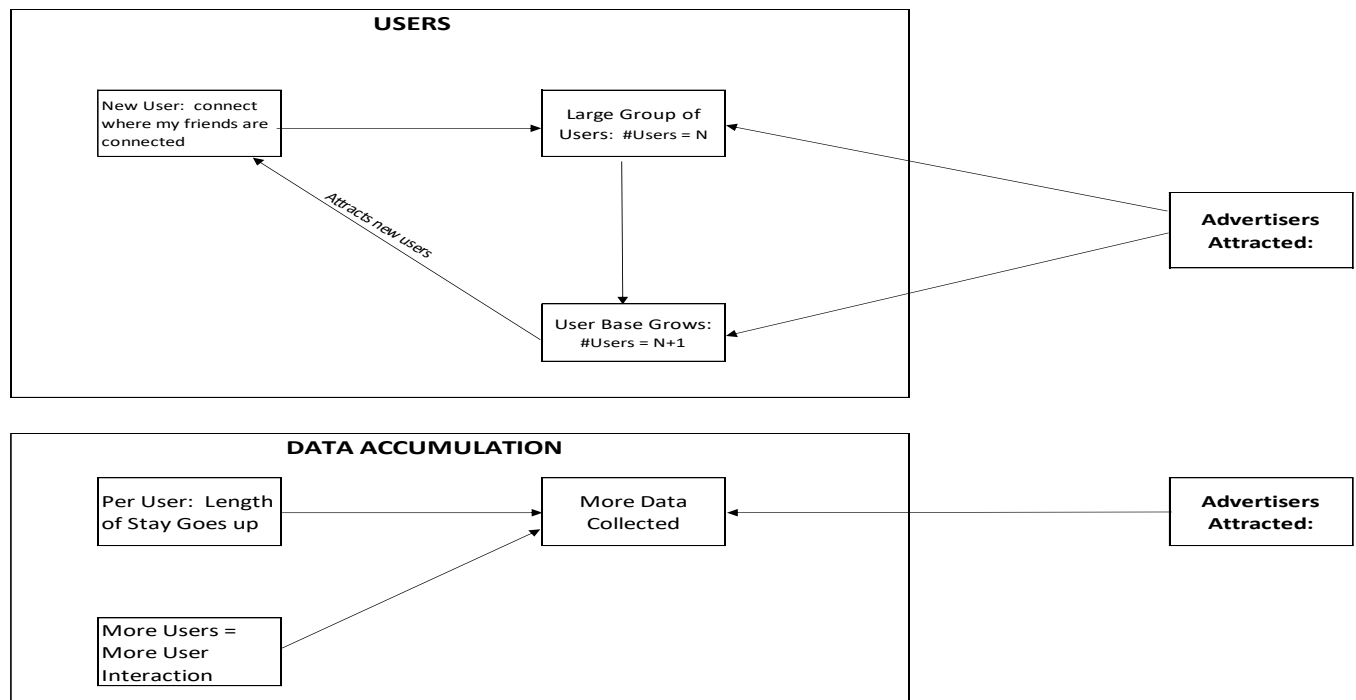


Exhibit 2 help can be used to visualize the movements between users, FB's Artificial Intelligence (AI) and advertisers. Technically, the number of advertisers does not directly attract users. Indirectly, advertising revenues can be utilized on R&D which can help to increase # of users and increase user stay on the platform.

Like any network based business, users attract other users. Users want to go where their friends are. So the more users there are now, the more likely a new user will choose that site to join. Moreover, there are some modest exit barriers for a user to terminate their membership: the time consumed to sign up to an alternative network, and the potential of losing their existing contacts and shared content/stories.

The customers (advertisers) are attracted by the volume of data, and the information content of the data. As for the volume of data, this is directly tied to the number of users. Digging in deeper, it's not just the total dataset that advertisers are attracted to. **A larger dataset allows for larger subsets of data, so that when advertisers filter the audience they're targetting, it's still of meaningful size.**

More users also leads to more engagement per user (# of interactions increases), which allows FB to improve its data. FB has the most informative data content. Like many other internet software companies, FB utilizes AI. The effectiveness of AI relies on **"cumulative data"**. Given the number of users, and the engagement per user, FB's AI is simply better than any competitor's and **keeps on getting better. So FB has the best AI, and with the biggest data set keeps improving beyond what other competitors have.**

2.1. COMPETITIVE ANALYSIS

Exhibit 3 shows a comparison of operating metrics. **Exhibit 4** shows the daily reach of the companies' user bases. While Twitter is not too far off FB's ARPU, its network size is $\approx 7\%$ of FB's nameplate site. The other US based competitors are very distant from FB's ARPU and user base. FB owns 4 of the six largest platforms, and WhatsApp, #2, makes minimal revenues.

In **Exhibit 5**, FB has the best ROA, best 5-year EPS growth, and the second best 5 year revenue growth. Three of the network competitors are unprofitable, and two have been public for less than 5 years.

Exhibit 3: Operating Comps

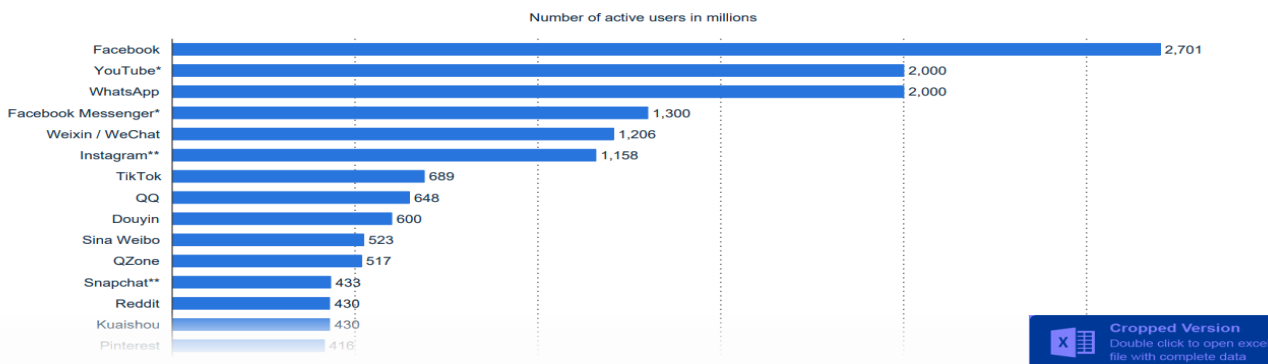
Ticker	Name	OPERATING COMPS			
		Q320		F19	
		Active Users (Millions)	ARPU	Active Users (Millions)*	ARPU*
FB	Facebook, Inc.	2,740	\$ 7.78	2,500	\$ 27.86
TWTR	Twitter, Inc.	187	\$ 4.32	152	\$ 19.69
SNAP	Snap Inc.	249	\$ 2.73	218	\$ 8.29
PINS	Pinterest, Inc.	442	\$ 1.03	335	\$ 3.81

* For Active Users, spot balance at Dec 31/2019; for ARPU, full year advertising revenue/ spot balance Users at Q419. Twitter does not disclose ARPU, it was calculated manually.

Exhibit 4: #Users per network

Most popular social networks worldwide as of October 2020, ranked by number of active users (in millions)

Global social networks ranked by number of users 2020



Note: Worldwide; as of October 19, 2020; social networks and messenger/chat app/voip included; figures for TikTok does not include Douyin. Further information regarding this statistic can be found on [page 107](#). Source(s): We Are Social; Various sources (Company data); Hootsuite; DataReportal; [ID 272014](#)

Leading social media **statista**

Exhibit 5: Stock Comps

Ticker	Name	Shares	Local Currency	FX Rate to CAD	Mkt. Cap \$C(000s)	Mkt Cap (local)	Mkt Price	STOCK COMPS						
								5 Yr CAGR or Average						
								Sales	Net Profit	EPS	ROA	LTM P/E	P/Book	Net Cash% of Market Cap
FB	Facebook, Inc.	2,861	USD	1.3065	\$ 1,015,698	\$ 777,413	\$ 271.70	41.5%	44.4%	42.3%	13.9%	30.6	6.6	5.9%
TWTR	Twitter, Inc.	770	USD	1.3065	\$ 45,213	\$ 34,606	\$ 44.97	19.8%	-220.5%	-214.3%	-0.3%	(28.4)	4.4	10.1%
SNAP	Snap Inc.	1,441	USD	1.3065	\$ 82,325	\$ 63,011	\$ 43.72				-30.4%	58.6	28.6	1.3%
PINS	Pinterest, Inc.	609	USD	1.3065	\$ 53,256	\$ 40,762	\$ 66.92				-10.6%	(104.8)	21.0	3.7%
700	Tencent Holdings Limited	9,514	HKD	0.1685	\$ 942,790	\$ 5,594,197	\$ 588.00	36.7%	32.0%	30.5%	8.6%		8.5	-0.6%
GOOG	Alphabet Inc.	680	USD	1.3065	\$ 1,556,455	\$ 1,191,308	\$ 1,752.82	19.7%	19.4%	19.9%	9.3%	33.6	5.6	9.0%

Section 3: UNDERSTANDING THE BUSINESS

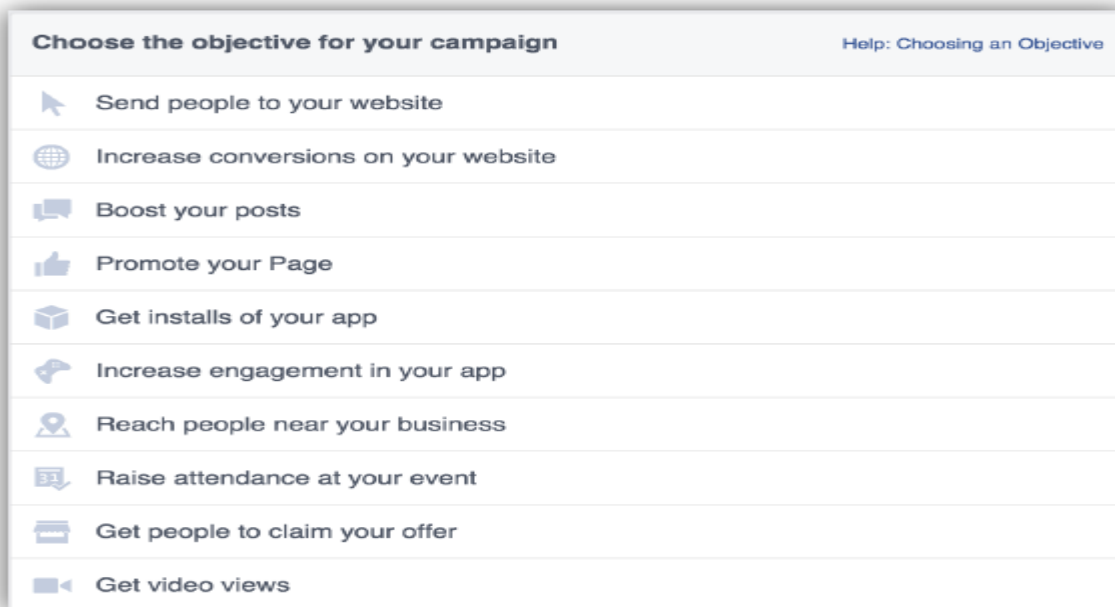
3.1. Digital Marketing: Servicing the Customer

Social networks have transformed into valuable digital marketing tools. Digital marketing is an advertising mechanism, which allows for the promotion of products or brands via one or more forms of electronic media (i.e. a smartphone app, web browser, email, video, etc.). Digital marketing differs from traditional marketing in that it based upon programming code that makes it interactive. Accordingly, it enables the real-time analysis of marketing campaigns to understand what is effective. Digital marketers monitor things like sales conversions, content viewed, campaign engagement, and more. In contrast, traditional marketing channels such as print, radio, TV and billboards are largely one-way platforms.

FB offers the opportunity to direct a user to specific content, a destination web page or a facebook page (i.e. the advertiser's). Advertisers can specify the type of user they want to target based upon location, demographics, interests and behaviours. The advertiser can even use their own data, and cross-reference/intermingle with FB's data to create campaigns. Moreover, advertisers can specify a budget based upon either cost per click or cost per 1000 impressions. Finally, marketers can use FB's analytics to track and optimize the marketing campaign performance. **Exhibit 6** shows shows the potential objectives of an advertising campaign. **Appendix 1** has a series of charts that show the relative ease of making a very specific audience to target.

Exhibit 6: Setting up an advertising campaign

Figure 47: Facebook Advertising Campaign Templates



Source: Company website

3.2. Servicing the User

Referencing Exhibit 1 Flowchart, FB need users to be engaged in order to attract advertisers. To keep users engaged, FB has to keep up with technological and social trends. Essentially, FB needs "good" content and/or gadgets so as to communicate through the in-trend communication medium. In the short history of digital social networks, user attention has shifted from text based content to photographic content and now to video content.

