IVEY BUSINESS REVIEW

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INTERVIEW: MARK WISEMAN, CEO - CPP INVESTMENT BOARD

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ARE WE THERE YET?

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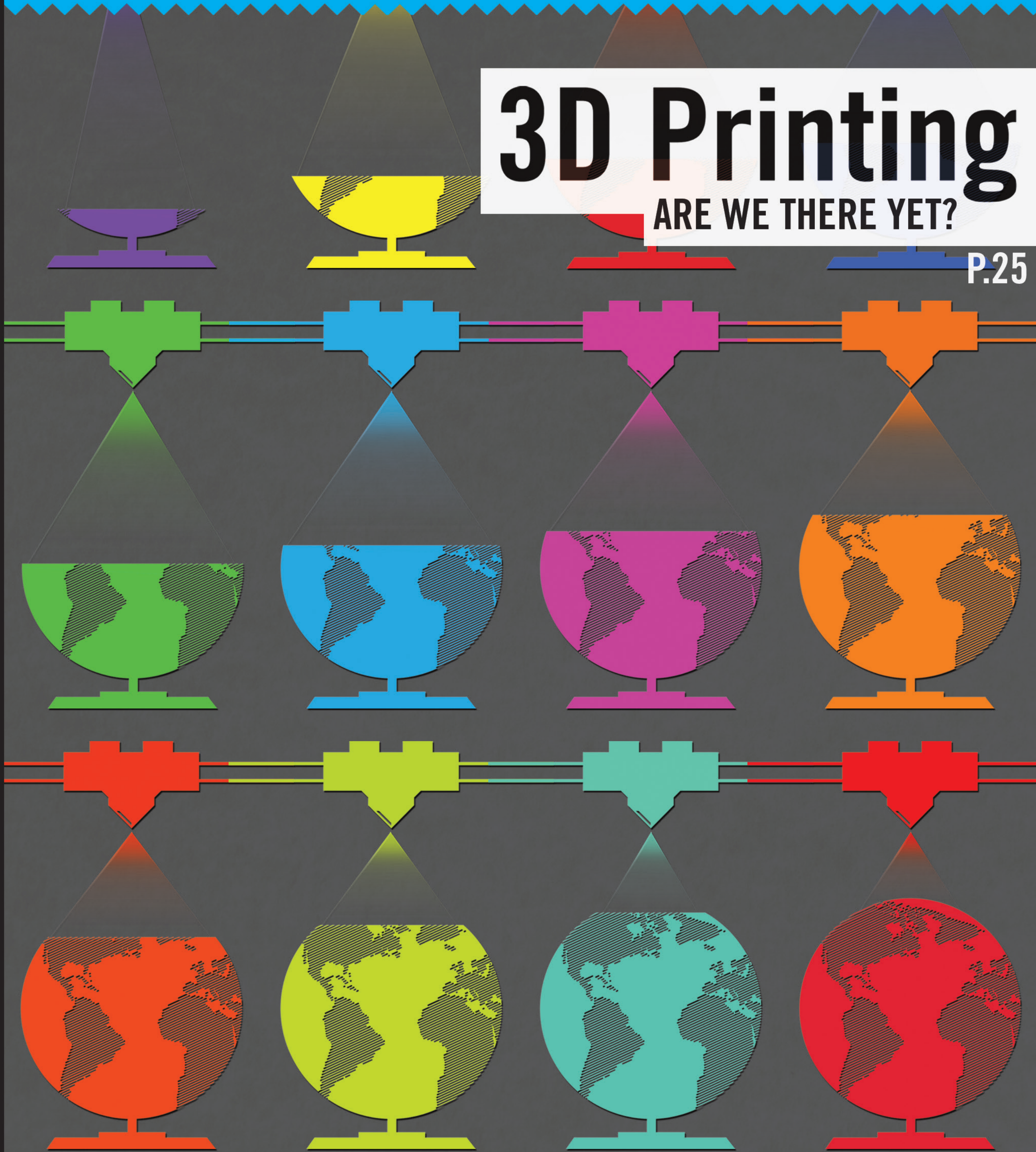

THE EDITORIAL BOARD

The Ivey Business Review is an undergraduate business strategy publication conceived, written, and managed exclusively by students at the Richard Ivey School of Business. The magazine aims to push the boundaries of student thought; foster the development of world-class business insights; and give the leaders of tomorrow a chance to voice their opinion on today's major business issues and strategies. 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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The Ivey Business Review discusses investment strategy with the man protecting your pension.

Conducted by Michael Zawalsky

If you have held a job, you are one of the 18 million Canadians whose public pension is managed by Canadian Pension Plan Investment Board (CPPIB). With unparalleled scale, certainty of assets, and an open investing mandate, it has freedom to make investments few others can.

IBR: **CPPIB is in an envious situation, you take in more money than you pay out every year, right?**

MW: We do have net positive cash flows overall each year, but it's actually quite seasonal. Earlier in the calendar year we tend to have fairly large cash inflows, but as the year goes on we're actually sending cash back to Ottawa to ensure that they have enough cash to pay CPP benefits. If you think of it, after the higher income earners max out their annual CPP contributions early in the year, the payments - the amount of capital we bring in - goes down. So it's actually quite seasonal.

IBR: **So when CPPIB receives a dollar from contributors in excess of payout, how do you handle that?**

MW: We invest that money immediately into our passive reference portfolio, buying 65% equities and 35% fixed income with each dollar that comes into the fund. So for us, the idea of the reference portfolio isn't just a theoretical benchmark, it is an actual portfolio that is invested in. Therefore, we can use those reference portfolio securities, which are all liquid, as we need them to make active investments.

IBR: **When you do go about making active investments, how do you fund them? Sell off the passive reference portfolio to an equivalent amount? How do you determine what makes up the reference portfolio?**

MW: Well, the reference portfolio doesn't change; it is the fixed passive alternative. If you want to think about it, everything we do is an active strategy overlay on the reference portfolio. There are two legs to the decision:

MARK WISEMAN

President and CEO, CPP Investment Board

Mark has held his current role at CPPIB since July 2012, succeeding David Denison. Since 2005, he has filled the roles of Senior Vice-President - Private Investments, and then Executive Vice-President – Investments, a role in which he was responsible for managing all investing activities of CPPIB. Mark started his career in law, at one point serving as a law clerk to Supreme Court Justice Madam Beverly McLachlin. He eventually entered private practice with Sullivan & Cromwell, practicing in New York and Paris. After a time at Harrowston Inc., a publicly traded Canadian Merchant bank, he moved to Ontario Teachers Pension Plan where he rose to be responsible for the private equity fund and co-investment program before moving to CPPIB as David Denison's first senior hire.

CANADA PENSION PLAN INVESTMENT BOARD (CPPIB)

The CPP Investment Board is a private professional investment management organization with offices in Toronto, Hong Kong, and London. Its purpose is to invest the assets of the Canada Pension Plan in a way that maximizes returns without undue risk of loss. The CPP Fund is $170.1 billion. The current fund structure is estimated to remain sustainable should CPPIB achieve a 4% annual real rate of return. CPPIB made its first investment in 1999, and transitioned to an active investment mandate in 2005.

CPPIB is free from political interference by design, with a mandate more difficult to change than the Canadian Constitution. This governance model is celebrated worldwide as the gold standard for pension investment managers.

GLOSSARY:

REFERENCE PORTFOLIO

A low-cost, passively invested portfolio, comprised of investments in indexes. It is an alternative to the actual CPP Fund that would earn sufficient returns over the long-term to help sustain the current funding model.

TOTAL PORTFOLIO APPROACH

An investing approach used by CPPIB that focuses on making allocations based on the underlying risk characteristics in assets rather than traditional asset class labels.

SECONDARIES MARKET

The purchase or sale of an interest in an existing private equity fund. Purchasers are buying interest in both the portfolio of companies owned by the fund and committing to a blind pool of capital for future investments.

1. The short side (or the passive side) which is whatever you are going to sell from the reference portfolio; and,

2. The long side (or the active side) is the investment we're going to make, whether that is another public security, a real estate asset, an infrastructure asset, or a private equity asset.

The first thing we try to do is match what we sell with what we buy, so that we aren't taking any uncompensated or unintentional risk. Secondly, we try to do it as efficiently as possible, so that we can get the best risk return trade-off for the total fund.

IBR: How closely can you match the asset-specific risk to that of the reference portfolio?

MW: We aim to express the complete systematic risk characteristics of our long-only active investments. Market beta is the most prominent systematic risk, but we also consider geographic risk, interest rate risk, sector characteristics, and other risk factors of the investment. Having identified the complete set of systematic risks of the long-only investment, we sell a mix of reference portfolio assets that best matches these characteristics (total portfolio approach). Our "cell" approach to funding private equity exemplifies this overall approach.

First, we assess the levered market beta of the long-only asset. Next, we consider the sector and geographic exposure of the asset (the 10 GICS-code sector designations and 7 S&P regional designations give a total of 70 "cells" to describe the sector/geography of the asset). We then sell reference portfolio assets with aggregate beta, sector, and geographic characteristics that match those of the long-only asset.

IBR: During the financial crisis, obviously public equities saw a large devaluing and CPPIB saw some amazing buying opportunities on the private side. Do you ever think that, in circumstances like that, it might be better to hold a cash position to fund those investments rather than selling recently devalued equities?

MW: We don't believe that we can be particularly good market timers. I think that's very hard for any investor. Some people can be reasonably adept at it for a short period of time, but in the long run, if you could time markets you'd be very very rich, very very quickly. So if equity markets are down 20%, are they going to be down the next day or up the next day?

What we do first is manage the passive portfolio. We consistently rebalance our portfolio to 65% equities and 35% fixed income. This is a brilliantly simple methodology that all investors, in my view, should employ.

During the crisis, as equities sold off, what we were doing was selling bonds and buying equities - rebalancing to the 65% equity weighting on a dollar basis. Then as the equity market rebounded, we were selling equities and buying bonds.

> "WE CONSISTENTLY REBALANCE OUR PORTFOLIO TO 65% EQUITIES AND 35% FIXED INCOME. THIS IS A BRILLIANTLY SIMPLE METHODOLOGY THAT ALL INVESTORS, IN MY VIEW, SHOULD EMPLOY

All we look to do is to outperform equities going forward from whatever point in time we're at. The decision to hold cash instead of equities during a crisis would simply put you in the position, potentially if equity markets rallied, of just underperforming the market. We don't know when they're going to rally or turn bearish, so we just say what we want is to be consistent in keeping that 65% equity weighting through the cycle. That is a very, very powerful self-leveling mechanism. You're buying on the way down and selling on the way up. That systematization of that process creates fantastic discipline.

IBR: Could you tell us about CPPIB's core philosophy of maximizing return without undue risk of loss and how the organization, as a 900-person group, delivers on that?

MW: We start with the idea that the reference portfolio is expected over the long run to deliver the 4% real rate of return that is required for the CPP Fund to be sustainable over the next 75 years. There is no guarantee that it will, but it's expected, on balance of probabilities, that the reference portfolio is well placed to deliver 4% real returns and we could deliver on that with a fairly simple organizational design.

However, we have a number of comparative advantages as an organization: we have scale; we have a long investment horizon; we have certainty of assets; plus, we have developed the total portfolio approach. We have developed a partnership mentality inside the organization and we have developed a team with well-aligned culture and investment capabilities. What we can do is use those comparative advantages and, in our mind, take a reasonably small amount of incremental risk in excess of that market risk embedded in the reference portfolio and, we believe, earn a return in excess of the return that would be generated by the reference portfolio in the long run.

We actually measure how many dollars of value-add are generated through our active activities net of all the costs of running the organization. It's very clear to everyone whether we added value net of operating costs compared to what we could have achieved by investing in the reference portfolio.

IBR: What do you think is the importance of a strong corporate governance structure?

MW: Strong corporate governance is a critical element in our investment decisions. For example, one of the advantages of investments in private equity is the strong governance structure - the high level alignment between board and shareholders. Simply put, we believe that companies that are well governed will be more valuable in the long run. For private companies, we will not invest sizable amounts without ensuring that we obtain appropriate governance rights. In the case of minority public investments, strong corporate governance is a prerequisite and an important element of our valuation analysis. Where our ownership stake was sufficiently large to justify it, a board seat would be mandatory.

IBR: One of the areas you have started investing in over the past few years is in things like pipelines, toll-roads, etc. What's the thesis behind these? Is it just a low-interest environment driving the shift, or is there something specifically attractive about these asset classes to you?

MW: Let's talk about infrastructure specifically, for example. What is attractive is that the asset class is particularly well suited to our comparative advantages. To the extent that there is a low interest rate environment prospectively, that would mean we would be willing to accept a lower rate of return on an infrastructure asset. That is true of all assets. A lower risk free rate means a lower expected rate of return on all assets, that's very basic to capital asset pricing.

