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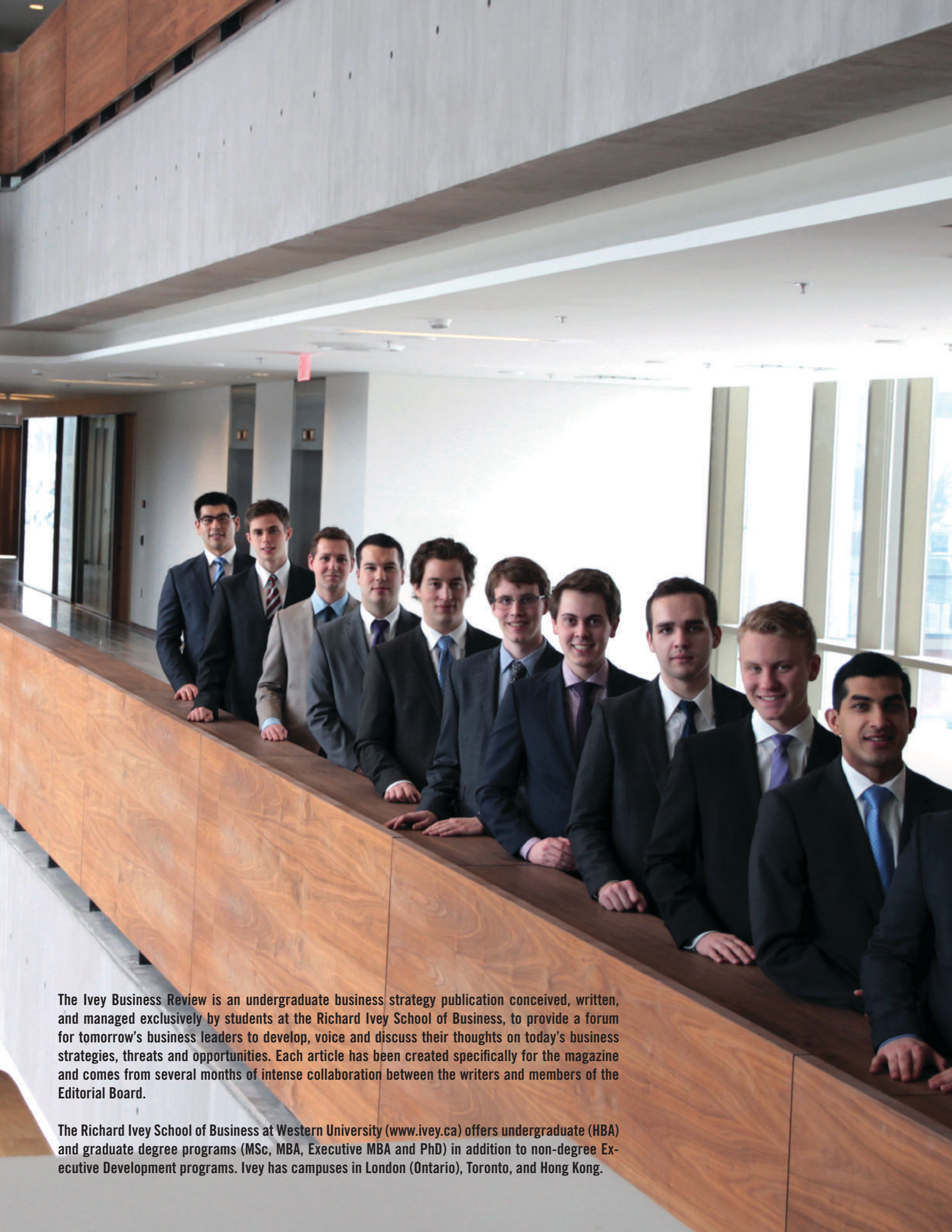
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The Ivey Business Review is an undergraduate business strategy publication conceived, written, and managed exclusively by students at the Richard Ivey School of Business, to provide a forum for tomorrow's business leaders to develop, voice and discuss their thoughts on today's business strategies, threats and opportunities. Each article has been created specifically for the magazine and comes from several months of intense collaboration between the writers and members of the Editorial Board.

The Richard Ivey School of Business at Western University (www.ivey.ca) offers undergraduate (HBA) and graduate degree programs (MSc, MBA, Executive MBA and PhD) in addition to non-degree Executive Development programs. Ivey has campuses in London (Ontario), Toronto, and Hong Kong.



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FROM THE EDITORS

As the pace of technological and societal change has accelerated, so too have the forces of creative destruction and rebirth. For much of modern history, businesses were insulated from many of the dangers of poor management and decision making: customers picked brands for life, competitors moved cautiously and investors held their shares for years.

Today, business empires can be built in only a few years and destroyed by a single, unforeseen usurper. Three years after the launch of Facebook, The Guardian famously asked “Will MySpace ever lose its monopoly?” Technology companies are not the only businesses vulnerable to this accelerating cycle of disruption. After 100 years in business, F.W. Woolworth became the largest retailer in the world in 1979. Only a few holiday seasons later, it lost this title to an even older company, Sears. Within a decade, Walmart, which opened its first store fewer than 25 years earlier, used its IT mastery to supplant them both. Today, Walmart’s revenue exceeds Sears’ by close to 11 times and only one part of Woolworth’s still exists, its shoe department, Foot Locker.

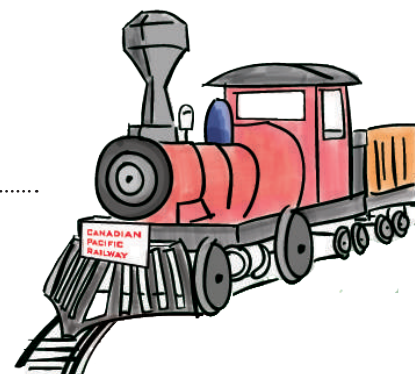
As you read this issue, which discusses topics from smartphone betrayal, to the rise of the “share economy” and the opportunity for commercial Unmanned Aerial Vehicles, you’ll realize no company is immune to the pressure to rapidly adapt their strategies and redefine their business model.

With this in mind, we hope you enjoy and debate this issue, for the only consensus about ‘tomorrow’ is that it will be more challenging than today.

Sincerely,

- The Editorial Board

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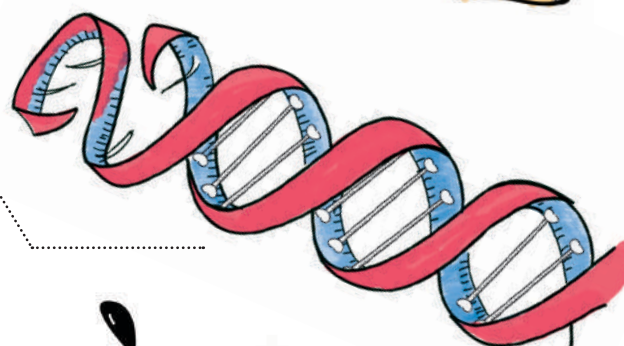


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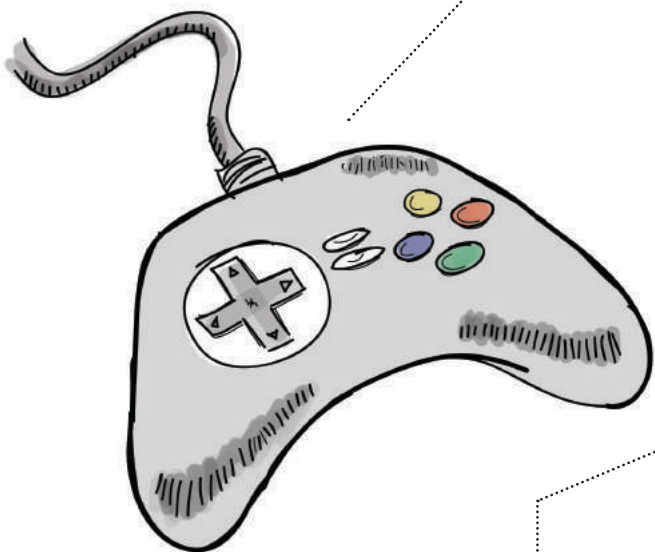


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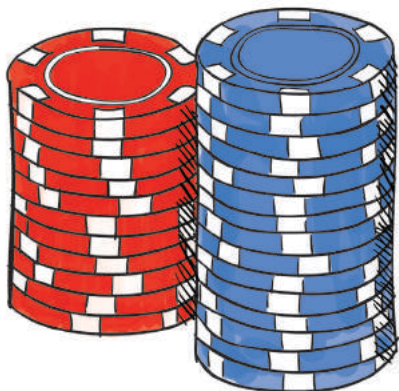
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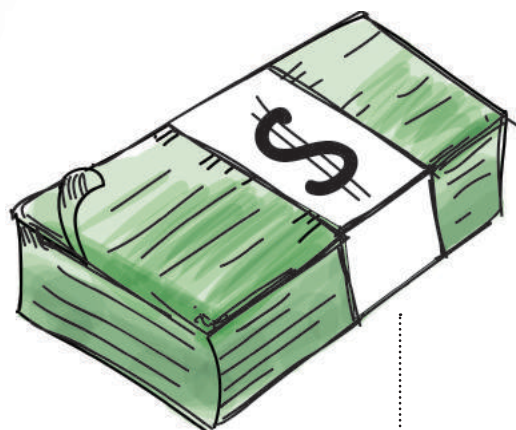
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DAVID O'BRIEN

IBR talks with a Canadian business legend, as he reflects on his distinguished career.

Conducted by Michael Zawalsky and Andrew Cornhill

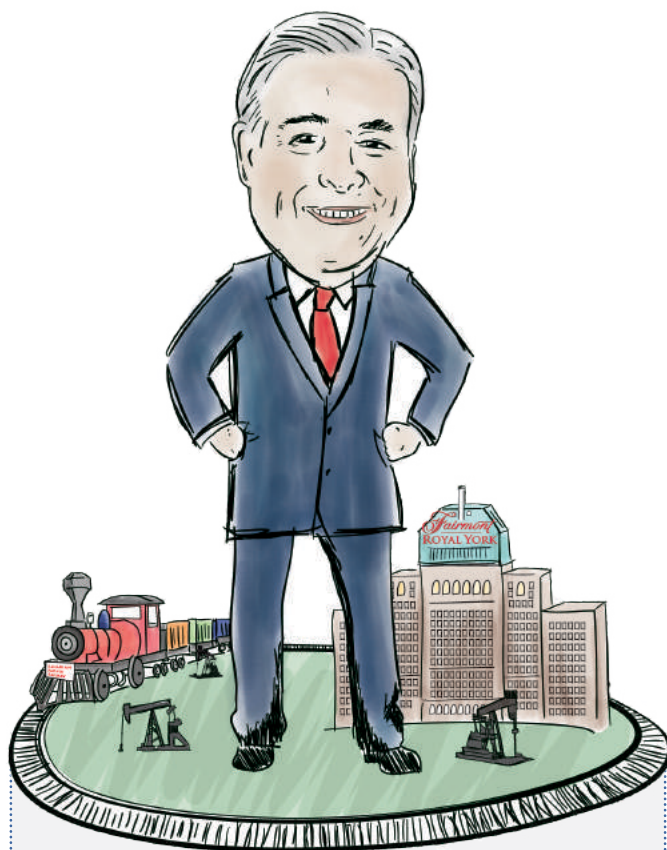
IBR: Having recently hit retirement age at TransCanada, what are your thoughts on set retirement age policies for board members?

DOB: My view is that you must have a retirement age; I think it is good for renewal of the board, but it's a difficult issue. The world is changing, people are living much longer and CEOs now can rarely take on more than one board, which wasn't always the case. Consequently, it has become harder and harder to find experienced board members. On the other hand, what has happened in two cases with me is I've gone past the age of retirement requested by the board, at both Encana (due to special circumstances) and the Royal Bank of Canada.

I think it's important to have a retirement age because it is difficult to turnover a board if you don't, but you need flexibility to allow for circumstances where you may want to keep someone on beyond normal retirement. For instance, at TransCanada, I suggested to them that if they were recruiting someone new who was 65 or older, they give them a seven-year run on the board regardless of age so they would have a meaningful time to participate.

IBR: Have you given any thought to the succession planning for the Chairman role and the timeline for your retirement from Encana?

DOB: Yes, I had it all set. I was going to step down at the Annual Meeting coming up in April. I have been Chair of Encana and predecessor companies for 20 years starting with my role as CEO at PanCanadian Energy. I've done this a long time; I don't need to do it any longer. I had persuaded my friend Clayton Woitas that he should replace me as Chairman at the Annual Meeting. Then, as you know, Clayton went in as Interim CEO, so I will stay on while we conduct a search for a CEO and when Clayton is freed up from his interim role he will step in as Chairman.



David P. O'Brien, OC
Chairman of Encana and RBC

In 1996, David O'Brien was named Chairman, President and CEO of Canadian Pacific Ltd., having previously served as CP's Chief Operating Officer, as well as CEO of the company's petroleum arm.

As CEO of the \$14B conglomerate, Mr. O'Brien led the company through a period of considerable change, during which it was split into five separate businesses, including CP Rail, Fairmont Hotels & Resorts and the present-day Encana. Though the proposal put an end to the historic 120-year-old company, it was supported by 98% of shareholders and is believed to have unlocked more than 30% in shareholder value.

Mr. O'Brien currently serves as Chairman of Encana and the Royal Bank of Canada and is a board member at Enerplus, Range Royalty, and Spur Resources. In addition, he has previously held Director roles at the C.D. Howe Institute, Fairmont Hotels & Resorts, Inco, Molson Coors and TransCanada and was the Chancellor of Concordia University from 2006 – 2010.

Mr. O'Brien earned a B.A. (Honors Economics) from Loyola College and a Bachelor of Civil Law degree from McGill University. In 2009, he was named an officer of the Order of Canada.

IBR: Speaking of CEOs, how do boards think about succession planning for, and motivation of, long-serving CEOs?

DOB: So much depends on the person. For example, Gord Nixon at the Royal Bank came to the CEO role at a very young age (I think he was about 43 at the time). He's been there almost 12 years now, but he's still very energetic and everything seems to be going right for the Bank right now. It's not really a problem for us. The only issue is that at some point you get tired in the job – and Gord may come to that even though he's a younger guy – so boards have to be ready with succession planning. We spend a fair amount of time on that; we have potential successors identified, and we give them the experiences they require so when Gord says it's time to go, we're ready.

IBR: What role do you think the CEO should take in their succession planning?

DOB: So much of it is dependent on quality. If you're not happy with the performance of the CEO, then you really don't want a lot of input about who they think should succeed them. If they are a very good CEO, like Gord Nixon is, then absolutely.

In most circumstances, it's preferable to choose an internal candidate because of cultural fit and knowledge of the company. An outside hire is generally riskier, but becomes necessary when there are no qualified internal candidates and/or the company needs a major fix or a culture change.

IBR: You have served quite successfully in the roles of CEO, Board Member, and Chairman over the years. What do you view as the most challenging situation you've faced, and why was it so challenging?

DOB: I think the most challenging thing that ever hit me in business was sometime after I became the CEO of Canadian Pacific – which, as you know, was a conglomerate comprised of about six different businesses – when it became apparent to me within about two years of being in the role that the conglomerate format was not going to survive in the long-term.

So, I looked at the businesses, and I said “what I have to do is get each of the businesses strong enough to be able to be independent, freestanding companies in the public market.” The pressure was starting to grow because CP was facing shareholder discontent over the conglomerate discount in the marketplace, so I had to play for time. It took three years or so to make sure each of the companies

was in strong enough shape to stand independently. When I had arrived at CP, four of the six had no chance of being an independent public company.

By the time we got to the “starburst”, all the companies did reasonably well. Some were acquired, but shareholders had a huge double-win: the conglomerate discount disappeared, and additionally some of the companies got taken over at very healthy premiums. Looking back, people made enormous sums of money from it. People think the challenge was the split, but that was easy – getting the companies ready for it was the challenge.

“PEOPLE THINK THE CHALLENGE WAS THE SPLIT, BUT THAT WAS EASY - GETTING THE COMPANIES READY FOR IT WAS THE CHALLENGE.”

IBR: Could you speak to the specific tactics you used with public market investors to buy yourself time to dis-aggregate CP?

DOB: We narrowed the focus of CP by selling Marathon Realty in 1996 and later selling our billion-dollar investment in Laidlaw. We accelerated the pace of improvement at the remaining companies so that CP, as a whole was performing better (net income in 2000 was \$1.8 billion vs. a net loss in 1995). With these initiatives, the street was somewhat pacified allowing us to choose our own timing.

IBR: Recently, shareholder activism seems to be forming as a theme in Canadian Business. How would you characterize the shift in dynamics between shareholders and boards?

DOB: Generally, I think it's not a bad thing. I would call some boards somnolent in the sense that they are there and they do their job, but they aren't driving the company forward. When that happens and it's apparent for a considerable period of time, having an outside activist shareholder isn't always a bad thing. When I was running CP over 10 years ago, I felt pressure from the shareholders on the conglomerate discount. Shareholders in the last 20 years have become much more strident in terms of what they want, and boards have generally become much more engaged.

However, there are different kinds of activist investors. There are some who are actually trying to improve the company, and they bring new ideas and work with management to implement. I would have to say that seems to

be the case with the CP Rail/Pershing proxy battle. There are others that look for a chance to make a quick buck on the market by putting a bid in; I would put someone like Carl Icahn in that category. He has no intention of running the business. He identifies what he views as an undervalued company, makes a bid, and looks for someone else to take him out. That is what happened with Fairmont Hotels.

IBR: Governments are a more significant force on corporations than activist investors. Have you seen regulatory changes that significantly altered the strategy of a company you represent?

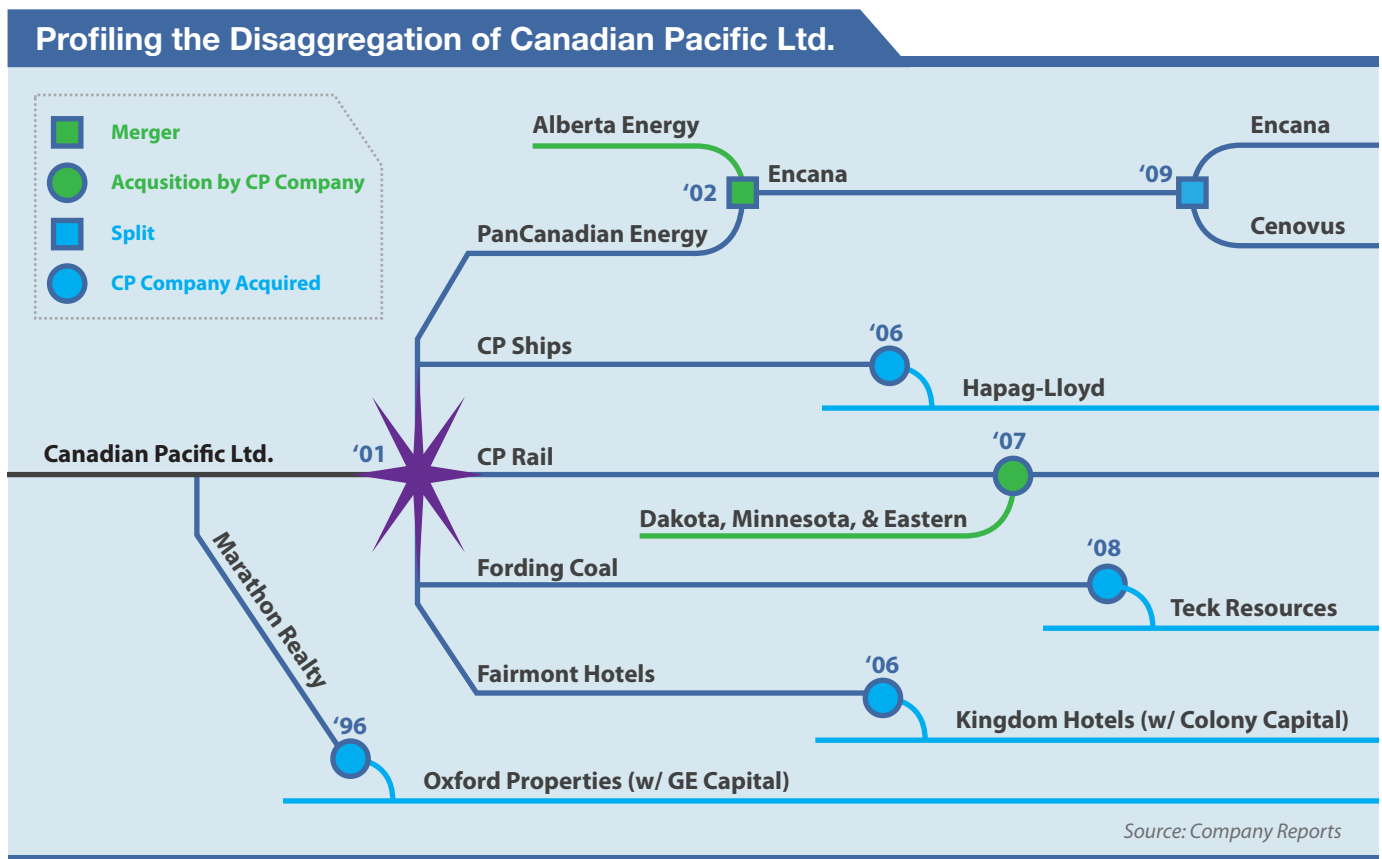
DOB: I've seen this expressed in several ways. For instance, the change in taxation of income trusts made the high payout model much more difficult and companies are forced to reinvent themselves in a growth and income model where the payout is lower. In the banking industry, new regulation since the banking crisis has imposed high-

er capital requirements on some businesses with a view to reducing risk, but in turn this reduces return on capital.

IBR: Do you think that government should intervene and stop the take-over of Canadian national champions like Encana?

DOB: This is a difficult question when you look at a company like Encana: it is Canada's biggest natural gas company. I think it would be unfortunate if too many Canadian companies in Calgary become subsidiaries of foreign companies because you lose a lot in the process. When people are here and are members of the community, they support the community in different ways. The vitality of the community is different when you compare head offices versus branch offices.

I think there is a place for national champions; the difficulty is determining who gets protected. We saw how the politics in Saskatchewan played out with Potash Corp. On



The Disaggregation of Canadian Pacific

Canadian Pacific was formed in 1881 with the goal of connecting Canada from East to West. While originally conceived as a railway company, it diversified into hotels, real estate, trucking, airlines, energy and mining, and shipping to support its main business operations.

By the early to mid nineties Canadian Pacific was suffering anywhere from a 10-30% conglomerate discount. Then CEO, David O'Brien readied all CP businesses for spin-off into five companies from 1996 to 2001 (it's real estate division was sold in 1996). This sudden disaggregation was termed the "starburst". The split-up was announced in February 2001 and was completed October the same year.

the other hand, you need some pressure on performance. It's a tradeoff and you can't start protecting everyone. In many jurisdictions, they simply don't allow their biggest companies to get taken over. It's a fight between efficient capital markets and having national champions; there is no perfect answer. The way that we have tried to deal with it at Encana, at least to date, is by bringing in joint venture partners in major projects so that they participate with us – they bring their capital, but don't take us over.

