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META LESSON 3: THE IMPORTANCE OF NARRATIVE

Story time?

The Lead in

- In my first two posts on Facebook, I noted that its most recent earnings report, and the market reaction to it, offers an opportunity for us to talk about bigger issues.
  - I started by examining corporate governance, or its absence, and argued that some of the frustration that investors in Facebook feel about their views being ignored can be traced to a choice that they made early to give up the power to change management, by acquiescing to dual class shares.
  - In the second post, I pointed to inconsistencies in how accountants classify operating, capital and financing expenses, and the consequences for reported accounting numbers.
- I concluded the post by arguing that investors in Facebook were pricing in their belief that the billions of dollars the company had invested in the Metaverse would be wasted, and argued that Facebook faced some of the blame, for not telling a compelling story to back the investment.
- In this post, I want to focus on that point, starting with a discussion of why stories matter to investors and traders and the story that propelled the company to a trillion-dollar market-capitalization not that long ago. I will close with a look at why business stories can break, change and shift, focusing in particular on the forces pushing Facebook to expand or perhaps even change its story, and whether the odds favor them in that endeavor.

A Good Valuation = Story + Numbers

What stories do for a numbers valuation
1. Stories are better "hooks" & more memorable.
2. Stories force consistency tests on numbers.
3. Stories allow for follow through in businesses.

A Good Valuation = Story + Numbers

What numbers can do for a story valuation
1. Numbers give stories credibility.
2. Numbers allow for plausibility checks
3. Numbers create accountability in businesses.

Valuation Numbers ⟷ Valuation Story

The Dangers of a pure numbers valuation
1. You can "play" with numbers to change value
2. You can fool yourself with false precision
3. You can deny your own biases

The Dangers of a pure story valuation
1. You can tell fairy tales
2. You will be guided by anecdotal evidence
3. Your biases will be unconstrained

The Number Crunchers' Delusions

- Play with numbers: When a valuation is all about the numbers, it is easy to start playing with the numbers, unconstrained by any business sense, and change the value.
- False precision: Number crunchers love precision, and the pathways they adopt to get to more precise valuations are often counter-productive, in terms of delivering more accurate valuations. From estimating the cost of capital to the fourth decimal point to forecasting all three accounting statements (income statements, balance sheet and statement of cashflows), in excruciating detail, for the next 20 years, analysts lose the forest for the trees.
- Drown in data: The complaint today, when they value companies, is that there is too much data. Without guard rails, it is easy to see why this data overload can overwhelm investors and analysts, and lead them, ironically, to ignore most of it.
- Denial of biases: It is almost impossible to value a business without bias, with some bias coming from what you know about the business and some coming from whether you are getting paid to do the valuation, and how much. In a valuation driven entirely with numbers, analysts can fool themselves into believing that since they work with numbers, they cannot be biased, when, in fact, bias permeates every step in the process, implicitly or explicitly.

And how stories help…

- Stories are memorable, numbers less so: Even the most-skilled number cruncher, aided and abetted with charts and diagrams, will have a difficult time creating a valuation that is even close to being as good a compelling business story, in hooking investors and being memorable.
- Stories allow for consistency-tests: When your valuation numbers come from a story, it becomes almost impossible to change one input to your valuation without thinking through how that change affects your story.
- Stories allow you to screen and manage data: Having a valuation story that binds your numbers together and yields a value also allows you a framework for separating the data that matters (information) from the data that does not (distractions), and for organizing that data.
- Stories lead to business follow-through: If you are a business-owner, valuing your own business, understanding the story that you are telling in that valuation is extraordinarily useful in how you run the business.

Storyteller Delusions…

- Fairy tales: Without the constraint of business first principles or explicit numbers about key inputs, you can tell stories of unstoppable growth and incredible profits for your company that are alluring, but impossible.
- Anecdotal evidence: Story tellers tend to gravitate towards anecdotal data that supports their valuation stories. Rather than drown in the data overflow world we live in, story tellers pick and choose the data that best fits their stories, and use them to good effect, often fooling themselves about viability and profitability along the way.
- Unconstrained biases: If number crunchers are in denial about their biases, story tellers often revel in their biases, presenting them as evidence of the conviction that they have in their stories.