For us, what determines whether or not we are going to buy that infrastructure asset is not where we are in the interest rate cycle,

CASE STUDY: SKYPE

In 2009, a consortium led by Silver Lake with CPPIB as a co-investor purchased a 65% stake in Skype for US $1.9 billion. This acquisition was a strong signal that CPPIB was not exclusively looking for "safe" or "boring" assets. Not only did Skype represent significant technological risk, but the founders of Skype were simultaneously suing Skype for copyright infringement. If successful, this suit would force Skype to rewrite their code, potentially destroying the company. Further, since no more than 10% of its revenues came from any single market, it would be nearly impossible for CPPIB to hedge out the impact of currency fluctuations on the investment. Finally, eBay, who had acquired the asset in 2005, had written down the investment in 2007, admitting that they had originally overpaid, making valuation difficult. To accept the associated risks, Silver Lake and CPPIB had underwritten the investment to an IRR well north of 30%. The investment ultimately yielded more than 150%.

A year later, with the lawsuits settled, it looked like the consortium was planning to exit the investment through an IPO. At this point, interest from other potential strategic buyers increased with frontrunners including Facebook, Google, and Microsoft. Many considered Google the natural fit, yet technological incompatibilities between them and Skype led insiders to sabotage the deal.

Ultimately, Microsoft acquired Skype for US $8.5 billion. This price tag led many to accuse Microsoft of overpaying. Yet Skype, based in Luxembourg, was purchased with Microsoft's offshore cash reserves, thus avoiding the tax associated with repatriating the money. These savings were a bonus on an acquisition that is now playing a critical role in Microsoft's product integration strategy.

OWNER	YEAR	VALUATION (US $B)
eBay	2005	$3.1
eBay (writedown)	2007	$1.7
Silver Lake/CPPIB	2009	$2.8
Microsoft	2011	$8.5

it is where those assets are pricing relative to, in this case, bonds. So it's not driven by interest rates, it is driven by relative value.

IBR: You underwrite infrastructure and other investment decisions past 20 years. What allowance do you make for disruptive technologies and trends? Do you have a company-wide threat monitoring strategy?

MW: The answer is, we are making long-term decisions. We're being incredibly diligent in how we make them and, like any decision we make, making them with the best information we have at the time. That information is always, by definition, imperfect. We try to be as smart as we can, and we try and manage our risks - not by just looking retrospectively through models, but by stress testing the portfolio and by trying to imagine what risk may come to the fore: what are the risks that haven't exhibited themselves in the past? We're always trying to think what the future is going to look like, and of course the further out that you go, the band of outcomes becomes wider and wider and you have to discount that appropriately.

> "INVESTING IS NOT JUST ABOUT NUMERICAL ANALYSIS. IT IS ABOUT UNDERSTANDING THE WORLD AROUND US AND HOW IT OPERATES

The alternative is to say we don't know what the world is going to look like; we have no clue, therefore let's do nothing. We make decisions trying to inform ourselves, do as much diligence as we can, and make the best decisions because the alternative is to not do anything.

IBR: Through private equity funds, you've deployed over $19 billion giving you interest in thousands of private companies. Are you able to leverage the information as you diligence new assets?

MW: Absolutely. One of the things that we have is a really good information advantage. We have information, as you rightly point out, not just in public companies, which by-and-large is available to everyone, but we also have at last count close to 3,000 private companies through our private equity funds. We use that information in a number of ways: we use it when we are making other private investments, we use it to inform what we are doing in public markets, and we also use it as a participant in the secondaries market. In fact, we are one of the largest, if not the largest, buyer in the world of limited partnership units in private equity funds from other institutional investors who are seeking liquidity. One of the reasons we have been confident and successful in doing that is because of the way that we try and glean information from the portfolio of companies that underlie those fund investments.

IBR: You originally trained as a lawyer yet ended up in finance - what value do you see in an interdisciplinary background; and how has your background in law changed your approach to investing and the diligence process?

MW: Investing is not just about numerical analysis. It is about understanding the world around us and how it operates. I believe that having a multi-disciplinary background is important for both individuals and teams. One ought to be able to approach any given problem from as many perspectives as possible prior to making a decision. I believe that my legal training provided me with both a different perspective than most investors in terms of looking at business or investment problems as well as a framework for the analysis of issues that has proven to be very valuable over time.

IBR: What asset class do you see CPPIB growing the most over the coming years?

MW: You know, I actually don't have an answer to that question. It really depends on what market conditions are like. The one thing that I will say is the fund will continue to diversify globally. In almost any asset class, we will become more global in where we invest. A great measure of that is if you look back in 2005, in excess of 70% of our assets were invested in Canada, and today only 40% of our assets are invested in Canada. Canada represents 3% of global capital markets, so we're still heavily overweighted in Canada, and I suspect that trend to continue in the long run.

IBR: You mentioned that you are a global investor yet your offices are only in Toronto, HK, and London. What three cities can we expect to see you in next?

MW: Stay tuned... I mean, you can expect that we will expand. We can cover Asia reasonably effectively from Hong Kong, Europe from London, and the Americas from Toronto. I think you can expect to see us open offices in other key markets around the world and you could probably triangulate what those might be fairly easily. But we're going to have the appropriate number of offices that will be regional in nature, over time. That's not 100, since we aren't out there trying to source capital for example, or cover clients around the world. Speaking with McKinsey, they have 99 offices around the world today including in places like Angola. I can assure you we will not have 99 offices. But we will in all likelihood have more than three.

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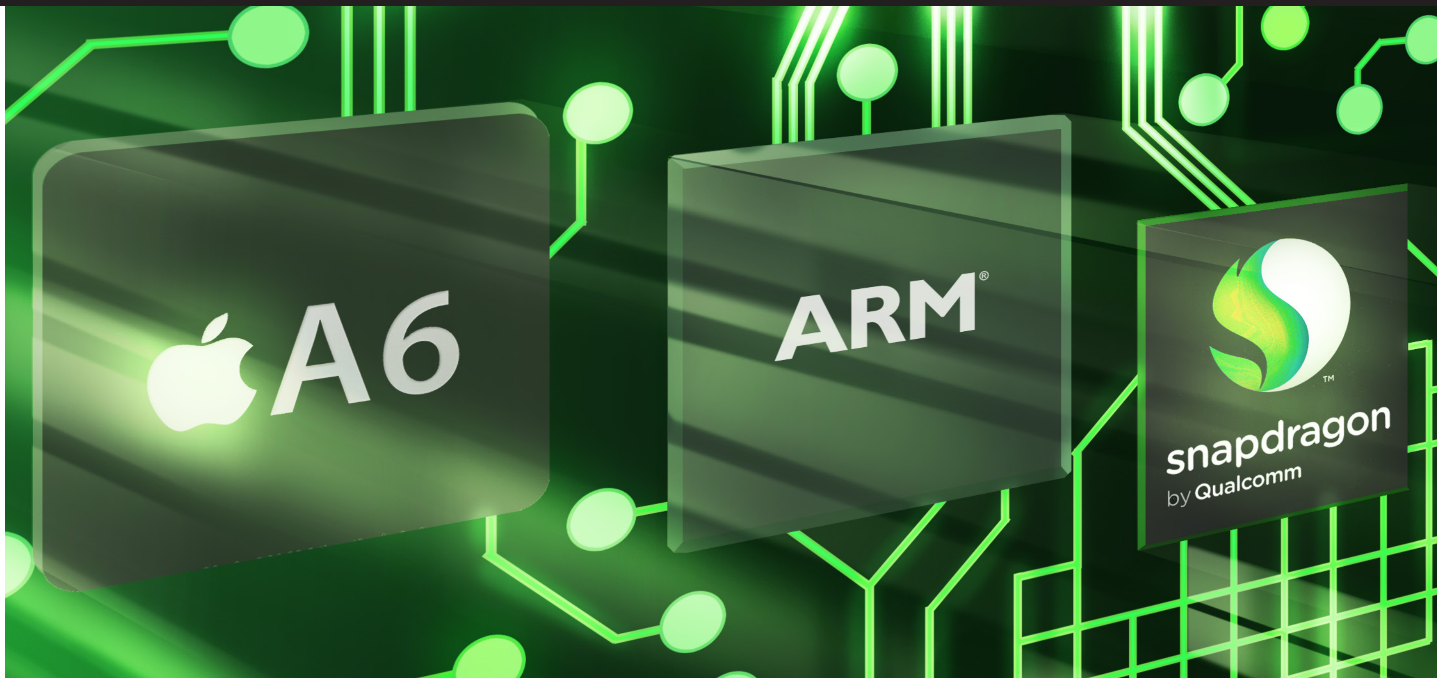


INTEL OUTSIDE: BREAKING INTO MOBILE

With Intel's traditional market stagnating, how do they respond to the rise of mobile technology?

By Daniel Rozhko and Samantha Hamilton

On November 19th, Intel CEO Paul Otellini announced that he would be stepping down at the company's Annual General Meeting. The news was a shock to investors as Otellini, 62, was widely expected to stay on until mandatory retirement at age 65. Intel's share price had bled 20% over the prior 3 months and the news of Otellini's departure prompted another 3.5% drop on what was an otherwise flat day for the markets. In the face of weakening sales of PC processors, it appears that a titan of the semiconductor industry, once the world's largest semiconductor company by market capitalization, has fallen victim to the rise of mobile devices – smartphones and tablets. Processor companies, such as ARM Holdings and Qualcomm, have grown and prospered off of staggering mobile growth. Otellini's retirement represents an opportunity for Intel to recapture its lost glory.

Intel has struggled to gain market share in mobile technology, due to fundamentally misunderstanding the competitive dynamics that shape the mobile industry. A new CEO brings hope for a change in Intel's mobile strategy, without which, Intel will struggle to replicate its past excellence and maintain its dominant market position.

Complicating the Value Chain

A simplified value chain in both the PC and mobile processors market is described with the following four steps:

(1) Processor Architecture – A list of commands for the processor to execute is developed;

(2a) Processor Design – A processor is designed to execute the instructions in the architecture;

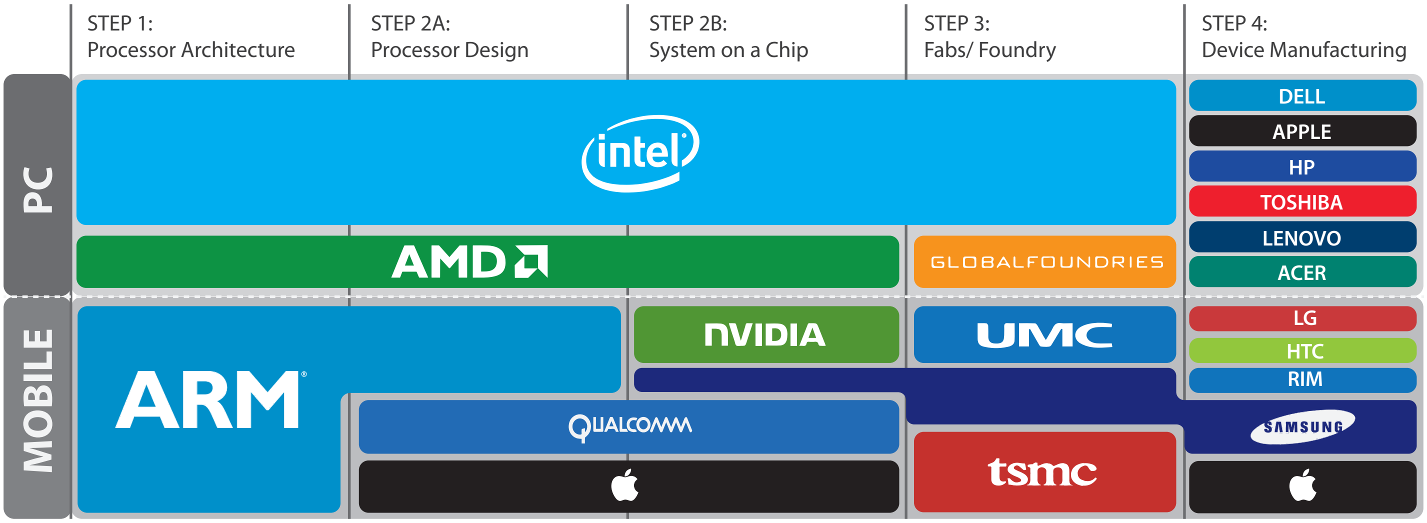
(2b) System on Chip (SoC) – Additional functional components are integrated into the processor;

(3) Fabrication – Processors are manufactured at semiconductor fabrication plants, known as fabs. Foundries perform this task for 'fabless' companies, who outsource this activity;

(4) Device Manufacturing – Processors are integrated into electronic devices;

In the PC processors market, Intel performs steps 1 through 3, and has been able to secure a dominant 80% market share. The mobile processors market however is significantly more fragmented and complex. While Intel's architecture is the standard for PCs (and Macs), ARM's architecture commands 95% of the mobile processor space. Unlike Intel, ARM does not manufacture processors, instead choosing to license its architecture to companies further down the value chain. This means that other companies can compete based on their products, services and strategies at later stages of the value chain based upon ARM's architecture - a complete opposite of the PC market.