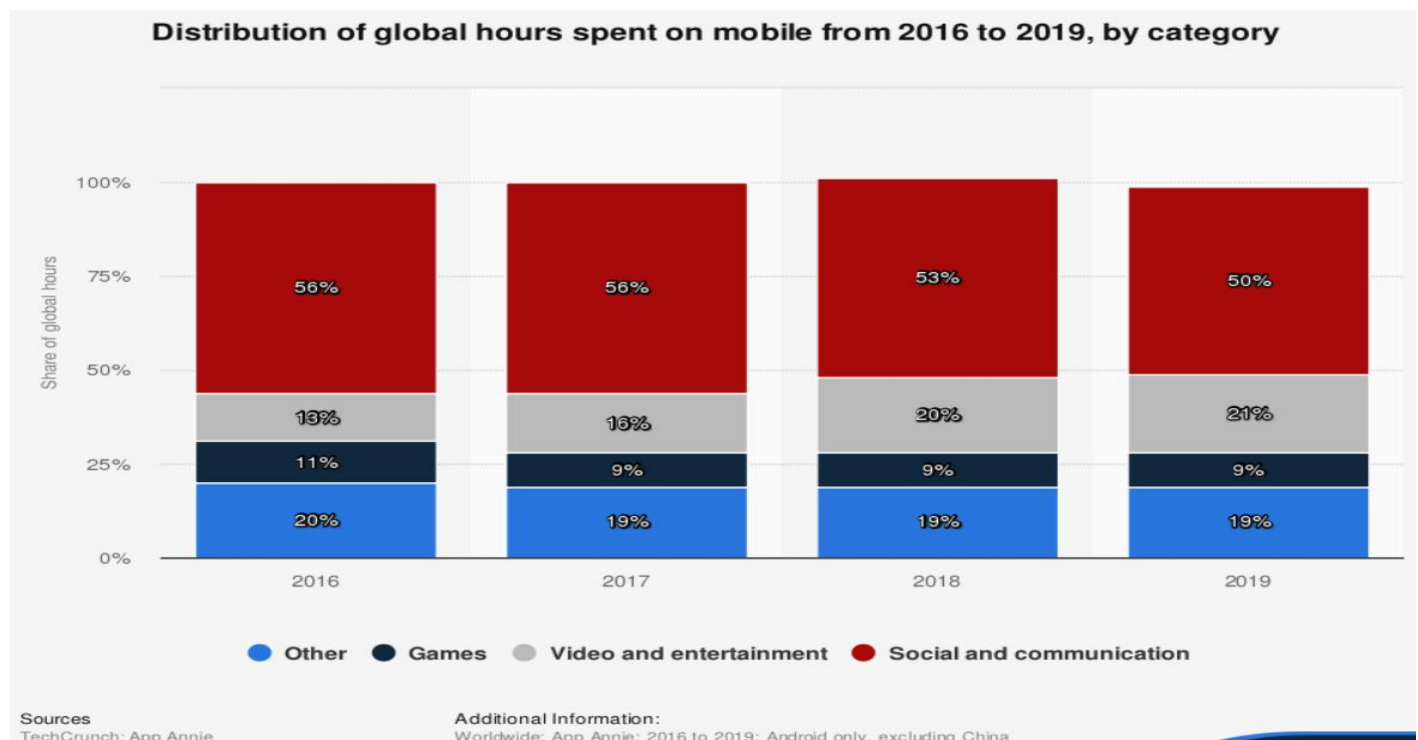
In the early days, users would create their own (text) content. After some time, users became fatigued with creating their own content, so FB had to create the content for them. But what content? As of now the main thrust for FB is the “News Feed”. Here users can scroll down indefinitely to see stories (or images/videos, etc) of interest. **These stories are not random, they are based on FB’s interpretations of the user’s preferences and/or the preferences of the user’s connections. They are also made to be interactive (like/dislike options) so as to help FB confirm/reject their internal hypotheses on the user’s behaviours.**

From text based content, user attention started to migrate towards photographs. All modern mobile phones have a built in camera that can produce good quality images and are generally pretty easy to use. Snapchat figured this out early and created a camera app to enable a user to quickly capture funny or intimate moments and share them. The old adage a picture is worth a thousand words applies here. In response to Snapchat, FB purchased Instagram in 2012, an astute move in retrospect. Instagram is the sixth largest user network, but is second in terms of advertising. It is also potentially the gateway for FB to engage in e-commerce in a more meaningful way (**See Section 4.5**).

From photos, user attention started to migrate towards video, as seen in **Exhibit 7**. TikTok is a social video app that gained rapid popularity, particularly amongst teens. In 2019, it was downloaded 738 million times. It’s a simple mobile app that enables a user to create short funny videos while singing, dancing or lip-syncing to their favourite tunes. It was intentionally targetted towards teens, and since then has started to slowly expand to adults. While FB offers video content on its platforms, it’s the innovative way that TikTok manipulated video to entertain users (primarily teens) that sprouted the rapid rise in popularity.

The rapid success of Snapchat & TikTok suggests the potential risk of displacement for FB. It is difficult to know what will come after video. It could be something that does not exist today. So it is important for FB -to invest in their algorithms and technology/gadgetry in order to keep users engaged.

Exhibit 7: Evolution of mobile usage

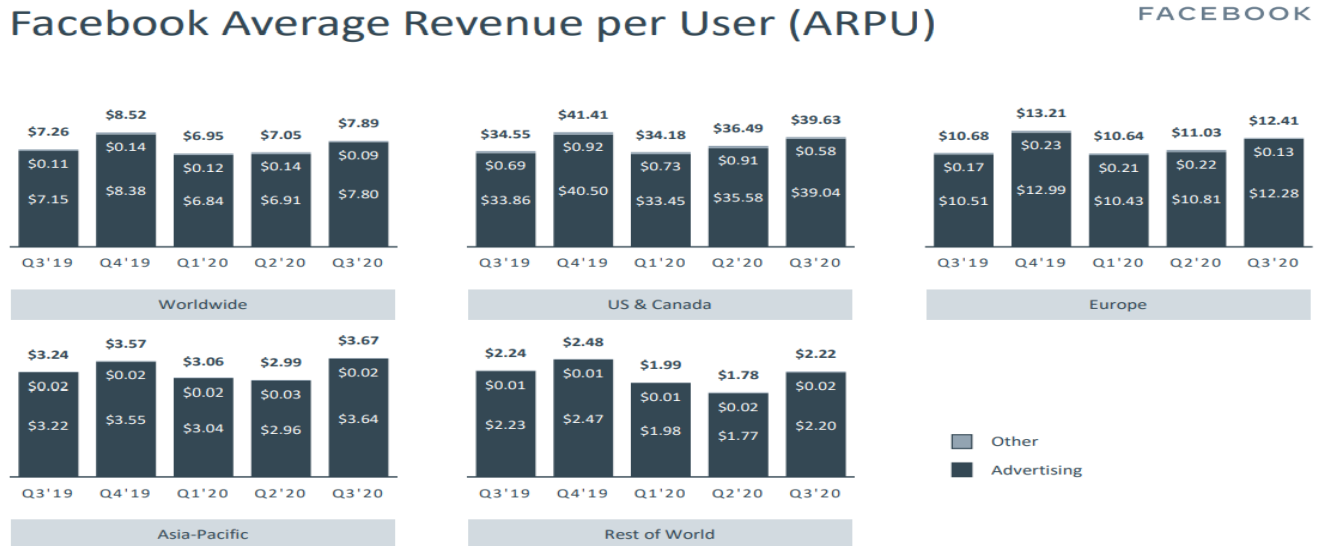


Section 4: GROWTH DRIVERS

4.1. Closing the ARPU GAP

The most immediate avenue for FB is to narrow the gap between ARPUs in Rest of the World (ROW), with that of the ARPUs in US & Canada. **See Exhibit 8.**

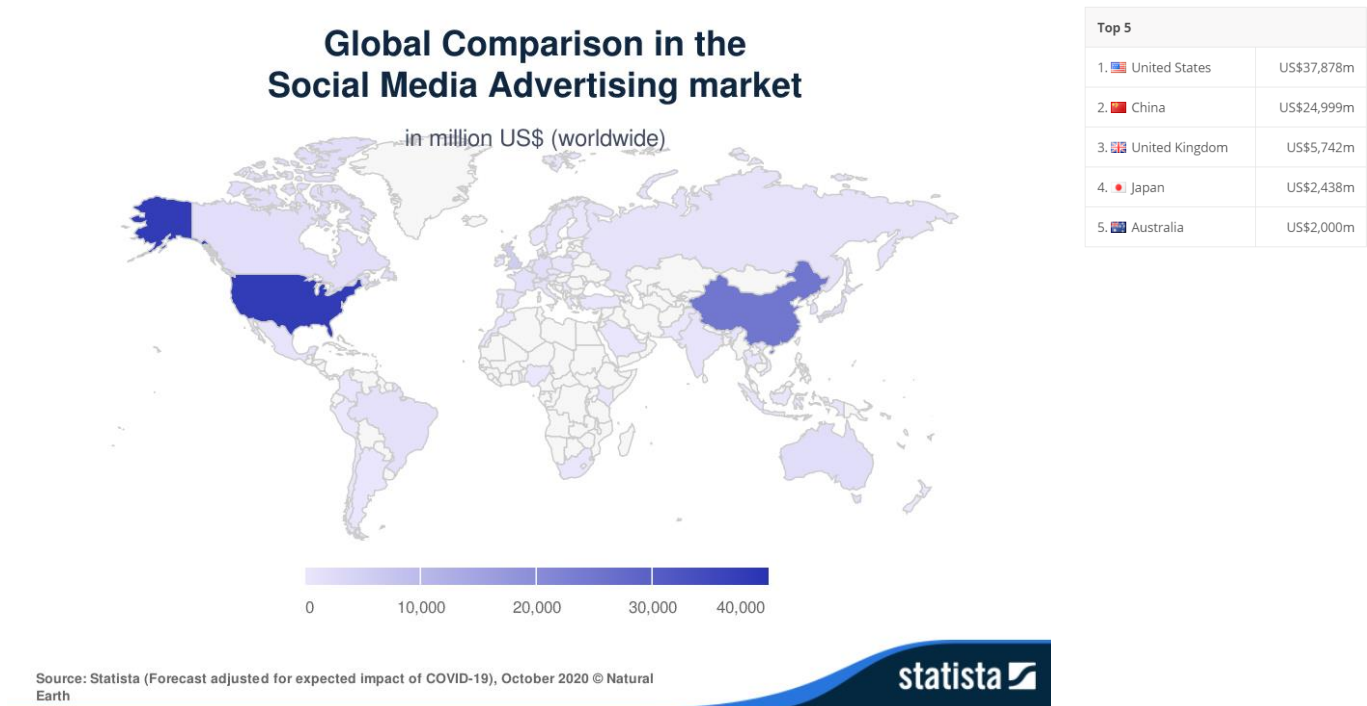
Exhibit 8: Geographical ARPU



Even if they could close the gap to 50% of that of US/Cda, the revenue potential would be \$126B in a “static” scenario. Simplistically, if we add \$126B to F19 revenue of \$71B we get a figure of \$196B. If FB could achieve this # in ten years, that’s 10% revenue CAGR. It’s powerful and **is directionally correct**. Mobile penetration is growing in lesser developed countries, due to falling mobile phone prices and cheaper data plans. Moreover, outside China where FB does not really compete, the demographics are favourable for FB: the average citizen is younger and spends more time on social media.

On the flip-side there are hurdles to over-come. First, the advertising market is not as well developed in many emerging markets – the infrastructure isn’t there. Second, it’s not like the countries are homogeneous. They all have different regulatory regimes, and different cultural attitudes. Europe is an interesting example. One would expect the European ARPU to be much closer to the North American ARPU than it actually is. Europe does include Eastern Europe and Turkey, where GDPs are lower so that explains some of the gap. But looking at **Exhibit 9**, a global social media spending heatmap, one can see that the UK is the 3rd largest market. The UK is almost 3X the size of Germany (#2 in Europe), despite having a smaller population. In fact Australia & Canada, each with respectively less than one third and less than one half the population of Germany are larger digital advertising markets. Internet penetration isn’t the answer either as both Northern Europe and Western Europe have higher rates than North America. There is a strong positive correlation with social media spend and English speaking countries.

Exhibit 9: Geographic Heatmap for Social Media Advertising



Outside Europe, even Japan with all of its wealth and >120M population has under-sized spending. One similarity for Germany & Japan are their older populations.

FB can't sit and wait for the growth vectors to actualize. The case of FB's experience in India is a telling example. The potential market for FB in India is very large. The population is 1.38B and the average age is less than 30 years old. In India, FB has ≈ 300M users on facebook, and ≈ 400M users on Whatsapp. The advertising market is quite modest at ≈ \$10B (at 2019) and is expected to grow 10%+. There are 60M small businesses in India and small businesses are more likely to advertise on FB and connect in a meaningful way with individuals as part of the local community. While FB was making strides in India (\$1B in revenue), it never made any major breakthrough. The breakthrough could be via Reliance Jio (RJ). In Q320, FB spent \$5.8B on a 9.99% ownership in RJ's Jio Platforms.

RJ helps to overcome two hurdles that FB struggled with: cheap data plans and regulatory pains. Prior to RJ, FB experimented with solar-powered drones to beam free wifi internet in rural areas. When RJ entered the Indian telecom market, they introduced very aggressive rates and now India has the cheapest rates in the world.¹

FB faced several bureaucratic hurdles with setting up a Whatsapp payments system. There were petitions against the system on the grounds of infringing upon privacy rights, and it wound its way up to the Supreme Court of India. Data localization was a major issue, particularly with the Reserve Bank of India (RBI). It's taken over two years for the Supreme Court to even hear the trial. It is hoped that by partnering with RJ, they can better navigate the legal system in India. As of now, Whatsapp did receive RBI's approval after several months of work to comply.

RJ can also help FB to more quickly ramp up its e-commerce plans, and start to monetize Whatsapp. Jio Platforms runs JioMart which is similar to Amazon e-commerce portal for digital shopkeepers, but it will utilize Whatsapp for payments. Covid 19 likely helped accelerate the acceptance of e-commerce in India. Digital grocery sales apparently went from 1% of sales to peak at 50% of sales, although this has come back down.

¹ India Times referencing Cable.co.uk. \$.09/GB

The Indian experience highlights that FB can't just sit back and wait for the social/technological growth vectors to play out. There's a lot of blocking and tackling involved in each country to really get the market moving. The blocking and tackling includes financial investment and time and effort by personnel.

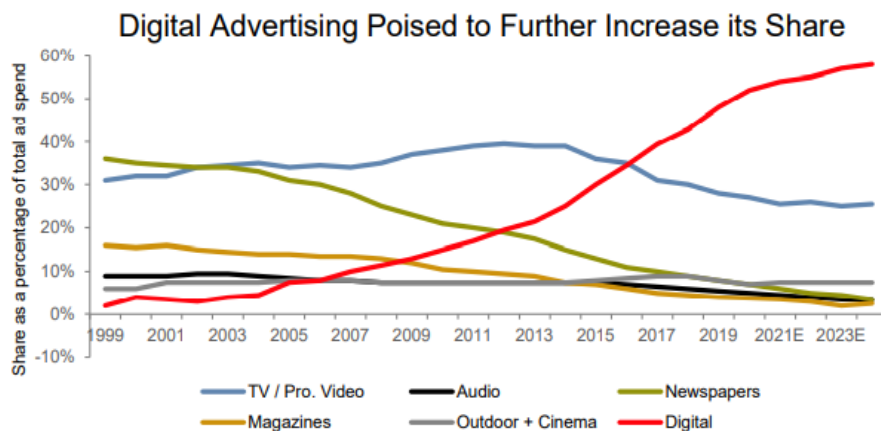
4.2. Digital Advertising Market Share Gains

One business trend in FB's favour is the secular shift from traditional advertising towards digital advertising (See **Exhibit 10**). Digital advertising is expected to grow at 6.5% from 2019 to 2024² and within that group, social media advertising is growing at 7.3% as seen in **Exhibit 11**.