And how numbers can help…

- Numbers give credibility to stories: Stories are hooks that draw others to a business idea, but it may not be enough to get them to invest their money in it. For that to happen, you may have to use numbers to augment and back up your business story to give it credibility and create enough confidence that you have the business sense to make it succeed.
- Numbers allow for plausibility checks: If you are on the other side of a valuation pitch, especially one built almost entirely around a story, the absence of numbers can make it difficult to take the story through the 3P test, where you evaluate whether it is possible, plausible and probable.
- Number create accountability: For business owners and managers, the use of numbers allows for accountability, where your actual numbers on total market size, market share and profitability can be compared to your forecasts.

The Facebook Story

1. *Billions of intense users:* It is not just the mind-boggling 3 billion people who are in its ecosystem that should draw your attention, but the amount of time they spend in it.
2. *Sharing personal data in their postings:* As a platform that encourages users to share almost anything they want (personal, political, emotional) with their "friends", it is undeniable that Facebook has also accumulated immense amounts of data about its users.
3. *Which could be utilized to focus advertising at them:* Invading user privacy, albeit with their tacit help, lies at the core of Facebook's success in online advertising. In short, Facebook uses what it has learnt about the people inhabiting its platform to focus advertising to them.
4. *In a world where online ads were consuming the advertising business:* Facebook also benefited from a macro shift in the advertising business, where advertisers were shifting from traditional advertising modes (newspapers, television, billboards etc.) to online advertising; online advertising increased from less than 10% of total advertising in 2005 to close to 60% of total adverting in 2020.

And its appeal…

1. <u>Simple and easy to understand</u>: In telling business stories, I argue that it pays to keep the story simple and to give it focus, i.e., lay out the pathways that the story will lead the company to make money. Facebook clearly followed this practice, with a story that was simple and easy for in investors to understand and to price in. Just to provide a contrast, consider how much more difficult it is for Palantir or Snowflake to tell a business story that investors can grasp, let alone value.
2. <u>Personal experiences with business</u>: Adding to the first point, investors feel more comfortable valuing businesses, where they have sampled the products or services offered by these businesses and understand what sets them apart (or does not) from the competition. I would wager that almost every investor, professional or retail, who invested in Facebook has a Facebook page, and even if they do not post much on the page, have seen ads directed specifically at them on that page.
3. <u>Backed up by data</u>: In the last decade, we have seen other companies with simple stories that we have personal connections to, like Uber, Airbnb and Twitter, go public, but none of them received the rapturous response that Facebook did, at least until July 2021.

Facebook						Feb-22

The Story

Facebook's biggest asset remains its immense and engaged user base, and it is able to use what it knows about its users to sell focused and directed advertising. In the last few years, Facebook has faced pressure regulators and governments about its use of user data (privacy) and the effect of its social platform on political discourse. *In 2020 and 2021, these issues caught up with the company, leading to a name change for the company and lower user numbers in its most recent earnings report.*

The Assumptions

	Base year	*Next year*	*Years 2-5*	*Years 6-10*	*After year 10*	*Link to story*
Revenues (a)	$117,929.00	8.0%	8.00%	3.00%	3.00%	Growth slackens, as restrictions take hold
Operating margin (b)	48.59%	44.0%	44.00%	40.00%	40.00%	Margins decline, as costs of meeting new privacy rules rise.
Tax rate	16.70%		16.70%	25.00%	25.00%	Global/US marginal tax rate over time
Reinvestment (c)		0.89	0.89	0.89	20.00%	Set to company's historical level.
Return on capital	35.94%	Marginal ROIC =	26.79%		15.00%	Low capital investment needs
Cost of capital (d)			7.43%	7.24%	7.24%	Cost of capital stays relatively stable.

