Example RCA: Facebook Stock Losses

Problem Statement

Report Number	RCA-30-07-2018-363	**RCA Owner**	Chris Eckert
Report Date	7/27/2018	**RCA Facilitator**	Chris Eckert

Focal Point: Loss of Facebook Market Cap $150 billion (19%) in a single day

When

Start Date: 7/26/2018	End Date: 7/26/2018
Start Time: 9:00 AM	End Time: 4:00 PM
Unique Timing	After earnings and growth both failed to meet investor expectations

Where

Other	Facebook, Inc.

Actual Impact

Revenue	Decline in advertising revenue, decline in stock price	$150,000,000,000.00
		Actual Impact Total: $150,000,000,000.00
Frequency Note	Large drops in market capitalization happen periodically, although this was the largest.	

Potential Impact

Revenue	Advertisers could lose confidence, stock could continue to decline in value

Report Summaries

Executive Summary

READ THIS FIRST!!

We need to disclose that this EXAMPLE RCA is based upon publicly available information from a variety of sources (mostly newspaper articles) and not from any independent investigation conducted by Sologic. Sologic has not investigated this incident in any official capacity, and we do not want to imply that we were in any way associated with this event. The only purpose of this root cause analysis report is for it to be used as an example for our students and other interested parties.

A root cause analysis has two primary goals: 1) Organize a wide array of information from disparate, reliable sources in a way that makes it easier to understand, and 2) Identify a set of evidence-based solutions to present to decision makers.

We hope you find this valuable and interesting - please send any comments or questions to info@sologic.com

On Thursday, July 26th, 2018 Facebook lost nearly 19% of its valuation – a loss of nearly $150 billion dollars. This was the single largest one-day loss in value in history. Other large companies have also experienced astounding single-day losses. In 2000, Intel lost $91 billion in value. That same year, Microsoft lost $77 billion in value. And in 2013, Microsoft lost $77 billion in value. To put this into perspective, Facebook lost more in a single day than the total value of McDonalds, 3M, or Nike.

Conducting a root cause analysis of such a loss can be useful in trying to understand it because it gathers together information from a variety of sources. Setting up an RCA like this is best done with a simple “exceedance” cause pattern. An exceedance pattern is really just a math problem expressed in a logic diagram. It goes like this: “New Value” is caused by “Beginning Value” + “Ending Value.” In this case, the ending value was less than the beginning value, so the result is a negative value or a “loss.” In the Facebook example (follow along with the chart if you wish), the focal point is “Loss of Facebook Market Cap $150 billion (19%) in a single day.” The causes are “Value 7/25/2018 = $629.58 billion” and “Value 7/26/2018 = $510.00 billion.” This is a useful way to organize the analysis because it lets the team examine the causes of the original valuation as well as why the amount dropped so much in a single day.

Solutions

<u>Regain Trust:</u> There are no quick-fixes for this problem. Facebook has to do whatever it takes to regain the trust of its users, and it has to do so quickly. Most Facebook users find the platform valuable for keeping in touch with family and friends, and therefore it is “sticky.” But over time, if additional breaches of trust occur, the user base will continue to erode.

<u>Diversify Revenue:</u> Facebook must also diversify its revenue sources. Currently advertising provides the bulk of Facebook’s income. However, there is discussion of a subscription fee. The question is whether users would pay to use Facebook and, if so, how much? Companies like Amazon (Prime), Netflix, Microsoft (Office 365) have been able to build successful subscription revenue models. If Facebook was able to successfully move to a subscription model, they would diversify revenue streams and have another direct financial incentive to maintain the trust of users.

Cause and Effect Summary

Value 7/25/2018 = $629.58 billion

Market valuations are always the result of what happened in the past – in this case, buyers had bid up the value over time to $629.58 billion – and also what they expect will happen in the future. Facebook is, along with Google parent company Alphabet, Amazon, and Apple, one of the "trustworthy" tech firms. That means that shareholders had come to expect healthy growth with relatively low risk. Facebook's fundamental numbers looked good, and frankly, still do. However, nothing stays the same forever. The reporter Shira Ovide of Bloomberg speculates that perhaps Facebook leadership did not adequately flag impending warning signs to investors. Or perhaps they did, but investors did not pick up on it. Or maybe Facebook is actually being over-cautious – a tactic which hurts them in the short-term, but may help them beat expectations in the mid- to long-term. In any case, up until yesterday investors had confidence in the stock. So the price and subsequent valuation reflected their expectations.