There are a few factors that are positively affecting digital advertising growth. First is the general shift from desktop to mobile (also **Exhibit 11**). Social media users spend more time on mobile than desktop which increases the advertising potential. Second is the shift in communication medium towards video content. In combination with technological improvements in mobile phones, the increasing speed of data along with the decreasing costs, video enables advertisers to communicate more data along with the potential to be more creative. Theoretically this should enable FB to charge advertisers more for this. Finally, from an advertiser's perspective, digital advertising is more customizable and gives more immediate feedback.

Utilizing HSBC data, FB has 19% share of digital ad spend as seen in **Exhibit 12**. HSBC which has an underperform rating, estimates that FB will capture 26% of incremental digital advertising spend. (Consensus is at 35% incremental share capture). Using HSBC numbers, 4 year revenue CAGR is 14%, while consensus is 18%. If FB revenue CAGR is anywhere in this range, it is very impressive, especially if they can keep the cost growth rate lower than this.

Exhibit 10: Digital Advertising Market Share



Source: GroupM

² Source: Statista Digital Market Outlook 2020

Exhibit 11: Social Media Advertising Growth

The Social Media Advertising segment shows average growth rates of around 7.3% per year

Market sizes: global

Global revenue forecast in billion US\$ and mobile/desktop distribution

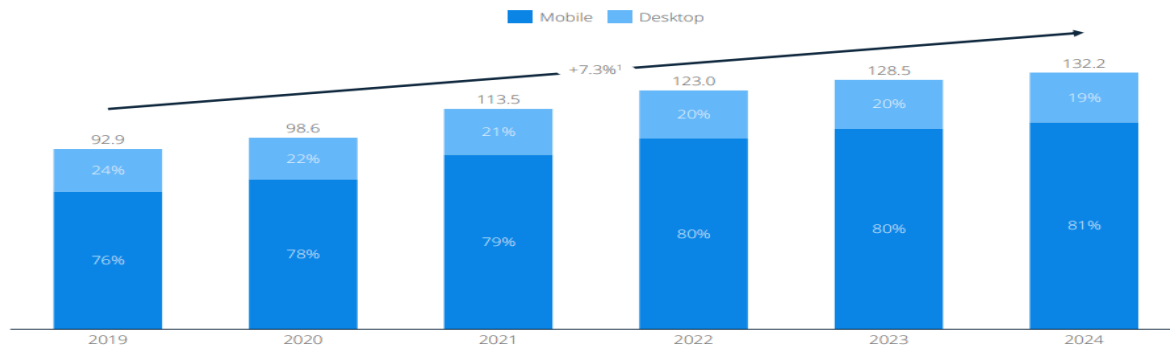
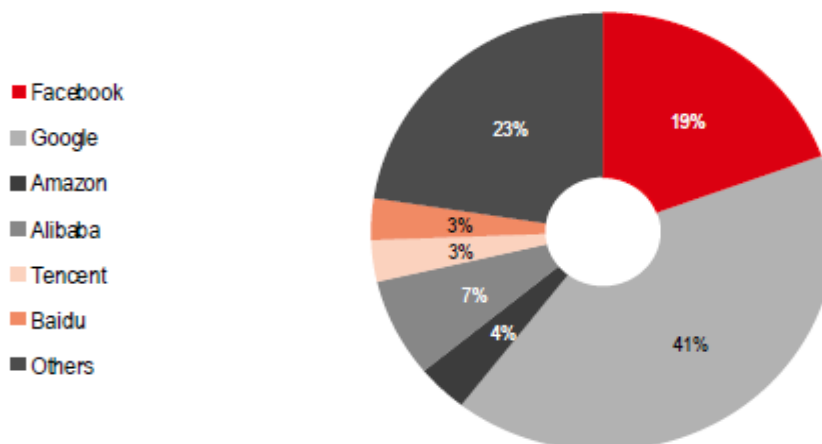


Exhibit 12: Digital Advertising Market Share

Split in digital ad market globally (2018a)



Source: Company data, HSBC

4.3. Whatsapp

The user growth of Whatsapp has been very impressive, and users are generally very happy with the app. Surprisingly, Whatsapp has NOT been monetized. FB purchased Whatsapp for \$22B (initially \$19B) in 2014. Whatsapp is an encrypted messaging system. Apparently even FB management can't see the messages. In 2014, Whatsapp had 450M users, now it has 1.5B users. The founders of Whatsapp were dead set against advertising, and this caused a lot of friction between the founders and FB executives. In fact at least one member quit FB before one tranche of his shares vested, forfeiting \$850M!

As referenced above, Whatsapp is a messaging service but it can technically be considered a social media site. Users can form groups and share content. So it has advertising potential. This makes sense given the previous

discussion around technological and social trends centred on the mobile phone. FB hummed and hawed about advertising, but earlier this year confirmed that Whatsapp will not have advertising (**“for now” that is**). Instead, it will have be a platform for business to consumer messaging, and provide payment services in lesser developed countries. **See section 4.1.**

If/when FB decides to use Whatsapp for advertising, we could simplistically make an illustrative calculation to demonstrate the mechanics. If 1.5B users use Whatsapp 1/day, that’s 1.5B messages/day. Annualized, and say 1% receive ads, 2% click-through (CTR) and \$0.25/click, equates to \$27M in revenues (with very little cost attached to that). Again this is simply an illustrative calculation. In all likelihood each assumption in this illustrative calculation is very conservative.

4.4. Messenger

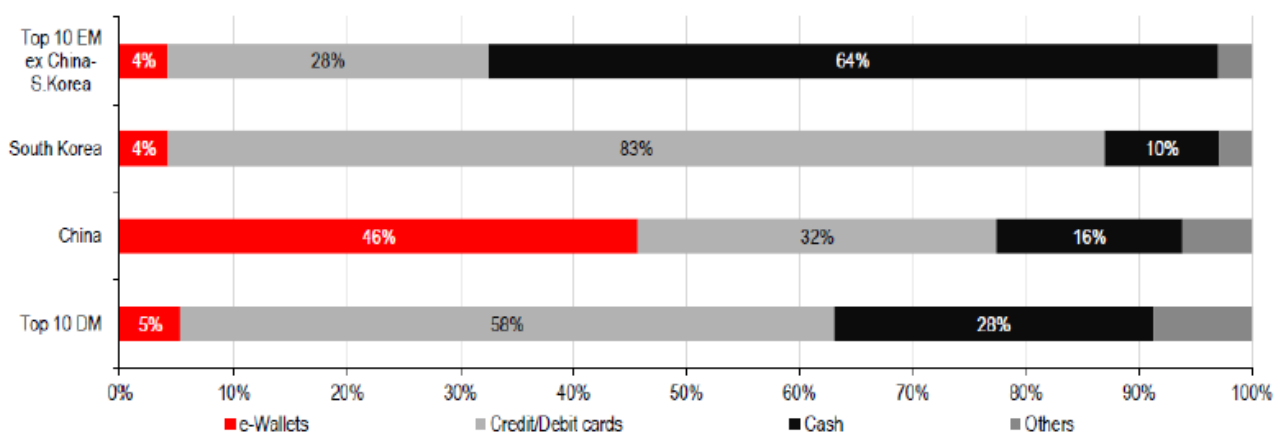
There isn’t much discussion on Messenger, but it’s likely that the chosen avenue for Whatsapp can be applied to Messenger.

4.5. E-commerce

Like Ali-Baba, FB could develop a portal/electronic marketplace, and facilitate payments. **Exhibit 13 displays** a geographical sample of consumer payment processes. FB/Instagram are very good platforms for small businesses and could differentiate itself this way vs. Amazon. Out of Instagram’s 1B+ user base, about 130M tap on product tags (the beginning of the shopping research/journey, not an actual purchase) within shopping posts. 80% of these users follow at least 1 business account. As of now, FB has no logistics infrastructure, and undertaking one would involve a major capital expenditure program along with hiring a large number of employees upfront before revenues really start to accumulate. On the other hand, if FB could find the right partners, such as in India, this would be an attractive alternative.

Exhibit 13: Geographical Payments

Consumer payment methods (e-commerce + offline PoS in 2017/2018)



Source: Worldpay, HSBC, Worldpay Retail Global Payments Report 2019 and Worldpay Global Payments Report 2018

4.6. Virtual/Augmented Reality

FB purchased Oculus in 2014 for \$1.85B. Oculus provides hardware (visors/gloves) that enables a user to experience augmented reality. This is a natural fit for social media, but the technology is still evolving. **Exhibit 14** shows what SNAP has done for 1 eyewear retailer, enabling users to virtually try on different sets of eyeglasses. Right

now the Oculus revenue is immaterial. The gear sells for \$US300 and up. **Exhibit 15** shows the potential market size of an augmented reality ecosystem.

Exhibit 14: SNAP advertisement enabling users to virtually try on eyeglasses



Clearly

AR

Clearly, an eyewear retailer, leveraged our sponsored AR Lenses to enable users to try on different pairs of glasses, resulting in an average of 33 seconds of playtime and a nearly 6% share rate. Clearly was able to drive a full-funnel impact for their brand, achieving a 7-point lift in brand awareness and 5-point lift in brand consideration while also driving a 46% lift in unique page viewers on their site and a 3.3% lift in purchases.

33 sec

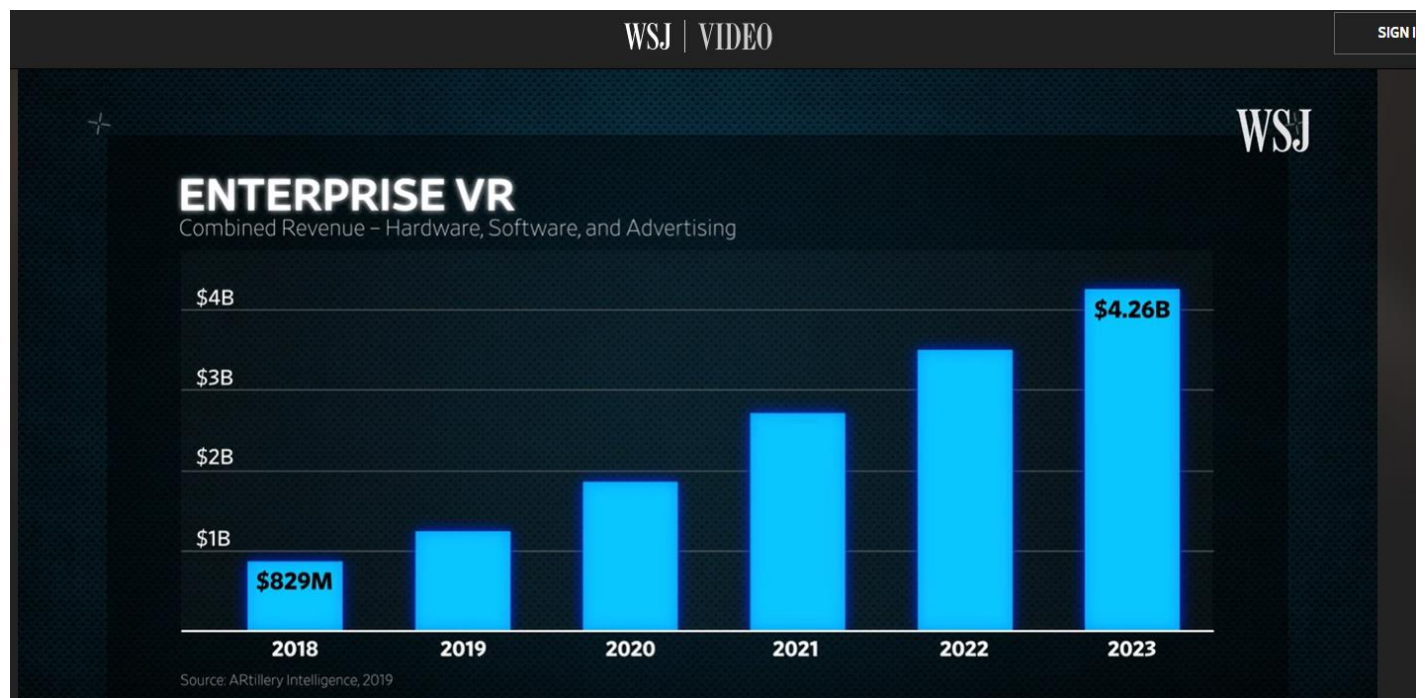
Average Time Spent
With Lens¹

3.3%

Purchase Lift¹

¹ Snap Inc. internal data June 18-July 15, 2020

Exhibit 15: Market for Virtual Reality within business



Section 5: RISKS

5.1. Fake News

The advent of social media has really disrupted traditional news media. Due to human nature, it unfortunately seems sensationalism arouses our attention more than facts or balanced stories. As a specific example, a Dr. Craig Spencer contracted Ebola while he was treating patients in Guinea for Doctors Without Borders. Apparently Ebola can't be transmitted until the patient has a fever. Dr. Spencer appropriately checked in to a hospital when he felt his fever. However, this did not stop the development of a frenzy through social media as seen in **Exhibit 16**.

Exhibit 16: Filtered Information



Of course, the sensationalism still generated advertising impressions for Facebook, and it's not like FB refunded those monies. FB benefits from sensationalism, because it increases user engagement and therefore advertising revenue. Social media, through filter bubbles (only the information and opinions that conform to and/or reinforces the user's own beliefs, driven by an algorithm to personalize the experience) rewards 1 dimensional facts, false facts, and outrage because it is better at capturing attention. This unfortunately is divisive for society. In fairness, many citizens have their own filter bubbles. Conservative viewers in the US are prone to exclusively watch Fox news, while liberal viewers may watch MSNBC. FB gets more (negative) attention on this because it is a more influential communication medium than traditional news media.

5.2. Privacy & Influencing: Higher Costs & Legislation

This topic is interdependent with "Fake News" above. There was a very interesting documentary on Netflix, called "The Social Dilemma" that explores this topic. As **discussed in Section 3.2 and Exhibit 1**, FB wants you to stay engaged on the site so that not only can they sell advertising, but to improve their predictive models of users in order to ensure future advertising revenues. There is a blurry line between aggregating information to improve your prediction power of an outcome and actually influencing the outcome. Unfortunately for FB, they have crossed that line. Here are two quotes from two of the interviewees (*although these quotes were found through Google post watching the documentary*).

Professor Shoshana Zuboff (although she goes beyond FB in the car example):

"Behavioural surplus must be vast and varied, but the surest way to predict behaviour is to intervene at its source and shape it. The processes invented to achieve this goal are what I call economies of action. In order to achieve these economies, machine processes are configured to intervene in the state of play in the real world among real people and things. These interventions are designed to enhance certainty by doing things: they nudge, tune, herd manipulate, and modify behaviour in specific directions by executing actions as subtle as inserting a specific phrase into your Facebook news feed, timing the appearance of a BUY button on your phone, or shutting down your car engine when an insurance payment is late."