Processor Value Chain



ARM also licenses processor designs, known as IP cores, to its customers. While most companies license ARM's IP cores and enter the value chain at step 2b, Qualcomm and Apple actually license the ARM architecture designing their own processors at step 2a. Apple just recently started utilizing this strategy with the introduction of the iPhone 5's A6 processor. In mobile, the SoC step usually involves the integration of Wi-Fi, GPS, and 3G components into the processor design. Qualcomm currently holds a 48% revenue share in the mobile market because of its strong IP holdings in these wireless communication technologies.

In Fabrication, most of the mobile processor companies are fabless and rely on foundries for manufacturing. The largest foundry is Taiwanese Semiconductor Manufacturing Company (TSMC) which has a 49% market share in manufacturing. The production process used by fabs and foundries is constantly changing as new processes are developed to fit more transistors, the building blocks of processors, onto a single chip. In addition to the products' size benefits, smaller transistor size leads to lower power consumption, making the production process a main point of competition for foundries. Intel's process has historically been two years ahead of competitors in the foundries space, and thus, their lead in manufacturing is a great advantage.

Intel's Move into Mobile

The PC processors market is suffering from declines in PC sales and slowly eroding margins. Last year, PC shipments fell for the first time in over a decade, resulting in reduced demand for these processors. Alongside its poor Q3 2012 financials, Intel lowered its Q4 guidance and more actively managed expectations beyond then.

While PC sales languish, sales of mobile devices – and therefore mobile processors – continue to explode. Over 731 million mobile processors are expected to be sold in 2013, 22.3% more than last year. With this growth and related supply shortages comes an opportunity for a new player to successfully enter the mobile processors market. Few would seem better positioned than Intel.

Intel's first major push into the mobile market is with its new Atom mobile processors, based on the same architecture as its PC processors. Intel is pushing these processors to be integrated into new Windows 8 tablets and convertibles (a laptop-tablet hybrid). However, this will not be a smooth entry for Intel as ARM is wedging into this tablet market as well, with Windows 8 adding partial support for ARM's architecture.

Intel is also pushing its Atom processors for Android-based smartphones. The first smartphone powered by the Atom processor was launched in India in early 2012, but no phones have launched yet in North America. The widespread adoption of ARM architecture is preventing Intel from gaining traction in mobile. Android manufacturers are reluctant to switch, as large switching costs often accompany such changes and the Atom processor is not yet compatible with all Android apps. Intel only has a 0.2% market share of the mobile market.

Can Intel's Architecture Succeed?

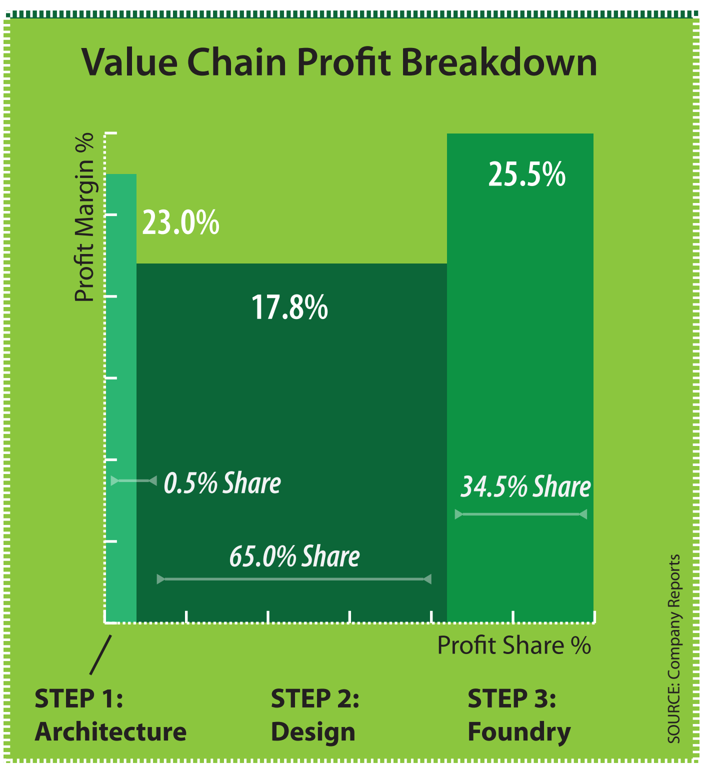
On average, ARM's architecture is more power efficient than Intel's. While Intel has generally had the upper hand in performance, processors have reached the minimum performance threshold for most users given constraints on battery life. Incremental performance generally increases battery drain which destroys value for end consumers. ARM also recently announced its new Cortex-A50 processor series with offerings that are either three times more powerful or five times more power efficient than the previous lineup, exceeding Intel's in processor power efficiency. Add in that some Android apps are not fully compatible with Intel and it's clear that ARM's architecture will continue to dominate the smartphone market.

Although Intel's processors can run older Windows applications on Windows 8 tablets, this may not be a sufficient advantage for Intel as the Windows 8 tablet experience is centered on new apps and its online focused features. Since the tablet market is already filled with ARM based iPads and Android tablets, and with the uncertain performance of the Windows 8 tablet, ARM architecture also seems to be well positioned in the tablet market. The Intel architecture is unlikely to make significant progress in the mobile market.

Intel's Real Advantage

If Intel's architecture in smartphones and tablets is at such a disadvantage, should it even bother to compete for architecture dominance? Architecture design is not a high value component of the value chain – ARM only makes about 11 cents per processor. Currently, Intel is trying to compete in this step of the mobile value chain, which only makes sense if it can drive volume to other segments of the value chain. Given their current market share and ARM's competitive position, it seems unlikely this will change.

Intel's management is seemingly blinded by their goal of trying to recreate their dominance of PC processors in mobile that they are ignoring existing opportunities. Intel's real advantage in the semiconductor industry is its strength in production process innovation, resulting in smaller processors, improved power efficiency, and a greater capability for SoC integration – all important bases of competition in the mobile processor market. Intel has also announced that due to the slowing PC sales, the company will slow down production. The slowdown in sales has reduced margins because their facilities are now underutilized. Given the need to have the most advanced production processes, expensive investments in fabs must be made to remain competitive. If these assets are underutilized, processor companies are less able to afford the continuous advancement in their manufacturing facilities that forms the basis of their competitive advantage. All these factors indicate that a foundry-focused strategy where Intel manufactures, rather than designs, mobile processors would be a great fit for its strategy and capabilities.



Margins in the foundry space are fairly high compared to Intel's traditional business. Foundry EBITDA margins are the highest across the value chain at 38% due to lower R&D and selling/administrative expenses compared to Intel's traditional business at 24%, making a foundry approach more financially attractive.

By entering the mobile market with its current architecture, Intel is trying to force its control structure in the fragmented mobile processor market. This is difficult when fractions of segments of the mobile value chain are worth more than Intel and its step 1-3 business in the PC market (Qualcomm's market cap recently surpassed Intel's). Mobile is a different market landscape than Intel is used to. Intel has grown complacent due to its dominance in the PC processor market and needs to be more flexible in its offerings if it wants to compete in mobile, even in the manufacturing space.

Competing as a Foundry

With established incumbent TSMC controlling a large portion of the foundry market, Intel needs to be compelling to attract customers. Intel's major advantage over TSMC is its excess production capacity. The current foundry space is starved for additional capacity with both Apple and Qualcomm attempting to buy exclusive rights to a certain TSMC production line in order to meet their supply needs. Both parties offered US $1B for this exclusive right which TSMC turned down. Intel not only has a better production process than TSMC, but it also has unutilized capacity that can meet market needs.

This exclusivity attempt by Apple, coupled with strained relations with its current foundry, Samsung, indicates that one of the largest customers in the foundry space is up for grabs. Intel likely has the capacity to meet Apple's volume requirements and should be vying for the Apple foundry business. While production capacity alone might be enough to attract Apple, Intel has much more to offer to bring in this large volume contract. Intel's position as the leading production process innovator allows it to produce more efficient, smaller processors which have a greater SoC capacity. With mobile device trends moving towards longer battery life, thinner form factors, and greater integrated capabilities, Intel could frame its offer to Apple as a superior processor that would significantly improve the end product. Intel would offer both a stable supply and a better processor product.

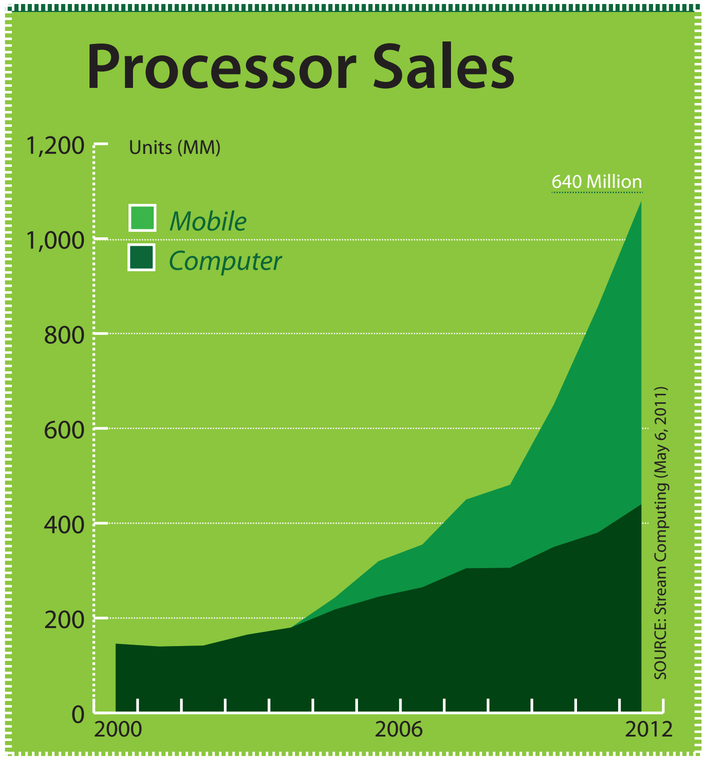
Intel can actually go one step further for Apple by offering some of its IP resources to be included in the SoC stage of Apple's processor design process. Intel's recent acquisition of Infineon's wireless solutions business would be particularly attractive to Apple as Intel could offer its newly acquired cellular modem technologies. Qualcomm has traditionally included cellular and other wireless technologies in its SoC chips but this strategy has been unavailable to Apple as it does not have access to these technologies. By offering these technologies, Intel would be backing up the value chain from foundry into the larger SoC stage of the value chain, improving its attractiveness to potential customers and its market share in mobile.

Changes in the Computer Segment

ARM's impact on Intel goes beyond the mobile market as ARM is currently also moving into Intel's traditional stronghold, the PC processors market. ARM has forecast that it will capture 20% of the notebook computers segment by 2015. While much of the PC processor market will remain unchanged in the short term, this market is also moving in a more fragmented direction and Intel needs to adapt its approach to retain these customers.

Apple's recent foray into the processor design step in its mobile devices has given rise to speculation that it is looking to switch from the Intel-based processors in its Mac lines to its own custom ARM-based processors. Industry analysts believe that Apple has already started looking into this possibility and could make this change by 2017, or even earlier. With processor sales to Apple accounting for 10% of Intel's revenues, this could result in four to five billion dollars in lost revenue.