IBR: In hindsight, given the collapse of natural gas prices, do you think that the spinoff of Cenovus from Encana was the right call?

DOB: Well, had I known that natural gas prices were going to go from \$7-8 down to \$2, I would have thought hard about it. After the split, people ended up with two pieces of paper, and my guess is those two pieces of paper combined today would be worth more than if we had not split up. There are two reasons for this: before the split, Encana would go on the road trying to sell natural gas to investors and we would get all kinds of questions about our oilsands holdings – which distracted from our narrative. Also, we were viewed as a natural gas company, and the oilsands got lost in the shuffle when we were all together. We thought, “this is a good time to go and split the company.” Things turned out not as well in the short-term because of what's happened to natural gas prices.

IBR: Has there ever been a time where you felt that you over or under reacted to changes in the oil patch in North America?

DOB: Yes. I under reacted as the Chairman of Encana in 2010 to the coming glut of natural gas. Two things deceived me. First, I was focused on how well we were doing. All of a sudden we had our 10 trillion cubic feet (Tcf) of gas grow to 100 and we were just rubbing our hands thinking, “isn't this wonderful?” I failed to fully appreciate that the same thing was happening to other producers, and the impact on the overall market.

I was also deceived by the fact that we were good at hedging. Even though the prices were coming down, we had hedged 50% of our production for three years out, which gave me comfort that even if there was a glut, maybe it would reverse itself and we would be okay. I just didn't realize how severe the glut could become and that we were running out of hedges. I under reacted to a change in circumstances of monumental proportions.

IBR: There is a disruptive shift in banking with non-financial institutions such as Rogers or Wal-Mart creeping into the market. How do you see RBC responding to the threats of these non-traditional players?

DOB: We are very active now in the e-Wallet idea and we've had conversations with various technology and telecommunication companies such as Bell and Rogers. In the future, I think most of the solutions are going to be combined with a telecom. It's certainly an area in which you don't want to be disintermediated - so we're about to launch some products to prevent that.

“ALL THE ANALYSTS WERE SAYING THEY DIDN'T LIKE OUR CAPITAL MARKETS... NOW WE'RE THE SHINY BOY ON THE MOUNTAIN.”

IBR: RBC is a conglomerate in a fashion, comprised of many business units. Would the Board consider spinning-off a group that investors have expressed concerns about, like RBC Capital Markets?

DOB: We think that Capital Markets is an essential ingredient to our service to our clients – and there are different pieces to capital markets. For instance, investment banking and M&A are healthy, essential services. With trading, a lot of it is pretty straightforward: its interest rate swaps, foreign exchange and fixed income trading. All of these, in our view, are very important ingredients of what we call the “universal bank” - the ability to provide all the services. What we have done though, is de-risked our Capital Markets group by getting away from some of the more esoteric products: the structured credit products, where there was too much potential high-impact tail risk.

In 2011 and 2012, all the analysts were saying they didn't like our Capital Markets because they couldn't predict its earnings well, and the truth is you can't. But now, Capital Markets is humming again. We are doing well and our stock price has gone up; we've hit \$90B market cap and now we're the shiny boy on the mountain.

FOR MORE FROM DAVID O'BRIEN:
www.iveybusinessreview.ca



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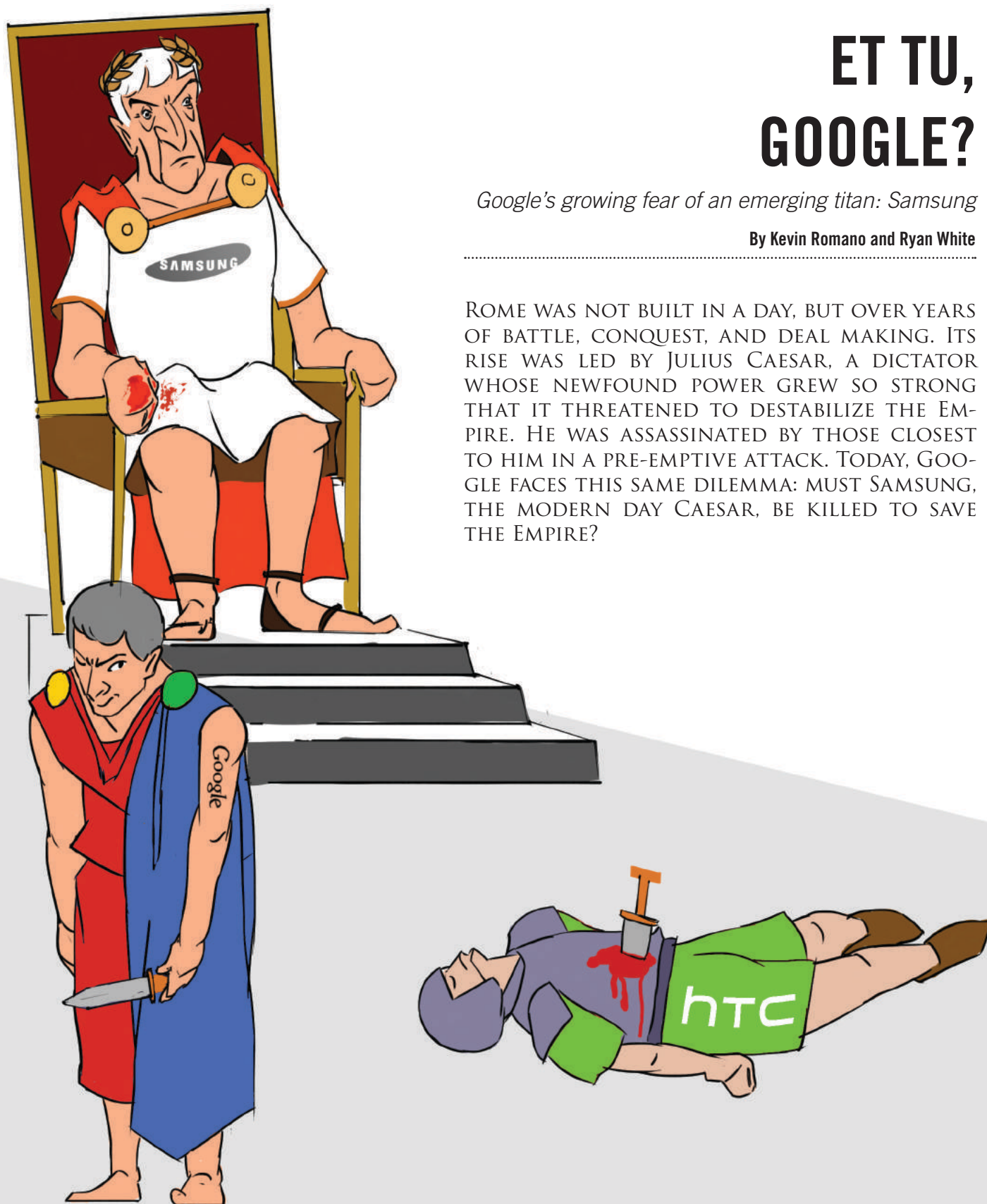
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ET TU, GOOGLE?

Google's growing fear of an emerging titan: Samsung

By Kevin Romano and Ryan White

ROME WAS NOT BUILT IN A DAY, BUT OVER YEARS OF BATTLE, CONQUEST, AND DEAL MAKING. ITS RISE WAS LED BY JULIUS CAESAR, A DICTATOR WHOSE NEWFOUND POWER GREW SO STRONG THAT IT THREATENED TO DESTABILIZE THE EMPIRE. HE WAS ASSASSINATED BY THOSE CLOSEST TO HIM IN A PRE-EMPTIVE ATTACK. TODAY, GOOGLE FACES THIS SAME DILEMMA: MUST SAMSUNG, THE MODERN DAY CAESAR, BE KILLED TO SAVE THE EMPIRE?



In 2007, Google founded the Open Handset Alliance (OHA), a group of 34 companies, including HTC, LG, Sony, Motorola, and Samsung, to “accelerate innovation in mobile and offer consumers a richer, less expensive, and better mobile experience.” At the heart of this consortium would be Android, a jointly-developed operating system (OS) that would be free to all members to use, customize, and contribute towards. The success and growth of Android has been staggering, yet the spoils of this growth have not been equally shared.

During the 2012 holiday shopping season, Samsung controlled an astounding 98.5% of operating profit among Android device manufacturers. Not only has awareness of its Galaxy brand eclipsed that of Android itself, but as hard as it is to believe, Samsung makes more profit from Android smartphones than Google does as a whole. Even HTC – Android’s second largest vendor and maker of the platform’s first handset – has seen operating margins tumble to 1% and its market share drop by 80% since 2011. To make matters worse, Samsung has recently begun removing any association to Android, choosing to brand its phones as “SAFE,” or Samsung for Enterprise. Many suspect the company will soon transition away from operating purely on the Android platform, as marketing Galaxy devices to enterprise consumers is difficult when the smartphone runs on an OS susceptible to hacking.

Gone are the days of Android versus iPhone. Today, it’s Samsung versus Apple. The Samsung brand has now surpassed the

Android brand in consumer mindshare. While consumers used to buy Samsung devices because they were running the Android OS, they now purchase them for the Galaxy brand name.

Google’s mobile data collection pipeline has transitioned from being supplied by a wide range of OHA members to overdependence upon Apple and Samsung. At its core, Google is still a data company; it gathers, analyzes, and monetizes data like no other firm, so this perilous source of mobile data is worrisome. Given 90% of the world’s data has been created in the past two years – largely due to the proliferation of smartphones – the loss of a stable data source would have serious repercussions for the search giant. Android remains Google’s mechanism to capitalize on data flow, but should Samsung flee the ecosystem, Google’s core business will be at risk.

A Man Amongst Giants?

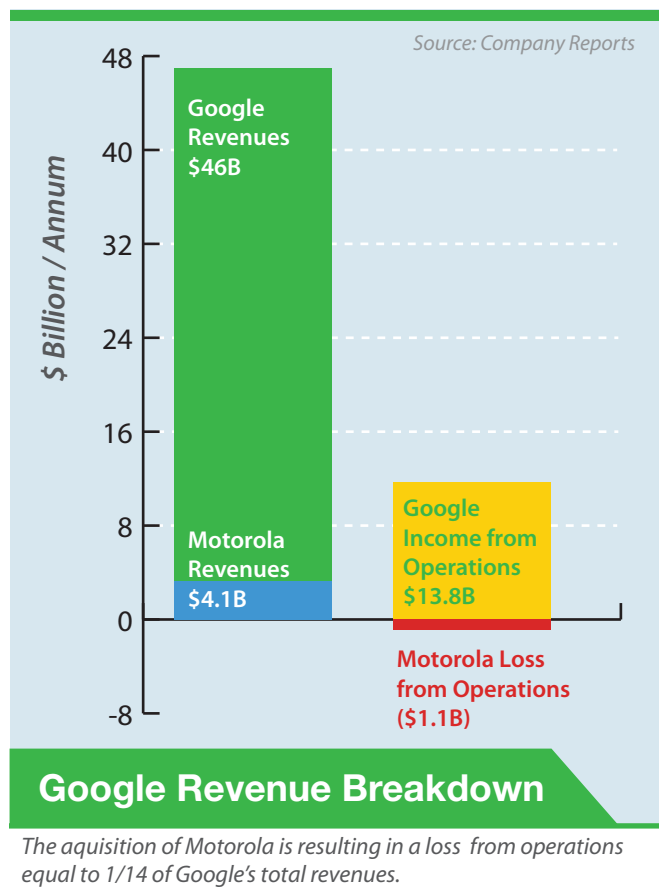
Google’s mobile data flow is dependent on two channels: the use of the Android OS and its affiliated applications, and the use of Google as a default mobile search option. Apple and Samsung exert significant control over this information stream; combined, the two companies account for 69% of the smartphone market and 106% of industry profit (when taking into account losses incurred by other manufacturers). Should either of these companies shut out Google, its data pipeline would quickly dry up.

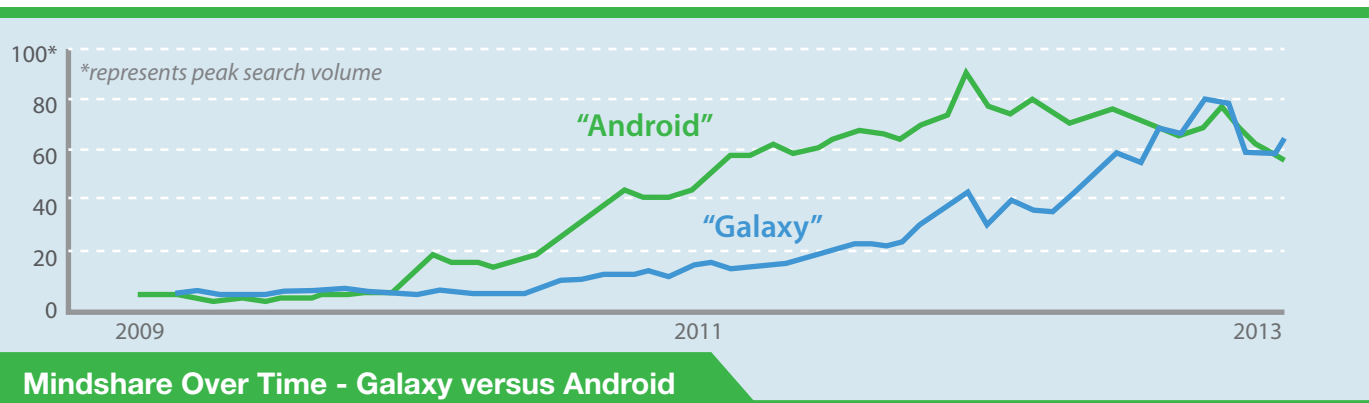
Apple

The feud between Apple and Google has been well documented. Google cannot afford to lose iPhone users, as they generate Google four times more revenue despite being three times fewer than all Android users combined. Google even pays Apple a yearly fee of \$1B to remain the default search provider on iOS. However, Apple keeps inching further and further away. First, it attempted to switch from Google Maps to Apple Maps. Then, in 2012, there was the glaring omission of a preloaded YouTube app on iOS 6 devices. Most notably, Siri’s direct attack on Google’s search business. By accessing specific databases directly, Siri bypasses Google from the search market, thereby threatening Google’s main revenue source. As this relationship becomes even more strained, Google must think proactively about a world where accessing data through, its largest customer, Apple becomes increasingly unpredictable.

Samsung

At first glance, the Samsung relationship appears to be much stronger. Samsung uses Android across a suite of product lines, while its powerful market position drives Google’s data collection. Yet there are concerning signs about the future of the Google-Samsung relationship. Samsung has plans to use other OSs on its high-end smartphones including the Linux-based Tizen, an OS developed in part by Samsung. With a planned August release date, this non-Android Samsung phone has just been re-





Mindshare Over Time - Galaxy versus Android

Google search interest over time in the US - Samsung's Galaxy rising in share versus Google's Android.

Source: Google Trends

leased to app developers and is expected to compete in the same high-end space as the Galaxy and iPhone lines.

More recently, to combat Android's weak security and its susceptibility to hacking, Samsung created the Knox security system to be part of its SAFE platform. The Knox system helps alleviate the fear of hacking and makes Samsung devices more attractive to enterprise customers. Although this feature will increase sales of the Android platform, it only accrues value to Samsung, at the direct expense of Google. The development of proprietary software like Knox is a further step away from Android to a completely independent Samsung OS.

Samsung's March 14th launch of the Galaxy S4 provides the most telling glimpse into the future Google-Samsung relationship. Not only did Samsung release a suite of Samsung specific software like S-Voice, S-Translator, and a Samsung Apps store (replacing functionality currently offered by Google), but at no point during the grandiose release was Google even mentioned as a strategic partner.

High-end smartphones are vital to Samsung. The Korean firm's handset operating margins sit at approximately 20%, but earnings are heavily skewed towards its flagship devices. The Galaxy line earns 35% margins, while mid-to-low market phones yield margins of only 1-2%. Equally important are the spillover effects from being a smartphone leader. Samsung depends on the brand power gained from the Galaxy line to market and position its other product lines.

History Repeats Itself

Industry consensus suggests Samsung is going to "fork" the Android OS. Forking is a term used to describe when one firm takes an open software platform (such as Android), changes the original code, and adds its own proprietary software on top, effectively creating a new distinct piece of software. The notion of Samsung forking Android should not come as news to Google; the internet giant faced a near identical situation in 2011 with the Kindle Fire and failed to make any strategic pre-emptive moves.

When Amazon first released the Kindle Fire, it operated on the Android platform. Amazon, however, had no plans to continue using Android and chose to revamp the software to its own specifications. Many Google offerings and services were removed from the tablet, taking with them a valuable source of data. The Kindle Fire now represents 8% of total US tablet market share and has a user base three times greater than any Android tablet; despite this, Google is unable to capitalize on any data from this consumer base.

Google's Future in the Mobile Industry

Google needs to build a defense to maintain its position in the mobile market should Samsung decide to fork Android. The 2012 acquisition of Motorola provides a perfect hardware partner to build a high-end Google branded phone that can compete against the S4. Rumors of a Motorola X Phone suggest a phone is in the works that gives consumers the ability to customize their hardware. It is rumored to offer integration with Google's wearable computing offerings, namely Google Glass.

In order to effectively compete with Apple and Samsung in the mainstream market Google will need to target the average consumer, which represents a departure from Google's historical focus. Consequently, Motorola branding and specifications that appeal to the "techie" market over the average consumer is not the path Google should be taking. Given Google has far greater brand appeal than Motorola, this new phone should deemphasize Motorola's involvement despite its back end work. The new phone should be branded strictly as the "Chrome Phone" to play up the anticipated future convergence of Android OS and Chrome OS.

Highlighting specifications that appeal mostly to tech conscious consumers will not accomplish Google's ultimate goal of securing a reliable mobile data pipeline. The Chrome Phone will replace the Nexus line, whose reputation as a "developer phone" and lack of full Google branding limits its mass market appeal.

A key success factor in the mobile industry is having one flagship device. Where Samsung has the Galaxy line and Apple has the iPhone, Google will now have the Chrome Phone. A mar-

keting budget of \$1.5B should be dedicated to the release, which exceeds the Galaxy S3's \$1.1B budget and approaches the S4's anticipated budget. Such a large budget is vital to building hype in the competitive hardware market, and given that consumers are not accustomed to Google hardware, a large effort will be needed to encourage early adoption. Several phones with top-tier specifications have failed to meet sales targets due to unaggressive marketing campaigns, most notably the HTC One X. A \$1.5B campaign from Google will help prevent these previous issues.

Since Google's primary focus is ensuring a pipeline of data collection, the Chrome Phone should be sold at a discount to the iPhone and Galaxy lines. Unlike other phone manufacturers, Google is able to make money off data collection in addition to hardware markup. By entering the high-end market at a mid-level price point, Google immediately establishes itself as a formidable competitor who can subsidize smartphone sales through data monetization. A mid-level price point also conforms to Google's desire for openness and accessibility in the future of mobile.

Although Google can trace its mobile history back to the founding of OHA, it must realize how dramatically times have changed from 2007. Other than Samsung, OHA is composed of what are now fringe players in the smartphone market. These fringe players – LG, HTC, Sony and the like – will not be pleased about the introduction of a Google branded competing device. But these competitors are effectively powerless

and cannot offer any substantial pushback. Ceding to the wishes of these irrelevant players by not aggressively marketing the Chrome Phone's launch would only serve to further expose Google to the threat of a Samsung fork.

In the long term, the Chrome Phone must drive integration across Google platforms. The Chrome Phone can serve as the focal point from which consumers utilize Google's services and future hardware. Despite having a suite that includes smartphones, tablets, Google TV, Chrome OS, and Google Glass, Google users do not exhibit the same motivation to remain within the ecosystem as Apple users do. Google has not controlled this ecosystem in the past, allowing hardware manufacturers to put their own tweaks on Google software, thus preventing seamless integration. Google must now use its increased power through the introduction of Chrome Phone to ensure the ecosystem is properly maintained. By doing so, Google can prevent similar vulnerabilities from reoccurring.

Failing to take proactive action has burnt Google before. As Samsung grows to capture an even greater mindshare of consumers and the Android market, the steady stream of data Google is collecting becomes increasingly vulnerable. It's time to take an asset that is bleeding money – Motorola – and put it to work .

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BOLLYWOOD

FROM POPCORN TO SAMOSAS

How Warner Brothers can successfully re-enter the Indian film industry

By Shelly Bajaj and Sean Bandyopadhyay

On February 1st, 2010, a seemingly unknown man made his way through a crowd of spectators to ring the opening bell at NASDAQ to promote his new film. Even when featured on CNN after the event, few outside of his home country would recognize him as a man equally influential as any of the titans of Hollywood. His name is Shahrukh Khan and, as Bollywood's favorite son, he is quietly among the most powerful people in film.

The unmatched fan following enjoyed by Khan and his co-actors in Bollywood has changed the Indian movie industry from a beloved cultural institution into a global brand and booming business. While the rest of the global movie industry is expected to grow by a meager 3.1% by 2016, the Indian market is surging: with 11.5% projected annual growth, 3 billion yearly admissions, and revenues reaching \$3.6B by 2017. All this comes as the global film industry's core markets are becoming less attractive due to tighter regulation and cost pressures.

But even if the Indian film business presents a tantalizing opportunity, sustained success for a number of Hollywood's studios remains elusive. There is no better example than Warner Bros (WB), one of the most storied and influential studios in Hollywood. The company first ventured into Indian film in 2009 when they partnered with an unsuccessful Indian production company and suffered a loss of approximately \$6M. Although the loss is small, WB has ever since been reluctant to venture into any further Indian productions, instead choosing to simply distribute their Hollywood productions in India. However, with India's rising middle class and widening distri-

bution of films, the possibilities seem endless for Hollywood's deep-pocketed giant.

Currently the biggest box-office markets in the world after the US are China, Japan, France, the UK, and India. While Hollywood has taken advantage of China's rapidly growing movie industry, the expansion has been highly regulated by the Chinese government. The government-backed French movie industry, on the other hand, faces exorbitant expenses due to rising costs including fees guaranteed to stars, producers, and directors. The end result is often unprofitable movies.

WB's active presence in the Japanese movie industry and its close association with the British industry – where it continues to grow through acquisitions of facilities such as the Leavesden Studios – leaves India as the next frontier for the company's growth.