Roger McNamee, early investor in Facebook:

"Dispassionate users have relatively little value to Facebook, which does everything in its power to activate the lizard brain... It starts out giving users 'what they want,' but the algorithms are trained to nudge user attention in directions that Facebook wants. The algorithms choose posts calculated to press emotional buttons because scaring users or pissing them off increases time on site. When users pay attention, Facebook calls it engagement, but the goal is behaviour modification that makes advertising more valuable."

The documentary also highlights rapidly growing female teen suicides in the US since 2012. While the causal relationship has not necessarily been proved, the correlation is strong (FB's stock IPO in 2012). **Moreover, the lack of a proven causal relationship won't stop legislators from conducting public inquiries, imposing fines and perhaps imposing more drastic legislative changes.**

Cambridge Analytica

As mentioned previously, FB allows external developers to access FB data in order to build their own apps. This is for purposes of data portability, which is a regulatory/social goal. This is a two way street, so FB benefits from accessing other sites as well.

Cambridge can best be described as a shady organization influencing elections and politicians in many countries. Cambridge hired an academic, Aleksandr Kogan to gather the data. He utilized a personality quiz "thisisyourdigitallife" to gather data through FB. 270,000 users were paid to take the quiz. However, under FB user configurations, Kogan actually pulled data from the participants' friends/connections data as well: 87M users in total. So technically, Cambridge did not conduct a data breach. It simply shocked many with the ease of which it extracted so much personal data through personal connections of the quiz participants. However Kogan did violate one of FB's requirements to using the data, he passed it on to a third party without permission – Cambridge.

Advertising and gathering profiles for elections has been going on for quite a while. It is just the precision that FB's data allows that is the issue. The 2016 election was very close, and so any FB advertising campaign could **theoretically** have crossed the line to prompt voters to vote against their natural inclination and affected the outcome of the election.

It wasn't just Cambridge that was involved with election controversies. There were even foreign governments using FB to attempt to influence results.

Post Cambridge, the EU instituted the General Data Protection Regulation. Part of the legislation was to ensure all EU nations have the same standards to protect citizens' privacy. Facebook had to tighten the rules around its open source. Moreover, the user must give explicit consent as opposed to making consent the default choice. Users are also given the option to accept/refuse the collection of cookies. A cookie is a tool that FB and practically every online organization uses to track user movements and gather data on you. So FB uses "ALL" of your movements to build predictive models on you.

As of now, there has been no material loss of users in Europe – most have given their consent. This could be due to all or nothing decision – consent or have no access. Theoretically, regulators could force access without consent which would definitely impair FB’s data edge that it sells to advertisers.

What does it mean? Higher Costs

We should expect that politicians and/or regulators should seek to impose fines and instill new operating procedures. This pattern can be observed with financial institutions post the GFC. Not only can a politician make a personal mark for him/herself but can get “free money” for their respective legislative branch. After all, it’s not like those fines made any impact on shareholder behaviour. FB was given a \$5B fine by the FTC in 2019 and they easily paid it this year. In Europe, which has imposed the General Data Protection Regulation (GDPR), the EU can impose fines of up to 4% of global revenues.

However, it does permanently crimp margins. Even ignoring the 1T fees, 2020 will see a permanent step-down in pre-tax margins. FB has hired 35K employees, 81% of its total headcount to monitor and govern privacy compliance processes. MZ has stated that at the present time, these employees are necessary for compliance, there is no algorithm that can ensure compliance. This was in conjunction to agreeing with the FTC penalty.

What does it mean? Potentially Permanent Detrimental Legislation

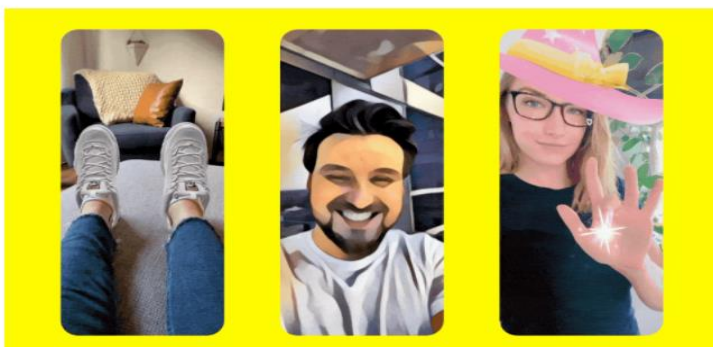
In any industry, players are always seeking more revenues in exchange for less product. Advertising is no different. It is always seeking more advertising for less diversion. Author/Professor Tim Wu from Columbia Law School recently wrote the book “The Attention Merchants”. In it he goes through the history of advertising from the sale of “snake oil” to the modern social media phenomenon. Historically, there have been revolts in the advertising industry (criminal prosecution for mislabeling products, remote control devices, cord cutting, ad-blocking software are examples). The recent FTC ruling and other political hearings are part of the latest revolt. Depending on any future privacy or manipulation scandal, the fines could get larger or perhaps see a new regulatory framework detrimental to shareholders.

5.3. Technology & Content

The threat of displacement was discussed in **Section 3.2**. Tim Wu’s book explains how technology has forced advertisers to adapt. Advertisers are always seeking new technology/gadgets whatever to interest the population and exchange the gimmickry for a user’s attention. The rapid success of TikTok shows that FB’s dominance will not last forever, although it can certainly last for a while.

Another example of new technology is SNAP’s (relatively) new augmented reality through its camera platform. The camera allows for some limited augmented reality technology on a mobile phone camera. This is open source so developers can create/expand the technology and SNAP will benefit from the new gadgets to capture users’ attention as seen in **Exhibit 17**.

Exhibit 17



Section 6: GOVERNANCE A LITTLE WEAK

6.1. Dual Class Voting Shares

Insiders own about 15% of the company, of which Mark Zuckerberg (MZ) owns 11.6% (worth about \$88B). So his personal net worth is definitely tied to the fortunes of FB. Insiders own Class B shares which have 10 votes, vs Class A shares which have 1 vote. The company even has defense against change in control should the voting power of B shares fall below 35%: 2/3 of Class B shareholders have to approve a change in control. The company is incorporated in Delaware which protects management against change in control. As an example, boards are entitled to change their defense against change in control without shareholder approval.

While the Board of Directors is mostly independent (9 of 11) and is very experienced, it's MZ that runs the show. MZ controls 53% of the votes on his own. Moreover, his old Harvard roommate, Dustin Mockovitz, through Class B shares, controls 4.8% of the votes and he has granted MZ an irrevocable proxy to vote on his behalf. Some other founders have given MZ the same proxy, but their voting power is not that significant. Should these particular shareholders sell their shares, they would automatically convert to class A shares. It is not clear why these shareholders gave MZ such an authority – perhaps they were given more shares upfront in exchange. So effectively MZ controls about 58% of the votes.

Interestingly, Eduardo Saverin did not agree to such proxy. Eduardo was also a classmate of MZ and the first CFO. In the movie, The Social Network, MZ tried to dilute Eduardo's ownership through a share issue. The movie may have overdramatized this power play – apparently Eduardo wasn't really cooperative in helping to build FB after MZ moved to Silicon Valley. Eduardo sued and won back some of his ownership. It is not clear how he votes, but again MZ controls the votes.

6.2. Key Officers

We start with MZ. MZ founded Facebook in 2004 and became the Chairman in 2012 when it went public.

Is MZ a good steward for shareholders? Well there is no doubt that he built a terrific business. He hasn't done well in publicly defending FB against all the social angst that it has caused. In fairness to him, since FB was so rapidly successful, and promotes individual voices as opposed to coached voices, there is no PR template for him to use. His words express the social benefits of FB, but his actions speak to making profits, which is good for shareholders in the short term at least. But as Chairman he has to manage for the long term as well. He's going to have to figure a way to grow revenues while at the same time managing the PR risk so as to avoid a permanent regulatory disruption to the business. One way is to grow non advertising revenues so as to be less susceptible to regulatory risks.

The 2nd key shareholder/officer is Sheryl Sandberg. Whereas MZ is the founder, manages public relations and sets the overall strategy, it is Sheryl Sandberg that is the overall business manager. She joined Facebook in 2008 and really helped the scaling of the platform. Prior to Facebook, she was VP of Global Online Sales & Operations at Google, and she served as Chief of Staff for the US Treasury Department under President Bill Clinton. She holds several directorships at well known companies and is an advocate for women & leadership.

Finally, Michael Schroepfer, the Chief Technology Officer, joined in 2008, initially as Vice President of Engineering. Before Facebook, he helped Mozilla build the successful web browser Firefox. Prior to that, he worked in various positions at SUN Microsystems. He has even built digital video effects in movies such as Star Wars: The Phantom Menace and Gladiator.

Exhibit 16: Insider Share Ownership

Name of Beneficial Owner	Shares Beneficially Owned				% of Total
	Class A		Class B		Voting
	Shares	%	Shares	%	Power ⁽¹⁾
Named Executive Officers, Directors, and Nominees:					
Mark Zuckerberg ⁽²⁾	4,284,831	*	363,588,585	81.8	53.1
Shares subject to voting proxy ⁽³⁾	—	—	32,595,276	7.3	4.8
Total ⁽²⁾⁽³⁾	4,284,831	*	396,183,861	89.1	57.9
Sheryl K. Sandberg ⁽⁴⁾	1,341,376	*	—	—	*
David M. Wehner ⁽⁵⁾	72,304	*	—	—	*
Mike Schroepfer ⁽⁶⁾	1,027,456	*	—	—	*
Jennifer G. Newstead ⁽⁷⁾	9,995	*	—	—	*
Peggy Alford ⁽⁸⁾	2,033	*	—	—	*
Marc L. Andreessen ⁽⁹⁾	188,048	*	—	—	*
Kenneth I. Chenault ⁽¹⁰⁾	3,717	*	—	—	*
Andrew W. Houston ⁽¹¹⁾	391	*	—	—	*
Nancy Killefer ⁽¹²⁾	270	*	—	—	*
Robert M. Kimmitt	—	—	—	—	—
Peter A. Thiel ⁽¹³⁾	11,561	*	—	—	*
Tracey T. Travis ⁽¹⁴⁾	270	*	—	—	*
Jeffrey D. Zients ⁽¹⁵⁾	3,253	*	—	—	*
All current executive officers and directors as a group (15 persons) ⁽¹⁶⁾	7,023,133	*	396,183,861	89.1	57.9
Other 5% Stockholders:					
Dustin Moskovitz ⁽¹⁷⁾	—	—	32,595,276	7.3	4.8
Eduardo Saverin ⁽¹⁸⁾	7,535,009	*	45,928,139	10.3	6.8
Entities affiliated with BlackRock ⁽¹⁹⁾	158,189,972	6.6	—	—	2.3
Entities affiliated with Vanguard ⁽²⁰⁾	184,022,113	7.6	—	—	2.7
Entities affiliated with FMR LLC ⁽²¹⁾	123,626,512	5.1	—	—	1.8

*Less than 1%.

6.3. Compensation

Interestingly, MZ only makes \$1 in salary, and no bonus. However, other compensation is \$23.4M of which about **\$20M is for his personal security costs**, and about \$3M for use of personal aircraft. Ms. Sandberg also incurred \$5.7M of other costs, of which **\$4.3M are for security costs** and \$1.4M for use of personal aircraft. The amount of high security costs is unusual.

In general for FB, cash compensation is below the 30th percentile for its executives. When adding equity compensation, then total compensation shoots above the 70th percentile. The RSUs vest 1/16 per quarter for four years, so as to align mgmt. interest with longer term shareholder objectives. The vesting period is reasonable.

Exhibit 17: Officer Compensation

Name and Principal Position	Fiscal Year	Salary (\$) ⁽¹⁾	Bonus (\$) ⁽²⁾	Stock Awards	All Other Compensation (\$)	Total (\$)
				(\$) ⁽³⁾		
Mark Zuckerberg	2019	1	—	—	23,415,972 ⁽⁴⁾	23,415,973
CEO	2018	1	—	—	22,554,542 ⁽⁴⁾	22,554,543
	2017	1	—	—	9,101,965 ⁽⁴⁾	9,101,966
Sheryl K. Sandberg	2019	875,385	902,740	19,678,923	5,687,099 ⁽⁵⁾	27,144,147
COO	2018	843,077	638,310	18,423,523	3,823,508 ⁽⁵⁾	23,728,418
	2017	795,769	640,378	21,072,431	2,687,643 ⁽⁵⁾	25,196,221
David M. Wehner	2019	785,385	809,928	19,678,923	59,800 ⁽⁶⁾	21,334,036
CFO	2018	753,846	499,494	18,423,523	9,250	19,686,113
	2017	711,539	633,317	21,072,431	9,000	22,426,287
Mike Schroepfer	2019	785,385	1,295,885	19,678,923	52,784 ⁽⁷⁾	21,812,977
CTO	2018	753,846	570,744	18,423,523	9,250	19,757,363
	2017	711,539	633,317	21,072,431	9,000	22,426,287
Jennifer G. Newstead	2019	353,077	2,291,288 ⁽⁸⁾	16,309,218	183,162 ⁽⁹⁾	19,136,745
GC						

Section 7: FINANCIALS

The financials are in terrific shape. The Balance sheet is under-levered, and in fact has way too much cash. P&L margins have come down the last few years due to compliance/content spending but should rebound on the business model's natural operating leverage. FB has produced huge FCF, but it doesn't pay a dividend, has a modest share repurchase program, and has made no major acquisition since 2014.