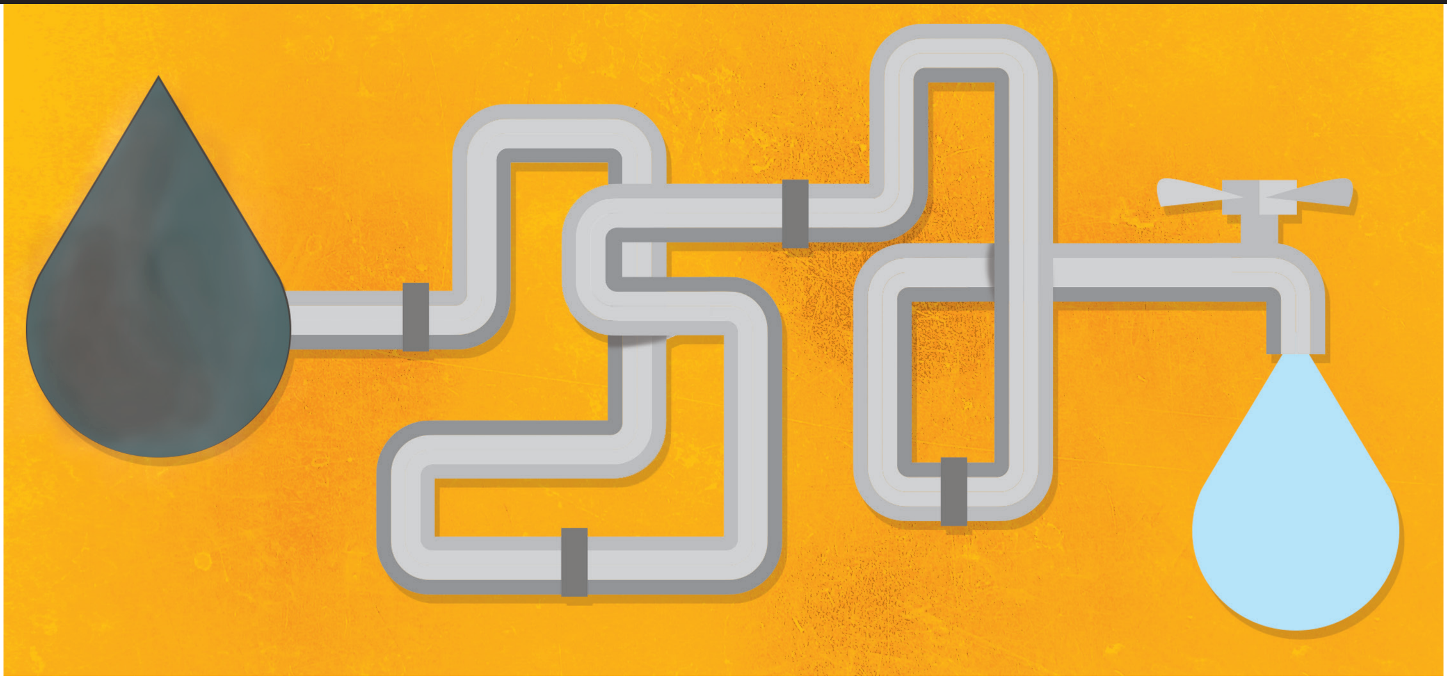
> "INTEL DOES NOT HAVE THE POWER TO CHANGE THE FRAGMENTED NATURE OF THE MOBILE PROCESSOR MARKET



The foundry and SoC approach would also be a good fit here as it would allow Intel to maintain a portion of the value chain it could otherwise lose. One key distinction between mobile and PC is that the Intel architecture actually has an advantage in the PC space given that most established software is written to work with this architecture only. Intel should take advantage of this by designing custom IP core solutions with its PC architecture for its foundry customers, essentially offering customized processor design services. This would motivate Apple to stay with Intel, as Apple is seeking more control in processor design, while subsequently increasing what Intel can charge over the base foundry prices.

Moving Forward

Intel has prospered from its market dominance in PC processors. But the technology industry is very dynamic, and Intel must adapt to the structural change that mobile technology represents. Intel does not have the power to change the fragmented nature of the mobile processor market. As such, Intel should be willing to forgo control in segments of the value chain where it cannot compete effectively. By emphasizing stronger customer relations, Intel will be better able to compete in a fragmented mobile market as well as defend its traditional turf. If Intel can execute on these manufacturing and customer-focused strategies, it will be able to experience a renaissance on the back of mobile device growth instead of being strong-armed out of the industry.



A LINE IN THE ‘SANDS

Extracting, pumping, and piping Alberta’s most important liquid: water.

By Tom Hansen and Evan Ferguson

The Canadian oil sands are one of the most hotly debated environmental and economic issues in the world today. The third largest oil deposit in the world, with over 150 billion barrels of proven oil reserves, the oil sands currently produce 1.7 million barrels per day (bbl/day), and their output is forecasted to increase to 4.5 million bbl/day by 2025. At expected oil prices of US $94 per barrel the Canadian oil sands will generate over $400M in revenue every day. However, for oil sands production, a secure and sustainable water supply is vital. Many producers lack a definite, long-term plan regarding the water supplies upon which their businesses depend. Enter the Regional Water Management Initiative (RWMI), a collaborative water supply project that will revolutionize the flow of water in the oil sands, providing not only economic benefits to the stakeholders, but the environmental peace of mind sought by activists.

Oil Sands 101

Two techniques are used to develop oil sands deposits: mining and steam assisted gravity drainage (SAGD). The mining method works at sites where the oil sands are within 60m of the earth’s surface, and involves physically digging up the oil sands and processing them at a nearby facility. Water and chemicals are used to separate the bitumen, a type of heavy oil, from the sand. The chemicals are then recovered and recycled, but the water and sand (tailings) are stored in large ponds. These tailings ponds have high levels of sand and dissolved solids– both of which can cause environmental damage. These ponds are not removed because they serve as water reservoirs for continuing operations. Each mine has built up significant tailings reserves over the course of its operation. This is the supply of water.

In SAGD production, steam and solvents are injected into the deeper oil sands reservoirs through a horizontal injection well. Steam heats the oil sands, decreases its viscosity, and allows the oil to drain to a lower producing horizontal well that pumps the oil out of the reservoir. Although the majority of the injected steam is recovered, there are some losses to both the reservoir and the cleansing operation. This is the demand of water.

The mining process accounts for over 50% of current production, but only 20% of total oil sand reserves. As a result, future oil sands development will be primarily through SAGD extraction and will require significant additional water resources. This demand can be met by the large volumes of water from historical mining production currently residing in tailings ponds. After existing tailings ponds are depleted, the infrastructure could still be used to transport water to the SAGD sites. Mining sites are very close to the Athabasca River, a signifi-

> **“THE MINING PROCESS ACCOUNTS FOR OVER 50% OF CURRENT PRODUCTION, BUT ONLY 20% OF TOTAL OIL SAND RESERVES**

cant source of water. Mines have the ability to use clean water sources to reduce the concentration of dissolved solids in their tailings ponds. Water withdrawn from the Athabasca River would be used as process water and an equivalent volume of tailings water could be sent to SAGD facilities. This would reduce the environmental risk associated with tailings ponds, while simultaneously providing an indefinite supply of water to SAGD facilities.

The Regional Water Management Initiative is a large-scale infrastructure project, which would process water from the tailings ponds at mining sites and then transport it to the SAGD production facilities to connect water supply with demand. Two significant infrastructure components are necessary to execute RWMI: a tailings water treatment plant, to rid the water of contaminants, and a pipeline to carry the water to the SAGD facilities.

The Rationale

Mining Sites:

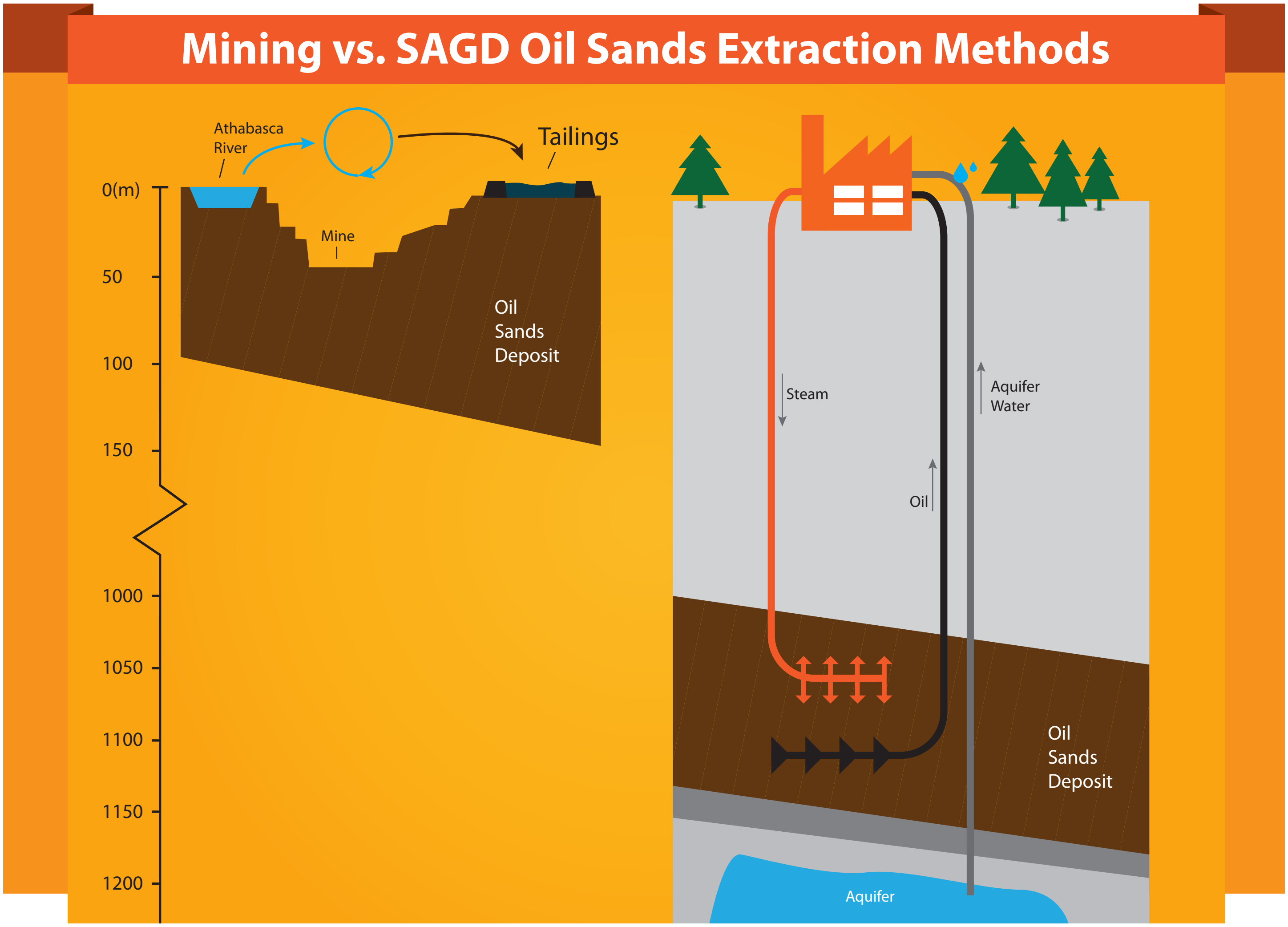
In the long term, RWMI will allow the mines to remove the costly tailings pond remediation liability. Over the short term, mines will be able to simplify their operations and, in some cases, be able to extract additional bitumen deposits currently submerged under tailings ponds. At the oldest mining sites, development projects are being delayed due to the presence of tailings ponds.

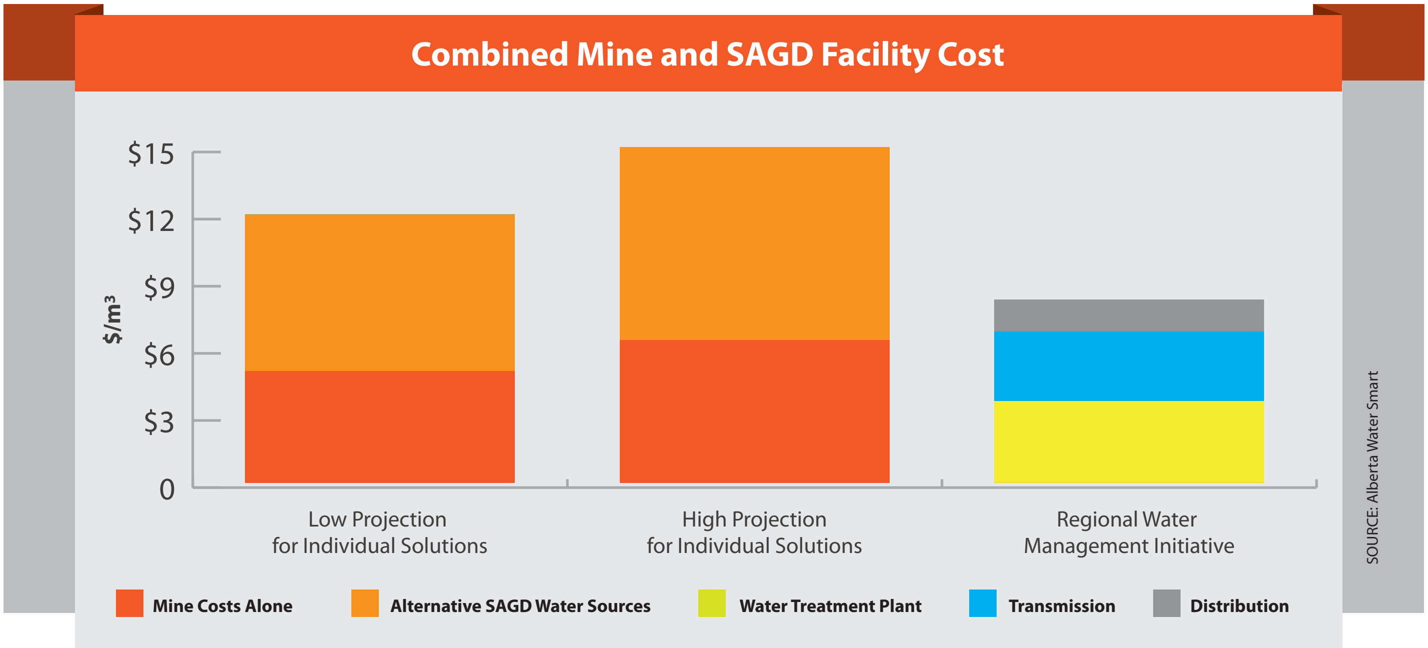
SAGD:

SAGD facilities benefit by securing a sustainable long-term source of water. Ground water movement is an extremely complex science, and it can take years of monitoring to understand replenishment rates. As a result, many SAGD facilities are drawing underground water sources without understanding their replenish rates of the aquifers which they draw upon. The RWMI project is a significant step towards mitigating the risks associated with water supply and, due to water's crucial operational role, the project as a whole.