Breaking down Bollywood

The Indian movie industry is segmented into different sectors based on the language the movie is produced in. Bollywood is the largest and most popular segment comprising of movies made in Hindi. Recent years have seen the Indian movie industry experience high growth, demonstrated by movies setting new box-office records year after year. The "100CR Club", the current benchmark of box-office performance of movies in India, refers to movies that generate revenue more than 100CR (\$20M). In 2011, while only five movies entered this coveted club, 2012 saw the addition of nine more, bringing the cumulative total to 18. At an average ticket price of INR100 (\$2), less

than 1% of India's population have watched a "100 CR Club" movie, indicating the significant potential for growth in the Indian movie industry. Experts already predict that the future industry benchmark will be a "200CR Club."

With a CAGR of 11%, the South Indian movie industry primarily caters to the 135 million Tamil and Telugu speakers of India. This industry has been a fast-growing subset which will grow to revenues of \$662M by 2016. There have been numerous collaborations between Bollywood and the South, where content is shared between filmmakers to remake successful regional movies into Hindi and vice versa. In fact, five out of the 18 movies that have entered the "100CR Club" have been remakes of regional movies.

Show Me the Rupees!

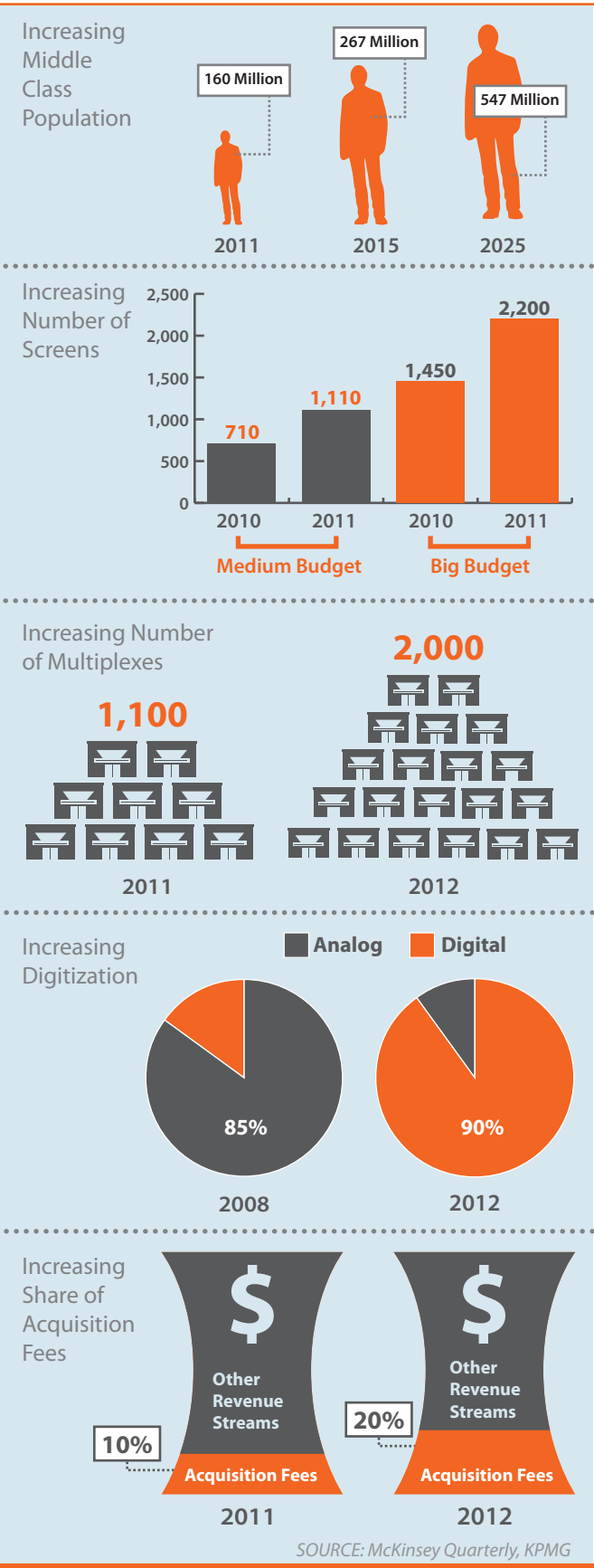
A major factor driving the lucrative movie industry is the growing middle-class population of India whom, on average, earn roughly \$13,000 annually. Between 2006 and 2011, consumer market spending nearly doubled from \$549B to \$1.06T. Moreover, a recent report from McKinsey Quarterly stated that India's middle class population is expected to grow from 5% of the total population to 40% by 2025, creating the world's fifth largest consumer market. The film industry has been able to capitalize on the increasing willingness of the middle class to spend their disposable income on movies, translating this new trend into bankable profits.

Revenues for Indian movies break down into four major subsets: domestic theatrical, international theatrical, home-video, and cable and satellite rights. While the home-video market has been diminishing, domestic and international theatrical revenues have surged due to widening distribution and double-digit industry growth. From 2010 to 2011, the number of domestic and international screens for medium and big-budget movies more than doubled per release. This expansion exemplifies the increasing demand for Hindi, Tamil, and Telugu movies. Digitization is also contributing to wider distribution. Compared to analog prints, digital prints are much cheaper and allow production companies to add or decrease screens to movie theatres in real-time. Moreover, digitization promotes wider releases of low-budget movies, which traditionally have had more narrow releases. Digital prints allow producers to show their movies in theatres throughout India, an opportunity that did not exist before.

Another factor driving growth is the increasing number of multiplexes in the country. These modernized, digital theatres represent only 15% of total screens in India, but account for over a third of all domestic box-office revenues due to their higher ticket prices. The higher prices can be attributed to the increasing disposable income of India's middle class population. The number of overall multiplexes is expected to grow to 2000 by 2016. Furthermore, acquisition fees to broadcast movies on television channels grew at a rate of 20% from 2011 to 2012. Such

Bollywood by the Numbers

A portrait of India's film industry fundamentals



high acquisition fees have led to producers recovering 40-80% of their investment costs even before theatrical release.

WB's Indian Options

There are four ways WB can approach the prospering Indian opportunity: partnering with an Indian production house, establishing a green field investment, pursuing an acquisition, or licensing.

Hollywood giant 20th Century Fox has already set their base in India by partnering with Star India, an Indian media and entertainment company. The jointly created production house - Fox Star Studios - has concentrated mostly on expanding their distribution network. With the increasing influence of Western culture in India, Fox Star has been able to successfully distribute popular Hollywood flicks. They have also churned out two of the most profitable Hindi movies of 2012, and are starting to expand into the Tamil movie industry by co-producing with established production houses.

Viacom has entered India by forming a joint venture with Network 18, an Indian mass-media company. The joint venture company, Viacom 18 Motion Pictures, was the first production company to partner with YouTube to upload a full-length HD quality version of its movie. This allowed viewers to watch the film online on the same day of its theatrical release. This allowed the film to charge a fixed price and reach targeted audiences from specific geographies.

UTV Motion Pictures is one of the most successful production companies in India. Despite its mammoth success in the Indian movie industry, the company is in fact the film unit of UTV Software Communications, a subsidiary of the Walt Disney Company. Even without utilizing its parent's lucrative brand name, UTV continues to draw audiences into Indian theatres by producing a mix of entertaining and critically-acclaimed movies. UTV has also established itself in the South Indian movie industry.

As demonstrated by the success of its competitors, it is evident that with the right strategy, Warner Bros. can establish themselves as a major player in the Indian movie industry.

The Beginning of a Beautiful Friendship

WB should partner with a successful Indian movie production company like Dharma Productions to co-produce movies. After suffering a loss in their first big Indian production, forming a partnership allows WB to share the risk inherent in film production. As there are some distinct differences in the preference of Indian and American audiences, the partnership will also allow WB to take advantage of the knowledge and expertise of a well-established production company. Since 1980, Dharma Productions has been forging relationships within the movie industry and has produced some of the biggest all-time clas-

sics in Bollywood. While WB will benefit from this experience and acumen, the Hollywood studio can contribute their refined production process to the partnership, including their experience in marketing, budgeting, distribution, cinematography, and merchandising. WB must take advantage of the current trend of production companies by becoming more involved in the entire film production, including the filmmaking process, instead of merely adding value at the tail-end of the project. This strategy allows both production houses to build on each other's expertise and resources to create a sustainable partnership in Bollywood before eventually moving onto the growing South Indian movie industry.

One of the key success factors of the movie industry has been recognizing trends in the genre of movies that resonate with audiences and the connection the audience can form with a specific actor. While certain actors have been successful in one genre, they have failed in others. Utilizing the expertise of companies like Ormax Media, an independent company conducting research and analyzing trends in the movie industry, can be a key

“AS DEMONSTRATED BY THE SUCCESS OF ITS COMPETITORS, IT IS EVIDENT THAT WITH THE RIGHT STRATEGY, WARNER BROS. CAN ESTABLISH THEMSELVES AS A MAJOR PLAYER IN THE INDIAN MOVIE INDUSTRY.”

resource for WB. Using a “big data” approach, WB can use analytics in combination with Ormax's experience with the local market to make more informed production decisions.

The market share of Hollywood films released in India has increased by 50% over the past year, accounting for 8.8% of overall box-office revenues in India. This presents ample opportunities for WB to develop the market in India for their Hollywood productions. Globalization has increasingly drawn urban Indian consumers to Western culture. By entering in a partnership with Dharma Productions, WB can foster relations with big Bollywood actors and introduce the company to a large pool of Indian talent. WB can accelerate their casting of Bollywood actors into Hollywood productions; the ardent fan base of these actors can be used as a platform to generate hype and expand the market for WB's Hollywood ventures in India.

The above recommendations allow Warner Bros. to effectively re-launch themselves into a global economic giant with one of the largest consumer markets in the world. To compete with its major competitors, it has become imperative for the company to continue to expand globally. The Indian movie industry allows WB an opportunity for growth, portfolio diversification, and an avenue to advertise its brand to more than a billion people.



GENOMICS ILLUMINATED

Ensuring Illumina capitalizes on the impending personalized healthcare boom

By: **Matthew Alfieri & Jordan Bigford**

Illumina Inc.'s (Illumina) recent rejection of a proposed \$8.5B buyout by pharmaceutical behemoth Roche, an offer worth 34 times expected 2012 net income, illustrates the company's noteworthy potential. CEO Jim Flatley dismissed the Roche offer, stating it "dramatically undervalues Illumina and does not adequately reflect Illumina's singular position in an industry poised for extraordinary growth." Flatley was referring to the personalized healthcare industry – the future of pharmaceuticals. Though despite Flatley's confidence, Illumina is facing increased competition with new entrants competing largely on price, driving down industry margins. While management is optimistic about the future, Illumina's future may be more dim than Flatley thinks.

The Company

Illumina is the largest manufacturer of genomic sequencing machines, that examine the variations and make-up of DNA. Illumina sells its products to a wide variety of institutions ranging from academic to biotechnology clients. These customers use Illumina's technologies in order to better understand causes of diseases and how to effectively treat them.

Illumina has two business segments: Life Sciences and Diagnostics. Life Sciences – all products and services relating to the research markets, is the source of most revenues. On the other hand, Diagnostics – comprised of all opportunities in the emerging molecular diagnostics field, is a largely inactive division operating in an infant but growing market, and currently composes less than 10% of all revenues.

Since 2008, Illumina has grown organically and through acquisitions; its bottom line has grown 283% from \$39M to \$151M. With total revenues exceeding \$1B and cash equivalents of \$1.4B, Illumina has the cash required vertically integrate through acquisition and maintain a strong position in the personalized medicine market.

Advancements in Personalized Medicine

Personalized medicine refers to medical treatment that is tailored to individuals' unique characteristics. Technological advancements have enabled a deeper understanding of what differentiates us genetically. For example, the study of human genetics has made it increasingly clear what components of our DNA are linked to specific personal features. By identifying and analyzing our unique makeup, it is now possible to determine if a patient is susceptible to a particular ailment. This proactive approach to evaluating an individual's health represents a drastic change to the traditional method of treating health concerns after symptoms have materialized. The critical concept is that personal differences are recognized and considered to provide an unprecedented level of customization. Drug manufacturers can then design a unique pharmaceutical, improving quality of care as treatment is based on a patient's personal condition as opposed to a generic patient profile.

Technological advancements have dramatically reduced the cost of sequencing the human genome from \$3M down to \$4,000 per sequence. Consequently, demand has increased from individuals seeking to have their genome sequenced. With the sequencing process becoming increasingly accessible, PwC fore-

casts the therapeutic, medical device, and diagnostic aspects of the personalized medicine industry to grow from \$24B in 2009 to \$42B in 2015.

A Changing Industry Sequence

Illumina's market share currently stands at 60% in what the company defines as the "next-generation" sequencing market. Demand for its HiSeq 2500 machine (priced at \$740,000) and its forthcoming MiSeq machine (priced at \$125,000) is expected to rise within the academic field, with current sales projected to increase 30% to 50% in the next five years, especially in clinics. These trends have led to predictions that Illumina's total revenues will grow 10.4% organically, and 4.6% through their recent acquisition of Verinata in the short term.

Illumina's success has attracted new market entrants including Life Technologies, Pacific Biosciences, and Beckman Coulter. Their products compete on features such as required resources per run, time per run, and cost per instrument. Although these technologies use different sequencing chemistries, competitors' machines are capable of reading sequences in comparable sizes at a similar pace to Illumina's.

Though performance differs, all of these machines suffice to meet the needs of most customers. Consequently, JP Morgan predicts "pricing pressures caused by competition and increased demand will result in lower priced instruments." With technology rapidly advancing, competing products will soon provide equal utility to consumers, and Illumina will be forced to lower its prices in order to remain competitive.

Technology Commoditization

The personal computer (PC) market illustrates the potential consequences of technology commoditization as firms begin competing primarily on price. In that space, hardware components became cheaper to manufacture over time as economies of scale were achieved and competition intensified; PC companies were eventually forced to lower prices. The personalized medicine industry, meanwhile, is currently dominated by monopolies derived from strong patent protection – there are numerous ways to sequence a genome. Genetic sequencing machines are competing on speed, but over time these sequencing machines may mirror the fate of PCs, as margin erosion leaves a once lucrative industry relatively commoditized.

Illumina prides itself on being an innovative technology producer, yet its revenue growth is expected to taper off and remain steady at 8% in the longer term. Illumina has correctly recognized that remaining a technology pure-play is not a viable option and consequently is actively expanding its diagnostics business. Management has noted that they maintain a goal of becoming a leader in genomic-based diagnostics. They have fueled these ambitions through the acquisitions of players including BlueGnome and Verinata.

Vertically Integrated Healthcare

Illumina's increasingly relevant Diagnostics division should be involved in three stages of the personalized medicine process: sequencing, interpreting, and testing. Illumina is already a market leader in the first stage via their acquisition of Verinata. But to really drive value they need to expand their offerings in the second stage through a Knome acquisition and in the third stage through an acquisition of A&G. In the short-term, Illumina can use strong product sales from Life Sciences to fund Diagnostic's development, achieving a necessary change in organizational focus prior to the negative impact of technology commoditization in the long-term. Illumina's entrance into the services industry is a drastic change requiring new capabilities. However, this endeavor is feasible as the necessary competencies can be added via the aforementioned acquisitions.

First Stage: Sequencing

The process begins when a patient visits a health care provider for a diagnosis. The healthcare provider, seeking to better understand the patient's condition, refers the patient to Illumina. The patient then visits an Illumina clinic where the company uses its current technologies to perform the sequencing process upon the individual's DNA.

Second Stage: Interpreting

Next, the genetic strand is interpreted. Illumina's recent acquisition of Verinata allows them to screen fetuses as early as 10 weeks for diseases such as Down's syndrome, but the firm currently lacks the technology needed to interpret a whole genome sequence for more prominent diseases such as cancer. Given Illumina's lack of proprietary technology and relevant expertise, developing this capability internally would be difficult. Acquiring Knome is preferable and recommended.

Knome's knoSYS device contains pre-installed templates for breast cancer that allows for successful interpretation of whole genome sequences when screening for this disease among others. Illumina currently pays Knome each time an Illumina customer uses Knome's devices. This acquisition would eliminate all licensing fees and enable them to offer a more comprehensive service.

Third Stage: Testing

Once the genetic strand is interpreted, the testing phase detects the presence of targeted diseases. Many companies, have identified markers for diseases. Rather than looking to test for all conditions, Illumina should start by acquiring a niche player such as A&G Pharmaceuticals (A&G). A&G has offerings in oncology; specifically, they can test for and monitor breast and lung cancer in real-time.

A&G is developing a both a screening test and drug (GP88 monoclonal antibody) for breast cancer once detected but before expression – this drug would be a first foray for Illumina into the emerging business of theranostics – where a company both diagnoses and treats a condition. A&G is planning to generate a quick win from their breast cancer test – this test would be the main value-driver for Illumina. Also, A&G is approaching Phase I of bringing the GP88 to market, though the risk of failure so early in the drug development lifecycle is extremely high. The potential added benefits of successfully developing drugs such as GP88 would not be the primary focus of an A&G acquisition, however. Illumina should acquire firms such as A&G for their proprietary technology, which can be incorporated into Illumina’s testing services. If drugs being developed by acquired firms do reach later stages of development, Illumina can choose to sell these properties to pharmaceutical firms; partner with pharmaceutical firms to develop the drugs; or examine the feasibility of developing the drugs in-house. These considerations can be made in the future once Illumina has made progress developing a strong diagnostics division.

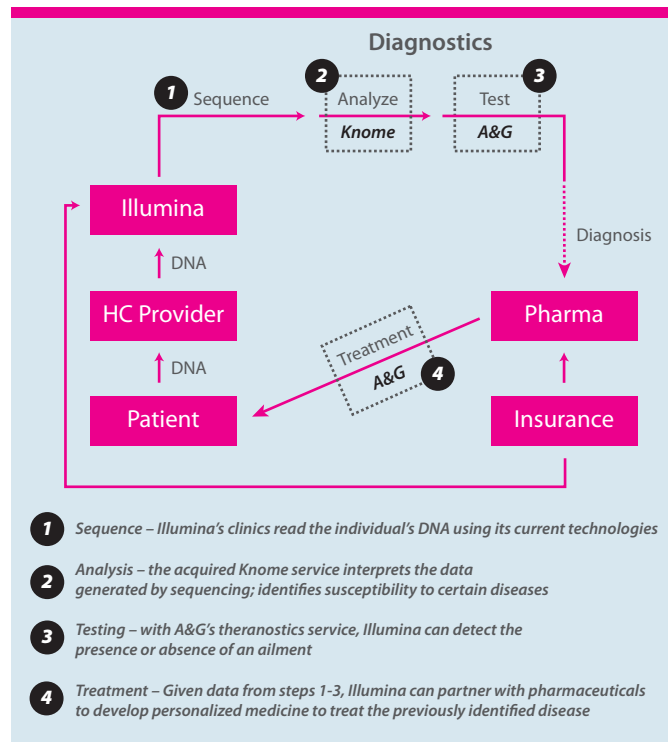
With a sizable cash position of \$1.4B, several of these acquisitions are possible. The acquisitions of A&G and other similarly situated firms would increase the thoroughness of Illumina’s testing, providing customers with a wider range of information.

Partnering With Pharmaceutical Companies to Develop Personalized Treatment

The acquisition of A&G also notably enables Illumina to enter the therapeutics market. Broadly, therapeutics refers to caring for a patient comprehensively by both preventing disease as well as addressing specific problems. Illumina’s DNA analysis presents information unique to an individual, which can be used to provide personalized therapeutic treatment. Illumina should enter this space by partnering with pharmaceutical companies such as Pfizer. A licensing strategy would be attractive to these companies as Illumina is essentially bringing business directly to them. Illumina would license its analysis of an individual’s genetic information to large pharmaceutical companies whom could then manufacture a personalized drug.

A licensing model is the best strategy here, as Illumina is ill-equipped to become a large scale drug manufacturer. Although some of Illumina’s acquisitions may be developing early stage pharmaceuticals, if Illumina were to aggressively enter drug manufacturing they would alienate the firms they hope to license their services to. Furthermore, these firms already have the competencies and vast resources required for drug development, marketing, and distribution.

Finally, Illumina should accentuate its strong movement into the molecular diagnostics field by standing up its Diagnostics segment as a separate business unit from Life Sciences. Different talent and processes are required to succeed in a patient-fac-



Theranostics Value Chain
How Illumina’s acquisitions fit with a theranostics orientation

ing business than in one that focuses upon research. This will also help to isolate Illumina’s healthy Life Sciences unit from the challenges that will arise when integrating acquired firms; and from the more volatile, high-growth nature of the diagnostics market.

Preventative Medicine for Illumina’s Corporate Strategy

The acquisitions of Knome and A&G represent the incorporation of biotechnology, pharmaceutical, and theranostic services into one model under the Illumina name. This vertically integrated approach enables Illumina to capture value at three different points: sequencing, interpretation, and testing. Rapidly developing its Diagnostics business also ensures Illumina withstands the threat of its technology production becoming increasingly subject to pricing pressures.

Over time, the cost of Illumina’s services and custom drug manufacturing will represent a cheaper alternative to the status quo of reactively treating patients once their ailments have materialized. Insurance companies will see the value in preemptively addressing clients’ unique health concerns. This revolutionary form of healthcare is still developing; however, as the cost of genomic sequencing continues to decline, Illumina can position itself to shine as it capitalizes on the impending personalized medicine boom.



DISRUPTING THE DISPATCH

How Uber can succeed in the race for mobile taxi supremacy

By Vivek Ramaswami and Connor Lyons

It's 3:00AM on a Sunday morning in Vancouver, and a hard-working banker is attempting to find his way home after burning the midnight oil at his downtown office. Similar to many large metropolitan cities, it is virtually impossible to hail a cab on the street this time of day, let alone reach a taxi dispatcher. Furthermore, the nearest running bus is more than 10 blocks away. The banker would normally have used his smartphone to book a Town Car through Uber, the revolutionary mobile application connecting passengers with luxury vehicle drivers; however, just a few weeks earlier, the British Columbia Passenger Transportation Board deemed Uber illegal, citing a little-used rule preventing limo operators from charging less than \$75 per ride. The ruling significantly reduced Uber's presence in Vancouver, forcing the company to operate "underground."