7.1. Balance Sheet

Balance Sheet												CAGR/Average	
<i>\$USD mm</i>	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Sep-20	9 Yr	5 Yr
Cash & ST Inv	1,785	3,908	9,626	11,449	11,199	18,434	29,449	41,711	41,114	54,855	55,620	98.4%	37.4%
Total Receivables	373	547	1,170	1,109	1,678	2,559	3,993	5,832	7,587	9,518	8,024	91.1%	41.5%
Other Current Assets	88	149	471	512	513	659	959	1,020	1,779	1,852	2,155	83.9%	29.3%
Total Current Assets	2,246	4,604	11,267	13,070	13,390	21,652	34,401	48,563	50,480	66,225	65,799	96.8%	37.7%
Net PP&E	574	1,475	2,391	2,882	3,967	5,687	8,591	13,721	24,683	44,783	51,730	139.0%	62.4%
Goodwill	37	82	587	839	17,981	18,026	18,122	18,221	18,301	18,715	19,031	247.4%	0.8%
Other Intangibles	59	80	801	883	3,929	3,246	2,535	1,884	1,294	894	744	72.2%	-25.6%
Other LT Assets	73	90	57	221	699	796	1,312	2,135	2,576	2,759	9,133	106.8%	31.6%
Total Assets	2,990	6,331	15,103	17,895	39,966	49,407	64,961	84,524	97,334	133,376	146,437	113.7%	27.3%
Accounts Payable	29	63	65	87	176	196	302	380	820	1,363	1,106	116.0%	50.6%
Accrued Expenses	137	57	146	196	322	473	636	790	1,203	1,704	8,622	65.6%	39.5%
Unearned Revenue	35	75	8	13	38	28	62	68	117	234	332	46.2%	43.8%
Other Current Liab.	188	704	833	804	888	1,027	1,875	2,522	4,377	11,475	1,884	127.6%	66.8%
Current Liabilities	389	899	1,052	1,100	1,424	1,925	2,875	3,760	7,017	15,053	11,944	107.7%	60.3%
LT Debt	250	0	1,504	0	0	0	0	0	0	0	0	-100.0%	
Capital Leases	117	398	491	237	119	107	0	0	0	9,942	10,107	143.1%	
Other LT Liab.	72	135	301	1,041	1,558	3,157	2,892	6,367	5,517	6,288	6,655	144.5%	32.2%
Total Liabilities	828	1,432	3,348	2,425	3,870	5,189	5,767	10,177	13,207	32,322	28,706	108.1%	52.9%
Additional Paid-In Capital	947	2,684	10,094	12,297	30,225	34,886	38,227	40,584	42,906	45,851	48,910	117.3%	8.7%
Retained Earnings	606	1,606	1,659	3,159	6,099	9,787	21,670	33,990	41,981	55,692	68,513	147.0%	55.6%
Other Comp. Income	-6	-6	2	14	-228	-455	-703	-227	-760	-489	308	141.1%	16.5%
Total Equity	2,162	4,899	11,755	15,470	36,096	44,218	59,194	74,347	84,127	101,054	117,731	115.7%	22.9%
Tangible Equity	2,066	4,737	10,367	13,748	14,186	22,946	38,537	54,242	64,532	81,445	97,956	108.5%	41.8%
BVPS	1.33	3.23	4.98	6.10	12.99	15.60	20.51	25.58	29.48	35.43	41.31		
Common-Size													
% Cash	59.7%	61.7%	63.7%	64.0%	28.0%	37.3%	45.3%	49.3%	42.2%	41.1%	38.0%	49.3%	43.1%
% Receivables	12.5%	8.6%	7.7%	6.2%	4.2%	5.2%	6.1%	6.9%	7.8%	7.1%	5.5%	7.2%	6.6%
% Working Capital	62.1%	58.5%	67.6%	66.9%	29.9%	39.9%	48.5%	53.0%	44.7%	38.4%	36.8%	51.0%	44.9%
% Net PPE	19.2%	23.3%	15.8%	16.1%	9.9%	11.5%	13.2%	16.2%	25.4%	33.6%	35.3%	18.4%	20.0%
% Assets, Soft Assets	3.2%	2.6%	9.2%	9.6%	54.8%	43.1%	31.8%	23.8%	20.1%	14.7%	13.5%	21.3%	26.7%
% Equity, Soft Assets	4.4%	3.3%	11.8%	11.1%	60.7%	48.1%	34.9%	27.0%	23.3%	19.4%	16.8%	24.4%	30.5%
% Debt	12.3%	6.3%	13.2%	1.3%	0.3%	0.6%	0.0%	0.0%	0.5%	7.7%	6.9%	4.2%	1.8%
% Net Debt	-47.4%	-55.4%	-50.5%	-62.7%	-27.7%	-36.7%	-45.3%	-49.3%	-41.7%	-33.5%	-31.1%	-45.0%	-41.3%
% of Liabilities	27.7%	22.6%	22.2%	13.6%	9.7%	10.5%	8.9%	12.0%	13.6%	24.2%	19.6%	16.5%	13.8%
% Equity	72.3%	77.4%	77.8%	86.4%	90.3%	89.5%	91.1%	88.0%	86.4%	75.8%	80.4%	83.5%	86.2%
% Tangible Equity	69.1%	74.8%	68.6%	76.8%	35.5%	46.4%	59.3%	64.2%	66.3%	61.1%	66.9%	62.2%	59.5%

The balance sheet is rock solid. FB has \$56B in cash, \$46B including operating leases. FB has \$56B in net cash, \$46B including operating leases. Repeating the same sentence twice was intentional for the purpose of emphasis. As a % of assets, this ratio has climbed to 49% in 2017 and has come down to 38% in the most recent quarter. It climbed so high because the cash flow is so high, and FB wasn't really using it for anything. Since the end of F17, capex jumped meaningfully, FB undertook a share repurchase plan, paid a \$5B fine and purchased a 9.99% stake in RJ for \$5.8B (See Section 4.1). Still the absolute \$value went up, but the denominator of the ratio climbed faster. Unfortunately, FB has no plans to make any dividend payments. The share repurchase is authorized for \$34B, but this is ballpark 2 years worth of FCF, so it's modest for the cash on hand and FCF.

Ideally, FB would use cash to make acquisitions, but FB likely faces a hostile political environment that is a deterrent. Prior to the RJ deal, which for FB actually wasn't that material, the largest acquisition was in 2014 for Whatsapp at (ultimately) \$22B, of which \$4.6B was in cash. As discussed previously, Whatsapp has yet to be monetized, so viewed half-empty the acquisition was wasted value, while viewed half-full provides significant upside given the substantial user base. It's interesting that after 5+ years of no revenues, that there hasn't been an impairment for Whatsapp. It's possible that at the time of purchase, FB did not see any significant cash flows in the early stages of their internal modelling of Whatsapp.

The other asset category of note is PP&E. The capex started to ramp up in 2018 to the \$B "mid-teens" in anticipation of growth. Much of this current infrastructure is to serve the fast-growing Asian market. Finally, a portion of the infrastructure, particularly servers and networking hardware is needed today to manage and improve the AI. Current year expenditure is about \$16B, but next year to jump to \$21 to \$23B. This high range incorporates delayed spend from F20 due to Covid 19.

Exhibit 18 breaks down the PP&E at F19. The largest sub-components are buildings, network equipment, and construction in progress. Construction in progress is construction of: i) data centres, ii) networking equipment and iii) office buildings.

Exhibit 18: Property Plant & Equipment

Note 6. Property and Equipment

Property and equipment, net consists of the following (in millions):

	December 31,	
	2019	2018
Land	\$ 1,097	\$ 899
Buildings	11,226	7,401
Leasehold improvements	3,112	1,841
Network equipment	17,004	13,017
Computer software, office equipment and other	1,813	1,187
Finance lease right-of-use assets	1,635	—
Construction in progress	10,099	7,228
Total	45,986	31,573
Less: Accumulated depreciation	(10,663)	(6,890)
Property and equipment, net	\$ 35,323	\$ 24,683

7.2. Income Statement

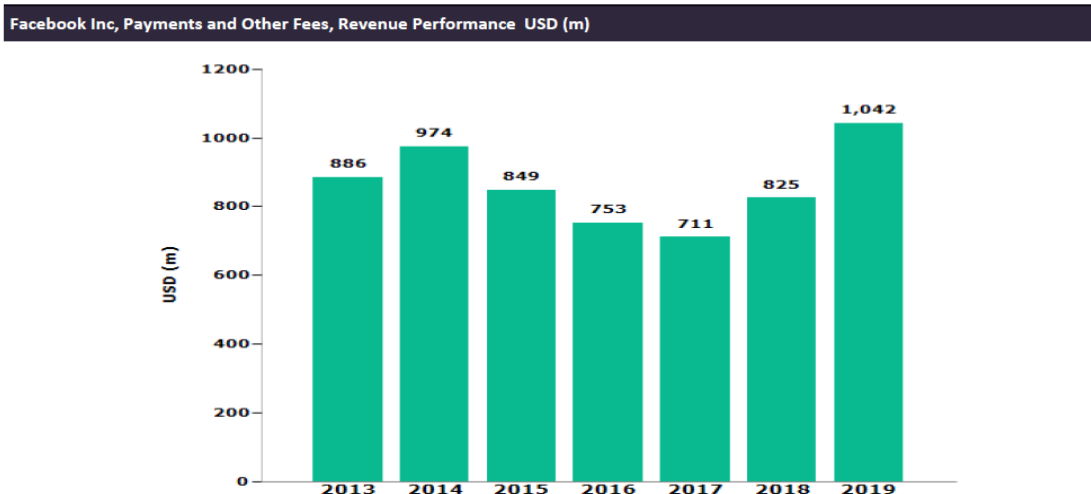
Income Statement												CAGR/Average		
\$USD mm	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	LTM	10 Yr	5 Yr	3 Yr
Sales	1,974	3,711	5,089	7,872	12,466	17,928	27,638	40,653	55,838	70,697	78,975	57.0%	41.5%	36.8%
SG&A	305	926	1,984	1,778	2,653	4,020	5,503	7,242	11,297	20,341	23,130	58.4%	50.3%	54.6%
R&D	144	388	1,399	1,415	2,666	4,816	5,919	7,754	10,273	13,600	17,118	65.7%	38.5%	32.0%
Operating Profit	1,032	1,756	538	2,921	4,994	6,225	12,427	20,203	24,913	23,986	23,754	57.1%	36.9%	24.5%
Interest Expense, net	-22	-42	-51	-56	-23	-23	-10	-6	-9	-20	-20	7.2%	-2.8%	26.0%
Currency Gain/Loss	-1	-29	-9	-14	-87	-66	-76	-6	-213	-105	-105		3.8%	11.4%
Other Non-Oper. Exp.	3	48	2	8	148	74	-25	-391	-244	-741	-455	80.7%	-238.0%	209.5%
Pretax Profit	1,008	1,695	494	2,871	4,910	6,194	12,518	20,594	25,361	24,812	24,294	58.1%	38.3%	25.6%
Income Tax Expense	402	695	441	1,254	1,970	2,506	2,301	4,660	3,249	6,327	4,018	73.9%	26.3%	40.1%
Net Income	606	1,000	53	1,500	2,940	3,688	10,217	15,934	22,112	18,485	25,276	55.1%	44.4%	21.9%
Adj Net Income	606	1,000	53	1,500	2,940	3,688	10,217	15,934	22,112	18,485	25,276	55.1%	44.4%	21.9%
Common-Size														
% SG&A	15.45%	24.95%	38.99%	22.59%	21.28%	22.42%	19.91%	17.81%	20.23%	28.77%	29.29%	23.2%	21.8%	22.3%
% of R&D	7.29%	10.46%	27.49%	17.98%	21.39%	26.86%	21.42%	19.07%	18.40%	19.24%	21.68%	19.0%	21.0%	18.9%
% D&A	7.04%	8.70%	12.75%	12.84%	9.97%	10.85%	8.47%	7.44%	7.73%	8.12%	7.61%	9.4%	8.5%	7.8%
EBIT	1,032	1,756	538	2,921	4,994	6,225	12,427	20,203	24,913	23,986	23,754	57.1%	36.9%	24.5%
EBITDA	1,171	2,079	1,187	3,932	6,237	8,170	14,769	23,228	29,228	29,727	30,221	56.4%	36.7%	26.3%
Gross Margin	75.03%	82.73%	77.05%	77.67%	82.73%	84.01%	86.29%	86.58%	83.25%	81.94%	81.0%	81.7%	84.4%	83.9%
Operating Margin	52.28%	47.32%	10.57%	37.11%	40.06%	34.72%	44.96%	49.70%	44.62%	33.93%	30.08%	39.5%	41.6%	42.7%
Pretax Margin	51.06%	45.68%	9.71%	36.47%	39.39%	34.55%	45.29%	50.66%	45.42%	35.10%	30.76%	39.3%	42.2%	43.7%
Effective tax rate	39.88%	41.00%	89.27%	43.68%	40.12%	40.46%	18.38%	22.63%	12.81%	25.50%	16.5%	37.4%	24.0%	20.3%
Net Margin	30.70%	26.95%	1.04%	19.05%	23.58%	20.57%	36.97%	39.20%	39.60%	26.15%	32.0%	26.4%	32.5%	35.0%

Advertising revenue makes up more than 98% of revenues. Currently 180M businesses use free tools on FB, while about 9M businesses actually pay for advertising. FB does not face large customer concentration risk. The top 100 advertisers make up 16% of revenues vs. 20% previously. FB is the dominant platform for medium and small business advertising. There is also definitely potential for FB to expand beyond advertising for these customers.

Other revenues include i) payment services: FB gets a cut from user purchases of 3rd party developers/vendors products; and ii) hardware revenue: primarily the sale of Oculus hardware. The trend has improved since F17

Exhibit 19: Other Revenues

Facebook Inc, Payments and Other Fees, Revenue Performance USD (m)



In 2012, operating margins took a substantial hit and net income plummeted. This involves around the IPO. First, headcount grew 44% from F11 in anticipation of supporting growth. The other big item that year was a \$1.35B increase in stock compensation expense for pre-2011 RSUs. The IPO satisfied a liquidity condition for these RSUs to vest. Prior to the IPO, the liquidity condition was not satisfied, so there was no expense accrual for the RSUs.

Operating margins took another huge hit in 2019 – this is primarily the FTC fine of \$5B. However, this just continued the trend of extra spend on content monitoring that started in 2018.

R&D expense % has also climbed back up to 21%. FB does not provide quantitative disclosure about the breakout of its R&D initiatives. Generically, there are more near-term initiatives that you would expect: developing products that are creative, secure, and “work” (particularly on mobile phones) so as to keep users engaged. However, FB is also working on longer term initiatives that have a lot of potential but no revenues to offset. This would include building an eco-system for i) Oculus around virtual/augmented reality; ii) Libra, a digital currency payment system; iii) online video Watch and IGTV which are FB’s answer to YouTube and Netflix; iv) Facebook News which are partnerships with major news providers to provide news content to FB users; v) Facebook dating which went live in 2019 but should have been introduced earlier given the natural fit with networking. These longer-term experiments have little if any offsetting revenues, so they are detrimental to margins. If any of these subsets of revenue can grow, the operating margins should improve. **I believe a normalized operating margin of about 41% is reasonable.** While this is higher than the current run rate at around 39%, the operating leverage of the business model, plus future non-advertising revenues should trump the compliance spending, R&D and depreciation.