The Economics:

RWMI lowers environmental risks and operating costs for oil sands companies. The infrastructure will be built to handle roughly 20,000m^3/day – enough to process the 150M m^3 in excess tailings water expected to be available over next 20





years. RWMI's expected cost is $350M dollars: $125M for the treatment plant and $225M for the pipeline network. The current combined price mines pay to remediate tailings water, and SAGD facilities pay to extract water ranges between $12/m^3 and $15/m^3. At an expected cost of capital of 10% the RWMI only needs a combined price of $8.40/m3 to break even.

The Environment:

This project effectively eliminates water withdrawals required by SAGD facilities and reclaims tailings ponds at a much earlier date than would otherwise be financially prudent for mining companies. Considering the Canadian public's growing interest in oil sands' environmental issues, this project could help ensure that producers have the social license to develop these large resources. RWMI also allows large mining sites to significantly mitigate future risk by starting the remediation process on these tailings ponds now; if a tailings pond dam fails in the future, it could lead to catastrophic environmental effects.

The Problem

The Canadian Oil Sands Innovation Alliance is gathering support and performing scoping studies for RWMI. At present, however, they are struggling to make headway. Competing oil and gas companies have significant intellectual property related specifically to the oil sands and unique technologies for extraction processes. These companies are hesitant to commit to RWMI at the risk of losing their technological advantage. Oil and gas exploration companies' high risk profile and consequently high cost of capital makes expensive and long-term projects like RWMI a poor fit for these organizations. These firms also lack experience building or operating water treatment facilities (of this type and size) or large transmission and distribution pipelines. Due to the inherent inertia and misalignment of firm strengths, there is an opportunity for infrastructure companies to build the water treatment plant and pipeline, and charge the oil producers for their use. Enter third parties.

The Help

Water Treatment Side

Veolia Environment is well positioned to build, own, and operate the required tailings water treatment plant because it has significant experience constructing and operating similar projects. It has a lower cost of capital than oil sands companies (6-7% vs. 8-10%), which makes it better suited to finance the project than other stakeholders. Veolia does not pose a threat to oil producers with regards to intellectual property, so such concerns would be mitigated.

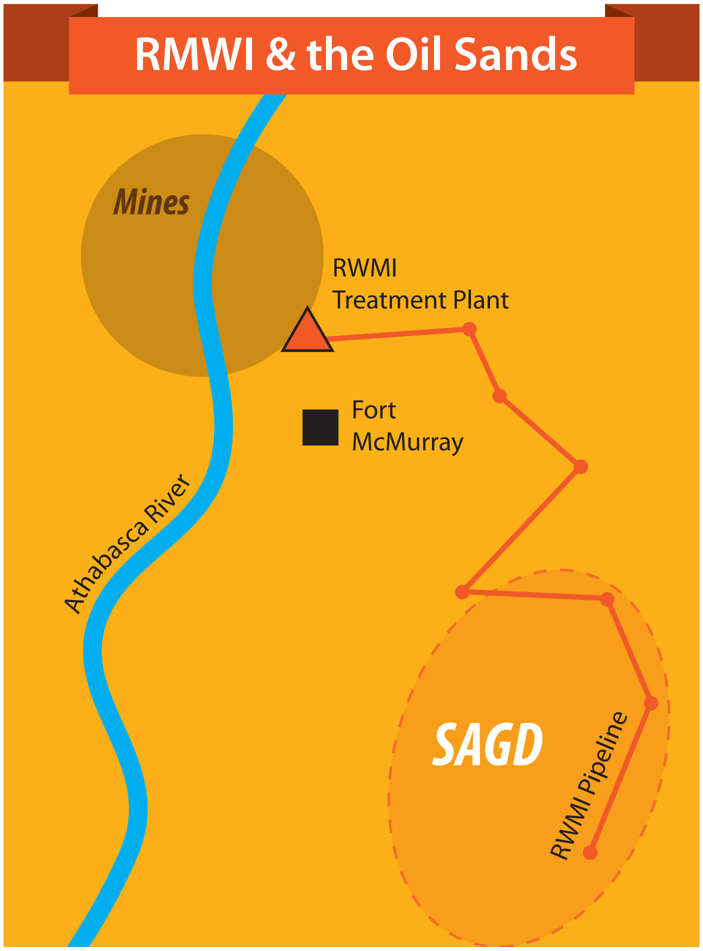
The company has built 35 water treatment plants, which they currently own and operate in Canada. The required capacity for the RWMI, of 20,000m^3/day, is well within Veolia's logistical and financial capabilities, as demonstrated by the fact that Veolia built and operates a 45,000m^3/day water treatment plant in Qatar.

RWMI would complement Veolia's strategic efforts to expand its presence within Alberta and the growing oil sands industry. The project would allow Veolia to compete directly with General Electric's (GE) Power and Water division. GE recently began a collaborative project with the Alberta Water Research Initiative to improve the treatment and re-use of water in oil sands operations. By providing this service, Veolia is able to develop relationships with some of the largest players in the oil sands. Veolia can potentially parlay these relationships into large contracts in the facilities space, where projected capital expenditures are $20B according to the Canadian Association of Petroleum Producers.

Transmission and Distribution

This opportunity is also appealing to a pipeline company such as Pembina Pipelines, Inter Pipeline, or Enbridge for its potential returns and positive public relations. These three firms all have knowledge in the oil sands space, and the ability to finance, construct, and operate a project of this scale. More importantly, each firm already has existing infrastructure, right-of-ways (a legal right to run a pipeline across a track of land), and construction knowledge that can be used to their advantage.

All three companies have a financial and strategic commitment to the Canadian oil sands, but Enbridge's unique access to both SAGD and mining facilities make it the best candidate for involvement in RWMI. Pembina and Inter Pipeline both move bitumen from mining sites near Fort McMurray south to Edmonton whereas Enbridge's Athabasca pipeline, serves both mining and SAGD facilities. Enbridge also has the lowest cost of capital of the three at 5.7% vs. 6.7% and 7.9% for Pembina and Inter Pipeline, respectively. Furthermore, RWMI presents an opportunity for Enbridge



> **ENBRIDGE'S UNIQUE ACCESS TO BOTH SAGD AND MINING FACILITIES MAKE IT THE BEST CANDIDATE FOR INVOLVEMENT IN RWMI**

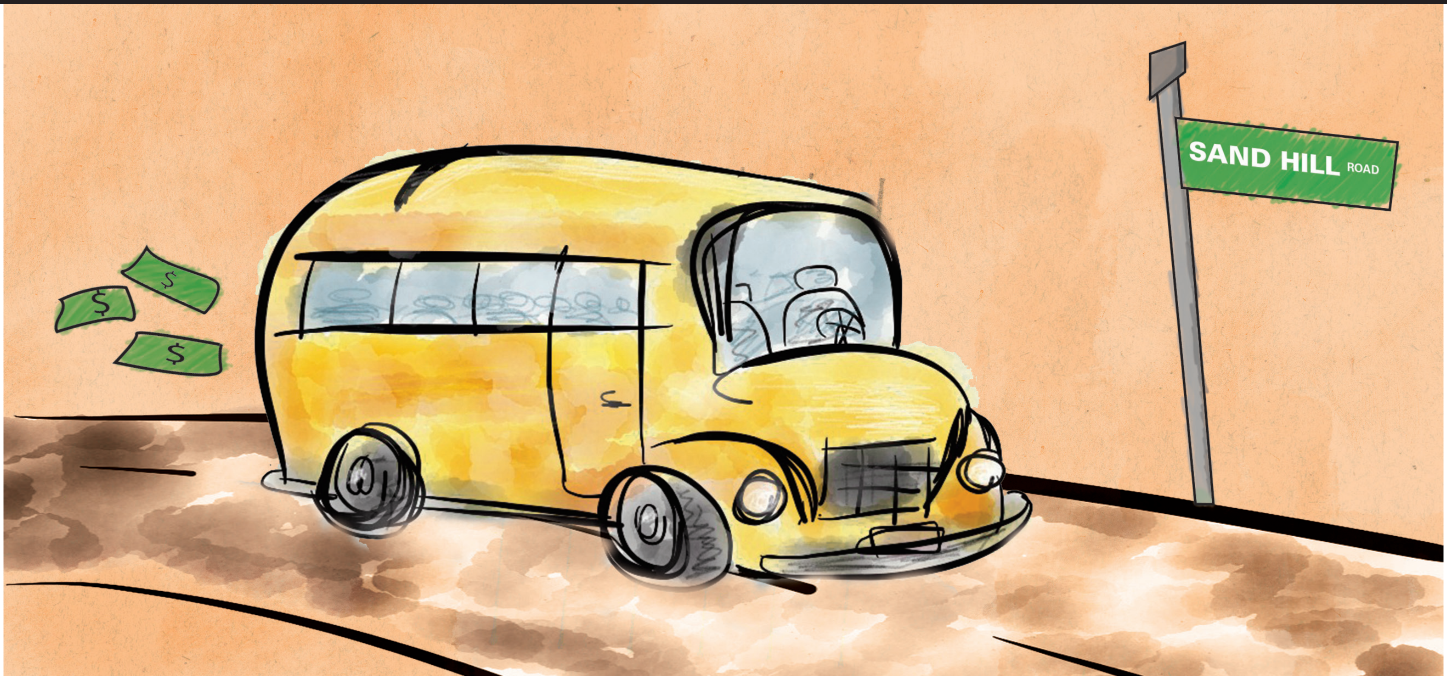
to bolster its public relations considering recent backlash with regards to its Northern Gateway project. The innovative RWMI has government support, meaning it has potential to be a highly publicised infrastructure project for its positive environmental benefits.

Deal Structure

For any third party, a crucial component of the RWMI project is limiting downside. Veolia and Enbridge would not commit significant capital to the project unless the service had fixed-term contracts. This is common in the oil and gas industry, though normally it applies to shipping oil and gas rather than water. Regardless of the fluid, it is realistic to expect the large mining sites and SAGD sites to commit to long-term supply and off-take contracts, respectively.

The Solution

The RWMI has potential to deliver cost and strategic benefits to operators of mining and SAGD projects, water treatment facility producers, and pipeline companies. It is difficult for oil and gas producers to complete this project themselves. Fortunately, third parties can utilize their strengths in water treatment or pipeline transportation to fulfill the needs of the RWMI. Veolia Environmental should construct and operate the 20,000m^3/day water treatment plant while Enbridge should build and operate the pipeline connecting the mines to the SAGD sites. The firms will sign agreements to control the water flow between their respective facilities, all the while negotiating contracts with their respective customers. It is clear that the RWMI presents an opportunity for a variety of players to enter the lucrative oil sands industry with an innovative solution that is both economically viable and environmentally friendly.



CAPITALIZING ON THE JOBS ACT

How venture capitalists can take advantage of new legislation.

By Brandon Vlaar and Vlad Mihaescu

A good idea alone is not enough for an entrepreneurial venture to succeed. Capital is needed to transform an idea from scribbles on a sheet of paper to a functioning business. However, raising capital in North America for entrepreneurs is a lengthy, complicated process with a high chance of failure.

The traditional funding path for a startup company begins with soliciting family and friends for loans and/or investments in a process called bootstrapping. This funding gives the entrepreneur the ability to develop and solidify fundamental business ideas. Bootstrapping is usually followed by a seed round from angel investors and early stage venture capital (VC) funds that provide money for pre-startup R&D, product development, and testing. The startup then may raise a series of additional rounds of funding through one or more VC funds.

VC funds invest money from limited partners who can be accredited investors that range in profile from institutional investors to sovereign wealth funds. This money is invested into startups the fund believes have the most potential for success. The entrepreneur uses the money to grow the company to a point where there are sustainable profits to finance future growth of the venture. VC funds can then exit the company by soliciting a third party acquisition or IPO. VC funds make money through a dual mechanism know as the 2/20 system. First, they collect an annual 2% fee on all assets under management from their limited partners, and also earn 20% of all returns above a pre-specified threshold.

Recently, limited partners have questioned the general performance of VC funds. A Kauffman Foundation study found that only 20 of 100 top VC funds beat public market returns by more than 3%. Furthermore, over the past twenty years, 62 of the funds failed to surpass public market returns. VC funds need to invest in higher quality ventures that have a greater probability of long-term success.