Value 7/26/2018 = $510.00 billion

Everything changed in after-hours trading prior to the market open on 7/26/2018. A substantial number of shareholders decided to sell because of reports that earnings growth and growth in the number of users were both going to miss expectations. Facebook makes most of its money from advertising. Advertising revenue growth has tapered off recently, likely due to the slowing in growth of new users along with a greater unwillingness by Facebook to fully exploit its users for the purposes of advertising. Even though the number of users continued to grow, the rate of growth was lower than expected. It's hard to say exactly what is going on, although it's likely a combination of new potential users choosing different social media platforms along with an exodus of existing users. The availability of other social media networks along with a general loss in confidence in Facebook due to recent breaches in user trust led to the slowdown in user growth. Facebook also warned that expenses would be increasing due to security and privacy enhancements.

All of this represents sort of a vicious cycle. Users lose trust and therefore leave or never join, slowing the overall growth in usership. Advertisers see this and are less willing to spend money with Facebook. And, to offset the decline in trust, Facebook has to spend more money.

Loss of Trust:

If the service is free, then you are the product. This model only works though if you (the user) has sufficient faith in the service. The loss of trust is really at the heart of this problem. Too late, Facebook realized that it had provided a platform that was fertile ground for abuse. It allowed firms like Cambridge Analytica to access and exploit its users' data for insights into how to best influence USA politics. And it provided an environment for the propagation and dissemination of "fake news" – news that looks as though it has been properly researched, but has limited (or no) basis in fact. Facebook is not the only environment that is ripe for the proliferation of fake news – Twitter, You Tube, and others also provide such an environment. Fake news proliferates explosively because it is often unique in comparison to other news feed items and it's provocative in that it taps into strong-felt emotions. These two properties cause it to travel up to six times faster than actual news. Proliferators of fake news recognized this before social media platforms did and were able to exploit it to further their agendas. Facebook did not recognize the proliferation, or if they did, they did not respond to it in a timely and/or meaningful way.

Once evidence of the exploitation of user data and the proliferation of fake news became front-page headlines, trust in Facebook took a big hit. This waning trust resulted in a decline in new user growth, a decline in ad revenue, and increased expenses. This news came out explicitly during an investor conference call after markets closed on 7/25/2018. When they opened on 7/26/2018, the stock tanked.

Solutions

SO-0003	**Solution**	Regain the trust of existing and future users.		
	Cause(s)	Breach of user trust		
	Note	Facebook has to do whatever it takes to regain the trust of its users, and it has to do so quickly. Most Facebook users find the platform valuable for keeping in touch with family and friends, and therefore it is "sticky." But over time, if additional breaches of trust occur, the user base will continue to erode.		
	Assigned	Chris Eckert	**Criteria**	Passed
	Due	7/30/2018	**Status**	Approved
	Term	medium	**Cost**	
SO-0004	**Solution**	Diversify sources of revenue.		
	Cause(s)	Facebook revenue driven by advertising		
	Note	Currently advertising provides the bulk of Facebook's income. However, there is discussion of a subscription fee. The question is whether users would pay to use Facebook and, if so, how much? Companies like Amazon (Prime), Netflix, Microsoft (Office 365) have been able to build successful subscription revenue models. If Facebook was able to successfully move to a subscription model, they would diversify revenue streams and have another direct financial incentive to maintain the trust of users.		
	Assigned	Chris Eckert	**Criteria**	Passed
	Due	7/30/2018	**Status**	Approved
	Term	medium	**Cost**	

Team

Facilitator	**Owner**
Chris Eckert	Chris Eckert
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Example RCA: Facebook Stock Losses

Timezone: America/Los_Angeles

4/21/2010

Facebook Launches Open Graph

In April 2010, Facebook announced the launch of a platform called Open Graph to third-party apps. This update allowed external developers to reach out to Facebook users and request permission to access a large chunk of their personal data and, crucially, to access their Facebook friends' personal data too.

1/1/2013

'THISISYOURDIGITALLIFE'

Cambridge Analytica

Cambridge academic Aleksandr Kogan and his company Global Science Research created an app called "thisisyourdigitallife" in 2013. The app prompted users to answer questions for a psychological profile.

1/1/2014

Rule Changes

In 2014, Facebook adapted its rules to limit a developer's access to user data. This change was made to ensure a third-party was not able to access a user's friends' data without gaining permission first. However, the rule changes were not retroactively imposed and Kogan did not delete the data thought to have been improperly acquired.

12/10/2015
Ted Cruz

12/31/2015
Donald Trump

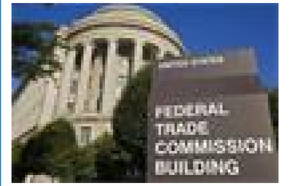
3/25/2018
March 25, 2018
'Sorry we didn't do more'

3/25/2018
April 10, 2018 Time to Testify

3/21/2018
March 21, 2018
Zuckerberg Breaks His Silence

3/20/2018

March 20, 2018 - FTC Launch Inquiry



The Federal Trade Commission (FTC) opened an investigation into whether Facebook had violated a settlement reached with the U.S. government agency in 2011 over user privacy protections. Meanwhile, U.S. lawmakers urged Zuckerberg to testify before Congress.