7.3. Cash Flows

In F19, FB made an astounding \$18.9B in FCF. For the last twelve months, if you add back the \$5B fine paid, FB made \$21B in FCF. I have modified the standard definition of FCF to (CFO – Capex – Taxes Paid for Net Settlement of Shares). The final term in the equation captures some of the cash costs for stock compensation. FB has authorized a cumulative \$34B of share repurchase, and they have utilized \$25B since 2017. The largest tranche was made in F18 for \$12.9B. Moreover, despite the shares repurchased, the share count has stayed flat for the last five years. There is great room for improvement on returning some portion of earnings to shareholders. Ultimately, this is a nice problem for shareholders, but it's in MZ's hands.

In F12, FB had negative FCF (for my definition). This was primarily due to \$2.8B of Taxes Paid for Net Settlement of Shares -- many RSUs vested in 2012 due to the IPO. This figure was larger than the stock compensation expense of \$1.6B (added back in CFO). Another swing factor was a \$451M write-up of a tax asset.

Changes in Other Investing is substantially the net change in marketable securities: purchases – sales – maturities.

Outside Whatsapp and RJ, acquisitions haven't been material to cash flows. Instagram was purchased for \$521M but only \$300M was for cash, the remainder was 23M Class B shares. As discussed in the Balance Sheet section, Whatsapp was purchased for \$22B but \$17.4B was in shares and \$4.6B in cash. Oculus was purchased for \$1.85B which was \$400M in cash and \$1.45B in Class B stock. **Finally, RJ was actually considered an equity investment, so it appears in Changes in Other Investing.**

As seen in Exhibit 5, FB's net cash as a % of market cap is 5.8%. Against peers, this places FB about in the middle.

Cashflow Statement												CAGR/Average		
<i>\$USD mm</i>	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	LTM	10 Yr	5 Yr	3 Yr
Net Income	606	1,000	53	1,500	2,940	3,688	10,217	15,934	22,112	18,485	25,276	55.1%	44.4%	21.9%
Depreciation	130	303	571	866	924	1,215	1,591	2,333	3,675	5,179	5,553	52.5%	41.2%	48.2%
Amortization	9	20	78	145	319	730	751	692	640	562	457	75.7%	12.0%	-9.2%
Stock Based Comp	20	217	1,572	906	1,837	2,969	3,218	3,723	4,152	4,836	6,025	68.0%	21.4%	14.5%
Change in A/R	-209	-174	-170	-378	-610	-973	-1,489	-1,609	-1,892	-1,961	-150	33.1%	26.3%	9.6%
Change in A/P	12	6	1	26	31	18	14	43	221	113	150		29.5%	100.6%
Change in Other Operating	130	177	-493	1,157	1,885	2,673	1,806	3,100	366	9,100	-9,531		37.0%	71.4%
CFO	698	1,549	1,612	4,222	7,326	10,320	16,108	24,216	29,274	36,314	33,790	72.6%	37.7%	31.1%
Capex, net	-293	-606	-1,235	-1,362	-1,831	-2,523	-4,491	-6,733	-13,915	-15,102	-14,602	84.5%	52.5%	49.8%
Acquisitions, net	-22	-24	-911	-368	-4,975	-313	-123	-122	-137	-508	-829		-36.6%	60.4%
Change in Other Investing	-9	-2,393	-4,878	-894	893	-6,598	-7,178	-13,263	2,449	-4,254	-13,491	63.1%	-236.6%	-16.0%
CFI	-324	-3,023	-7,024	-2,624	-5,913	-9,434	-11,792	-20,118	-11,603	-19,864	-28,922	78.1%	27.4%	19.0%
Change in Debt	160	-261	1,335	-1,891	-243	-119	-312	0	500	-775	-526	46.5%	26.1%	35.4%
Taxes Paid for Net Settlement of Shares			-2,862	-889		-20	-6	-3,246	-3,208	-2,337	-3,071			
Actual Stock Repurchase								-1,976	-12,879	-4,202	-5,639			
Issuance of Common Stock	506	1,026	6,777	1,504	0	0	0	0	0	0	0	-100.0%		
Dividends	0	0	0	0	0	0	0	0	0	0	0			
CFF	781	1,198	6,283	-667	-298	-139	-310	-5,235	-15,572	-7,299	-9,111		89.6%	186.6%
Stk Buybk & Div	0	0	-2,862	-889	0	-20	-6	-5,222	-16,087	-6,539	-8,710			929.1%
FCF	405	943	-2,485	1,971	5,495	7,777	11,611	14,237	12,151	18,875	16,117	65.6%	28.0%	17.6%
FCF / GAAP Net Income	67%	94%	-4689%	131%	187%	211%	114%	89%	55%	102%	64%	-363.8%	114.2%	82.1%
Capex/Net PP&E	51%	41%	52%	47%	46%	44%	52%	49%	56%	34%	28%	47.3%	47.2%	46.4%
Capex/D&A	211%	188%	190%	135%	147%	130%	192%	223%	322%	263%	243%	200.0%	225.9%	269.4%
Buyback & Div/FCF	0%	0%	0%	0%	0%	0%	0%	14%	106%	22%	35%	14.2%	28.4%	47.4%
Buyback & Div/Net Income	0%	0%	0%	0%	0%	0%	0%	12%	58%	23%	22%	9.3%	18.7%	31.1%

Note: CIQ included "Taxes Paid for Net Settlement of Shares" as Share Repurchase. This is incorrect, so I input the actual share repurchase values manually. The "Buyback" references my manual input, not any CIQ values, as the numerator for the various percentages/ratios.

7.4. Per Share Analysis

The EPS & FCFPS growth is terrific. It's disappointing that share count has increased 11% over ten years and has stayed flat for five years despite the FCF. Perhaps some large acquisition is in the works but it's up to MZ. In terms of valuation, FB is currently trading at $\approx 33.9X$ LTM eps. This is above 5 year and 10-year average PE High.

Annually	Fiscal Year Ended											CAGR/Average			
	12-2009	12-2010	12-2011	12-2012	12-2013	12-2014	12-2015	12-2016	12-2017	12-2018	12-2019	10 Yr	5 Yr	3 Yr	1 Yr
Year-end Shares	1,020	1,167	1,327	2,382	2,550	2,799	2,846	2,890	2,905	2,854	2,850	10.8%	0.4%	-0.5%	-0.1%
W/A FD Shares O/S	1,366	1,414	1,508	2,166	2,517	2,664	2,853	2,925	2,956	2,921	2,876	7.7%	1.5%	-0.6%	-1.5%
FD EPS	0.17	0.43	0.66	0.02	0.60	1.10	1.29	3.49	5.39	7.57	6.43	44.0%	42.2%	22.5%	-15.1%
BVPS	0.00	1.33	3.23	4.98	6.10	12.99	15.60	20.51	25.58	29.48	35.43	44.1%	22.2%	20.0%	20.2%
DPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
FD FCFPS	0.09	0.29	0.63	-1.15	0.78	2.06	2.73	3.97	4.82	4.16	6.56	53.7%	26.0%	18.2%	57.8%
Price Low	0.00	0.00	0.00	17.55	22.67	51.85	72.00	89.37	115.51	123.02	128.56				
Price High	0.00	0.00	0.00	45.00	58.58	82.17	110.65	133.50	184.25	218.62	208.93				
PE Low	0.00x	0.00x	0.00x	NMF	38.04x	46.98x	NMF	25.59x	21.43x	16.25x	20.00x	21.04x	20.82x	19.23x	
PE High	0.00x	0.00x	0.00x	NMF	NMF	NMF	NMF	38.22x	34.18x	28.88x	32.51x	22.30x	33.45x	31.86x	
PB Low		0.00x	0.00x	3.52x	3.71x	3.99x	4.61x	4.36x	4.51x	4.17x	3.63x	3.25x	4.26x	4.11x	
PB High		0.00x	0.00x	9.03x	9.60x	6.32x	7.09x	6.51x	7.20x	7.42x	5.90x	5.91x	6.82x	6.84x	
PE Low	0.00x	0.00x	0.00x	NMF	38.04x	46.98x	NMF	25.59x	21.43x	16.25x	20.00x	21.04x	20.82x	19.23x	
PE High	0.00x	0.00x	0.00x	NMF	NMF	NMF	NMF	38.22x	34.18x	28.88x	32.51x	22.30x	33.45x	31.86x	
P/FCF Low	0.00x	0.00x	0.00x	-15.30x	28.95x	25.14x	26.41x	22.51x	23.98x	29.57x	19.59x	16.09x	24.41x	24.38x	
P/FCF High	0.00x	0.00x	0.00x	-39.22x	74.81x	39.84x	40.59x	33.63x	38.26x	52.55x	31.83x	27.23x	39.37x	40.88x	
Div Yield Low				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Div Yield High				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Payout Ratio	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

7.5. Profit Profile

Profit Profile	Fiscal Year Ended											CAGR/Average			Projected
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	10 Yr	5 Yr	3 Yr	
PTM	32.69%	51.06%	45.68%	9.71%	36.47%	39.39%	34.55%	45.29%	50.66%	45.45%	35.15%	39.34%	42.22%	43.75%	41.00%
AT		1.32x	0.80x	0.47x	0.48x	0.43x	0.40x	0.48x	0.54x	0.61x	0.61x	0.62x	0.53x	0.59x	0.60x
PT ROA		67.42%	36.37%	4.61%	17.40%	16.97%	13.86%	21.89%	27.55%	27.91%	21.54%	25.55%	22.55%	25.67%	24.60%
Tax Rate	9.8%	39.9%	41.0%	89.3%	43.7%	40.1%	40.5%	18.4%	22.6%	12.8%	25.5%	37.37%	23.95%	20.30%	22.0%
AT ROA		40.5%	21.5%	0.5%	9.8%	10.2%	8.3%	17.9%	21.3%	24.3%	16.1%	17.03%	17.57%	20.57%	19.2%
FL		1.38x	1.29x	1.28x	1.16x	1.11x	1.12x	1.10x	1.14x	1.16x	1.32x	1.21x	1.17x	1.20x	1.30x
ROE		56.06%	27.73%	0.64%	11.34%	11.25%	9.22%	19.61%	24.24%	28.15%	21.20%	20.94%	20.48%	24.53%	24.94%

We talked about margins in the Income Statement section. **The normalized margin is 41%.** In 2014, assets more than doubled given the goodwill acquired. This actually impacted 2015 assets (since the denominator is average assets of F14 & F15, i.e. a material jump in the starting point). Starting in 2016, sales have grown faster than assets. There was a jump up in asset turns in 2018 because the share repurchases that year helped to stem asset growth. So far in F20, there have been more share-repurchases than for F19 but overall **FB seems reluctant to return capital to shareholders. I've kept the asset turns at 0.6X.** Using the same logic, I've used **1.3X for financial leverage.** It initially trended down from F10 to F16 because retained earnings grew faster than assets. **For tax rate, I used 22%,** an average that is weighted by more recent values than older values. This yields a normalized 25% ROE and 25% growth rate.

Section 8: Valuation

Currently, FB is trading at 26.4X normalized PE which is in-line with the market. Now it could be argued that FB is under-levered which could drive the normalized PE down. However, the decision to return capital is in MZ's hands. The cash has been building for years, so he doesn't seem to be in any rush to use it – perhaps he's waiting for the proper acquisition. Moreover, FB's governance and share structure are on the weakish side, so in my opinion I've left the valuation numbers unadjusted.

IGR Analysis

Price
Current BVPS
Price to Book
Dividend
Payout Ratio
Dividend Yield
Projected ROE
Normalized EPS
NPE
IGR
Quadrant

52-week Low
NPE

52-week high
NPE

Facebook , Inc.	S&P 500	Discount / Premium
\$ 271.65	3561.90	
\$ 41.33	912.51	
6.57x	3.91x	68.09%
0.00	68.44	
0%	50%	
0.00%	1.92%	-100.00%
24.94%	15.00%	
10.31	136.88	
26.35x	26.02x	1.25%
24.94%	9.42%	164.76%
III		
<hr/>		
\$ 137.10	2237.40	
13.30x	16.35x	
<hr/>		
\$ 304.67	3626.91	
29.55x	26.50x	

Section 9: Investment Grade

Category	Rating	Rationale
Nature of Industry	III	<p>Threat of new entrants: Low - Medium Within the Social Media advertising segment, Facebook has way more users than any other network, and the best user data. These users also have potential exit barriers because their contacts are on the same platform. With trapped users, advertiser rely on Facebook for their advertising needs, so this is a barrier for new entrants. On the flipside, it seems relatively easy to create social apps and sometimes they grow rapidly (i.e. SNAP, TikTok) at least in users.</p> <p>Substitution: Medium As of now, the biggest threat in this category is search advertising dominated by Google. While search doesn't have as powerful user analytics as social media does, it is very powerful in a different way because the user is looking for information to BUY something, and thus can be influenced relatively easily at that point in time. Given the growth in both types of advertising revenues, there's room for both purposes. Just as social media wasn't a threat to traditional media fifteen years ago, any new technology in a different field could displace FB in a relatively modest amount of time.</p> <p>Bargaining power of customers: Low-Medium Social media advertising offers a very attractive proposal for advertisers – targeted advertising and gives feedback. The only issue is in tough economic times, advertising expenditure is usually early to be cut back. Interestingly with Covid 19, it was the reverse since digital presence gained on physical presence for small businesses.</p> <p>Bargaining power of suppliers: Low Industry Rivalry: Medium The other social networks aren't as advanced in tools and don't have the same # of users. Again, it's hard to predict what new gadget/gimmick can be successful with users.</p>
Position of Company in Industry	I	Facebook is the dominant social network advertising platform given its number of users and the information it has on these users.
Profitability	II	Facebook is very profitable with ≈ 25% pre-tax margins and 19% ROA.
Financial Strength	II	<p>Net Cash on the balance sheet is 38% of total assets. Free cash flow production at a run rate of about one-fifth of equity book value.</p>
Historical Growth	II	<p>There is a strong track record of double-digit top & bottom-line growth over the last decade. OCF and FCF has also seen tremendous annual growth rates. Growth has slowed over the past three years.</p>
Growth Outlook	I	Lots of potential for growing non-advertising revenues globally, and advertising revenues outside of North America
Management	II	Terrific business offset by voting control with CEO, and so far, unable to contain negative news headlines.
ESG Considerations	IV	Plagued by many social issues: privacy, fake news over facts, promoting weak self-esteem to youth.
Quality	II	