The Cash Flows

	Revenues	*Operating Margin*	*EBIT*	*EBIT (1-t)*	*Reinvestment*	*FCFF*
1	$127,363.32	44.00%	$56,039.86	$46,681.20	$10,625.71	$36,055.50
2	$137,552.39	42.40%	$58,322.21	$48,582.40	$11,475.76	$37,106.64
3	$148,556.58	41.60%	$61,799.54	$51,479.01	$12,393.82	$39,085.19
4	$160,441.10	40.80%	$65,459.97	$54,528.15	$13,385.33	$41,142.82
5	$173,276.39	40.00%	$69,310.56	$57,735.69	$14,456.16	$43,279.54
6	$185,405.74	40.00%	$74,162.30	$60,546.10	$13,661.07	$46,885.03
7	$196,530.08	40.00%	$78,612.03	$62,873.90	$12,529.15	$50,344.75
8	$206,356.59	40.00%	$82,542.63	$64,647.39	$11,067.42	$53,579.97
9	$214,610.85	40.00%	$85,844.34	$65,808.27	$9,296.63	$56,511.64
10	$221,049.18	40.00%	$88,419.67	$66,314.75	$7,251.37	$59,063.38
Terminal year	$227,680.65	40.00%	$91,072.26	$68,304.20	$13,660.84	$54,643.36

The Value

Terminal value	$1,288,758.40		
PV(Terminal value)	$632,544.40		
PV (CF over next 10 years)	$308,349.17		
Value of operating assets =	$940,893.57		
Adjustment for distress	$0.00	Probability of failure =	0.00%
- Debt & Minority Interests	$14,454.00		
+ Cash & Other Non-operating assets	$47,998.00		
Value of equity	$974,437.57		
- Value of equity options	$0.00		
Number of shares	2,815.00		
Value per share	$346.16	Stock was trading at =	$219.55

Actions and Regrets?

- Having bought shares in the company at $133/share after the Cambridge Analytica scandal in 2018, I stayed invested in the company. Obviously, at today's price of just over $100/share, it should be time for regrets, but I have none.
- There are clearly aspects of my valuation, where I overreached, including
  - Revenue growth of 8% a year that I would reset to a lower number, with the recognition that online advertising is seeing growth level off, faster than I thought it would, and is more cyclical than I assumed it would be.
  - As for profitability, my estimated target operating margin of 40% looks hopelessly optimistic, given that the operating margins in the last twelve months is closer to 20%, but as I noted in my last post, that drop is less a reflection of a collapse in the online advertising business model and more the result of Facebook's big bet of Metaverse, and the expenses emanating from that bet.

Narrative Changes and Resets

Business Story Breaks, Shifts and Changes

Story Break

Broken business: The business story can no longer work, because a core element has been removed or broken because of
(a) An Act of God
(b) Government, Regulatory or Legal Action
(c) Fatal reputational damage
Value Consequence: The value of the business drops to zero and its claim holders fight over its carcass.

Story Shift

Shifting business: The business story remains intact, but elements of it change, as a result of changing market, competition or technology.
Value Consequence: The inputs to value will shift, as story shifts play out in revenue growth, margins, reinvestment and risk, with some shifts leading to higher value and some to lower value.

Business Story

Story Changes

Shifting business: The business story changes sometimes with add ons and augmentations, sometimes with removals and amputations, and sometimes as rebirths and reincarnation. These can be the result of external forces or management decisions.
Value Consequence: As business stories change, the changes will affect your valuation inputs, and the net effect of the story change will depend on how the trade offs affect value.