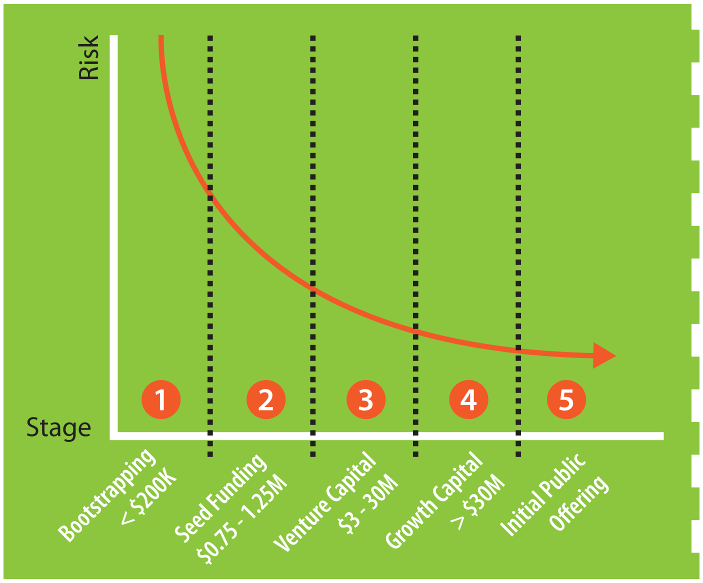
The JOBS Act

On April 5, 2012, President Obama passed the Jumpstart Our Business Startups (JOBS) Act. This legislation allows a new player - unaccredited investors - to get involved in the traditional fundraising model for new startup companies and also increases VC fund access to accredited investors.

Unaccredited Investors

The JOBS Act gives unaccredited, or retail investors, the ability to participate in the fundraising process. Prior to the JOBS Act, only accredited investors were given this opportunity. Now, any individual may put forth 2% of their income in a startup company if they earn at least $40,000, or up to 10% of their income if they earn at least $100,000 annually.

Illustrative Process For Raising Capital as a Startup



Accredited Investors

Rule 506(c) in the JOBS Act gives VC funds the ability to solicit accredited investors for capital, an action which was prohibited prior to this legislation. Roughly 90% of accredited investors who are able to invest in private equity; venture capital; hedge funds; and private placements did not do so, leaving an immense untapped pool of capital.

Crowdfunding

The JOBS Act's inclusion of retail investors has opened up the VC fundraising space to crowdfunding. Crowdfunding is a concept where an entrepreneur can go to a crowdfunding platform (generally online), describe their business idea and need for capital, and raise up to $1M from a large group of retail investors in return for equity in the business. This has the potential to make venture capitalists superfluous or, at the very least reduce the number of opportunities available to them.

The Good

The opportunity for equity crowdfunding can have a positive impact on many new entrepreneurs. It is a novel concept, and is potentially a more accessible source of financing than historically available options. Retail investors tend to be driven more by emotion than banks and accredited investors. For example, if a customer wants to help their favorite coffee shop open a second store, they can help finance the expansion through crowdfunding without completely understanding, or caring to understand, the financial aspects of the business. With easier access to capital, more startup companies will have the financial resources necessary to get into the later stages of funding. This new source of capital, and relative inexperience of these investors, will likely cause an appreciation in valuation multiples for successful companies.

The Bad

The JOBS Act can expose retail investors to the risk of fraud. The legislation provides opportunities for malicious individuals to set up fake organizations in order to steal from naïve investors. This concern is echoed by leading experts on the bill such as former Securities and Exchange Commission Chair Mary Schapiro, who went so far as to say the legislation would weaken "important protections" for investors.

The potential for fraud within crowdfunding can have potentially disastrous consequences. If stories of fraud are exposed to the public the negative impact on investor confidence could severely damage the entire crowdfunding model. If investors do not invest in early stage companies through crowdfunding, the effectiveness of the model will be greatly diminished.

After contrasting the positives and negatives of the legislation, it is clear that crowdfunding has the potential to greatly impact the early stage funding process. The question is, how do you protect the investor from fraud in a lightly regulated market? The answer may lie with VC firms.

The New Role of Venture Capital

Unaccredited Investors

Currently, VC funds screen a multitude of companies in which they can potentially invest. This screening ensures that the businesses are not fraudulent and have reasonable business models that show potential for dramatic growth. Companies in the early seed funding stage are often without a tangible product or user base. As a result, diligence and valuation is difficult and highly specific. This process is one of a VC fund's core competencies.

Upon completion of due diligence, a VC fund has a list of investment candidates with strong growth potential. This list of pre-approved candidates can act as a form of protection for retail investors who want to invest in high growth companies without the risk of fraud. Then the question becomes: Is there a way to monetize this "approved" list of companies that VC funds already create during normal operations?

To maximize the list's value, retail investors must fully trust and accept the selected firms. As such, the list should be backed by a nation-wide trustworthy consumer brand that could attract a sufficiently sized investor pool. A VC fund should partner with a major financial institution such as Chase or Bank of America. Since these institutions already have a national physical presence, they would be able to directly market the VC fund backed investment opportunities as a new asset class to customers. Further, these institutions have an excellent ability to manage the thousands of investors that would be involved in crowdfunding – resources that VC funds currently lack.

Banks offering this new asset class to customers would not materially alter the functions of existing investment advisors but instead it could serve as a point of differentiation from competitors while potentially drawing in new customers. The strong and respected brand of the bank would be particularly effective in differentiating these investment opportunities from those available through online crowdfunding platforms.

Along with the crowd, the VC fund would invest in the companies that it recommends. This would improve alignment between the crowd and the VC fund because the VC fund would have 'skin in the game', something that the bank would value, as it solidifies the assurance of quality in the invested company. Currently, it is quite common that a single VC fund will not finance a company's full capital ask in a seed round. Usually, the remainder is filled by other accredited investors such as angels. The crowd, however, could simply replace this group. This replacement would benefit the VC fund as no other investor would have a single large equity stake, leaving them with unquestioned bargaining power with the startup. In exchange for vetting the startup and sourcing capital on their behalf, the VC funds should pursue a 5% discount on a 20-30% equity purchase in the venture.

> **"THE LEGISLATION PROVIDES VC FUNDS WITH AN OPPORTUNITY TO ADAPT THEIR BUSINESS MODEL TO BENEFIT FROM THE CHANGING INDUSTRY DYNAMIC. THESE CHANGES WILL NOT BE SIMPLE, AND WILL LIKELY ONLY BE FEASIBLE FOR LARGER VC FUNDS**

Further, VC funds should see this as a relatively low-risk opportunity to source early stage startups for the subsequent round of funding. To ensure this opportunity, VC funds would need to sign a contract with the company stating that they would have the right to purchase at least their pro-rata share of equity in any future equity offerings. Since funding rounds for startups are generally one year, the VC funds would have a year between the relatively small investment during the seed round and what could amount to a large investment in a subsequent round. This year would give the VC funds a chance to evaluate the companies with ownership insight and determine which ventures are the most promising investments for the second round of funding.

To accommodate the additional diligence work and deal flow, the VC funds would have to increase staffing and capital. Fund sizes will have to grow to meet both the increased capital requirements of more investing and cover the increase in VC fund operating costs. As institutional investors are cutting their investments in private equity, the answer to raising larger funds may also lie with retail investors and banks.

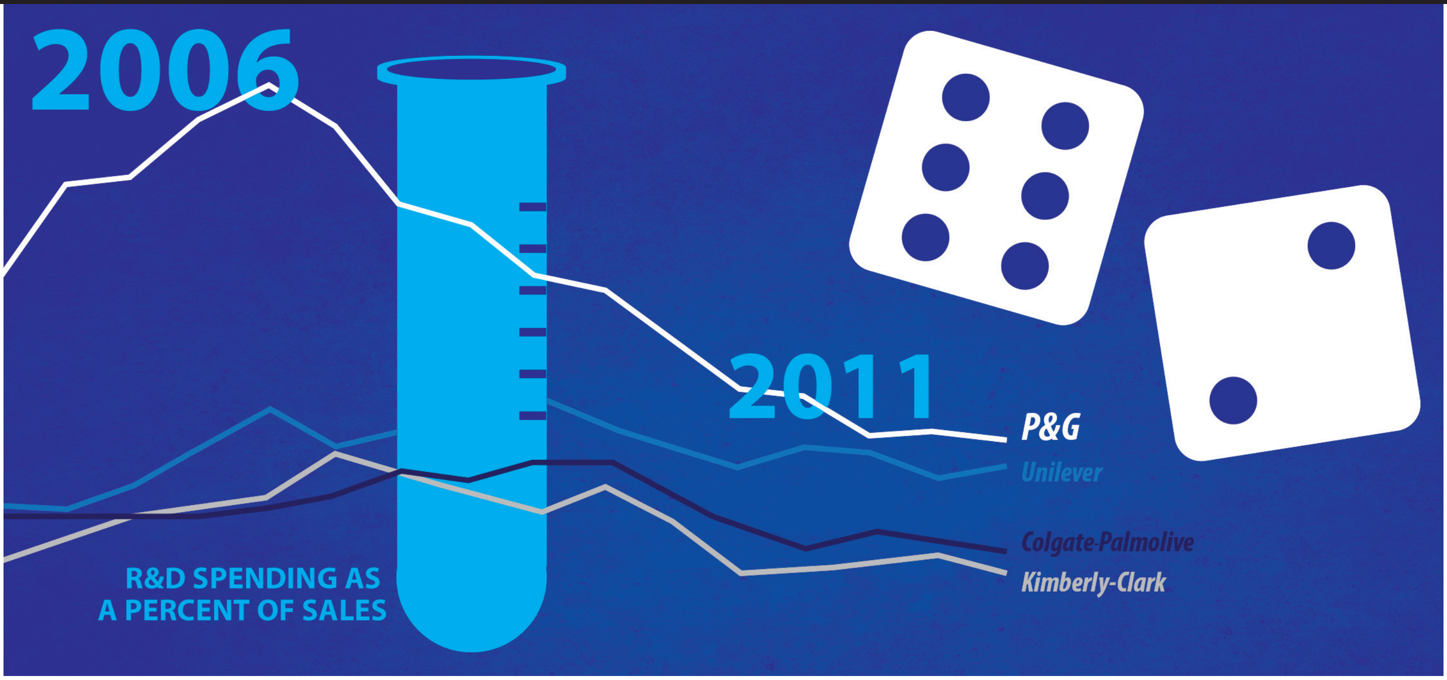
Accredited Investors

With 506(c), General Partners, who manage VC funds, now have the ability to openly solicit funding from accredited investors. A VC fund could partner with the same financial institution that manages their crowd platform. Banks have much more advanced capabilities in attracting managing investors, something VC funds simply don't have the resources to do. This opens up a new source of capital and ensures VCs minimize any internal fundraising costs – as the bank would manage much of this process at minimal cost by simply adding it to existing fundraising and management programs.

Conclusion

Changes to the venture capital industry due to the JOBS Act present a risk to VC funds by potentially changing the scope of their role and decreasing their deal flow of early stage companies. However, the legislation provides VC funds with an opportunity to adapt their business model to benefit from the changing industry dynamic. These changes will not be simple, and will likely only be feasible for larger VC funds.

Rather than viewing this shift as just a potential risk, top-tier VC funds can adapt existing capabilities to improve the quality of deal flow, defer risk to the crowd, and seek a better risk-return mix. With the new opportunity of vetting startups for retail investor protection, VC funds will further their ability to invest in more promising companies. The venture capital's environment, process, and profitability will be impacted whether or not VC funds are willing to adopt this new role.



PROCTER GAMBLED & LOST

How recentralizing R&D will bring back P&G's product portfolio advantage.

By Robby O'Brien and Zachary Mandlowitz

In the early 2000s, Proctor and Gamble's (P&G) CEO, A.G. Lafley, decentralized the firm's research and development (R&D) efforts. This change – part of a larger "Organization 2005" strategy – was aimed to shift P&G's R&D to an open innovation model. Open innovation is a model focused on gathering external knowledge from customers, suppliers, competitors, and academics. The theory is predicated on the idea that in an increasingly connected, educated, and dynamic environment, collaborative development outperforms compartmentalized R&D. The open innovation model shifted the burden of innovation from a centralized department to business units categorized by product type. This provided innovators with focus, and the success rates for new product introductions jumped from 15% to 50%.

Lafley described the paradigm shift as follows: "…we had run our own very large R&D facilities around the world and the focus had been on invention of the technology... it hadn't really been on innovation in the sense that you take that invention into the market, it meets an unmet need and it creates a commercial success... I asked the different innovation teams to try opening up." This differs from the traditional closed innovation mentality, which states "if we discover it ourselves, we will get it to market first."

10 Years Later...

Fast forward to 2012, after the implementation of "Organization 2005", and P&G's results are troubling. Warren Buffett, a renowned value investor, has divested his US $1B stake in P&G, mirroring the sentiment of many common shareholders. Bill Ackman, an activist investor known for shaking up struggling organizations through proxy votes, has taken a $1.8B stake in the firm. Despite higher R&D as a percentage of sales, P&G's organic growth rate has fallen to 2.0%, relative to the 5.8% and 4.0% growth rates of P&G's greatest competitors, Unilever and Colgate-Palmolive respectively. This lacklustre performance signals the need for R&D adjustments.