Section 10: RECOMMENDATION

On the downside, I do believe that regulatory risk is under-appreciated by investors. History has shown revolts against advertisers as they keep invading private space, although as a group, advertisers adapt to the new rules and somehow come back stronger. There is also the risk of being displaced by some new technology that has just been invented or will soon be invented. It's astounding how some social apps just take off. On the other hand, FB has a terrific business model that is defensible because it has the largest dataset, and this creates a positive feedback loop with AI vs. peers. It's a very attractive platform for advertisers, particularly small businesses where they can specify their parameters including their budget. This is all self service which helps to create very healthy margins. There are plenty of growth avenues available including narrowing the ARPU gap between North America and Rest of World, potential e-commerce, monetization of Whatsapp, and eventual growth of Virtual/Augmented Reality through Oculus. The financial picture is extremely healthy with remarkably high FCF, net cash on BS, and an outlook of improving margins. There have been opportunities to purchase FB when it encounters public relations issues and perhaps that has happened to a modest degree with the current political hearings. Weighing all of the evidence, given the strength of the financials, the growth potential, and the strong moat (at least for now) **I recommend a BUY on FB.**

Val De Franco

Nov 20/20

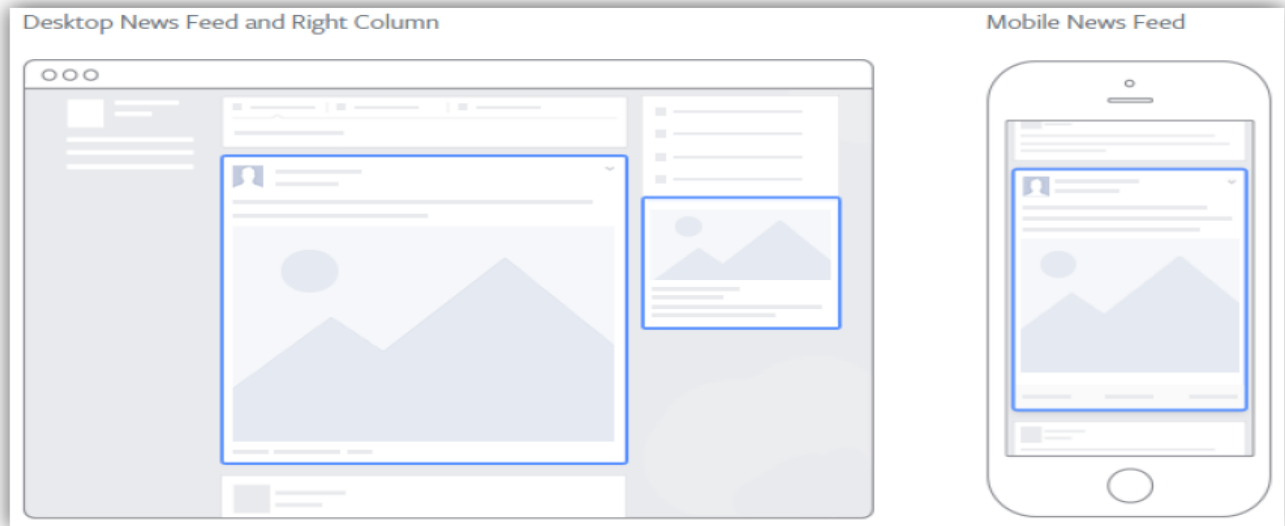
Disclosure: I do not own FB shares

Appendix 1: Self Serve Advertising in Pictures

After googling “target audiences +Facebook”, I found a website (Adespresso.com) with a self-serve, how-to advertise guide on Facebook. I’ve attached a few of the snips in this Appendix. Hopefully the Exhibits are self-explanatory and demonstrates the precision with which you can select parameters. The ease of use even allows for small businesses to exploit.

Exhibit 20: Typical Physical Placement of Ad

Figure 46: Facebook Ad Placements



Source: Company website

Exhibit 21

In Chapter 6, you'll find out:

- ☛ How to create Facebook Audiences
- ☛ What are all the Facebook Audience types
- ☛ How to set up remarketing audiences
- ☛ How to work with Custom Audiences and Lookalike Audiences
- ☛ What are the best Facebook targeting options to use

Remember that advertising is about getting customers, not cheap clicks. Your cost per click could be \$.03 but if the conversion rate is zero you are wasting your effort and your money.

Choose the audience who'll see your ads and keep testing different targeting options to find your sweet spot.

Exhibit 22

How to Create Facebook Audiences

To create and manage your Facebook target audiences, you'll have to use the Audience Manager tool.

You can find this tool in the Business Manager, by clicking on the top-right menu and selecting "Audiences."

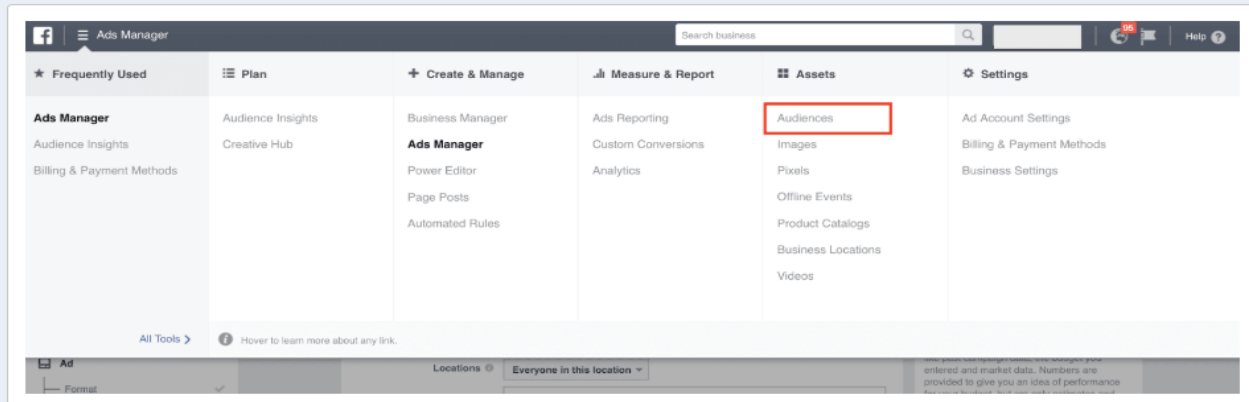


Exhibit 23

On the Audiences page, you can see all your saved Facebook audiences, as well as create new ones. To understand the wide range of targeting options that come with Facebook ads, let's start from the basics.

Facebook has three primary audience types:

- Saved Audiences
- Custom Audiences
- Lookalike Audiences

Each of these audience types gives you plenty of additional options for creating the perfect target audience for your Facebook campaigns.

Exhibit 24

Saved Audiences are the audiences that you can define by choosing people's interests location, age, gender, used devices, income level, etc. You can create Saved Audiences both in the campaign setup phase or in the Audience Manager.

Create a Saved Audience

Audience Name

Name your audience

Custom Audiences

Add a previously created Custom or Lookalike Audience

Exclude | Create New

Locations

People who live in this location

United States

United States

Include | Type to add more locations | Browse

Add Locations in Bulk

Age

18 - 65+

Gender

All | Men | Women

Languages

Enter a language...

Potential Audience:

Potential Reach: 230,000,000 people

Audience Details:

Location - Living In:

United States

Age:

18 - 65+

Detailed Targeting

INCLUDE people who match at least ONE of the following

Add demographics, interests or behaviors | Suggestions | Browse

Exhibit 25

Location-based targeting

Facebook allows you to target people in specific locations, including:

- ✓ Country
- ✓ State/Region
- ✓ Counties
- ✓ DMA (Designated Market Area)
- ✓ City
- ✓ Postal Code
- ✓ Specific Address Radius

Simply type in the regions you wish to target.

Locations

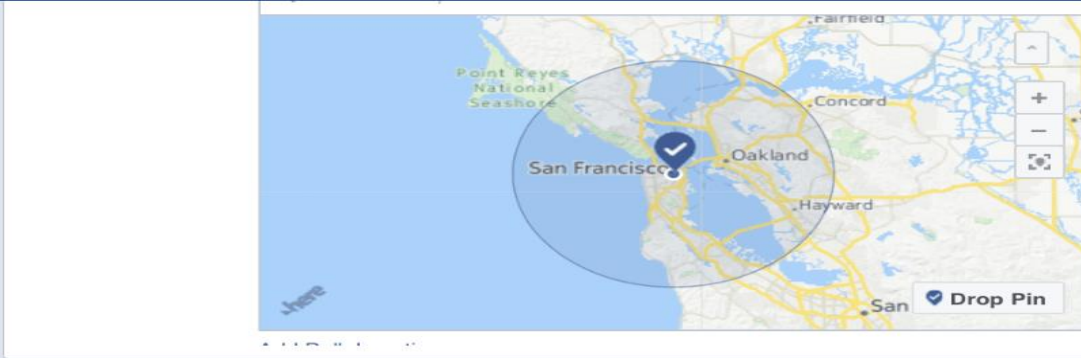
People who live in this location

United States

San Francisco, California + 25mi

Include | Add locations

Exhibit 26



You also have another layer of location targeting, allowing to be even more specific:

- **Everyone in this location (the default targeting option)** – The last updated location of an actual Facebook user
- **People who live in this location** – Location is set by the location on a user's Facebook profile and confirmed by their IP address.
- **People recently in this location** – Tracked by mobile device usage in the geographic area you intend to target.
- **People traveling to this location** – Users who had this geographic area as a recent location that's at least 100 miles away from their home location.

Exhibit 27

Demographics-based targeting

As you click on the Demographics tab, you'll get plenty of targeting topics to refine your audience based on many options. The basic 3 are:

Age – If you're targeting an audience with a specified age range, you can easily reach them by telling Facebook who your ideal customers are.

Age ⓘ 16 ▼ - 16 ▼

Gender ⓘ All Men Women

Languages ⓘ Enter a language...

Gender – You can also select to target a particular gender.

Language – If you're advertising in a particular language, you might want to only target the people who can understand your ads.

But you can get way more detailed. As an example, you'll be able to target people by their political views, life events, job titles, ethnicity, and so on.

Exhibit 28

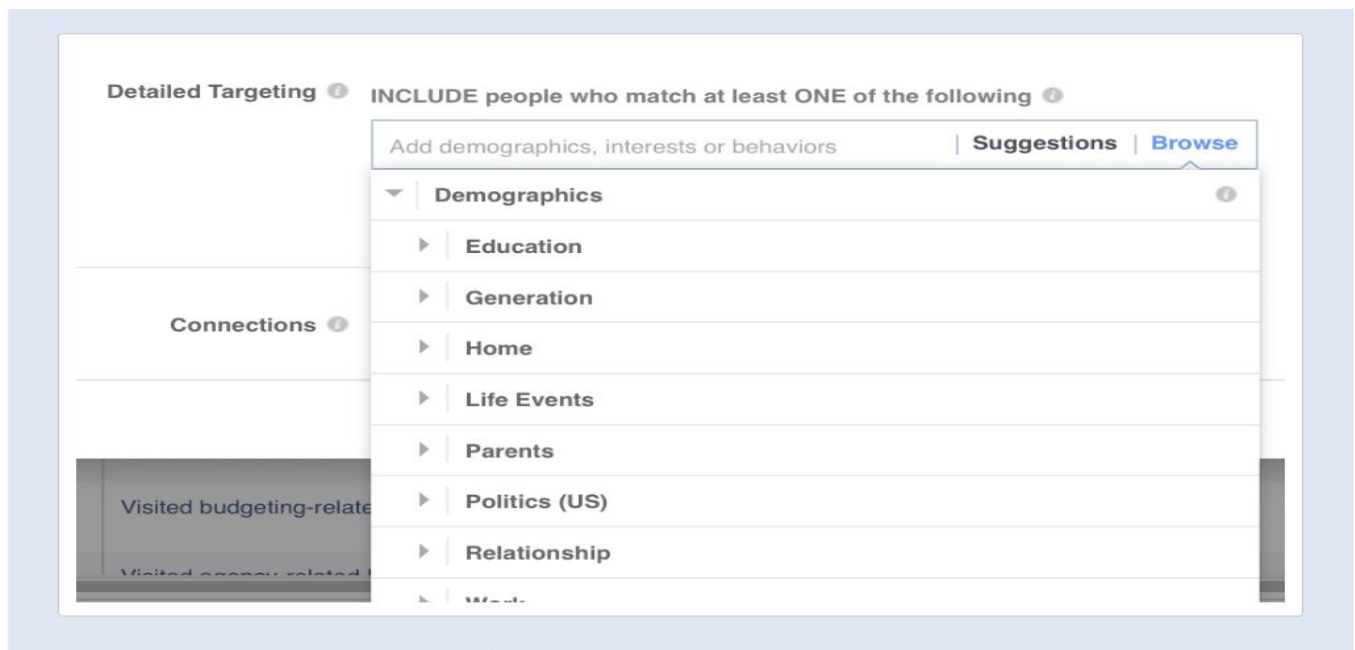


Exhibit 29

Interest-based targeting

Interests are one of the best (and easiest) Facebook ads targeting options as they allow you to **target people specifically interested in a subject related to your product**. For example, you could target people interested in your competitors or your broader market segment, or magazines and blogs covering your market.

To target based on interests, you can either browse the menu with hundreds of interests or simply type in one interest, so that Facebook will suggest to you other related topics.

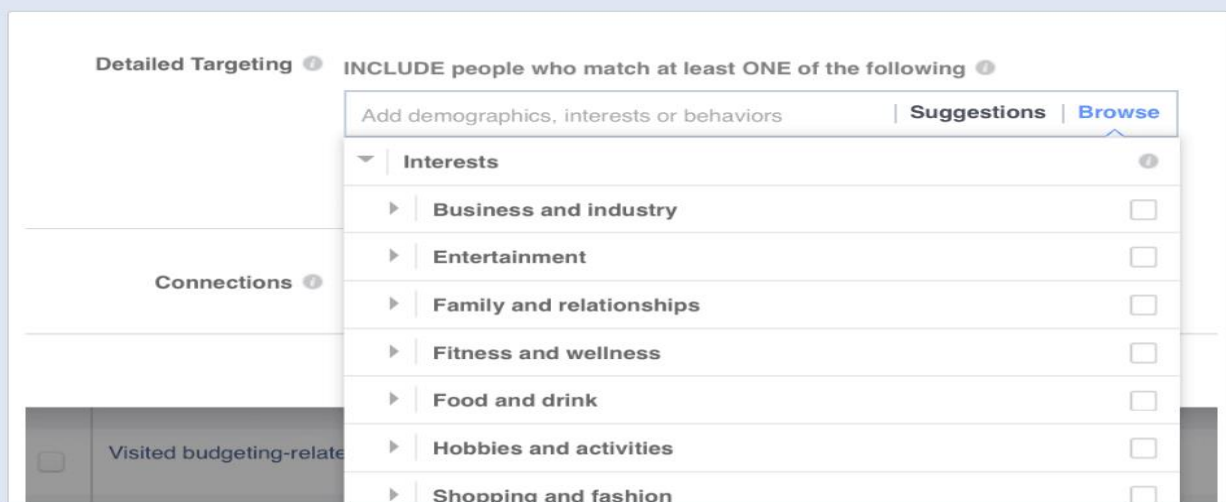


Exhibit 30

The interests are based on Facebook users' likes and interests, apps they use, Pages they've Liked, and more. Adding more than one interest will target people with at least one of them so you'll make your reach broader.