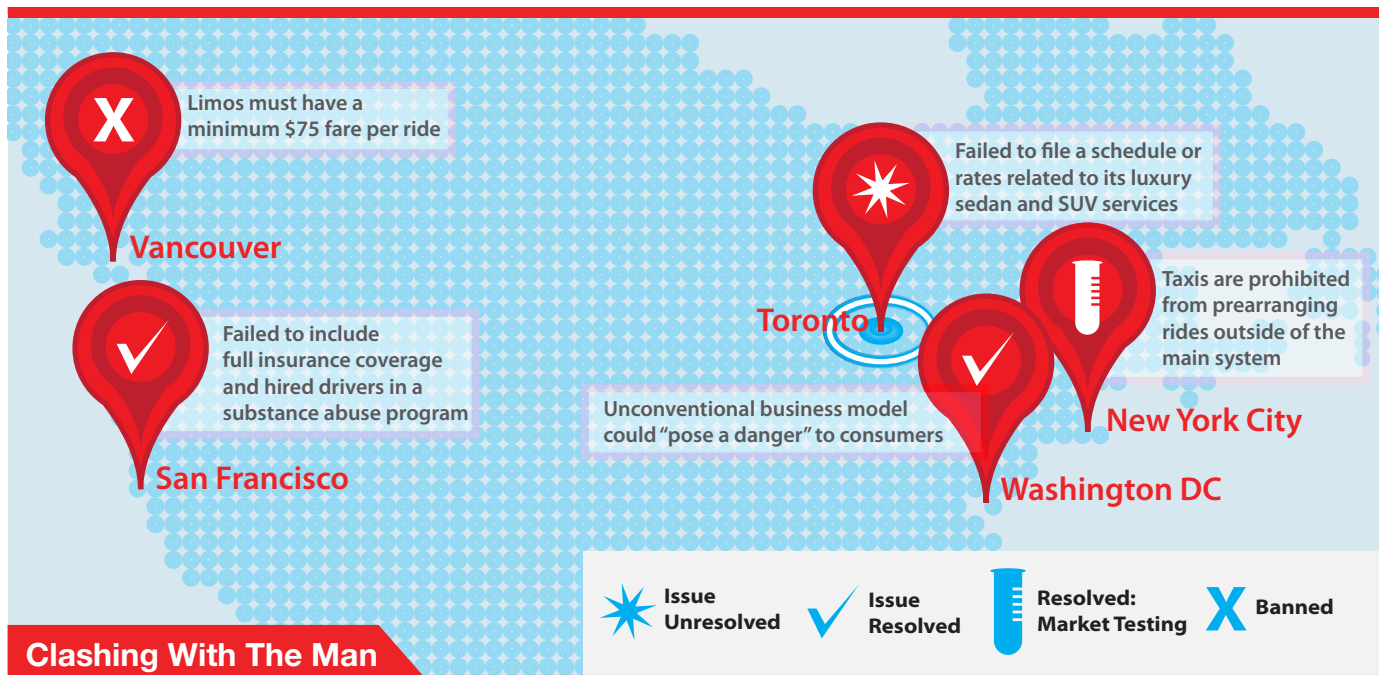
The ruling is nothing new for Uber. The three year old start-up has been fighting with regulators in Washington DC, San Francisco, Toronto, and countless other cities. Although the company has been an astounding hit with both investors and consumers, it is struggling to define its role within the evolving car-service business. Recently, new mobile taxi applications are beginning to appear across the globe; services such as London's Hailo and San Francisco's FlyWheel. Each represents a challenger to Uber's land grab strategy.

Starting Up a Startup

The idea for Uber was spawned by Travis Kalanick and Garrett Camp during a 2008 technology conference in Paris. Camp had come fresh off the sale of discovery engine phenomenon StumbleUpon, and Kalanick had recently sold his peer-to-peer delivery service, Red Swoosh. They had spent much of their time in San Francisco, and began venting mutual frustration with the city's atrocious taxi industry. Inconsistent service and a lack of vacant cars were at the forefront of their dissatisfaction. The two serial innovators consequently sought to find a better way of cabbing in a major metropolitan city.

Camp began developing a mobile application to allow users to connect directly with luxury vehicle drivers in virtually all locations any time of day, avoiding directly entering the traditional taxi space where passengers must either call into a centralized dispatch or hail a cab on the street. By June 2010, Uber had three drivers cruising the streets of San Francisco on its test run. Three years later, Uber boasts thousands of users and has expanded to over 25 cities across the United States, Canada, Europe, and Southeast Asia.

Uber's growth is fueled by funding from angel investors, venture capital groups, and major investment banks. After raising \$12M from Benchmark Capital in early 2011, Uber raised a further \$32M from investors including Menlo Ventures, Bezos Expeditions, and Goldman Sachs just 18 months after launch. Armed with \$50M in secured capital, a growing presence in major US cities, and rapid increases in its user base, Uber entered 2012 poised for success.



Clashing With The Man

Uber has faced a number of regulatory challenges with varying levels of success

Source: NYTimes, CNET, The Verge

Navigating the Speed Bumps

The taxi industry is a phenomenally difficult arena for new entrants; strict regulations and deep-rooted incumbents make it virtually impossible for new companies, let alone disruptive technologies like Uber, to succeed. The industry’s basic activity – transporting passengers to a specified destination for a fee – has changed little for decades. Furthermore, it is structured and regulated differently across markets; policy is usually determined at the municipal or regional level. Uber faces the trials and tribulations of being a disruptive company in what has been an inert industry.

A major barrier to entry into the taxi market is the limited number of licenses granted to taxi operators. In New York City, a city seemingly overwhelmed with yellow cabs, incumbents have protected themselves by influencing legislators to limit the number of new licenses, or “medallions,” granted on a periodic basis. Low supply and high demand have shot up the price of a single medallion to nearly \$1M. Although Uber (the company) isn’t required to hold medallions to operate its mobile app service, Uber drivers must each own one. Restrictive laws range from floor rates, which limousine services must charge passengers, to domicile standards requiring the drivers to have lived in the city they operate in for a specified number of years. These rules have been set up to protect incumbent services.

New York City’s Taxi and Limousine Commission first banned Uber in September 2012. It proclaimed the adoption of any mobile applications used to hail cabs or pay for transportation services was unauthorized, effectively classifying Uber as illegal. San Francisco was quick to follow in its condemnation, slapping Uber with a \$20,000 fine in November for illegally operating taxi-hailing services without the required permits.

Uber has since found success in cities like Washington DC and New York City, where regulators have allowed the company to operate on a trial basis; however, its battle to gain legal status has also cost Uber time and money, while causing it to experience the wrath of existing taxi companies.

The Challenge of Being First on the Road

Uber’s early success can largely be explained by its main competitive advantages:

1. Its reputation as a first mover, allowing the company to capture new markets and attract new drivers
2. An aggressive, entrepreneurial corporate culture, fostering respect from those who are keen to see liberalization of the personal transportation industry
3. Prioritization of customer service, allowing the firm to develop a loyal base of customers

Despite all its strengths and clear potential, there are two areas of concern Uber must remain cognizant of: being the first-mover is not always the best strategy for the long haul, and competition is often fiercer in evolving industries.

Sometimes “followers” inherit the biggest competitive advantages of all, and Uber must be wary not to bear the cost of liberalizing the currently restricted transportation industry only to open the door for others to surpass it. There are many examples of disruptive companies who have lost their strategic edge by being the frontrunner in new market development. Take, for example, Docutel, who quickly rose in the late 1970s upon

SOMETIMES “FOLLOWERS” INHERIT THE BIGGEST COMPETITIVE ADVANTAGES OF ALL, AND UBER MUST BE WARY NOT TO BEAR THE COST OF LIBERALIZING THE CURRENTLY RESTRICTED TRANSPORTATION INDUSTRY ONLY TO OPEN THE DOOR FOR OTHERS TO SURPASS IT.

developing the first ATMs. The company floundered merely years later after being surpassed by less expensive, more customer-friendly competitors. Docutel successfully transformed the average consumer's banking habits, and Uber has done the same by being the first company to unite technological innovation with consumer demand for more convenient ground transportation. However, there is nothing stopping startups from imitating by coding a similar application. And they have. Uber is no longer the only on-demand transportation service in urban centres. Hailo – another mobile app car service, first launched in London – operates with regular cabs, enabling it to cater towards a more cost-conscious user base. This appeal could help the company gain better traction and brand recognition in the broader market compared to Uber.

The Road Map to Success

Generally, the “land-grab” strategy Uber has pursued when entering new locations has worked successfully. This strategy allows Uber to establish brand name before any of its competitors reach the market, and allows the company to claim priority on a city's selection of licensed, for-hire drivers. There are several areas, however, in which the land-grab strategy could result in a disadvantage.

Uber is able to enter new markets rapidly by using a “silo” strategy; each new market – whether it be Toronto, Shanghai, or Singapore – operates independently. This structure allows Uber to quickly gain access. Unfortunately, it fails to effectively build-upon the resources and learning capabilities across the entire organization. Start-up organizations can benefit greatly from shared experiences to ensure the same mistakes are not repeated. For example, each independent silo is responsible for signing on new corporate clients. By approaching large multinational clients through a singular, centralized approach, Uber headquarters could better manage cost savings and client relationships. This would standardize Uber's services internationally and help the company become a more effective global operation.

Grabbing land before first testing the market can also have serious consequences. If Uber doesn't fully understand the preferences of passengers in a new market, they could risk burning bridges with its consumers in an industry characterized by low customer loyalty. One mistake, such as hiring unsafe drivers or failing to provide services in a high-traffic location, could damage Uber's reputation and ultimately allow its competitors to fill the void. In February 2012, hundreds of town car drivers were dismissed from Uber's San Francisco operations. Barely a month later, drivers began protesting outside Uber's headquarters, claiming the company was treating them unfairly. The drivers wanted pay increases, full employee status, and better protection from passenger ratings. If drivers make similar demands across other markets, competitors like Hailo can learn from Uber's labor failures and adapt accordingly.

Furthermore, Uber's strategy of simply entering a new market without first establishing its legality with regulators could hurt its relationships with policy-makers. In cities where the company still operates an “underground” service, regulators have more incentive to shut down the business rather than work cooperatively to find a joint solution. This is especially true in cities with lots of taxis; although Uber can add convenience, hailing a cab in Chicago was never as difficult as in San Francisco. When there's less desire for liberalization, consumers are less likely to publicly declare support for a new, innovative company to be allowed to operate. Uber may eventually find pursuing a “wait-and-see” approach in certain markets could be more advantageous than simply entering before first doing its homework.

Finally, to convert its rapid growth into sustainable gains, Uber must ensure its entrepreneurial culture does not overwhelm and prevent balanced growth. Uber must stick to its fundamental strengths, but cannot be afraid to mold its business model to the evolving competitive landscape. Fortunately, the company's entrepreneurial culture has shown adaptability, having recently announced a ride-sharing option in San Francisco to compete in that specific niche.

Future challenges lie in how it navigates the changing landscape of a newly-liberalized ground transportation industry. Should Uber stick to core competencies and the model that has brought it success in its early years? Or should it succumb to competitors' adaptations of the model, continuing to innovate, and risk losing the edge it has built? Although there are several questions the company must answer, there is no question the late-working banker would be better off with Uber's services than waiting around for the inefficient, protectionist services of the taxi-cab industry.

REFINING'S RENAISSANCE

Connecting Atlantic refineries with cheap American crude oil

By Chad Gray and Oliver Robbins

North American crude oil markets are in a state of flux. The advent of new oil drilling techniques, has unlocked enormous quantities of crude oil previously thought unrecoverable. US crude oil production is expected to grow 60% from pre-recession levels by 2017. This has led industry commentators to project that the US will be able to produce enough crude oil to meet domestic demand by 2030, something that hasn't occurred within the last 40 years. This astronomical growth in supply has overwhelmed traditional pipeline infrastructure, leading to bottlenecks. The inability to connect oil production to market has caused a supply-demand imbalance, leading to depressed oil prices in certain regions. The North American benchmark oil price, West Texas Intermediate (WTI), has traded at a discount as large as \$30 to world oil prices, which trade at around \$110/barrel (bbl).

Due to their location, refineries in the central US enjoy cheap domestic oil and the high margins associated with it. Meanwhile, refineries on the East and West Coasts are forced to buy oil from overseas at world prices due to pipeline bottlenecks. While refinery closures are nothing new, these recent trends have exacerbated the problem. Five refineries on the US East Coast have been forced to close since 2010, and three more were threatened with closure before they sold at extremely discounted prices. Similar problems face Imperial Oil's Dartmouth, Nova Scotia refinery, which was put up for sale in May 2012 and will close if a buyer is not found. Management does not believe that the Dartmouth refinery is positioned to compete against

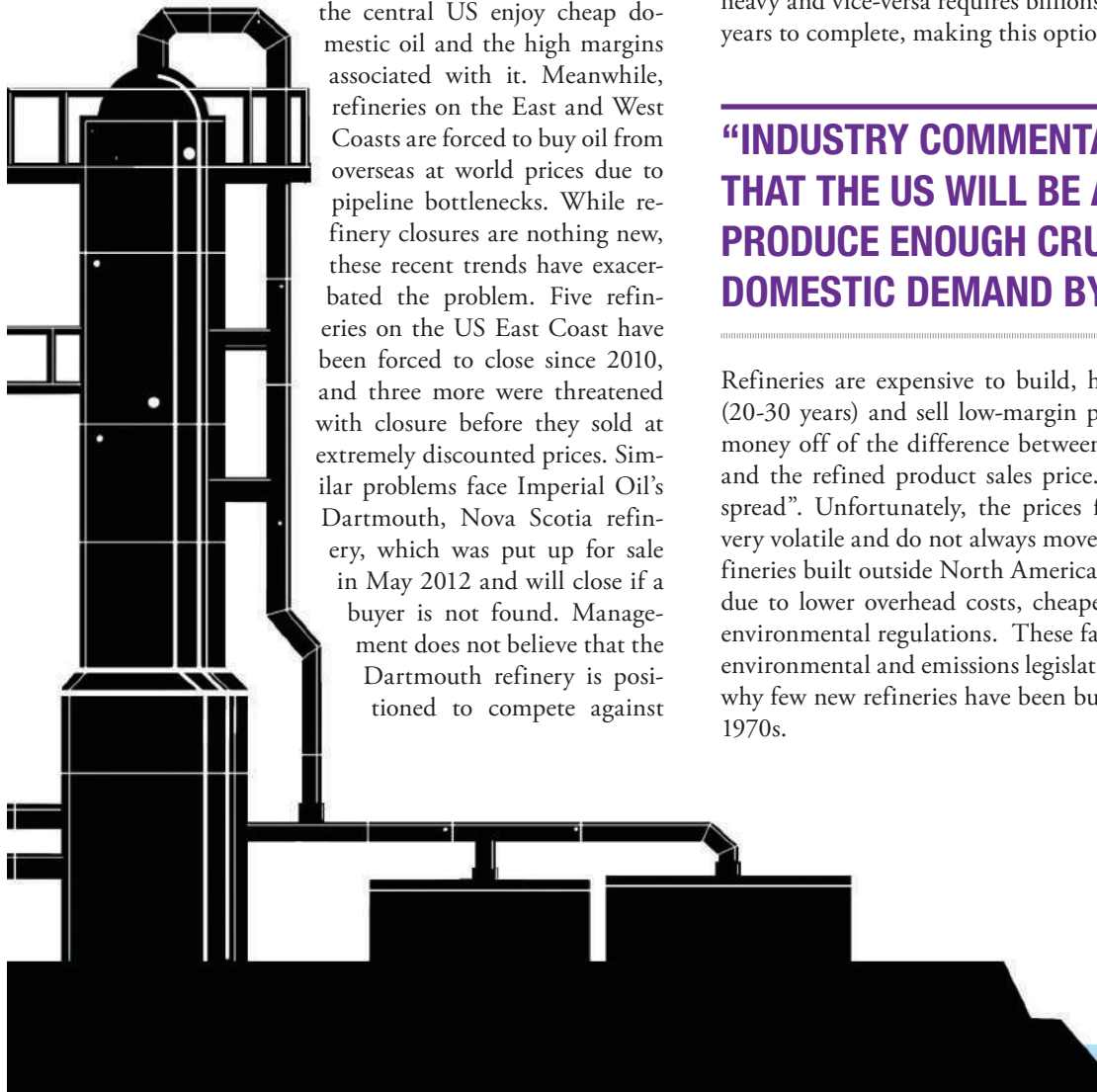
the new, low cost refineries on the US Gulf Coast (USGC) and the refineries in the US Midwest, that have access to low cost oil. But major market changes are coming. Energy companies are spending billions of dollars to re-pipe the continent. Once all these pipelines are completed, the Dartmouth refinery will be competitively positioned relative to its peers.

Refining in North America

Crude oil is transported from the oil wells to refineries by pipeline, railcar, or tanker. Pipelines are the primary and safest method of transportation in North America. There are two types of oil, light and heavy crude, both of which refineries can process. Light oils are refined into gasoline, while heavier crudes produce diesel and jet fuel. Not all refineries can process both types of oil, reconfiguring a refinery to process light from heavy and vice-versa requires billions in capital investment and years to complete, making this option unattractive.

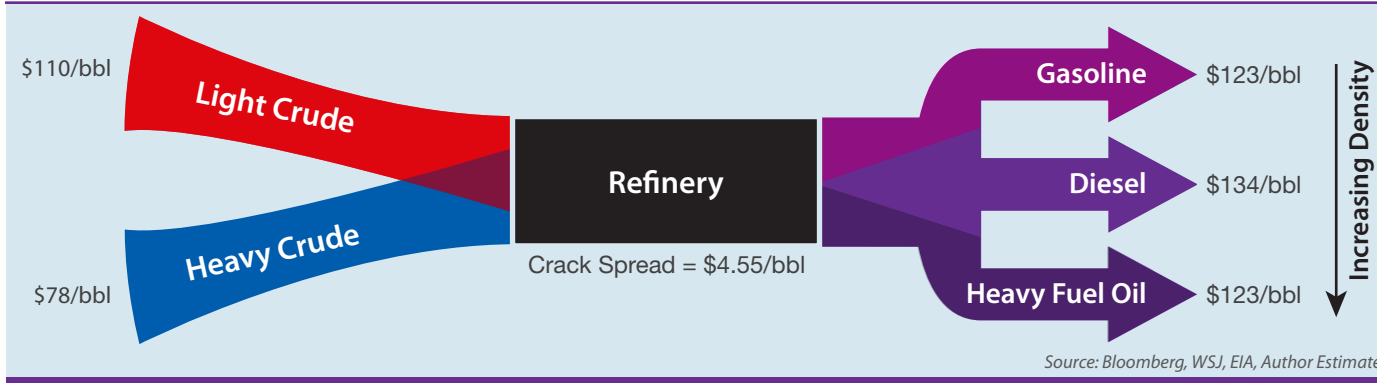
“INDUSTRY COMMENTATORS PROJECT THAT THE US WILL BE ABLE TO PRODUCE ENOUGH CRUDE OIL TO MEET DOMESTIC DEMAND BY 2030.”

Refineries are expensive to build, have long payback periods (20-30 years) and sell low-margin products. They make their money off of the difference between the crude oil input costs and the refined product sales price. This is called the “crack spread”. Unfortunately, the prices for both commodities are very volatile and do not always move together. Additionally, refineries built outside North America are far more cost effective due to lower overhead costs, cheaper labor, and more lenient environmental regulations. These factors, along with stringent environmental and emissions legislation in the US make it clear why few new refineries have been built in the US since the late 1970s.



Simplified Refinery Value Chain

Refineries purchase crude oil to process and then sell the products (gasoline, diesel, and heavy fuel oil). The difference in price between the product and supply is called the crack spread, and is how refineries generate revenue. Refineries have little control over the sale price of the products, so to maintain margins they pay less for the crude oil input.



Changing Market Conditions

Dramatic increases in American and Canadian crude oil production is overwhelming refineries in the Midwest, creating significant oversupply. Pipelines moving crude oil out of the region to other markets are full, exacerbating the supply problem – leaving WTI oil discounted more than \$20/bbl below world prices. A multitude of pipeline projects have been proposed to redirect oil surpluses to the USGC, the world's largest refining center, to close this price difference.

North American refineries located on the East Coast are amongst the oldest, most expensive to operate (twice as much as competitive refineries) and least sophisticated in North America, which allows them to only process light oil. These refineries only receive crude oil by tanker since there are no pipelines that connect. Building such pipelines would be prohibitively expensive. Reliance on high cost crude oil has forced several refineries to close or become idle as they are put up for sale. It took two last ditch sales to prevent 40% of the US East Coast's refining capacity from being shut down in 2012. Shipping discounted Midwestern oil by railcar to these East Coast refineries has given them a new lease on life. However shipping by rail is much more expensive than by pipeline and is unsustainable in the long-run.

Southern Comfort: Crude Oil Economics in the Gulf Coast

Like Canada and the US Midwest, the USGC is also experiencing a surge of crude oil production. Current production in the region is expected to grow 50% from 3.7 million barrels per day (bpd) by 2017. Combine this with forecast deliveries of 1.5 million bpd from the Midwest, and the

USGC has effectively doubled its supply of North American oil, pushing out foreign oil imports. However, the incremental crude oil delivered to the USGC is lighter than the imported oil it used to process. New oil deliveries to the USGC will contain domestic light oil and heavy oil from Canada. Refineries in the USGC have spent billions over the past decade to convert their refineries to process heavy crude from Venezuela and Mexico. This means that refineries in the USGC will not be able to process the influx of light oil without significantly increasing their operating costs or spending billions to retrofit their refineries again. Reverting back to previous configurations would be a tough sell since these refineries have just recently completed their reconfigurations and to do it again would likely take another decade.

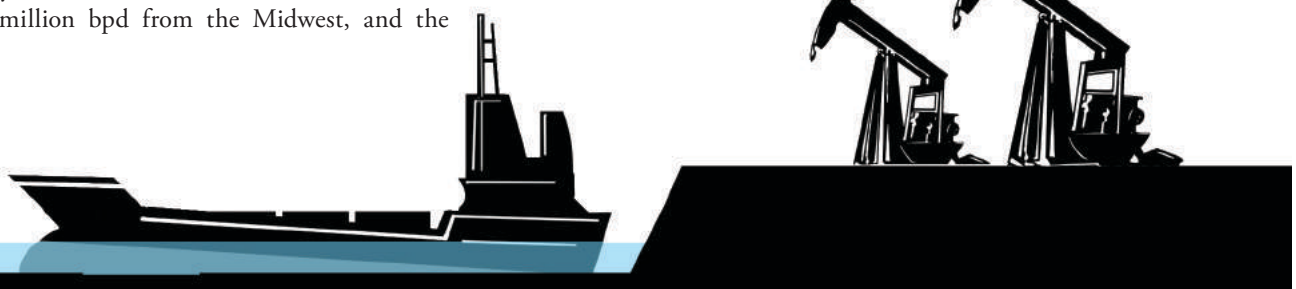
Increases in USGC light oil supply is forecasted to completely push out light oil imports by the end of 2013. This will result in a massive oversupply in the Gulf Coast – the exact problem plaguing the US Midwest. Depressed prices will follow unless alternative markets are not found.

In the meantime, increasing supplies of domestic ultra-light oil, which contains more gasoline than diesel, represents a major dilemma for USGC refiners. This is because refining diesel is much more profitable than gasoline. Increasing crack spreads on diesel, have led USGC diesel production to grow dramatically. This new supply of light oil will leave refiners with two choices: 1) run the ultra-light oil, or 2) reject it and continue to run their existing crude blends.