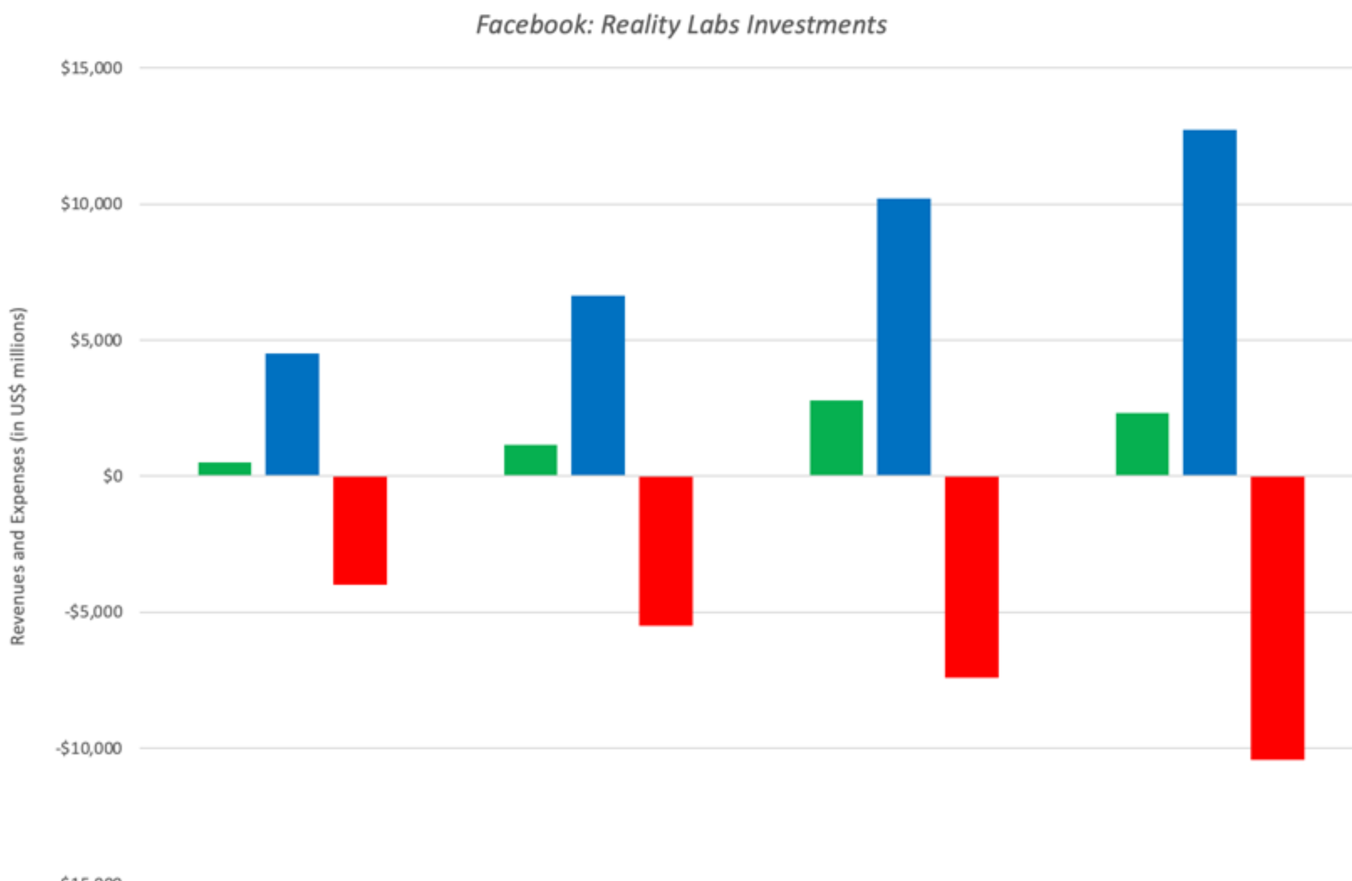
Facebook: Forces driving a story reset….

- Facebook's original business story was built on two premises, with the first being that it could use the data that it obtained on its customers to deliver more focused advertisements and the second that the online advertising business was growing, largely at the expense of traditional advertising. Both are being challenged by developments on the ground, and as they weaken, so is the pull of the Facebook story.
  - On the privacy front, the Cambridge Analytica episode, though small in its direct impact, cash light on a unpleasant truth about the Facebook business model, where the invasion of user privacy is a feature, not a bug..
  - The halcyon days of growth in the online advertising market are behind us, as it becomes the dominant part of overall advertising, and starts growing at rates that reflect growth in total advertising expenses at firms.
- While many investors were shocked by the stagnant revenues that Facebook reported in its most earnings report, and some have attributed that to a slowing economy, the truth is that the pressures on Facebook's business story have been building for a while, and it is only the speed with which the story has unraveled that is shocking.