Behaviour-based targeting

Unlike precise Interests, Behaviors allow you to target people by purchase history, events they like, personal anniversaries, etc. This data is gathered by Facebook analyzing many factors and also using external data sets.

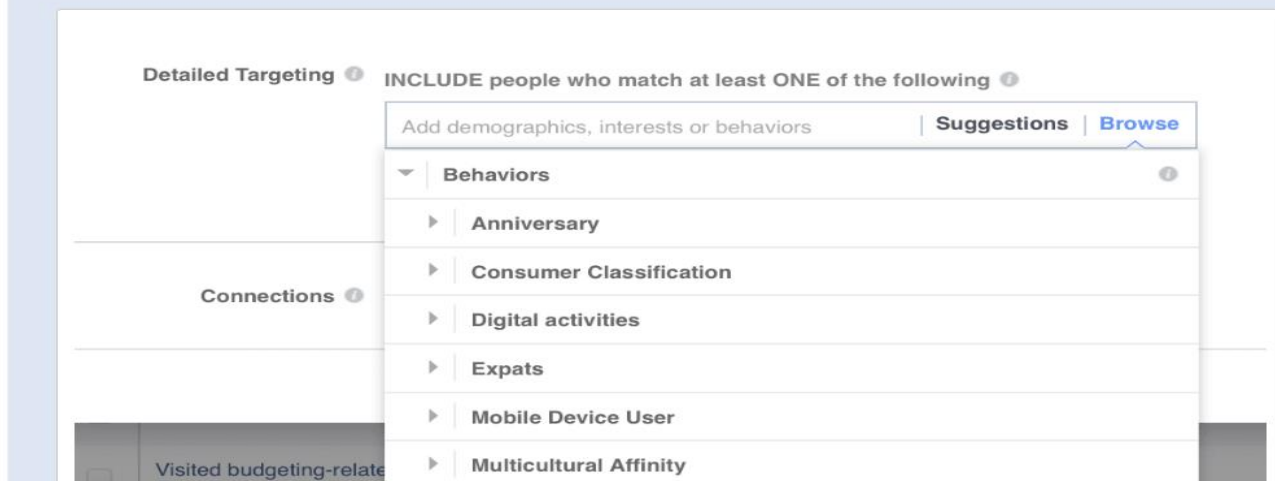


Exhibit 31

Facebook Custom Audiences

Facebook Custom Audiences are probably your most high-value target audiences as they allow to retarget past website visitors and people who have engaged with your content or app. There are multiple ways to create a Custom Audience, and we're going to cover each of them briefly.

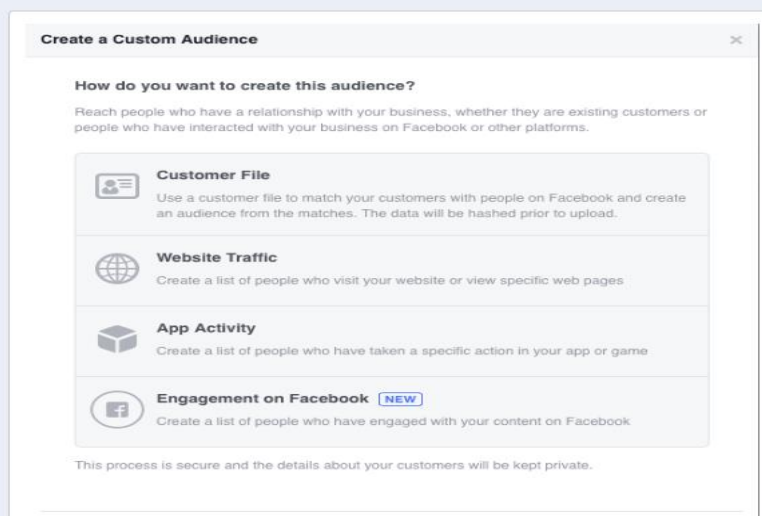


Exhibit 32

Creating Custom Audiences from Customer Files

This first type of Facebook Custom Audience is based on your existing customer files – the lists of email accounts, phone numbers or apple IDs. The Customer File audience is a great way to target your newsletter subscribers or app users.

To create a Facebook Custom Audience, follow these steps:

- 1 Create a Facebook Custom Audience
- 2 Select the “Customer File” option
- 3 Select whether you wish to add a customer file or import contacts from MailChimp.
- 4 Import your customer data to create a new Custom Audience
- 5 Select the identifiers
- 6 Upload a customer file
- 7 Give your Custom Audience a name

Your customer files can include 15 different identifiers, the most popular ones being:

- 📧 Email
- 📞 Phone number
- 📱 Mobile advertiser ID

Exhibit 33

MOBILE ADVERTISER ID

Create a Custom Audience

1

2

3

4

Add Customer ListEdit Data MappingHashed Upload & CreationNext Steps

Choose a file or copy and paste data

📖 Read best practices for improving match rate

Identifiers you can use (15) ⓘ

EmailPhone NumberMobile Advertiser IDFirst NameLast NameZIP/Postal CodeCityState/ProvinceCountryDate of BirthYear of BirthGenderAgeFacebook App User IDFacebook Page User ID

☒ Add a new file (CSV or TXT)

Download file template

Drag and drop your file here or

☐ Copy and paste

Audience name

[Show description](#)

Exhibit 37

If you need to clean up the data inside your customer files before the import, this [Facebook's guide](#) can help you out.

Creating Custom Audiences Based on Website Traffic

Website traffic-based Facebook audiences allow you to create remarketing campaigns for people who have engaged with your website. These are high-value audiences as the users seeing your ads have already shown some interest in it. Important! To create audiences based on your website traffic, you first need to install Facebook Pixel. [See the Pixel setup instructions by Facebook.](#)

If you've built your website on WordPress, you can also create this type of Custom Audiences with the [Pixel Caffeine plugin](#).

Once you've installed the Facebook Pixel, you can simply go to the Audience Manager and create a Custom Audience based on past website traffic.

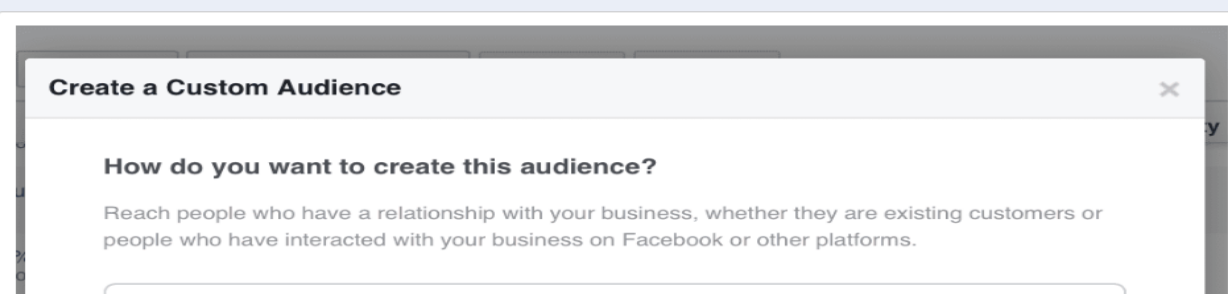


Exhibit 38

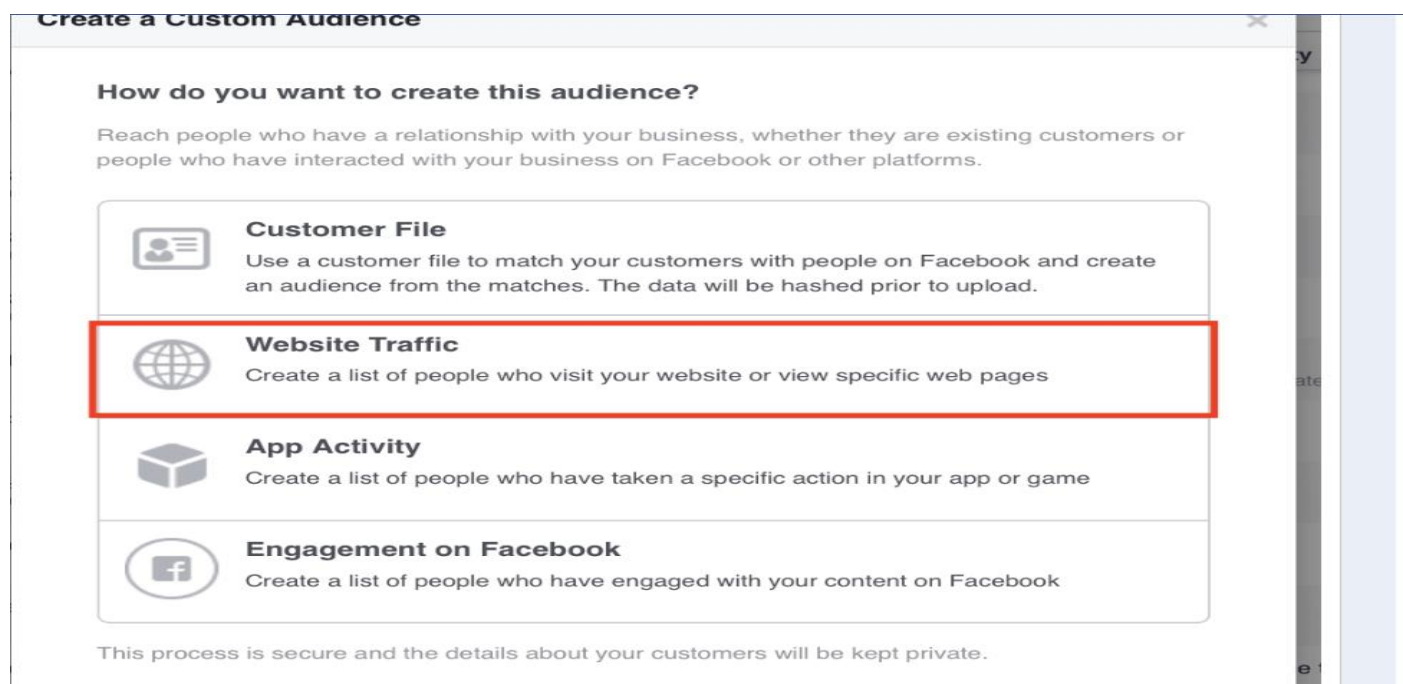


Exhibit 36

You can choose between multiple options:

- Target everyone who visited your website
- Target people who visited specific web pages
- Target people who visited specific web pages but not others
- Target people who haven't visited your website for a certain amount of time
- Other custom combinations

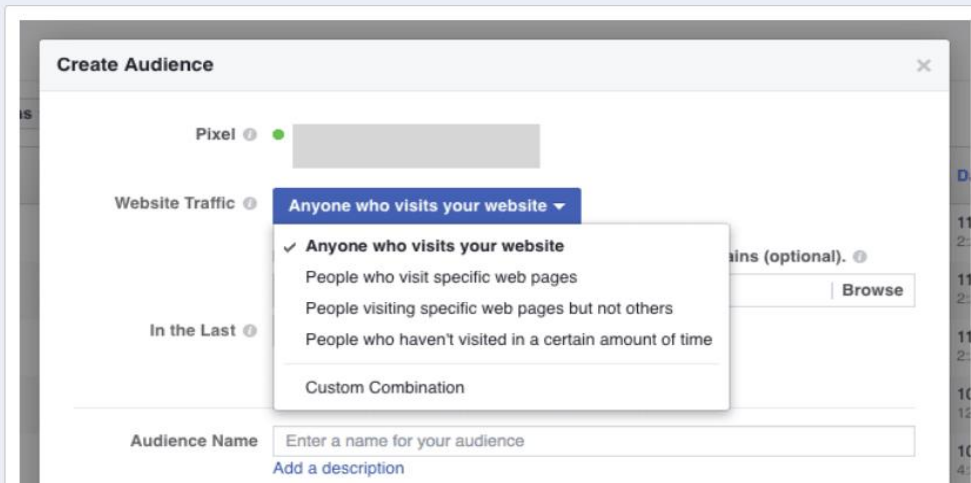


Exhibit 37

Creating Custom Audiences Based on App Activity

If you want to reach the people who have engaged with your iOS or Android app, you can set up a Facebook target audience to do that. To target people based on the app activity, you first need to register your app and set up [app events](#).

To create a Facebook Custom Audience based on app activity, target people who have taken specific actions (events) in your app. You can also select the timeframe for targeted events.

Exhibit 38

Creating Custom Audiences Based on Engagement

Did you know that you can also target the users that have engaged with your content on Facebook, e.g. viewed your videos or liked a Page post. The latest addition to Custom Audiences is the possibility to target people who have done one of the following:

- ☐ Visited your Facebook Page
- ☐ Engaged with your Facebook Page posts or ads
- ☐ Clicked on any call-to-action buttons
- ☐ Sent a message to your Page
- ☐ Saved your Page or posts

Exhibit 39

Facebook Lookalike Audiences

Facebook Lookalike Audiences let you reach the people who are similar to your existing customer database – making them highly likely to convert as well.

To create a Lookalike Audience, you first need to create a Custom Audience to tell Facebook what type of users you want to reach. Next, select the “Lookalike Audience” from the audience creation menu and select a target country and a percentage (1%-10%) of the targeted country’s Facebook users. The percentage signifies the people most similar to your selected Custom Audience.

Find new people on Facebook who are similar to your existing audiences. [Learn More](#)

Source ⓘ	Converters 180 days COM
Location ⓘ	Countries > Europe United Kingdom Countries > North America United States

Exhibit 40

How To Narrow Down Your Audiences

Sometimes, a Facebook audience can include millions of users. Unless you’ve got hundreds of thousands of dollars advertising budgets waiting around the corner, you should keep your target audiences smaller and more precise. Ideally, it would be the largest audience it can be of people that are the most likely to convert.

When creating Saved Audiences, you can narrow your audience with the AND/OR targeting options. The OR targeting means that when you add new targeting options under the same category of targeting, your audience will grow larger. The AND targeting means that a person who’s in your target audience must fall into multiple categories. This will help to decrease your audience size and create niche audiences.