Run American ultra-light oil

If the USGC refiners run American ultra-light oil,

as opposed to the



light oil they currently import, they will increase their gasoline production at the expense of their very profitable diesel business. Because refiners have little impact on the sale price of their refined products, the only way for these refineries to maintain profitability is to control their input costs. In effect, they will pay less for their raw material (light oil) to maintain margins. This will cause the price of light oil to decline (without needing a surplus of supply to exist) because the light oil that the refineries in the USGC are running is less valuable to them so they are willing to pay less. Short of a refinery reconfiguration, there is little available incremental capacity to process the surge in supply. Eventually the increases in oil supply will result in a surplus on the USGC, causing prices to decline.

Run existing crude blends

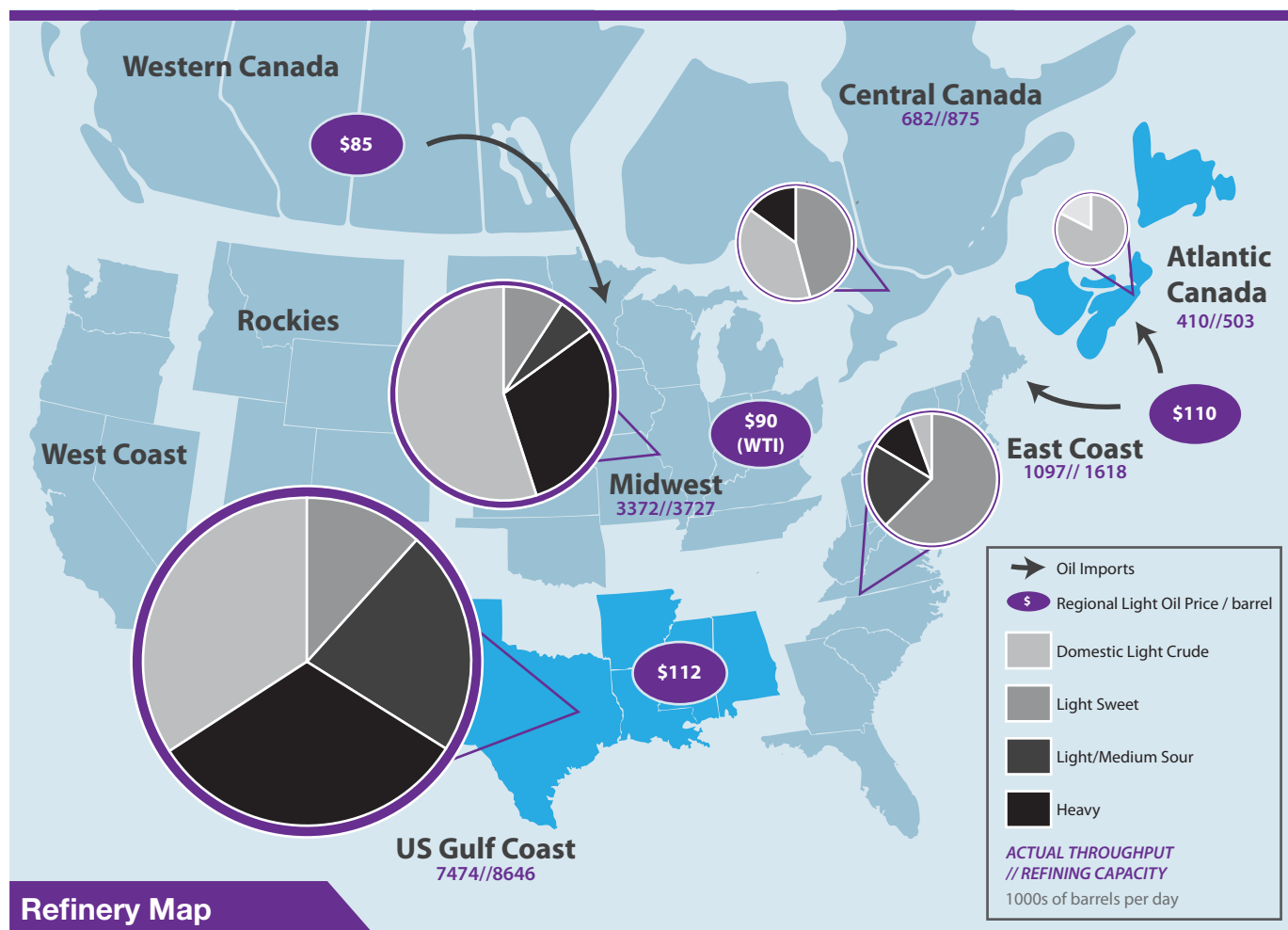
If refineries decide to reject the influx of ultra-light crude, an oversupply of ultra-light oil will result on the Gulf Coast immediately causing the price of crude oil there to decline.

Either case will cause the price of light oil to decline by similar amounts over time, but these market forces will take time to act – at least until the majority of the Midwestern pipeline capacity is built by 2014.

Canadian Refining: More than it's Cracked up to Be

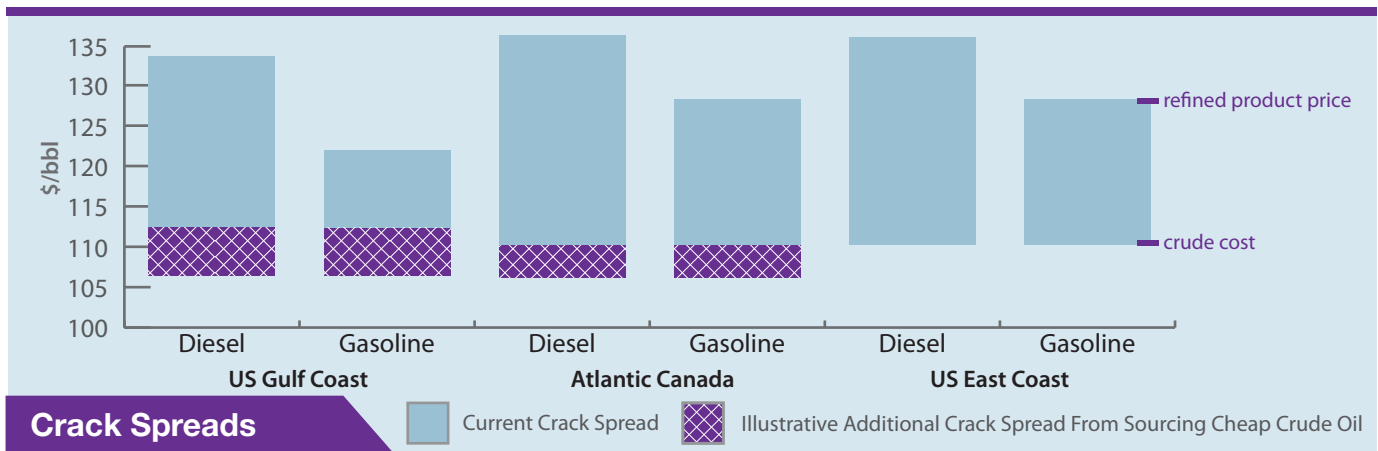
Rail Strategy

In the meantime, Imperial Oil can take steps to lower its crude cost by replicating the crude by rail strategy which refiners on the US East Coast are using. Enbridge (one of the largest pipeline companies in North America) is aiming to reverse one of its pipelines to carry crude from the Midwest. This line will carry cheap Midwest oil to Montreal by early 2014. Oil could be taken off Enbridge's pipeline at Montreal and shipped by rail to Dartmouth. By having Enbridge build a rail terminal at Montreal and utilizing existing rail lines at the Dartmouth refinery, Imperial Oil would only need to build an inexpensive off-loading terminal to receive the crude oil. Shipping oil by pipeline to Montreal and then on to Dartmouth by rail should cost roughly \$9/bbl, half the cost of shipping oil all the way by rail. Though all of the pipeline's capacity is spoken for, the savings on the cost of transportation would make it worthwhile for Imperial Oil to inquire about an expansion. If prices on the USGC fail to fall quickly compared to world prices, a discount between Midwest and USGC crude will remain. This rail terminal can



Refinery capacities, throughputs, and prices of crude oil by region

Source: CAPP, EIA, Company Reports



Refiners in Atlantic Canada will enjoy wider crack spreads than the USGC due to higher product sales prices

Source: EIA, Bloomberg

act as an insurance policy for Imperial Oil, ensuring access to cheap Midwest oil.

Imports from the US Gulf Coast by Sea

Once USGC light oil prices fall, Atlantic Canadian refineries such as the one in Dartmouth are well positioned to compete for supply of unrefined oil from the USGC. This is because their refining peers on the US East Coast cannot buy USGC light crude. Since there are no pipelines connecting the USGC to East Coast, the oil must be shipped by boat. This is difficult due to restrictions by a US regulation called the 'Jones Act.' The Jones Act requires all goods that are transported by boat between US ports be built and registered in the US, and owned and crewed by US citizens or permanent residents. The number and availability of Jones Act compliant vessels is limited, which makes shipping oil from the USGC to the US East Coast difficult and expensive. Although similar legislation prevents American crude oil from being exported, Canada is the only destination that has received exemptions. As long as the discount on the USGC is greater than the cost of transportation by tanker to the refinery (\$2/bbl) then it makes sense to import American oil to Eastern Canada.

"IMPERIAL OIL WILL STAND TO BENEFIT FROM THESE CHANGES IN THE OIL MARKET, THEY JUST NEED TO BE PATIENT."

Imperial Oil should use its relationship with its parent company Exxon Mobil, a major refiner with significant knowledge and expertise in the USGC, to help source discounted crude. The less expensive crude will allow Imperial Oil to improve its crack spreads. By lowering its cost of crude in comparison with refineries on the East Coast, the Dartmouth refinery will no longer be the marginal cost refinery in Eastern North America.

As a consequence of Dartmouth's lower crude input costs compared to its world competitors, the refinery would be well positioned to compete in international markets should they be unable to sell all of their refined products in Atlantic Canada.

Sale for a Price

Unless Imperial Oil wants to transition away from its refining operations, which is unlikely as they have made significant investments in their refining and retail operations in the past, they don't need to sell this refinery. At a minimum, the input cost pressures Imperial has named as reasons for the sale are easily addressable with small capital investments. If Imperial Oil is particularly adamant about selling the Dartmouth refinery, it should make sure it sells at a significant premium to recent transactions on the US East Coast. These transactions occurred at valuations of \$1,200-\$2,000/bbl of daily refining capacity, which if applied to Dartmouth would imply a valuation of \$105M-\$176M.

Patience is Important

Less than five years ago, the US was faced with 20 years of declining crude oil production and rising imports. Refineries and pipelines were being oriented to accept and process these increasingly heavy and foreign crude supplies. Now, producers, pipeline companies, and refiners alike are asking themselves what they are going to do with all this excess domestic supply. The rise of hydraulic fracturing and its associated increases in production have created billions of dollars in investment opportunities, breathing new life into assets that were forecast to become relics of a domestic energy industry no longer; but this process takes time. Imperial Oil will stand to benefit from these changes to the oil market; they just need to be patient and make a few small capital investments to improve the profitability of their refinery in Dartmouth. It is Imperial Oil's old thoughts about the economics of refining that need to become relics of the past, not its refinery.

DESTINATIONS

GATE

ARRIVAL

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GLOBAL	ASSIGNMENTS	OW	FASTER
SENIOR	CLIENT CONTACT	OW	FASTER
CAREER	DEVELOPMENT	OW	FASTER
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DISCOVER
OUR WORLD



STEAM'S ENGINE

Harnessing the power of Valve's gaming network

By Niklas Lubczynski and Cameron Wilson

What is more important, how much fun a game is to play, or how many other people are playing it? Valve, a privately held video game company well known for its blockbuster hits, has the best of both worlds. Valve supplements its impressive digital distribution platform, Steam, with franchises such as Counter-Strike, Portal, and the Half-Life series. Analogous to Apple's iTunes, Steam allows users to electronically purchase and download new games, chat, play online, and update content entirely with seamless digital rights management. The service has an estimated 50 million active users, compared to Xbox Live's 40 million, and PlayStation Network's (PSN) 90 million. Although PSN's user base appears significant, the service contains duplicate, unused, and separate accounts for other Sony products.

By generating revenue through content-creation, the Steam network has developed far greater value per user than traditional console networks. Microsoft's Xbox Live and Sony's PSN generate value from monthly subscriptions and virtual content sales, whereas Steam also cultivates a core set of active users that actually create content for Steam games. This content is then sold by Valve, with the company taking a percentage of these sales and the remainder going back to the creators. In 2012, content sales accounted for 50% of Valve's growth. Consistently adding content also extends the lifespan of Steam games, keeping them engaging for current and new Steam users. The most proficient content creators can earn up to \$500,000 a year, and are often even employees of Valve's competitors, working in their spare time.

The New Engine

Valve recently unveiled the first iteration of its new console, the Steam Box, at the consumer electronics show (CES) in Las Vegas. The prototype, the "Steam Piston", is the first of its kind - most easily described as a scaled-down personal computer utilizing a modular chipset, allowing for yearly hardware updates, and operating on a Linux-based operating system. These features are marketed towards "hard-core" gamers who appreciate open-source customization and hardware upgradability. Hardcore gamers, however, generally own multiple consoles and high-end PC's that run Steam. Reasons for this demographic to potentially purchase a scaled down version of something they already have are unclear and this raises major questions about Valve's decision to launch a console.

Valve has been successful utilizing this strategy in the past. This success means Valve is financially strong, which may be a source of confidence for expanding its offering to gamers. In response to a \$1B takeover bid from Electronic Arts in 2012, Co-Founder Gabe Newell estimated the company's worth at \$1.5B. Furthermore, Forbes estimated Valve's value to be between \$2-4B, and projected Valve's 2011 revenues to be \$600-\$800M. However, this valuation still leaves Valve at half the size of Electronic Arts, and an eighth the size of Activision - its main competitors. In addition, both of these competitors generate over \$4B in revenue. Valve is in a dangerous position: it has enough credit to sit at the table but only enough cash to make a few bets.

THE MOST PROFICIENT CONTENT CREATORS CAN EARN UP TO \$500,000 A YEAR (AND OFTEN EMPLOYEES OF OTHER STUDIOS WILL MAKE CONTENT FOR VALVE IN THEIR SPARE TIME)

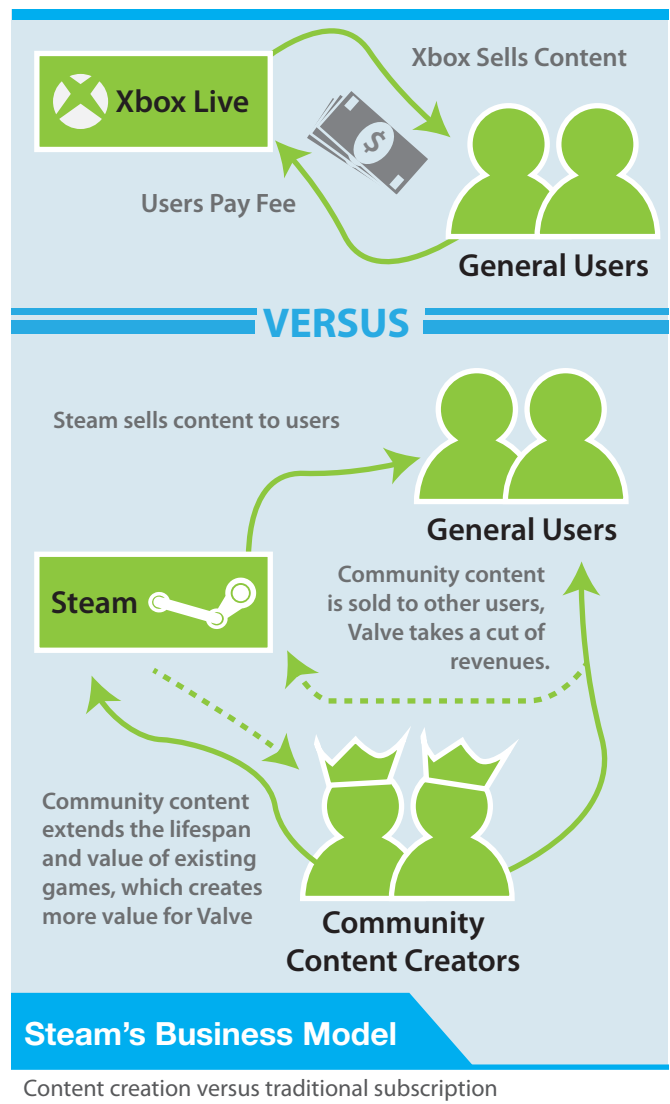
To develop the Piston, Valve partnered with computer manufacturer Xi3; however, after several months the partnership recently fell apart. Xi3 wants its next generation of computers to be “more than just a Steam Box” particularly, Xi3 wants to release the Steam Box with Windows. Linux is not widely supported by major video game manufacturers as they mainly create content for Windows. For this reason, Valve’s console model is being criticized as a locked-down PC that essentially occupies the same market position as high-end PCs – a market Valve already dominates. Now, the first “prototype” of the Steam Box, developed in cooperation with Xi3, no longer belongs to Valve. If Valve released a Steam Box it would compete against all the major consoles, Xi3’s new offering, and directly against Steam’s traditional PC offering.

Building Pressure

Using traditional metrics, it’s difficult to determine Valve’s reasoning for this seemingly counterintuitive strategy. One must recognize that Valve employs a very unique corporate strategy, one whose inspiration is driven by altering the very nature of gaming and the video game industry. Valve’s product release patterns and strategic positioning demonstrate it is willing to sacrifice near-term profits to improve the gaming experience. Far more than any other company, Valve listens to and then develops for its growing consumer base. Accordingly, the Steam Box’s rollout must uniquely navigate the value chain and competitive landscape to achieve widespread acceptance without sacrificing this consumer relationship.

Valve’s past decisions are easier to understand when taking into account its unique motives. Consider a not-for-profit organization: their goal is to effect the maximum change in its cause, without damaging its own livelihood. Valve gives away Steam subscriptions and titles for free, allows users to release modified versions of its games, and takes time to produce the highest quality games as opposed to releasing lesser titles yearly. At the cost of potential profits, Valve has taken these actions to better the video game industry, to promote creative content, and to generate exciting new content. So while Valve’s revenues show it is decidedly for-profit, these not-for-profit tactics are what have made Valve so popular with gamers. It is these not-for-profit tactics that it must continue to use.

Therefore, the goal of the Steam Box goes beyond profitability. Given Valve’s corporate strategy, the goal of the Steam Box is to inflict as much change as possible on the console industry. Valve is trying to implement this change by revolutionizing console technology. Using the remarkably small Xi3 is one example of how Valve is trying to perfect a console with state-of-the-art features. Further, other Steam Box models have been delayed citing technical issues, as well as delays in redesigning an ideal controller featuring biometric input. Essentially, Valve is applying its software design process to hardware; Valve is trying to create the perfect machine. However, this premise is flawed because hardware is merely a commodity and new hardware is quickly imitated. Therefore, packaging together next-generation technology is not “revolutionary” – any serious gamer can piece the parts together. Rather, this is giving hard-core gamers an alternative to their powerful PC computers, running in a living room setting. To achieve its goal and realize a positive return, Valve needs to focus on its console’s sustainable point of differentiation and superiority. This starts with the Steam network.



Comparative Sales Figures

The performance of Industry Giants *Source: Company Reports*

	Units (M)	Games (M)	Ratio
Xbox	76	676	8.90
PS3	77	595	7.73
Wii	99	863	8.72
Steam	50	589	11.77

Full Steam Ahead

The Steam network engages gamers unlike any other network hosted by competitors. Valve needs to focus on selling Steam, not the console. In essence, the Steam Box should be the next generation tool to access Valve's powerful distribution network. A barrier to playing Steam games includes insufficient PC hardware; the average user's computer is simply not powerful enough to run certain games offered by Steam. Yet these components are expensive, and if the goal of the Steam Box is to make the network accessible by supplying the hardware, a \$1,000 console limits accessibility.

In order to have a real impact on the industry, the Steam Box needs to see sufficient adoption. The Steam Box needs to be compact, simple, and cheap without sacrificing performance. Steam already controls the hard-core gaming market and does not need a complicated living room PC to grow this market. Instead, the Steam Box should be easy to use, with minimal click interface, and have other features that make it accessible to the entire family. The Steam Box must also be affordable for casual users who are relatively price sensitive. Nintendo's Wii U has recently been criticized for its \$350 price tag, too high a price for its lack of valuable content. The Steam Box will certainly be as powerful as the next generation of Xbox or PlayStation consoles, but it should not be more expensive. Matching competitor consoles hardware capabilities should result in similar retail prices for the Steam Box. To achieve higher competitive value, Steam should offer free content bundled with the Steam Box. Since Valve already has a plethora of popular games, and owns a wide variety of user created content, it can give away these valuable items at no cost. When buying a Steam Box, Valve should give \$300 worth of free content. This content should include both original Valve games and user created content. The inclusion of free content, hardware performance equivalent to the Xbox and PlayStation consoles, and connectivity to the best video game network will make the Steam Box the most competitive console on the market.

While it makes sense for Valve to expand its Steam network by entering the console market, Valve doesn't necessarily need a partner to develop its console. Valve should give out all the necessary tools to make a competitive console for free. Valve still creates value for companies like HP or Dell should they enter the console market. This strategy would emulate Google's approach with the Android OS and its manufacturing partners that created a competitive mobile phone market. Therefore, while on the surface Xi3 separating from Valve looks like a bad sign for Steam, it is actually one of the best things that could have happened. Xi3 will prove to PC manufacturers that it is possible to create and release a console that competes with Xbox and PlayStation. Xi3 will also create hype for the Steam Box – users will associate Xi3's console with Valve despite the severed connections. Finally, whether the Xi3 console runs Linux or not – it will still run Steam, and this will undoubtedly grow the network. At the end of the day, Xi3 producing an independent console will prove that Valve does not need to produce anything itself, it merely needs to enable PC manufacturers.

In order to convince other hardware producers to begin building Steam Boxes, Valve will have to limit manufacturers' risk. Valve should employ two strategies to limit such risk. First, Valve should offer its brand and content to promote sales of the console. Secondly, Valve can limit the number of "certified" consoles, limiting the inter-brand competition of multiple Steam consoles. To accomplish these goals, Valve should require accredited manufacturers to brand their consoles "Steam Boxes." Companies who demonstrate an ability and willingness to develop a Steam console, and can meet key specifications including price and performance, will have their console endorsed by Valve.

In addition, Valve should offer the ability for these manufacturers to earn significant profit. Given a \$300 value of free content, manufacturers can sell consoles in the \$500 to \$600 range. At this price, they can develop competitive consoles, and sell them at reasonable margins. In addition, Valve should offer manufacturers a percentage of revenues from content purchased on its devices. This will come out of Valve's typical percentage and would provide enough of a profit margin to motivate new manufacturers to enter this competitive space. Securing future revenues will allow manufacturers to compete at a lower price and be more competitive.