Facebook's Choices

1. <u>Acceptance</u>: Accept the reality that they are now a mature player in a slow-growth business (online advertising), albeit one in which they are immensely profitable, and scale back growth plans and spending. While this may strike some as giving up, it does provide a pathway for Facebook to become a cash cow, investing just enough in R&D to keep its existing business going for the foreseeable future, growing at the inflation rate or lower.
2. <u>Denial</u>: View the slowdown in growth in the online adverting market as temporary, and stay with its existing business model, built around aggressively seeking to gain market share from both traditional players in the advertising market and smaller online competitors. With this path, the company may be able to post higher revenue growth than if it follows the acceptance path, but perhaps with lower operating margins and more spending on R&D.
3. <u>Rebirth</u>: The choice with the most upside as well as the greatest downside is for Facebook to try to reinvent itself in a new business. That may require substantial reinvestment to enter the business, and hopefully draw on Facebook's biggest strength, i.e., its intense and mammoth user base.

The Metaverse Path…



	2019	2020	2021	LTM
RL: Revenues	$501	$1,139	$2,774	$2,310
RL: Expenses	$4,503	$6,623	$10,193	$12,741
R: Net Loss	-$4,002	-$5,484	-$7,419	-$10,431

A big bet, but not unprecedented…

- Facebook's plans to invest tens of billions in the Metaverse makes it an expensive venture, by any standards, and there are some who suggest that it is unprecedented, especially in technology, which many view as a capital-light business. That perception, though, collides with reality, especially when you look at how much big tech companies have been willing to invest to enter new businesses, albeit with mixed results.
  - Microsoft invested $15 billion for its (very successful) entry in 2015 into Azure, its cloud business, and it has invested tens of billions in data centers since, expanding its reach.
  - Google, renamed itself Alphabet in 2015, in a well publicized effort to rebrand itself as more than just a search engine, and has invested tens of billions of dollars in its other businesses since, but with a payoff primarily in its cloud business, which generated $19.2 billion in revenues in 2021. Just to provide a measure of how its other bets are still lagging, Google generated only $753 million in revenues from its other businesses in 2021, almost unchanged from its revenues in 2019 and 2020.
  - Amazon has also invested tens of billions in its other businesses, with its biggest payoff coming in the cloud business (notice a pattern here). It has much less to show for its investments in Alexa and entertainment, and it is estimated to have lost $5 billion on its Alexa division in 2021 and spent $13 billion on new content for Amazon video.

The Missing Piece?

- Facebook's investment plans for the Metaverse represent a big bet, but it is not an unprecedented one, which raises the question of why investors have been less willing to cut it slack than they have for its large tech competitors.
  - One reason is timing, since markets are much more receptive to big growth investments, when times are good, as they were for much of the last decade, than in bad times, as much of 2022 has been.
  - The other is the story line that backs the investment. Fairly or otherwise, the big cloud investments that Microsoft, Google and Amazon made came with a story line of growth and profitability that investors bought into, and for the most part, the results have justified that view.
  - The more opaque investments, including Google's bets and Amazon's Alexa and prime video spending have been viewed more skeptically. The problem that most investors have with Facebook's Metaverse investment is that it is not just that the payoff is uncertain, but it is unclear what business the payoff will come from.
- After all, the Metaverse is a space (virtual), not a business, and to make money in that space, you need a business model, which can be built around advertising, subscriptions, transactions or hardware. In my view, Facebook has been lacking in providing a sense of direction on this front.

A Doomsday Scenario for Facebook

1. I used the company's actual operating income from its online advertising business from the last twelve months, weighed down as they are from a slowing economy and a stronger economy, and assumed no growth and a remaining life of 20 years for the business, with a zero liquidation value at the end of year 20.
2. I assumed that the company will continue to spend R&D at the same scorching rate that it set in the last twelve months, where it spent just over $32 billion on R&D, for the next 20 years.
3. I also assumed that not only will Facebook to lose $10 billion a year on the Metaverse, but that this will continue for the next 20 years, with no payoff in terms of increased revenues or earnings from its Metaverse investment.
4. I assume that Facebook falls is a risky company, falling at the 75th percentile of all US companies in terms of risk, and give it a cost of capital of 9%.