3/16/2018
March 17, 2018 - Expose

7/25/2018
Earnings Announcement

4/21/2010 | 1/1/2013 | 1/1/2014 | 12/10/2015 | 12/31/2015

March 17 | April 1 | April 16 | May 1 | May 16 | May 31 | June 15 | June 30 | July 15

March 2018 | April 2018 | May 2018 | June 2018


Loss of Facebook Market Cap $150 billion (19%) in a single day
Value 7/25/2018 = $629.58 Billion
Buyers bid up the price of Facebook stock to this level over time
Facebook past growth in earnings and users
END
Terminated because:
Other causal paths more productive
Tech stocks often return higher values compared to other stocks
END
Terminated because:
Other causal paths more productive
Assumptions that growth would continue
AND OR
Facebook one of the few large tech firms trusted by investors
Past gains resulted in high investor confidence
END
Terminated because:
Other causal paths more productive
Fundamentals look good - high growth in earnings, users, etc.
END
Terminated because:
Other causal paths more productive
Investors didn't take Facebook's hints seriously?
?
Facebook leaders did not adequately flag warning signs?
?
Value 7/26/2018 = $510.00 Billion
More sellers than buyers
Holders of stock wanted to sell
Belief Facebook stock was overvalued
Actual earnings growth missed projected earnings growth
Expected income growth lower than expected
Fewer advertisers willing to allocate budget to Facebook
Declining growth in users
Connects to:
a Events occurred which damaged user trust
Greater unwillingness by Facebook to fully exploit users for advertisers
Connects to:
b Trying to regain/maintain trust
Facebook revenue driven by advertising
END
Terminated because:
Other causal paths more productive
Solutions
Diversify sources of revenue.
Criteria Pass Status Approved
Currently advertising provides the bulk of Facebook s income. However, there is discussion of a subscription fee. The question is whether users would pay to use Facebook and, if so, how much? Companies like Amazon (Prime), Netflix, Microsoft (Office 365) have been able to build successful subscription revenue models. If Facebook was able to successfully move to a subscription model, they would diversify revenue streams and have another direct financial incentive to maintain the trust of users.
Expected expenses higher than expected
Spending on privacy, security, etc. increasing beyond expectations
b
Trying to regain/maintain trust
c
a
Events occurred which damaged user trust
Facebook-sanctioned use of data in a way that alarms users
Facebook willing to sell access to those looking to manipulate users
Facebook's business is finding ways of monetizing users
END
Terminated because:
Other causal paths more productive
Proliferation of "fake news"
Fake news travels up to six times faster than real news
It's novel - looks different than other items in feed
END
Terminated because:
Other causal paths more productive
It's provokes an emotional response
END
Terminated because:
Other causal paths more productive
News in most social media is automatically 'pushed' to users
END
Terminated because:
Other causal paths more productive
Fake news exists on Facebook, other social platforms
There are people whose agenda is furthered by fake news
END
Terminated because:
Other causal paths more productive
Social platforms do not do a good job at identifying/ removing
?
Social platforms under estimated the impact of fake news
END
Terminated because:
Other causal paths more productive
Facebook recognizes that trust is what drives # of users
END
Terminated because:
Other causal paths more productive
users drives advertising revenues
END
Terminated because:
Other causal paths more productive
No offsets in other expenses
END
Terminated because:
Other causal paths more productive
Actual user growth missed projected user growth
AND OR
Users nearing saturation?
1.5 billion daily users
END
Terminated because:
Other causal paths more productive
Limit to the number of people who value being a Facebook user
END
Terminated because:
Other causal paths more productive
New users choose other social media platforms
END
Terminated because:
Other causal paths more productive
Existing users left Facebook
Loss in confidence in Facebook
Breach of user trust
Connects to:
c Events occurred which damaged user trust
Solutions
Regain the trust of existing and future users.
Criteria Pass Status Approved
Facebook has to do whatever it takes to regain the trust of its users, and it has to do so quickly. Most Facebook users find the platform valuable for keeping in touch with family and friends, and therefore it is sticky. But over time, if additional breaches of trust occur, the user base will continue to erode.
Able to connect through other social media platforms
END
Terminated because:
Other causal paths more productive
Buyers hesitant to buy
Concern about valuation
END
Terminated because:
Other causal paths more productive
Don't want to buy before the bottom
END
Terminated because:
Other causal paths more productive
Price ultimately equalized at $510.00 Billion
END
Terminated because:
Other causal paths more productive