With the difficulties surrounding the Steam Box's launch, many question the project's feasibility. Offering the Steam brand and bundling content with the Steam Box, Valve can maximize value for manufacturers, offsetting the risk faced when building a console. By offering revenue sharing and discounted pricing, Valve creates opportunities for large returns to any company undergoing this project. Valve wants the Steam Box to create ripples throughout the video game industry. The console's profitability is simply not a priority for the maverick video game developer. Valve's priority needs to be the expansion of its Steam network across the industry to revolutionize gaming, and the Steam Box will be its means to do so.



OVER / UNDER

Scoring returns in the unconventional market of sports betting

By Tahir Rhemtulla and David Wade

Investment professionals ranging from Warren Buffett to Benjamin Graham argue that people should invest in what they know best. Although many investors spend more time watching and analyzing sports than they do reading annual reports, the market to make sophisticated investments in sports has not yet developed.

Betting on sporting events dates back to Ancient Greece over two thousand years ago. In the 19th century, betting on horse races became a popular activity in England, and has remained a widespread pastime ever since. Today, sports betting has grown due to the rise in popularity of professional sporting leagues and a changing regulatory landscape. Widespread adoption of the Internet has enabled the sports betting market to grow to the point where now, 1 in 4 Americans place bets annually.

The Hot Streak

The sports betting market in the European Union alone is expected to grow at a CAGR of 6.8%, from its current size of €263B. Because of the growth in this industry, many renowned investors have begun to view the evolution of sports betting as a lucrative opportunity – yet little effort has been put forth to capitalize on the fragmented market.

Although sports betting funds are a relatively new concept, they have generated sizeable returns for early investors. In 2009, the first sports betting fund was raised by Priomha, an Australian investment management firm. The Cloney Multi-Sport Investment Fund (Cloney) invests in sporting events stretching across several professional leagues. By the end of 2011, the fund gen-

erated an astounding return of 118%, outperforming the S&P/ASX200, which lost 17.4% over the same time period. The fund's mandate is to either take a long or short position based on the presence of intrinsic value in a bet. The fund is administered with stringent portfolio and risk management procedures, and is audited quarterly.

With returns that seem too good to be true, the success of inaugural sports betting funds raises several questions to potential investors. First, how does the pricing of events differ from their intrinsic value? And second, how does an investor identify intrinsic value to generate returns?

The Mispricing of Events

The sports betting market behaves just like the stock market: irrationally. A significant irrationality in the sports betting market arises from the 'home' bias; the notion that investors are three times more likely to invest in local firms despite the benefits of a more diverse portfolio. In the sports betting market, this bias is even more pronounced as a result of home team allegiances. In the NFL for example, a game between the most popular team (the Dallas Cowboys) and the least popular team (the St. Louis Rams) will result in significantly more people betting on the Cowboys, all other things being equal. Biases are also present in horse betting in China. A disproportionately high percentage of bets are placed on the #8 horse, simply because the number 8 is lucky in China. As a result, when the line is open and money starts to flow in on the #8 horse, the bookmaker will alter the odds for the other horses in an attempt to "balance the books." As people are incentivized to bet for other

horses, the inflow of cash is more evenly distributed so that the bookmaker is protected in case the #8 horse wins. Such irrationality leaves a huge gap for professional bettors to generate profits by using more rational measures to determine probable outcomes, and in some cases, get better odds on the likely winner.

Institutional investors drive equity prices. In public markets, institutional investors are generally considered to be more sophisticated and accurate in their valuations than retail investors, as they are more familiar with the stocks being traded. However, in the sports betting market, the volume of institutional betting pales in comparison to the volume of retail bets placed. Although there is some evidence of sophisticated retail investors, the majority of bets are made by retail investors who exhibit favoritism and the home bias, allowing their sporting allegiances to influence their investment decisions. As a result, large pricing discrepancies are more frequent.

In the days prior to a game, an opening line is set by bookmakers using their own internal measures. This is the first set of odds consumers are able to bet on. Bookmakers hope the opening odds will attract an equal number of bets on both sides, but this is rarely the case. During the lead up to the game, and through the game itself, supply and demand pressure continuously changes the line as the market reacts to new information. Thus, the result of a bet is not binary: by taking new positions as the line changes, profits can be locked in and positions can be hedged to protect downside.

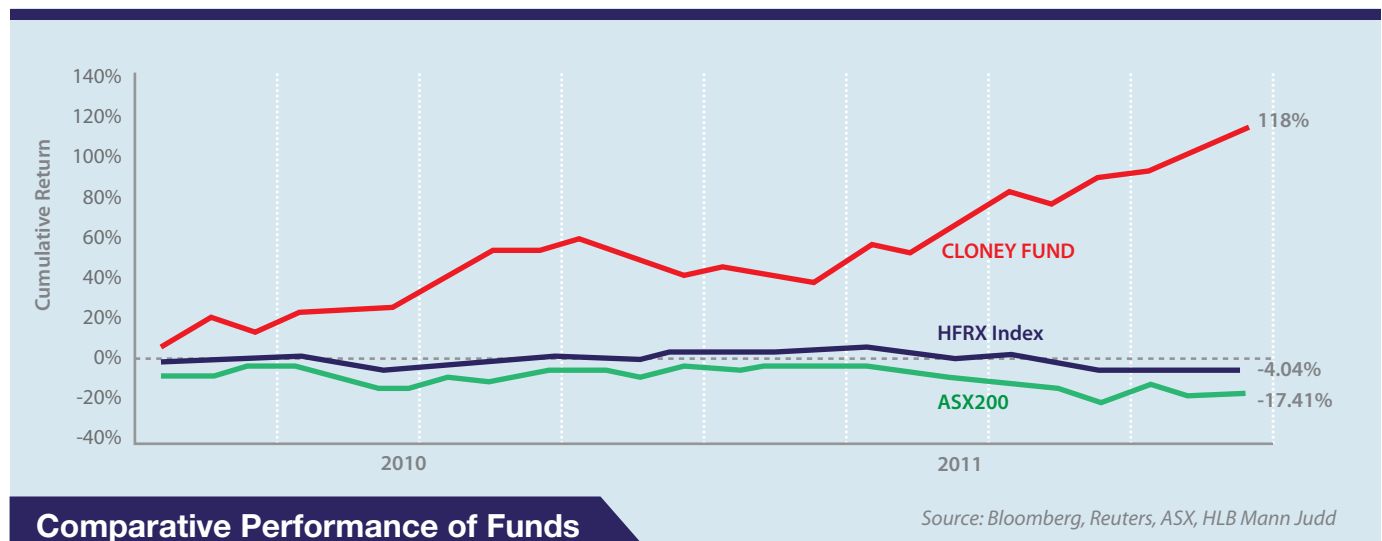
To contrast the movement of odds in a sports betting market, consider the process for pricing an IPO. An initial price range is set and then re-established once demand is taken into consideration. The mispricing that would occur if the shares of an IPO were offered to the public based on the investment banks' opinion of what the price should be, without actually testing supply and demand during the road show, could be disastrous. Sophisticated investors would grab as many shares as they could

“THE CULTURAL STIGMA ASSOCIATED WITH GAMBLING, PRIMARILY DUE TO THE NEGATIVE IMPACT GAMBLING CAN HAVE ON PEOPLE’S LIVES, IS A KEY REASON WHY IT HAS NOT BEEN IMPLEMENTED ON AN INSTITUTIONAL LEVEL.”

from their broker if they believed the price was too low and alternatively short it if they believed it to be overvalued. If this was the case, investors would make a fortune based on pricing errors. With the line on hundreds of sporting events being set every day, the potential for mispricing is rampant. Bookmakers are fine with mispricing according to the probable outcome as long as it leads to their desired result: a balanced book where an equal amount is bet on each side of the outcome. In a market where mispricing is ubiquitously accepted, opportunity abounds.

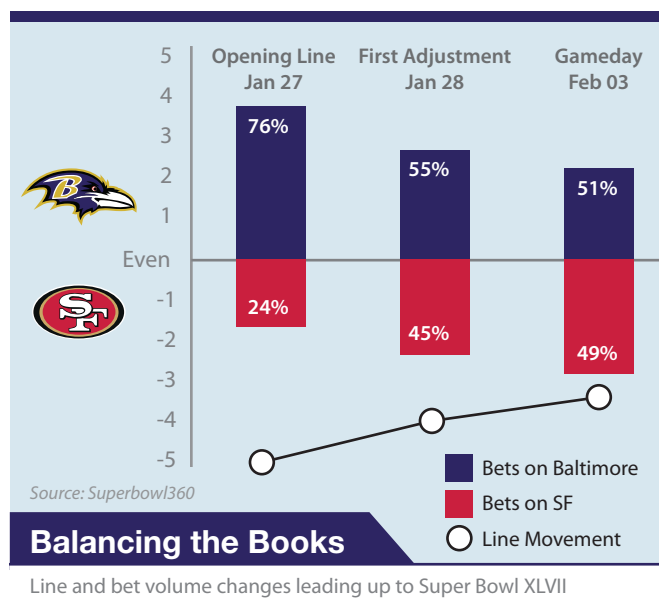
Identifying Intrinsic Value in a Mispriced Game

In the stock market, investors ultimately value equities on the ability of a company to generate cash into the future. To do so, analysts take historical data to extrapolate future results. In the sports betting market, a similar process can be used to determine the potential value of sporting events. By using historical statistics and adjusting for the current situation, models can generate probable outcomes. The variables that can be inputted are limitless: team morale, recent match-ups, injuries, weather, and starting lineups. This is a highly subjective process; good



Comparative Performance of Funds

Relative performance of Cloney sports betting fund compared to a hedge fund and the market index



analysts in both sports betting and the stock market alike can determine value and benefit by knowing what factors are the most important drivers of future performance. Institutional sports betting should be largely driven by advanced quantitative models, and if a model's prediction differs from what the current line implies, then betting on that event is warranted. This process is precisely what many online sports handicapping services offer. They continuously test and tweak their software until they are comfortable with a given system. Most of these services boast year-over-year positive returns with a very low number of losing seasons and have been successful in consistently recognizing profit opportunities in several lines. Sportrends, for example, has generated 22 consecutive winning seasons, while Shark Handicapping has produced winning seasons in 14 of the past 16 years.

Taking Sports Betting Mainstream

The cultural stigma associated with gambling, primarily due to the negative impact gambling can have on people's lives, is a key reason why it has not been implemented on an institutional level. Betting can lead to addiction and highly irrational behavior, and although most people bet within their limits, this is not always the case. Because of these negative perceptions, established investment management companies have been hesitant to risk tarnishing their reputation by marketing a fund based on betting. Yet it is important to distinguish between the compulsive behavior found in many amateur gamblers and the strict decision criteria that would guide a sports fund. Decision criteria based on proven quantitative models will allow a sports fund to market its positions as investments rather than 'bets', avoiding the stigma associated with the gambling community.

The Right Time to Bet

Fast growth in the market size of retail betting means there is now enough liquidity to place large bets on a widespread number of sporting events. Transaction costs are also declining as a result of increased competition among sports betting market makers and exchanges. These conditions are making it possible to bet larger amounts on a wider range of events, increasing the feasibility of creating a fund.

There is little competition from other funds, resulting in higher management and performance fees in the industry. For example, the Priomha fund charges performance fees of 30% on returns. To start a successful fund with superior returns, the most crucial factor would be attracting a talented team of analysts, similar to a successful hedge fund. A combination of leading sports industry personnel and PhD-level quantitative experts would provide an ideal investment team. Industry experts should be sourced from wide-ranging backgrounds in sport – from former player agents to assistant general managers to ESPN sports analysts. The presence of industry experts would be a key competitive advantage for capturing qualitative factors such as team morale, performance in a tighter checking game, and the ability to handle a pressure situation – factors that the average sports bettor may overlook. Combining these two groups' expertise to produce a quantitative predictive model would be the most appropriate structure for the investment team.

It is also vital to have extremely prudent risk management procedures. Only small proportions of the fund's assets would be bet on any given event, and sufficient capital would need to be available to hedge lines as games progress. A system of checks and balances from upper management would ensure that capital is only allocated to the investment teams whose models were currently working with enough conviction to successfully predict future outcomes. This way, the fund would only invest in sports where it has a competitive advantage, increasing the chance of success.

The negative stigma associated with sports betting is slowly fading as funds like Cloney demonstrate that rampant mispricing can transform a sports bet into a sports investment. Given the popularity of sports betting among the public and the ever-growing search for alternative investment vehicles, investors are increasingly willing to invest in a sports fund. Low bond yields and uncertainty surrounding the equity market has pushed investors to seek returns from non-traditional sources, and the sports betting market is primed to deliver strong returns to those who take the first steps. As Wayne Gretzky once said, "You miss 100% of the shots you don't take." Similarly, you miss 100% of the bets you don't make.



STILL BUFFERING...

Amazon's foray into online video streaming

By Michael Delplavignano & Joshua D'Souza

After spending several years and almost a billion dollars developing a video on demand (VOD) service, Amazon, the unquestioned leader of e-commerce, is scrambling to hide the black sheep of its otherwise successful business. Tom Szkutak, Amazon's CFO, remains vague in reporting detailed results stating, "I can't give you specifics for attach rates, but Prime Video is making good progress on the video content side."

The current Amazon Prime package includes free two-day shipping and Kindle e-book rentals for \$79/year, with the VOD service included on the house. VOD services allow users to watch video content whenever they want, instead of according to an airing schedule. Unfortunately, Amazon only views Prime as a marketing tool, missing the enormous opportunity to offer Prime Video as a standalone service. As a result, Prime Video is experiencing low customer adoption, and is proving to be a failure. With adequate content (roughly 40,000 titles compared to Netflix's 60,000), Amazon is wasting its tremendous potential to develop and cultivate a new type of user. Amazon's stakeholders are now eagerly watching to see whether Prime Video is able to deliver an offering that can rival Netflix and support Amazon's opportunity to offer the world's strongest media content ecosystem.

The Chess Board

The most successful player in the online streaming industry thus far has been Netflix. Sandvine Inc. reports that 33% of primetime Internet traffic is directly attributable to Netflix. In the past, Netflix used its first mover advantage and strong content base to capture a large share of the market. Interestingly

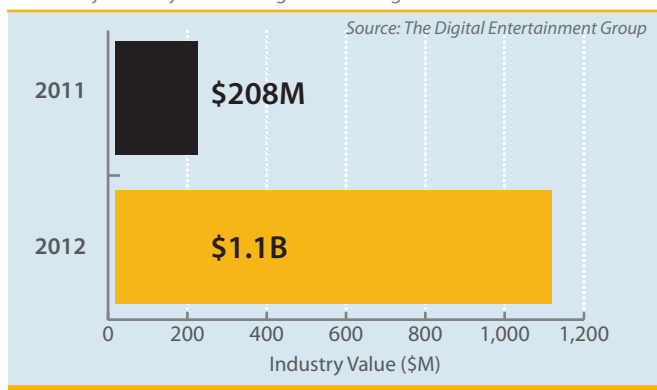
enough, Netflix has now shifted its offering to include exclusive and original content. House of Cards was released as an entire TV series in February 2013, signaling the beginning of a strategic plan for Netflix to use unique content to garner increasing demand. Netflix has now become synonymous with VOD, capturing the consumer mindshare and funneling new users to their service.

"ALTHOUGH AMAZON IS OUTMATCHED ON A CONTENT BASIS, THEIR MASSIVE SERVER INFRASTRUCTURE AND DEEP POCKETS ALLOW THE COMPANY TO STILL COMPETE EFFECTIVELY."

Although Amazon is outmatched on a content basis, their massive server infrastructure and deep pockets allow the company to still compete effectively. Amazon's focus has been centered on becoming the world's largest online retailer, using superior operational logistics, convenient user experience, and customer management systems to offer the lowest prices. Pursuing the "lowest price around" strategy has more than doubled their sales over the last three years to \$48B and has built over \$8B in cash on hand. Their user base consists of 100 million customers and their servers host roughly one-third of all internet content. With extraordinary reach and financial capabilities, Amazon is well-equipped to develop Prime Video's content base and thrive in the VOD industry.

VOD Consumer Spending

Consumer spending on online video services has increased by over 400% in just one year showing a shift to digitized media



VOD subscribers grew across the board for Amazon, Hulu, and Netflix by an average of 193% from 2011 to 2012, signaling that growth in the industry does not necessarily come at the expense of competitors. Subscribers demand a convenient and easy experience featuring the best quantity and quality of content at competitive prices. However, the complexity and closed-door nature of content acquisition and distribution, makes offering the best content a difficult task.

These issues are compounded in global markets. Complex regulations and a vastly different licensing and content acquisition process make it difficult for foreign corporations to operate successfully in the VOD space. The most feasible option has been through corporate acquisition, as Amazon showed with their 2011 purchase of LoveFilm (a European Netflix equivalent). Despite the international growth in streaming, US streaming services have justifiably focused most of their attention on the enormous potential in the local market.

Possible Maneuvers

Amazon has several strategic avenues they could pursue. First, the tough competition and poor performance of this business segment make a divestiture possible. However, the low valuation and significant potential of the industry makes staying the course in search of long-term value creation worthwhile. Second, organic expansion abroad may be tempting as emerging markets show rapid absorption. Unfortunately, international expansion fails to tap into the lucrative local market, and has a high risk factor due to the different and more complex business environment. Netflix's premature Canadian expansion illustrates how suffocating regulations can hinder its content libraries, which results in dissatisfied customers and a damaged reputation. Third, the financial resources and relative size of Amazon make acquiring Netflix an attractive proposition. Unfortunately, as long as Reed Hastings, Netflix's passionate founder and CEO, is in the picture, it will be next to impossible to complete a deal. Lastly, incorporating advertisements into their streaming business could be a promising way to generate revenues in lieu of subscription fees. Amazon, however, must

be wary of jeopardizing the user experience through irritating ads. The adverse effects to user convenience could hinder Amazon's ability to attract and retain customers during a time when growth is critical.

The Road to Success

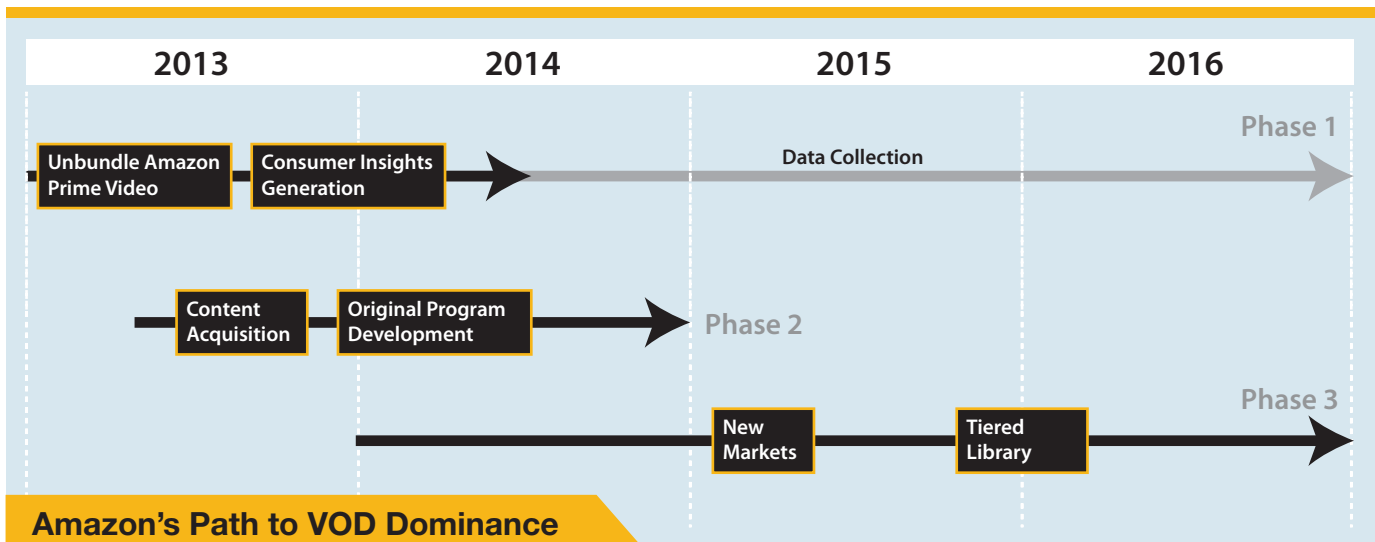
Unleashing Amazon's True Potential

Unbundling the video streaming service from Prime and offering it for free will allow Amazon to generate large user adoption and mindshare quickly. With a limitless free period, instead of the one month free trial offered by Netflix, convenience is also created for those who wish to try the service. Amazon's current members already have their personal information in Amazon's system and will not have to deal with the headache of signing up for, and cancelling, their service. For non-Amazon members, not having to deal with online payments makes trying the service very easy as well.

Amazon can generate immediate value from Prime Video by cross-selling Amazon products and developing consumer insights. By referring customers to merchandise that is related to content being viewed, Amazon can induce greater spending in their user base. Imagine watching the newest episode of *How I Met Your Mother* and being presented with a direct link to purchase a copy of *The Bro Code* on Amazon's website. Amazon can enhance the convenience of the sale through their 1Click technology, user-generated ratings system, and consumer information forums to enhance the cross-selling initiative. This new value will compensate the lost revenues from Prime subscriptions, as an estimated 90% of Prime users would retain membership for its original features like free shipping. As usage for the standalone video service increases, Amazon will extract consumer behavior insights that will aid in further cross-selling initiatives. The valuable data generated from observing user's viewing habits can be fed into Amazon's recommendation algorithms, increasing the accuracy and usefulness of their consumer marketing.

Building the Next Big Thing

Over the next few years, Amazon will need to invest heavily in acquiring new content. In February 2013, Amazon struck a deal to bring FX Networks' *Justified* and *The Shield* exclusively to their streaming service. Still, Amazon would be better served to focus on acquiring exclusive and original content as this is what consumers are growing to demand from VOD providers. This stockpiling of content should culminate in the eventual launch of a premium library offered at a relatively low price (say \$4.99/month compared to Netflix's \$7.99/month). This final step will allow Amazon to appeal to customers from both a pricing and content perspective. Considering the importance of content to consumers and Amazon's vast financial resources, investing in original content is the best path to sustainable success. In planning, Amazon should use the free service to generate consumer



Amazon's Path to VOD Dominance

Amazon must focus on three phases: unbundling their current video service, generating content and eventually monetization through tiered services

feedback to build the premium library. Offering consumer demanded original content will lead to long-term profitability and the creation of a new revenue stream that is directly attributable to the video streaming business.

Turning Free Into Real Returns

The cost of content acquisition is skyrocketing in the VOD arena; Netflix just recently signed a deal with Disney estimated at \$300M. Cross-selling and a premium video service cannot justify this massive investment alone. Where Amazon can truly unlock the value of the video service is in the mobile content space, with the Kindle Fire.

In the long term, Kindle Fire users should be given free access to the Prime Video premium library. These devices are already sold at a loss to drive widespread adoption, and bundling VOD services alongside hardware will present consumers with an appealing purchase opportunity. This will accelerate further adoption and create a value proposition combining hardware and free content, something that is unmatched by Apple, Samsung, and Google.