The resulting valuation

	Actual Numbers	*Without Reality Labs*	*Reality Labs: Value added*	*Explanation*
EBITR&D	$68,156	$78,587		EBITR&D with & without Reality Labs LTM loss
R&D	$32,613	$32,613		R&D expense in LTM
EBIT	$35,543	$45,974		Operating income with & without Reality Labs LTM loss
EBIT (1-t)	$26,657	$34,481		Used a 25% tax rate, higher than effective tax rate of
Expected Growth Rate	0%	0%		Expected annual growth rate in operating income
Cost of Capital	9%	9%		Cost of capital, based upon operating risk
Reinvestment Rate	0.00%	0.00%		Calculated based on growth rate & ROC of 25%
Number of years of life	20.00	20.00		Number of years before business ends
FCFF	$26,657	$34,481		EBIT (1 -t) (1- Reinvestment Rate)
Value of operating assets	**$243,342**	**$314,757**	**-$71,415**	PV of FCFF for life of the business
+ Cash	**$41,776**	**$41,776**		Cash on 9/30/22
- Debt	**$26,481**	**$26,481**		Debt due on 9/30/22
Value of equity	**$258,637**	**$330,052**	**-$71,415**	Value of equity
Market Cap (10/29/22)	$247,330	$330,052	**-$82,722**	
Market Cap (11/15/22)	$311,180	$330,052	**-$18,872**	

Following up..

- The market capitalization of Facebook on October 29, 2022 was \$247 billion, below the Doomsday scenario value, indicating that investors were, in fact, not giving credit to any possible upside from more than a \$100 billion invested in the Metaverse.
- The market capitalization has risen to \$311 billion as of November 15, 2022, and while that suggests a more positive perspective, that value still reflects a presumption that the Metaverse investment will destroy about \$18.9 billion of Facebook's value.
- In truth, using a more realistic growth rate (rather than zero) or lowering the cost of capital (from 9% to 8%, the median cost of capital for a US company) or extending the life of the company (from 20 years to a longer period) can only add value to Facebook, and you can experiment with your own inputs in the attached spreadsheet.

Turning the Trust Corner: Start with a business story for Metaverse

The Metaverse: Business Models

The Metaverse

Advertising
Extend the online advertising model that has worked so well for Facebook into the virtual world of the Metaverse, using data collected from users in the space.

Subscription
Charge the users of a Metaverse a subscription fee for inhabiting or entering sections of that world, either as the subscription-provider or as an intermediary for other subscription providers.

Gaming
Collect revenues from games that users play in the Metaverse, either directly by selling them the games or by collecting a portion of the revenues that gaming companies get when the games are played in the Facebook ecosystem.

Transactions
Allow the inhabitants of the Metaverse to buy products, either virtual or real, and make money of the transactions, either directly as the provider of these products or as a slice of revenues from those who do.

Hardware
Sell virtual reality glasses and other hardware to the denizens of the Metaverse, and claim the difference between revenues and the costs of making the hardware as profits.

And follow up with…

1. *Build in specifics into your investment story:* Facebook has been clear about its plans to invest billions in its new businesses, but rather than just emphasizing the total investment that it plans to make (roughly $100 billion), it would provide credibility if the company explained what the money is being spent on, and how it connects to the business story being told.
2. *With markers on operating payoffs:* I know that there are huge uncertainties overhanging these investments, but it would still make sense to give rough estimates of how you expect revenues and operating margins to evolve in the Metaverse investment, over time. That will give investors and managers targets to track, as the company delivers results, and feedback loops to make changes in the way future investments are made, if the results are not measuring up.
3. *And escape hatches, if things don't work out:* I believe that Facebook will be best served if they are open about the things that can go wrong with their Metaverse bet, and not only what they are doing to protect themselves, if it happens, but also exit plans, if they decide to walk away