P&G's most recent "blockbusters" – Swiffer, Crest Whitestrips, and Febreze – were all developed well before the decentralization of R&D. Although the decentralization of R&D has led to increased product introduction success, it is clear that the business units have settled for mediocre product adjustments instead of innovative breakthroughs. Victoria Collin, an analyst at Atlantic Equities, described this process as "reformulating, not inventing".

P&G has also successfully rebranded a number of products. This is exemplified by its modernization of the Old Spice brand, from the "deodorant your grandfather used", to the scent used by the "man your man can [and should] smell like". After the introduction of this marketing campaign, Old Spice deodorant sales increased over the previous quarter by 55%. This is despite the fact that the product itself was unchanged. It appears that P&G believes that revenue losses from slowing product development can be offset by the incremental sales developed through marketing campaigns. This is supported by the respective budgets of these departments – R&D as a percentage of sales has fallen by nearly 50% while the marketing budget has remained constant.

What Went Wrong?

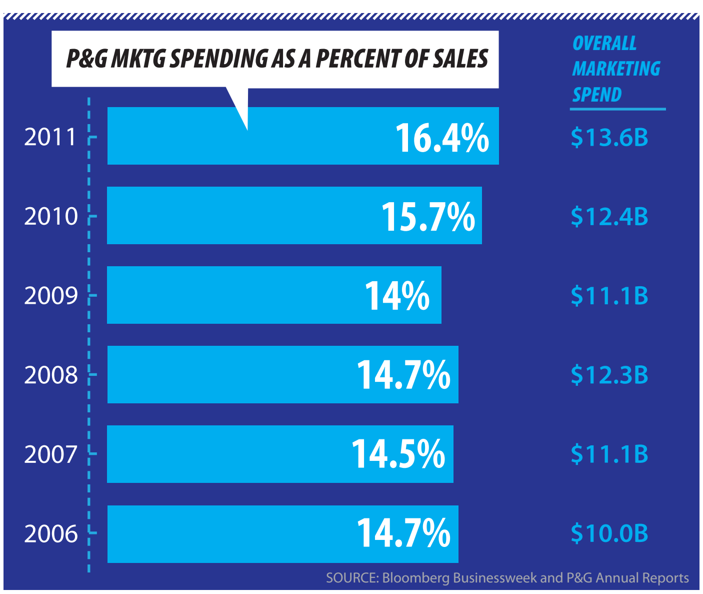
How did an organizational shift that once held so much promise lead to anemic growth and an inability to innovate? There were flaws in both the strategy and the implementation, which ultimately led to failure.

Strategy

The open innovation strategy, which led to organizational decentralization, reduced collaboration between separate product groups within P&G. This change failed to utilize one of P&G's competitive advantages, its conglomerate structure. For instance, Crest Whitestrips used bleaching technology from the laundry business, glue technology from the paper products business, and film technology from the food wrap department. Centralized R&D allowed these departments to work together to stimulate innovation. Today, this type of innovation would not be possible.

Implementation

The compensation structure of business unit managers also contributed to the long-term failure of the R&D reorganization. Managers were compensated based on business unit profitability, and since R&D expenditure lowered profits over the period, investment was not initiated unless it led to immediate, offsetting revenue growth. This led to the transition from high-risk, high-reward "blockbuster" products to incremental improvements of existing products. Shorter development periods and quicker return on investment became the priority.



Turn Back the Clock

Is it too late for P&G? No. It is time it recentralize R&D, and refocus capital allocation and management compensation on new product development. The decentralized strategy has failed to deliver innovation, and the marginal improvements cannot provide a sustainable competitive advantage relative to firms such as Unilever, that continue to re-write the history of consumer goods. P&G has been able to preserve its top-line through successful marketing campaigns, but ultimately this strategy relies on a portfolio of past successes. If P&G fails to act soon, its product portfolio will slowly lose relevance, and incremental improvements will fail to sustain revenue levels. In the long-term, its current strategy is a losing one.

It is time that P&G reverse the majority of the organizational changes that have been implemented since 2005. The firm should re-establish a distinct R&D department that pools knowledge from scientists, engineers, and product developers across all of P&G's product lines. These employees should have specific long-term targets and budgets with a significant portion of compensation derived from qualitative metrics. This system emphasizes long-term decision making through focused planning and is flexible enough to reward employees for visionary innovations. A similar compensation structure was implemented at Johnson & Johnson with great success.

P&G should also increase R&D as a percentage of revenues from the current 2.4% to 3.5%. This increase will help compensate for the void in P&G's innovation pipeline, which will take considerable time and resources to fill. P&G should also consider partnering with external organizations to stimulate collaborative R&D. This could allow for the "cross-pollination" of technology, resulting in radical product improvements. For instance, P&G could partner with General Electric to develop laundry detergents stored within the machine, featuring an optimized release based on the cycle type and load size. P&G has the distribution and technology portfolio required to make this venture attractive to a firm like General Electric. While this strategy has some similarities to open innovation, it maintains centralized decision-making within P&G, which is vital for "blockbuster" innovations. P&G has already explored this type of collaboration through their joint venture with Teva Pharmaceuticals.

Although the proposed strategies do not provide immediate tangible benefits to P&G, they will return the firm to a sustainable state of growth by offering an improved balance between product innovation and promotion.

LVMH: SADDLING UP FOR A BUMPY RIDE

How LVMH can achieve growth after a failed bid for Hermès.

By Justine Goldberg and Jeffery Sehl

On July 10th, 2012 an all-out war erupted in the world of fashion. Behemoth luxury goods conglomerate LVMH Moet Hennessy Louis Vuitton SA (LVMH) announced their 22% stake in Hermès, an ultra-luxury fashion house, shocking the Hermès family. LVMH had delayed the announcement of their increased stake in Hermès through the use of cash-equity swaps. Alarmed by this aggressive increased stake, Hermès filed a lawsuit against the conglomerate accusing LVMH of insider trading and manipulation of their share price. In response, LVMH countersued for slander, blackmail, and unfair competition. This complex situation raises several questions about the future of Hermès, and LVMH's motive for such an aggressive acquisition strategy.

The Dance Partners

LVMH is the largest player in the luxury goods market. To date, they have acquired over 60 luxury goods companies, ranging from wine & spirits to leather goods and fashion houses. In 2011, LVMH had sales of over €23.5B, largely from the fashion and leather goods segments, and more specifically the Louis Vuitton brand.

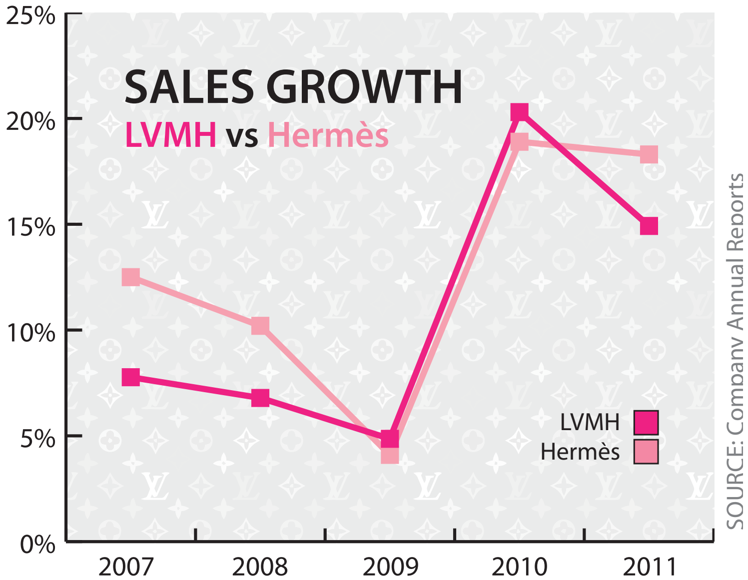
The Hermès brand has long been a strong player in the ultra-luxury goods market, offering products priced from €200 to €150,000. With 2011 sales of €2.8B, Hermès maintains its brand exclusivity by restricting distribution and allowing customers to overflow onto waiting lists lasting over one year simply to purchase a renowned 'Birkin' bag.

Changing Industry Trends

The luxury goods industry can be divided into three segments: accessible, aspirational and absolute. The most exclusive group is the absolute, which has been the fastest growing segment from 2005-2010, with a 6% CAGR compared to luxury goods overall at 3% CAGR. This trend is forecasted to continue with the absolute segment growing at an 8-10% CAGR until 2014. The disproportionate growth of absolute brands decreases LVMH's ability to serve ultra-luxury shoppers due to the diminished perception of their flagship Louis Vuitton brand. Unlike Hermès, Louis Vuitton is losing brand value due to overexposure and wide distribution. With the potential commoditization of Louis Vuitton, LVMH may not be positioned to fully capitalize on changing industry trends. Strategies exist for Louis Vuitton to refocus on exclusivity and restrict distribution to shift upmarket, but these will not satisfy LVMH's immediate desire to service the growing ultra-luxury goods segment.

The Hermès Conundrum

Hermès' current success in the ultra-luxury segment makes the company a seemingly attractive target to address LVMH's short-term desire to serve the ultra-luxury consumer. However, there are two primary obstacles preventing a successful ad-



dition of Hermès to the LVMH portfolio: Hermès' share structure and the firm's misalignment with LVMH's strengths.

A hostile takeover by LVMH is highly unlikely given that 63% of Hermès shares have been transferred to a private holding company controlled by the Hermès family. The family's primary concern is that LVMH will capitalize on production synergies that will ultimately diminish the quality of Hermès products. In the past, LVMH has offered all-share deals to target families concerned with forfeited control and ownership. In this case, however, LVMH would need to pay an exorbitant premium to obtain buy-in from the Hermès family.

Acquiring Hermès would be unordinary for LVMH, as the conglomerate normally targets underperforming and undervalued firms. Hermès is currently valued at a trailing P/E of 34.7x compared to LVMH's P/E of 18.5x. At these ratios, this acquisition would be heavily dilutive for LVMH in an all-share deal.

Beyond the difficulty of striking a deal and divergent views as to the potential synergies, the primary risk is that acquiring Hermès represents a stark departure from LVMH's core competencies. Acquiring undervalued and underperforming luxury goods companies containing history and culture has been a signature strategy for LVMH. Hermès' strong financial performance makes the company unlike LVMH's previous successful acquisitions. There is little value to be created through brand growth and recognition. Furthermore, it is becoming clear that LVMH will not win the battle for control of Hermès due to the Hermès family's staunch resistance. LVMH should step away and utilize its resources in a different manner.

> **A HOSTILE TAKEOVER BY LVMH IS HIGHLY UNLIKELY GIVEN THAT 63% OF HERMÈS SHARES HAVE BEEN TRANSFERRED TO A PRIVATE HOLDING COMPANY CONTROLLED BY THE HERMÈS FAMILY**

Short-Term: Who Instead?

There are several other acquisition targets that better align with LVMH's traditional strategy. UK jeweler and ultra-luxury brand Asprey is a firm with a strong reputation, named the number two ultra-luxury jeweller globally by the 2012 Luxury Brand Status Index. Asprey has suffered financially, emerging from restructuring in 2006, and have yet to turn a profit. The firm's focus is on jewellery, though they do have an extensive portfolio of leather goods. Asprey's reputation for high quality craftsmanship could be paired with LVMH's expertise to increase the relevance of Asprey's handbags. From a broader perspective, there are alternatives to Hermès that sync with LVMH's historical acquisition strategy.

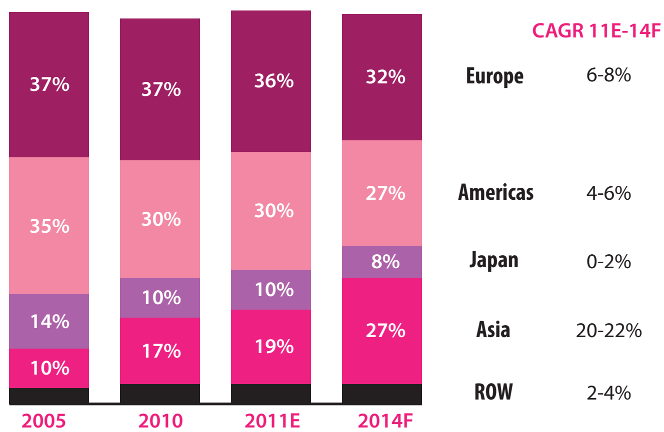
With other brands available to satisfy LVMH's short-term ambitions of serving ultra-luxury shoppers, abandoning the Hermès acquisition is a viable option. LVMH could sell down their shares in Hermès and use the significant return to acquire another brand to compete with Hermès directly. Furthermore, LVMH would still have remaining funds to develop a long-term solution to moving Louis Vuitton upmarket and back to its position as an ultra-luxury leader.