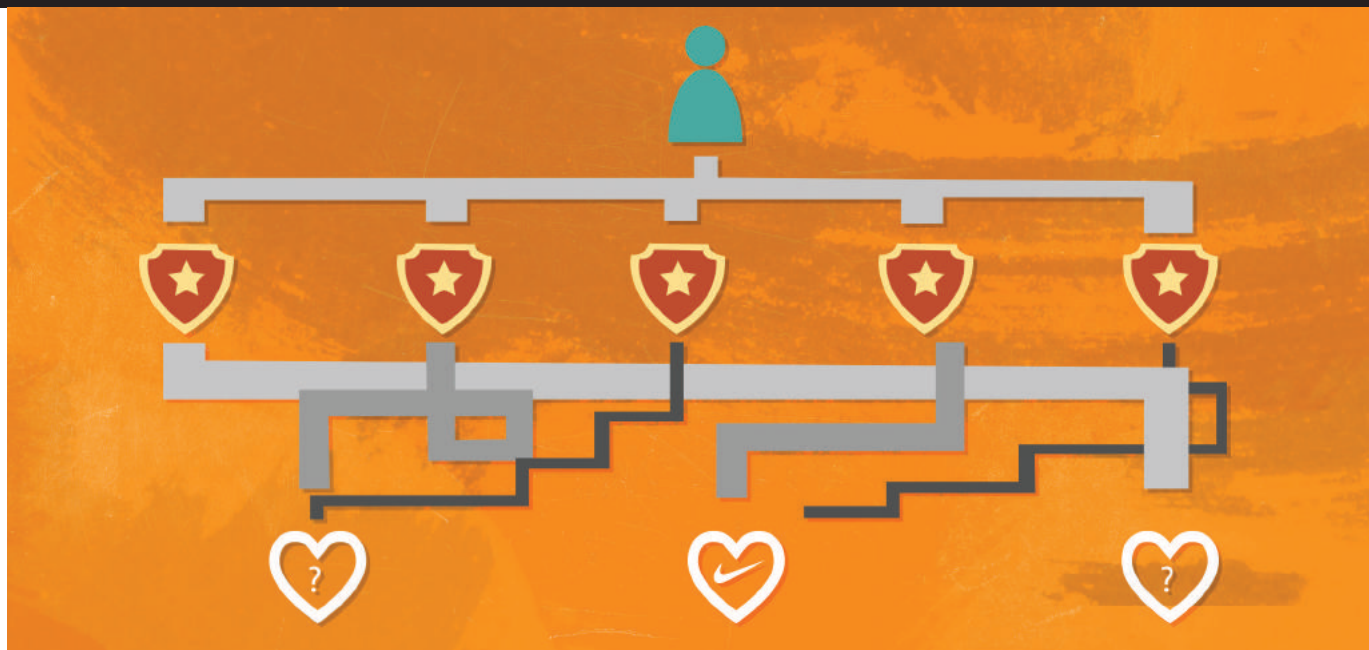
“WHERE AMAZON CAN TRULY UNLOCK THE VALUE OF THE VIDEO SERVICE IS IN THE MOBILE CONTENT SPACE, WITH THE KINDLE FIRE.”

Establishing a large user base will allow Amazon to expand on its strategy of creating a broader content ecosystem. With the introduction of Amazon MP3 in 2007, and a shifting focus to e-books over traditional written mediums, Amazon is moving from physical content to digital content. The Kindle Fire's re-

lease brought this effort to tablets where Amazon is battling the likes of Apple and Google for mobile content ecosystem dominance. With the introduction of VOD services into the power struggle, Amazon will have a differentiated offering capable of securing a large portion of end users. Amazon's massive investment will be done in the pursuit of converting users into life long customers. The resulting increased exposure and market share that is brought about by expanding their digital offering positions Amazon to create a profitable hardware and software ecosystem in the future.

Amazon's Fate

Amazon's corporate strategy has been built on the idea of “spend now, earn later.” This mentality helped Amazon scale its retail business in the late 1990s and early 2000s. It's time for the same aggressive approach to be used in building Prime Video as a core component of the Amazon ecosystem. Combining Amazon's digital ecosystem with its e-commerce business will lead the most comprehensive and diverse service ecosystem in the world.



GAME ON FOR CPGs

How Consumer Packaged Goods can game consumers into spending more

By Dan Hernden and Oscar Linares Leon

Consumer Packaged Goods (CPG) brands are struggling with declining sales in developed countries. The US, for example, saw a slight volume decline in 2012. Yet, CPGs are fixated on pursuing typical marketing strategies. A Booz & Co. survey of CPGs found that 83% of respondents plan to increase investments in shopper marketing, with 55% ranking it as their number one investment. CPGs must recognize the changing habits of their consumers. Services like PVR and Netflix have enabled 70% of television viewers to avoid television advertising altogether. Online ads are also becoming less effective; 68% of consumers surveyed by Adobe have described advertising as “annoying”, illustrating consumer desensitization to the messages conveyed by traditional marketing. CPG companies clearly need new mediums of communication to engage consumers and spur sales growth.

The Game is Afoot

Key among a number of untapped opportunities for CPGs is the emerging field of gamification. Gamification is the application of game design techniques and game mechanics (points, levels, achievements) to non-game activities such as education, fitness, and healthcare. In the context of marketing, gamification helps brands develop a loyal consumer base, leading to repeat purchases and improved product differentiation. Although gamification is a relatively new concept in marketing, several successful gamified campaigns have been released to date. In 2006, Nike released the Nike+ iPod application, which tracked the distance and pace of a person’s run with the help of proprietary equipment. Nike experienced a 13% market share increase in the running shoe market in the first two years of this

campaign. Another example is Right Guard’s Total D MVP campaign, a Facebook app that encourages users to challenge their friends with online sports trivia and casual mini games. The campaign increased the sales growth rate of Total Defense 5 antiperspirant from -3% to 15% in three months. These game-centric campaigns show the potential to engage consumers on a much more intimate level.

Who Are the Players?

Gamification is not restrained to youth-oriented brands; any generation can find a game experience appealing. Recent studies have discovered that middle-aged women are one of the fastest growing demographics among mobile phone and tablet gamers. Female focused apps lead male focused apps in the top 10 grossing iPad game chart, with female iPad ownership outstripping male ownership in 2012. CPGs could benefit from tailoring gamified advertisements to a wide range of demographics including middle-aged women, the largest purchaser of consumer goods for the home.

Gamified campaigns are most effective when applied to brands that already have existing customer awareness; they are highly effective at increasing the emotional connection between a brand and its existing users but struggle to develop initial brand awareness. As such, gamified campaigns can increase customer loyalty and decrease churn rate, supporting the development of brand ambassadors.

Brands with the highest potential for success are those which (1) educate the consumer or (2) are based on recurrent activi-

ties. Febreze represents a brand that could benefit from a gamified campaign focused on educating consumers on the effectiveness of their products and encouraging users to find new uses for their brand extensions. CPGs' entry point into gamification however should come through the latter. The most successful campaigns – i.e. Nike+ – have succeeded through the promotion of recurring activities, such as an active healthy lifestyle. In this sense, conglomerates like Nestle could implement a gamified campaign targeting the health conscious movement to establish a deeper interest in their products and consequently drive up sales.

Making Games a Reality

Designing: Poor design is one key reason gamified campaigns fail. As such, CPGs should hire advertising agencies that have a team of interactive designers, such as Tribal DDB, to build gamified campaigns. Other gamification specialized firms such as Bunchball, BigDoor or Badgeville offer similar services and provide unique insights to develop games that will appeal to consumers.

Retailers: Retailers have a monopoly over direct consumer communication channels and might see gamification as a threat since it reduces their influence over the customer, limiting loyalty to the retailer's brand. To avoid damaging distribution relationships, CPGs should collaborate with retailers in designing unified gamified campaigns. For example, Nestle could partner with select retailers to create a gamified campaign that would offer exclusive brand recognition to the partnered retailers. A retailer inclusive campaign provides incentive for the retailer to advocate consumer adoption.

Playing: Social media should be an integral part of any gamified campaign because it enables the quick development of a community. Brand managers can capitalize on the resulting positive networking effects and brand awareness created through referrals, comments, "likes", "retweets", etc. Additionally, social media exposure is one of the most effective ways to engage players. With these insights, Nestle could create a campaign that encourages people to complete recipes using Nestle products and post their creations on Facebook, Pinterest, and Instagram. In-

tegrating these actions into a campaign enhances the chances of successful gamification.

Return on Investment: Companies have a tendency to focus on extrinsic rewards when designing gamified campaigns. These rewards can effectively attract customers to a campaign and establish positive relationships between the game experience and the product itself. However, offering excessive extrinsic rewards can devalue gamified campaigns by causing an overemphasis on reward capture that undermines the simple enjoyment of playing the game. On the other hand, intrinsic rewards allow players to focus on playing the game, which is vital for the deep customer engagement required to build brand loyalty.

A healthy balance between intrinsic and extrinsic rewards is required in order to attract customers and keep them engaged with the gamified campaign. Considering Nestle, players could have levels of mastery when it comes to the use of a certain brand or product to satisfy the need for intrinsic rewards. To drive sales and actually increase customer preferences, extrinsic rewards, like coupons or product prizes should be introduced. This combination of rewards ensures both engagement and increased product sales for the campaign, two key goals for any gamified campaign.

Another consideration is the metrics used in the judgment of success for gamification. Brand managers are often rewarded for maximizing brand recognition, but this narrow focus sometimes causes valuable market opportunities to be missed. This is especially true for less tangible measures such as customer engagement and community development. CPGs could therefore introduce broader measures of engagement such as growth in user generated content and number of actively involved users to measure campaign success. Adding such non-traditional metrics to brand manager reward systems would align personal motivations with successful gamification development.

Game On

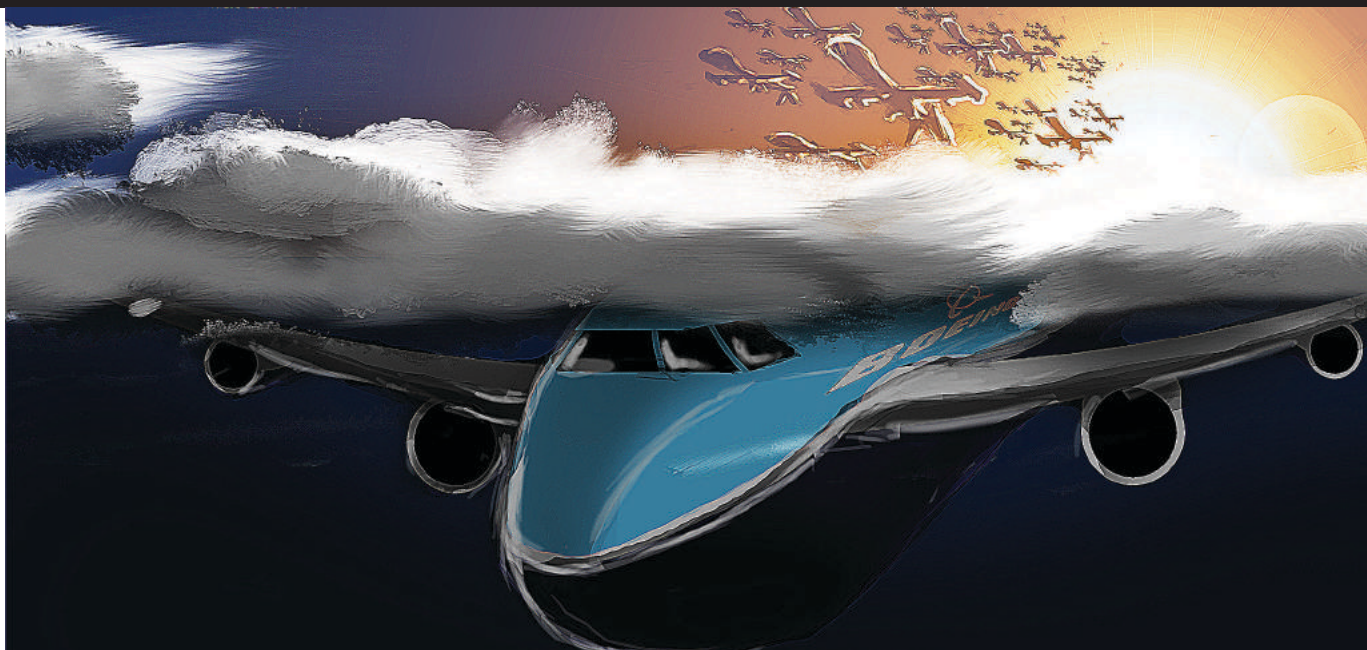
Gamified campaigns offer a channel for CPG brands to interact with consumers at a level of intimacy they have never achieved before. CPGs have been hesitant to apply gamification techniques to their brands because of the structural changes required to implement them. CPGs would need to provide training across all management levels in areas such as non-traditional media channels and implement alternative performance metrics. In addition, to successfully apply gamification, its implementation cannot be an afterthought. Brand managers must think about gamification during every stage of their market planning process, from early conception to segmentation, positioning, and implementation. Gamification does, however, provide significant upside and is not a field CPGs can afford to ignore.

Give yourself 10 points for finishing this article.

Company	Campaign	Description	Results
	TotalDMVP (2010)	Gamified micro-site on facebook	• Sales up 18% • 675,450 fans on facebook
	Piano Stairs (2009)	YouTube experiment to let fans make the world "fun"	• 20M views on YouTube
	Nike+ (2007)	Points for athletic performance	• Running shoe market share up 13% in 2 years

Gamification Success Stories

Source: R/GA, A4RA, Cannes Lions



BOEING: CLEARED FOR TAKEOFF

Transforming military might to an emerging civilian market

By Erik Bartos and Asad Hussain

In June of 2011, three men accused of stealing six cows were arrested in North Dakota. What sets this arrest apart from all others was not what they were stealing, but how they were caught. It was the first arrest in U.S. history to be carried out with the help of an Unmanned Aerial Vehicle (UAV). The UAV revolution, which started in the military sector, is starting to spill over to the civilian sector. This presents a phenomenal opportunity for aerospace companies, like Boeing, who have the capacity to embrace the relatively young and rapidly expanding UAV market.

Boeing's Impending Crisis

Development of the civilian UAV market is occurring at an opportune time for Boeing. Simply put, Boeing's outlook is far from positive and the company needs a project to turn around its fortunes. Boeing currently faces the prospect of losing billions of dollars in contracts from one of its main customers, the United States military. Boeing's military manufacturing business unit, Boeing Defense, Space & Security (BDS), consistently secures a large portion of the contracts issued by the U.S. Department of Defense (DoD), which has the largest budget of any military in the world. Unfortunately for Boeing, economic conditions and the winding down of wars in Iraq and Afghanistan have prompted the U.S. government to reduce the DoD's budget starting in 2013. With BDS reliant on U.S. military spending for 76% of revenues, these cutbacks constitute a real and potentially expensive problem. A reduction in overall DoD spending, however, does not have to result in a reduction of BDS revenues. BDS can reposition to take advantage of the DoD's new spending priorities and strengthen revenues in oth-

er business units, namely through the use of UAV technology in civilian segments. Boeing should do its best to not let a good crisis go to waste.

Thinking Short-Term to Set Up for the Long-term

Market research projects a CAGR of 12% in the UAV market over the next five years, increasing the total value of the market to \$86.5B. To understand what makes UAVs so attractive to purchasers, consider that a F-22 Raptor (manned fighter jet) costs approximately \$155M, while a UAV costs approximately \$4M. Also, consider the average fighter pilot is paid \$98,000 annually, whereas most UAV operators earn less – between \$30,000 and \$80,000 a year. In 2012, the DoD outlined its spending priorities in the Defense Strategic Guidance program. The plan is to reduce spending on conventional Cold War assets like tanks and manned military aircraft while increasing expenditures on special forces, including UAVs. Cuts to manned military aircraft directly impacts many of BDS' most profitable models including the F-22 Raptor and the Boeing P8-A Poseidon, the latter of which will absorb \$5.2B of DoD cuts over four years.

Growth in the UAV market can help aerospace companies offset declining revenues from the manned military aircraft market. While volumes in the UAV market are increasing, these aircraft have much lower margins than their manned military counterparts. Focusing solely on manufacturing UAVs could help BDS maintain revenues, but at the expense of Boeing's profits. Fortunately, UAVs require significant communications infrastructure

and aftermarket support. These products and services can be procured by BDS's Networks and Space Systems division along with BDS's Global Systems and Support, which retain healthy profit margins of 8% and 11% respectively. Boosting revenue in all three BDS divisions will maintain profits in absolute terms.

Boeing must invest significantly to corner the growing UAV market. Given BDS has approximately \$10B in liquid assets; some of this money would be well spent immediately on R&D efforts. This will require a major change in corporate strategy, as Boeing's R&D spending has decreased 33% over the past two years. Meanwhile, competitors Northrop Grumman and EADS have continued to support R&D spending on advanced technologies in response to the DoD's increased interest in more advanced and sophisticated weapons. Using excess cash to bolster the R&D budget is one of the best things Boeing could do to secure its position in the UAV market.

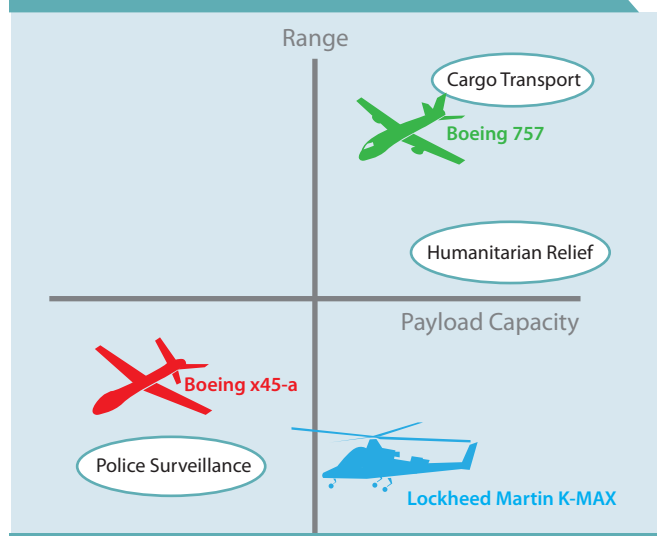
Spillover

As military demand for UAVs is satisfied in coming years, Boeing must look to alternative customers to market its products. The increased R&D spending will not have gone to waste because military technologies often have civilian applications. For example, jet engines developed for military aircraft in WWII were used on commercial airliners by 1952.

As shown by the North Dakota theft, selling military grade drones to civilian law enforcement agencies is an exciting possibility. In addition to being covert, drones are less expensive than helicopters and do not require pilots to put their lives at risk when tracking dangerous criminals.

UAVs could be used for civilian applications beyond assisting police forces. Air cargo traffic is expected to increase by 5.2% annually for the next 15 years. Long-haul freighters with larger payloads are expected to make up 60% of this traffic, indicating the importance of range and capacity in the cargo segment.

UAV Criteria and the Civilian Sector



While K-MAX, an unmanned cargo drone manufactured by Lockheed Martin, was used to carry supplies for the Marine Corps in Afghanistan, having been selected above Boeing's A160T Hummingbird – a drone with lower capacity but higher endurance – the long endurance of Boeing's cargo drone is an asset in the civilian sector. FedEx, for example, would likely be interested in buying cost efficient drones from Boeing to fly cargo; FedEx's International Domestic operations experienced 31% revenue growth in 2012. Although an attractive alternative to conventional cargo planes from a cost perspective, Boeing's current drone offering is not yet a perfect fit with FedEx's needs due to limited cargo capacity. This issue will need to be addressed through innovation if BDS drones are to become truly superior to manned cargo aircraft.

To begin a transition towards civilian application of UAVs, building cargo drones will help Boeing outcompete its main rival, Airbus. Approximately one fifth of FedEx's current fleet is made of Airbus aircraft. A low cost drone offering provides Boeing with the means to steal FedEx orders for new aircraft. This can be a remunerative strategy for Boeing, especially if also applied to companies like UPS and DHL.

If solutions to range and capacity issues are found, Boeing need not stop at manufacturing drone cargo aircraft. There are no secrets about the intense competition between Boeing and Airbus in the passenger aircraft market. Airbus, owned by the defense firm EADS, has a 30% market share in the global commercial aircraft industry and sufficient order backlog to maintain its leading position in the \$150B industry for the foreseeable future. Boeing trails closely with 26% of the market, but can secure a unique advantage by manufacturing passenger drones. Airbus would be required to invest significant time and R&D in order to match Boeing's offering.

If this technology were integrated into passenger and cargo jets, expensive pilots could be eliminated and the chances of human error could be reduced. Of course, even machines are susceptible to erratic behavior; the idea of pilot-less civilian planes, and the liabilities surrounding them, make passengers and regulators uneasy. However, the fact is that the latest generation of airplanes are already capable of performing numerous functions without input from a pilot, and it would be a relatively small step to physically remove the pilot and replace him or her with less expensive ground crews.

Opportunity Awaits

Genuine revolutions are few and far between. The last revolution in aviation took place with the development of the jet engine. While commercial airplanes have seen gradual developments since 1950's, these have been evolutionary. With a compelling cost argument, UAVs will fundamentally alter the nature of aviation as fewer manned aircraft roam the skies. Although people may not be ready for a drone passenger jet, the UAV revolution presents opportunity in cargo freight and domestic security; opportunity Boeing cannot ignore.



ZIPCAR IN THE HEADLIGHTS

How the rising “share economy” could revolutionize the rental industry

By Allison Chin and Robyn Troop

Avis' recent acquisition of Zipcar is driving the firm in a new direction - and sometimes the road less travelled really does make all the difference. The acquisition is the largest in a string of events that has ignited the discussion about what role the share economy will play in the future. After forking over \$500M for Zipcar, shareholders of the second largest car-rental agency in the world are left wondering if their money bought anything more than a company with a small car fleet and unproven cash flows.

Facing a world where technology is increasingly replacing the need for face-to-face interaction, as well as an industry marked by higher competition and eroding margins, Avis was in desperate need of an opportunity that would provide long-term growth. The Zipcar acquisition represents a shift away from the traditional car-rental model and Avis' leap into the exciting (and potentially lucrative) car-sharing industry. But is Avis' acquisition already a step behind? The considerable cost of owning and operating the Avis and Zipcar fleet will hinder the ability of the company to compete against the rising peer-to-peer car-sharing services.

Why Zipcar?

Once thought of as a model that only appealed to a limited segment, Zipcar has gone mainstream. The company is the largest player in the car-sharing industry with over 80% market share and 767,000 members. In contrast to the traditional car rental model where customers are limited to renting a car by the day or week at centralized locations, Zipcar users can rent cars by the

hour and pick up their vehicle from a local parking space using a smartphone app to unlock the car.

While driving may seem like a necessity given North America's suburban car culture, there are significant benefits for urbanites that walk to work or school and only require a car to run the occasional errand. According to a University of Michigan study, cars have a high idling capacity: 90% of the time a car is parked in the driveway not being used. The average Toyota Camry costs \$7,450 annually to operate, or approximately \$20.41 per day. For an average Torontonian who only requires a vehicle for two hours or so per week, they would realize cost savings of approximately \$6,400 per year if they were to switch to Zipcar - equivalent to shaving approximately 3.5 years off a mortgage, half the annual cost of raising a child, or indulging in 26 Big Macs per week for an entire year.

In a 2009 Zipcar study, the company took the keys away from 250 self-confessed car addicts. Participants had to walk or use public transportation and could only use their Zipcar membership if absolutely necessary. Astoundingly, the results of this experiment showed that over 100 participants did not want their keys back. The study demonstrates that users outside of Zipcar's formerly 'niche' market segment are willing to embrace car-sharing because of its tangible economic benefits, differing from early adopters who may have chosen car-sharing for ideological reasons.

The Share Economy

Zipcar is one of many businesses that operate in what has become known as the “share economy.” The share economy is propelled by online market platforms that allow consumers to demand goods and services in a way that most efficiently meets their needs on a cost basis. These online platforms have spurred growth in pay-per-use services. The share economy gives consumers the opportunity to rent specific goods and services directly from their peers, allowing for better capacity utilization and a lower net cost to the owner. As proponents of the share economy like to put it, “access trumps ownership.” Referred to as collective consumption, this growing consumer trend is expected to play an increasing role in global markets.

A well-known example of the sharing phenomenon is Airbnb, an online platform connecting individuals looking for a cheap place to stay with homeowners willing to rent out their extra space. In this win-win-win scenario, travelers save on accommodations, homeowners benefit from extra rental income, and Airbnb earns a 3% fee on every transaction. Although margins are slim, profits are increasing as more people use Airbnb’s services: over 15 million guest nights were booked in 2012. Rapid growth in users and burgeoning interest in the share economy has led to Airbnb’s current valuation of over \$2.5B.

This practice is scalable across several industries. Companies such as Capital Bikeshare, Bixi, and SmartBike provide over 2.2 million bike-sharing trips each month. DogVacay provides home-sitting as an alternative to kennels. Fon shares WiFi access between its 7 million members. Lending Club provides members with short-term cash at low interest rates – the “share” financial lending market is expected to grow to \$5B by the end of 2013.

Recent figures on the share economy indicate that people are more willing to share and the number of users participating in this market is growing rapidly. Rachel Botsman, author of “What’s Mine is Yours: The Rise of Collaborative Consumption” and a frequent TED contributor, predicts that the total share economy is a \$110B market, and car-sharing revenues will reach \$3.3B by 2016. In 2010, Time Magazine named ‘collaborative consumption’ as one of the top 10 disruptive ideas that would change the world. The share economy has virtually no limits.

What’s Mine is Yours

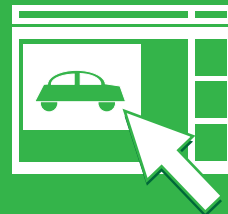
Avis purchased Zipcar to gain access to the share economy; however, the company’s business model may already be outdated in this rapidly evolving market. The car-sharing market has moved beyond Zipcar’s fleet model; new entrants now offer peer-to-peer (P2P) car-sharing services. Rather than owning and operating a fleet of cars, P2P companies like RelayRides, Zimride, Spride, and Getaround simply enable the sharing of vehicles owned by individuals. The largest of the P2P car-shar-

The Car Sharing Process

A closer look at the P2P model

For Renters:

1 Search online for your perfect car



2 Meet the owner for the keys



3 Hit the road

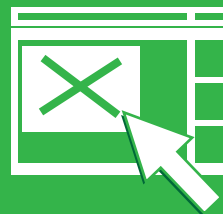


4 Return the car to the owner. Say thanks!



For Owners:

1 List your car online



2 Choose the driver



3 Meet the driver and get paid



4 Wait for the driver to return the car. Rate the driver!



ing services, RelayRides, has vehicles available in over 1,300 U.S. cities across all 50 states.

P2P car-sharing services not only offer consumers access to an online market, but also guarantee a level of comfort and security that could not be obtained through individual P2P transactions. P2P car-sharing companies complete vehicle and renter background checks, provide insurance, and, in the case of RelayRides, install devices in each car so that only members can start the car's ignition. For these services, P2P car-sharing companies take an approximate 40% cut of the car rental fee. After this fee the owner of the vehicle can use the generated revenue to cover lease payments, maintenance costs, or other expenses, supplementing their personal income.

“CURRENTLY, THE P2P CAR-SHARING INDUSTRY IS SMALL, FRAGMENTED, AND RIPE FOR ACQUISITION BY A LARGE PLAYER WITH STRONG BRAND RECOGNITION AND AN ESTABLISHED ORGANIZATIONAL STRUCTURE.”

Even with Avis' infrastructure and marketing support, Zipcar simply cannot compete on price with P2P car-sharing companies. With zero fleet, maintenance, or parking costs, P2P boasts a more favorable cost structure. P2P companies are able to pass on significant savings to their customers, reinvest additional resources into building scale, and improve customer service during initial growth phases.

Furthermore, Zipcar's user acquisition costs increased 27% as the company grew between 2011 and 2012. This indicates that customers are becoming more expensive to attract – an unwelcome sign for Avis. On the other hand, P2P car-sharing companies have a natural source of marketing from the people using the service to rent out their cars. P2P users are more incentivized to market the service through word of mouth since they are the ultimate beneficiaries of the P2P transaction.

Avis in the Fast Lane

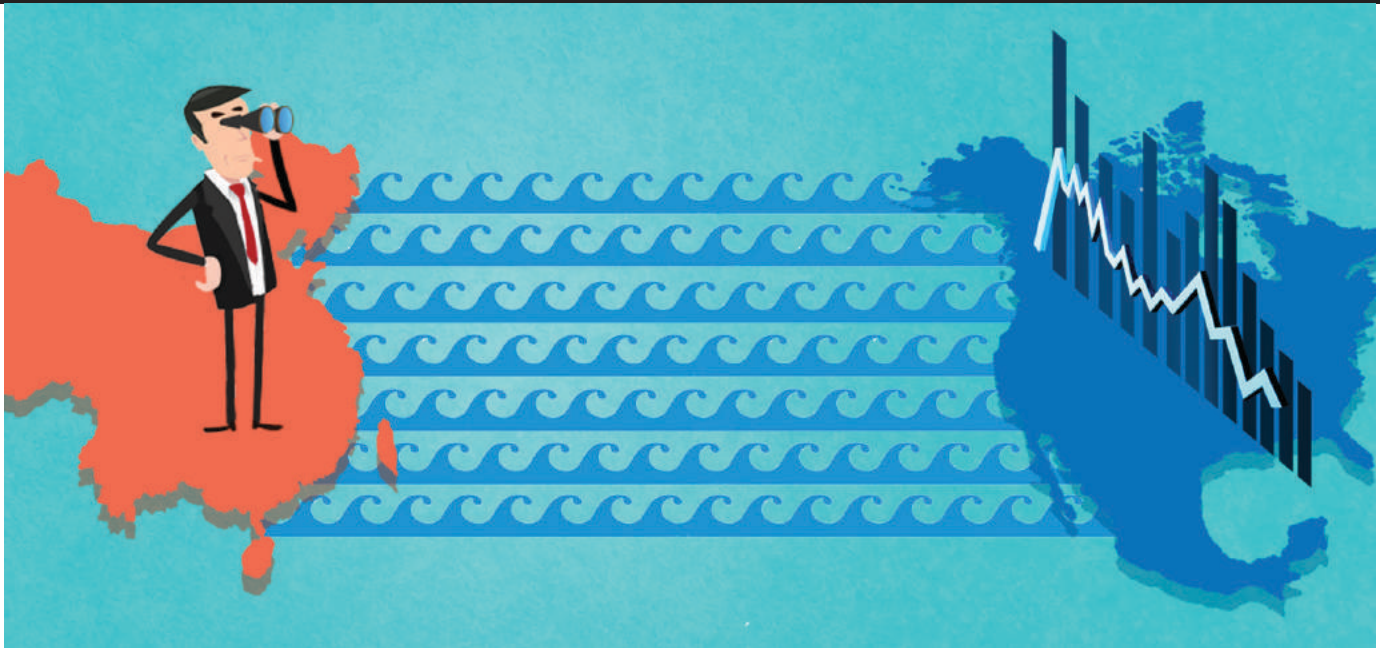
After learning from Avis' early move, there is now an opportunity for competitors such as Hertz or Enterprise to capitalize on the car-sharing industry. Although Zipcar is currently the market leader, an incumbent in the pure P2P space could potentially provide more value for members at a lower cost. Currently, the P2P car-sharing industry is small, fragmented, and ripe for acquisition by a large player with strong brand recognition and an established organizational structure. Traditional rental giants could take the lead by acquiring one of the larger P2P players, such as RelayRides or GetAround, and utilizing their internal capabilities to increase the scope of the acquired company.

Even with the movement towards P2P, Avis can maintain a dominant position in the industry if they adapt Zipcar's strategy to compete with the lower prices offered by P2P firms. Within Zipcar's existing business model, there is room to begin testing the market for an eventual transition towards a partly P2P model. Therefore, while it is important to focus on growing the current membership base and improving margins, Avis cannot afford to overlook the changes that are occurring in this evolving industry.

Avis could steer Zipcar towards the P2P business model by introducing some of its used vehicles into the P2P market. Conventionally, Avis' rental cars are driven for a fraction of the vehicle's useful life and returned to the manufacturer. These vehicles are then re-sold at reduced prices. Under the P2P model, Avis could sell their outdated fleet directly to individuals at a discounted price, under the condition that new owners allow the cars to become a part of Zipcar's P2P network for a pre-determined time frame. Cars would be equipped with Zipcar's remote scheduling and unlocking system while being available in public spaces at times convenient for the car owner and other Zipcar members. For example, a car owner who only needs their vehicle for the work week commute may agree to have their car accessible during evenings and weekends for rental. In addition to a lower purchase price, the car owner would receive a percentage of revenue each time their car is rented. Simultaneously, Avis/Zipcar can maintain control over their fleet's age and quality, make more efficient use of their assets, and decrease fleet costs. This method could place Zipcar at an advantage over its P2P competitors who face potential difficulty and high acquisition costs in finding willing members to rent out their cars.

While Hertz and Enterprise could attempt to replicate this strategy, creating a P2P company from scratch takes time and a new firm would not have the same brand recognition as Zipcar. If car owners were required to make their cars available to these P2P services, owners would want to make their purchase from the company with the largest user base in order to maximize their potential rental revenue. Furthermore, with a commitment to the Zipcar brand, after-purchase users will be forced to remain loyal to Zipcar in an industry characterized by low switching costs. To be competitive with Avis and Zipcar, Hertz or Enterprise would first have to create a substantial user base through acquisitions. Given that Avis has already entered the car-sharing market, they now have the opportunity to build scale before large competitors enter.

Avis has a head start in this race; if they position themselves to suit the needs of the rapidly evolving share economy, they can speed towards the finish line and leave their competitors in the dust.



AROUND THE GREAT WALL

Using non-equity financial vehicles to invest in Sino-tech

By Amanda Robson

Just 24 hours after it hit the NASDAQ, Baidu's initial public offering (IPO) had set a record with a first-day gain of 354%. This level of IPO activity for a foreign company had never been seen before, and cast a spotlight on China's emerging technology sector. However, despite the demand from foreign investors, Chinese technology companies found themselves unable to offer investors a traditional equity stake. Firms looking to ride the rise of China's technology sector faced one major hurdle: the government of China.

The Chinese government limits foreign equity ownership of Chinese technology companies to a minority position. This limitation makes it particularly difficult for a Chinese technology startup (CTS) to access capital, as there are lengthy domestic listing requirements and tight restrictions on debt, on top of the international listing cap of 49%. Fortunately, there are alternative means to access offshore capital. The most financially innovative technology firms have adopted another method to cater to foreign investors: a structure called the Variable Interest Entity (VIE).

Using the VIE Structure

The VIE structure provides foreign shareholders of a CTS company with a contractual agreement that offers many of the primary benefits of an equity ownership stake, such as a return on investment if the underlying firm's market value increases. The key difference is that the VIE is a contract lacking the level of legal support typically associated with owning a company through buying equity. Chinese companies using a VIE structure will use a separate offshore entity to list on a foreign ex-

change. This listed company is financed with North American capital, which it sends to the Chinese parent company using a Wholly Owned Foreign Enterprise (WFOE) as an intermediary. The WFOE is also used to direct the domestic company's cash flow offshore as dividends. Chinese shareholders have the option to invest in the offshore entity, as well as the domestic company, while foreign investors are limited to the offshore listing only.

The VIE structure is used by CTS firms to work around restrictions set by the Chinese government. The People's Republic of China (PRC) uses censorship laws to limit access to external information in order to protect national ideologies and intellectual property. This mindset was exemplified when China entered into the World Trade Organization (WTO) as a "socialist market economy." It applies the WTO platform to welcome foreign investment, but meanwhile restricts the technology sector through stringent legislation.

Foreign capital is crucial for a CTS firm to grow, as the economic environment in China makes domestic capital difficult to obtain. By broadening the potential investor base, the risk of CTS firms will be offered to investors best able to understand and price that risk, which would lower the cost of capital. The nation continues to be dominated by state-owned enterprises, making funding for private ventures hard to come by. Much of the country's economic wealth is within the hands of the governing body, with 160 of the richest 1,024 citizens in China holding seats in the Communist Party Congress. Clearly, wealth and politics are seated at the same table. Without direct connections in the Chinese government, funding options for

independent startups are limited. This issue is augmented for CTS firms because they compete in the information technology sector, which the government regulates tightly.

The VIE structure allows access to external capital that would otherwise be unavailable due to ownership restrictions. As globalization continues to increase competition, international technology players will view China’s fast-growing online market as the next frontier. CTS firms need to utilize the VIE structure now in order to access capital and solidify their market positions prior to the entrance of foreign competitors. Furthermore, if CTS firms hope to compete in foreign markets they will need to level the playing field in terms of access to and cost of capital. The landscape for technology firms in China is still evolving, leaving an opportunity for CTS companies that are able to execute a listing on a foreign exchange using a tactful and well thought out VIE structure.

How to Work Around the Red Tape

VIEs enable firms to work around the Chinese laws that limit foreign majority ownership. Since its first use in 2000 by Sina Corp., a social media company, the VIE structure has received mixed reviews in the Western world. Some firms have successfully applied the VIE to raise capital in international markets, though skepticism about the structure sprouts from instances where other firms have manipulated the instrument to unduly favor domestic shareholders. This violates the contractual rights and spirit of the ownership stake of offshore funders. In 2011, a slew of scandals regarding Chinese companies exploiting foreign investors’ lack of legal rights put the structure’s reliability into question. Concerns about the VIE structure come off the back of issues related to Chinese companies – Sino-Forrest, China MediaExpress, and Longtop Financial Technologies Ltd. to name a few – who produced falsified statements for North American shareholders. Shortly thereafter, these so called “fraudcaps” were delisted from the NASDAQ and NYSE respectively, damaging investor confidence for Chinese companies. In response, and in order to regain foreign credibility, CTS firms must market and utilize a version of the VIE structure that addresses investor concerns by ensuring investor interests are protected to the same extent as with traditional equity holdings.

“FOREIGN CAPITAL IS CRUCIAL FOR A CTS FIRM TO GROW, THOUGH THE ECONOMIC ENVIRONMENT IN CHINA MAKES DOMESTIC CAPITAL DIFFICULT TO OBTAIN.”

Investor uncertainty lies in the two major risks presented by the VIE structure:

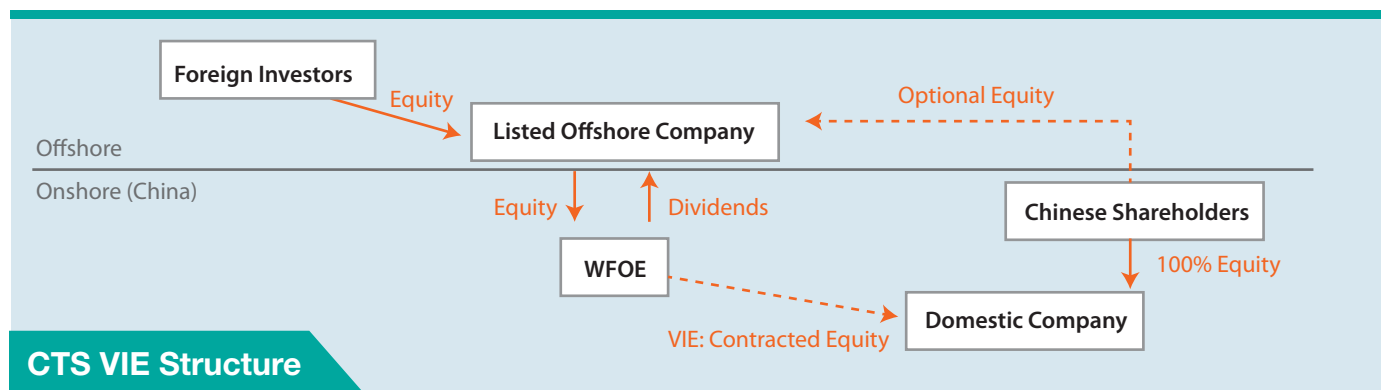
1. Lack of Legal Support in China

The VIE bypasses restrictions on foreign majority ownership, therefore Chinese law does not provide sufficient legal support in the event of VIE misconduct. Furthermore, VIEs operate in China without having been formally recognized by the PRC; there is concern, albeit remote, that the structure could be outlawed. Such a scenario appears unlikely given the use of VIE structures historically, but uncertainty lies in the fact that there is no precedent, as no structure has ever been formally combated in court.

2. No Asset Ownership

The lack of formal asset ownership for shareholders in the listed company can result in a false sense of domestic company control if Chinese shareholders do not respect the VIE ownership rights.

In order for the VIE to operate effectively, the onshore Chinese shareholders must effectively treat the listed participants as true, equal equity owners. Structuring the relationship to align the interests of domestic and foreign investors can mitigate the risks associated with poorly structured VIEs that were previously listed.

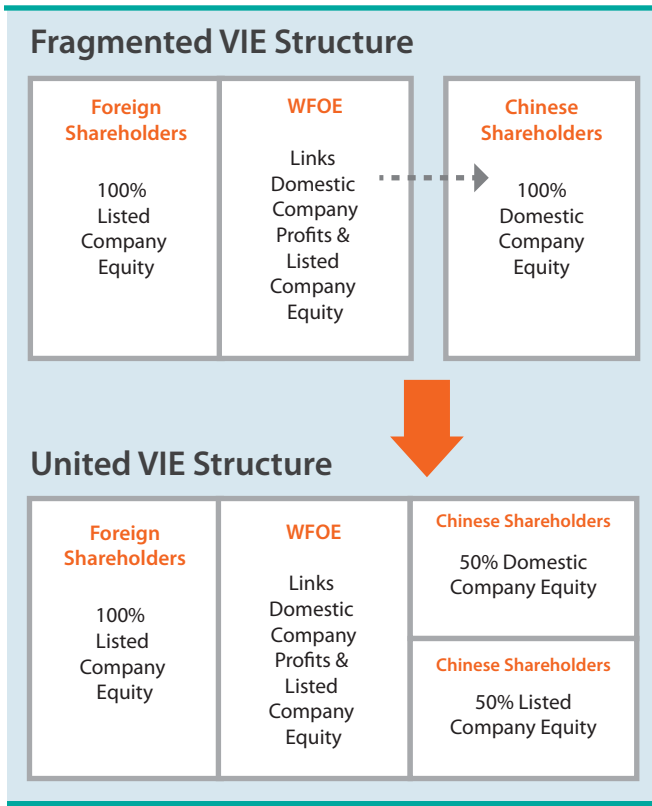


CTS VIE Structure

The VIE structure used by Chinese companies as it currently stands

Alignment Strategy

The interest of both Chinese and foreign shareholders can be aligned by having Chinese ownership in both the domestic company and the WFOE



Connecting China to the Rest of the World

When Chinese shareholders opt out of investing in the listed company, their stake in the VIE structure is completely separate from that of foreign shareholders. A united VIE structure would require that the Chinese investors hold half of their equity stake in the domestic company, with the remainder deposited into the listed company. This modification to the original VIE structure would ensure that both sets of participants hold a significant interest in the VIE entity, combatting concerns that Chinese management will not treat the contractual equity rights of the VIE as true ownership.

Baidu Leading the Way

The alignment of both onshore and offshore shareholder interests has proven to be an effective strategy. Chinese internet giant Baidu has raised over \$25B in foreign capital while mitigating investor risk by having both the foreign and Chinese owners invest in the listed company. The company's chairman and CEO Robin Li holds a large stake in both the onshore and offshore operations. By adding this additional link between investors, Baidu offers a more dependable VIE structure to foreign participants. The actions of domestic company managers are more likely to benefit the listed as well as the domestic company when their money is invested in both entities.

By marketing a required equity alignment between the onshore Chinese shareholders and the listed company, a CTS firm can more effectively raise capital on a foreign exchange by reducing the probability of manager manipulation. Addressing the historical misuse of the VIE structure will add value to a CTS listing, providing a more reputable entry onto a foreign exchange.

More Transparency, Less Uncertainty

The transparency of the VIE instrument and how it is reported on a company's financial statements is a concern to foreign investors. In July 2012, the Securities and Exchange Commission (SEC) probed into the accounting used by the VIE structure for listed company New Oriental Education & Technology Group (New Oriental). It was questioned whether Beijing New Oriental Education & Technology (Group) Co., a VIE of New Oriental, as well as its wholly owned subsidiaries, should be consolidated on New Oriental's financial statements. The VIE structure was not clearly defined. This created investor uncertainty, leading the NASDAQ-listed stock price to drop by 50%, and Western regulators to step in. The unique nature of the VIE structure can result in foreign investors failing to see the reality of what they are investing in. Clearly defining the logistics of the VIE will help international investors feel confident that they understand what their investment.

The best way to mitigate this risk is for a CTS firm to market itself properly as being fully transparent and in compliance with the SEC standards regarding the use of the VIE structure. Specific actions CTS companies can take include clarification of the onshore company financials and the full breakdown of the VIE structure including ownership stakes for all parties.

Going Forward

There is a clear opportunity for CTS firms to find the necessary growth capital to better establish their market positions by listing offshore. Combating the uncertainty surrounding the VIE structure by aligning the interests of the Chinese shareholders and foreign shareholders will mitigate the risks for foreign investors. Having the Chinese players dedicate 50% of their investment to the listed company will ensure benefits for both sets of shareholders. Making this modification to the VIE structure will provide reliable access to a new and hopefully profitable investment for international investors while providing capital to allow CTS firms to establish a competitive sustainable position in the industry.

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