Long-Term: Entering Asia

The luxury goods industry's short-term trends justify an acquisition geared toward serving absolute shoppers. However, when the industry is viewed by region, LVMH's necessary long-term focus becomes clear. The luxury market can be split by geographic regions: Europe, Americas, Japan, Asia, and Rest of World (RoW). Asia has a CAGR over 2011-2014 of approximately 22%, compared to the Americas at 4-6%, and Europe at 2-4%.

Asia's industry leading growth is driven by favorable demographic trends and strong economic growth in China. The Asian market mirrors the changing industry dynamics, with strong absolute growth from Asian consumers whose preferences are moving towards higher-priced and more exotic products. Currently, Chinese customers account for approximately 20% of global luxury consumption; however, they often make their purchases while travelling abroad, with some estimates that Chinese customers buy half of all luxury goods sold in Paris, London, and Milan. This illustrates an opportunity for a strong brand to repatriate these lost sales. Although this is a high

Global Luxury Goods Market by Region



SOURCE: Bain Luxury Study

risk strategy, if properly approached and captured, this segment could revolutionize the luxury goods industry worldwide.

An opportunity to expand into the Asian markets has already been explored by Louis Vuitton. In July 2012, Louis Vuitton unveiled a new collection of handbags by Japanese artist Yayoi Kusama. This new line of products spurred sales growth and generated buzz around major fashion capitals of the world. Although this new collection has generated some sales growth by appealing to the Asian market, consumer tastes vary greatly between Japan, which is slowing in growth, and China, which is rapidly expanding. Chinese consumers place high value in "recognizing and patronizing indigenous designers". Given its history, mainland China is generally less susceptible to Western influence than other Asian regions such as Japan or Hong Kong, where markets are overflowing with Western products. Consumer sentiment towards Westernization may be less powerful in China, where domestic preferences run deep. Although Chinese consumers will continue to look to the West for fashion trends, their individual preference towards historical Chinese elements being incorporated into fashion will strengthen as well.

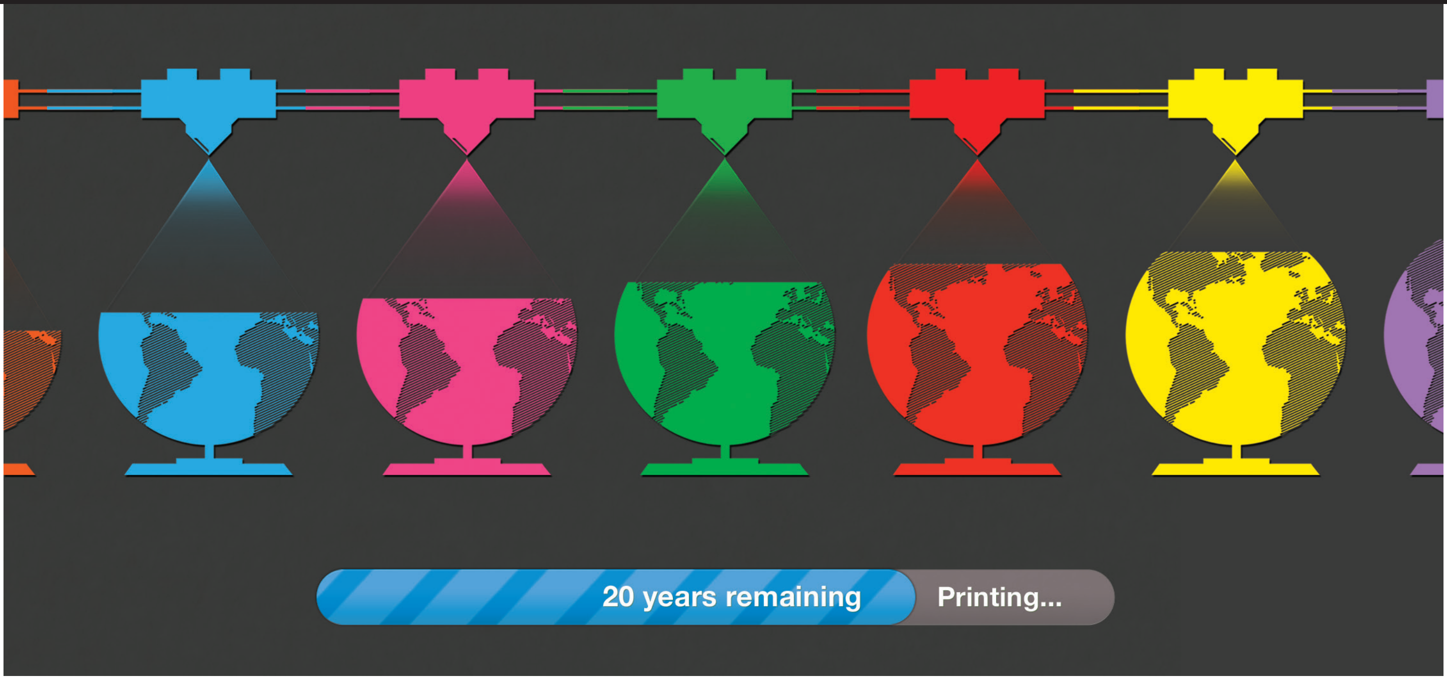
> **"ASIA HAS A CAGR OVER 2011-2014 OF APPROXIMATELY 22%, COMPARED TO THE AMERICAS AT 4-6%, AND EUROPE AT 2-4%**

Capitalizing on Chinese Growth

LVMH can satisfy this market by taking the quality of Louis Vuitton products and putting a Chinese "twist" on the design. Hiring a Chinese designer to create a completely new line of handbags, based on the fashion designs that were popular during historical Chinese dynasties, will cater specifically to the upscale Chinese consumers. The leather and production will continue to be sourced from Italy in order to maintain the quality of products. The interior fabric with the Louis Vuitton monogram should also be kept as part of the design for this product line to be consistent with the Louis Vuitton brand. The new line should only be available in Chinese flagship Louis Vuitton stores in order to maintain exclusivity. Affluent customers will need to travel to China to purchase a handbag from this new line, creating a comparable experience to the Birkin's infamous wait-list. Similar to Dior's successful "Secret Garden" campaign, shot in Versailles to pay tribute to the brand's French roots, this campaign should link to China's rich history.

Although LVMH has pursued a similar strategy in the past, this brand extension will not come without significant hurdles. LVMH must be able to secure top Chinese talent in order to establish a genuine cultural connection. Although in the short-term, traditional styles may still dominate the Asian market with Western influenced luxury goods, careful attention to shifting consumer preferences will allow LVMH to win the battle for this high growth region in the long-term.

As we have seen with Louis Vuitton and its rapid distribution growth, luxury brands are not invincible. They take years to build, but can quickly be degraded through commoditization or duplication. In the short-term, LVMH must step away from their current pursuit of Hermès and utilize their capital to fund projects that outmaneuver Hermès in the absolute segment. Moreover, in the long-term, LVMH must develop strategies to capture the growing Chinese luxury market who will ultimately decide which players thrive and falter in the future. If the Hermès experience is to teach LVMH anything, it is that it must take immediate action if it wants to solidify its dominant position in the luxury goods market.



3D PRINTING: ARE WE THERE YET?

Why a technology developed in the 80s still isn't ready to be capitalized upon.

By Niklas Lubczynski and Nikita Babailov

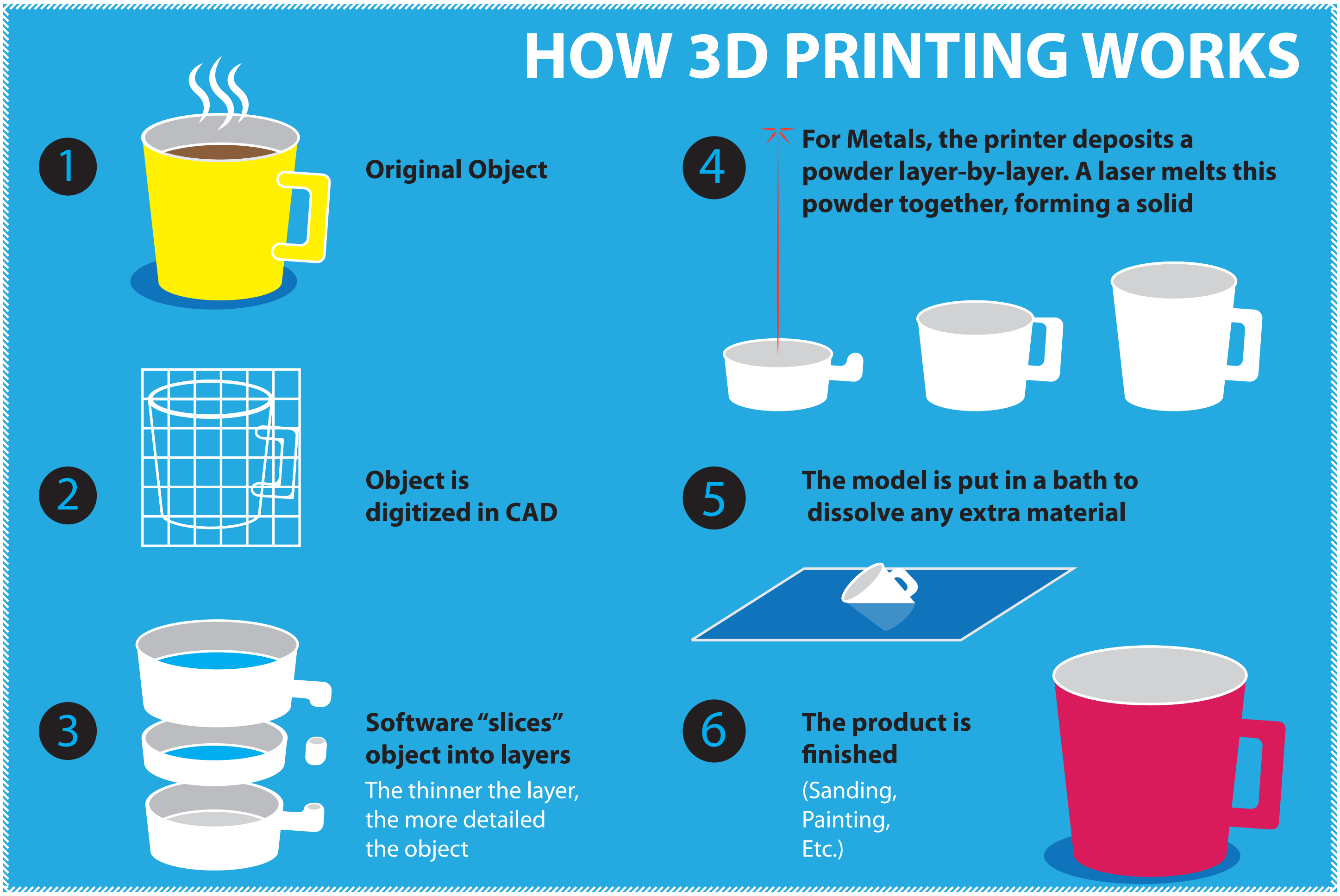
Envision a machine that can print any object imaginable from human tissue to a circuit board – meet the world of three-dimensional (3D) printing. 3D printing technology allows anyone to produce tangible 3D objects from a computer aided design (CAD) model. These printers construct objects, layer-by-layer, using a variety of materials, such as thermoplastics, titanium alloys, and even chocolate. Eventually, every home could have a 3D printer, dramatically altering the way consumer products are distributed and consumed. While this technology is remarkable, like any utopian vision, the 'revolution' will take time.

Currently, there are two dominant players and several small start-ups operating in the 3D printing industry. The dominant players, Stratasys and 3D Systems, have limited operating cash flows to invest in the rapidly growing market. The 3D printing industry currently has revenues of $1.4B, which are expected to grow to $3.0B by 2016. Currently, the main customer for 3D printers and 3D printing services are those who use the technology in professional and industrial applications. Stratasys differs from 3D Systems by positioning itself to industrial companies rather than to the consumer market. However, with the 2011 launch of its low-priced "Mojo" printer line, Stratasys is starting to express an interest in the consumer market.

Considering its small size and recent earnings disappointment, Stratasys needs to be very cautious about how it allocates capital. As a company who is betting its survival on a nascent technology, Stratasys cannot afford to make big mistakes at this stage of its life cycle. Rather, a wait-and-see approach would allow Stratasys to learn from its competitors' mistakes. Stratasys will need to make specific, well-timed decisions in order to survive and prosper over the next 20 years. Its strategy should be addressed through three phases.

Phase I: Undeveloped Consumer Market, Developing Industrial Market (Present)

3D printing allows for nearly unlimited product manufacturing variability that would be impractical through traditional processes. Regardless of batch size and variability, the cost of 3D printing an object does not change. In contrast, companies using traditional manufacturing must rely on large batch sizes to generate economies of scale. Companies in mature markets where overall sales and revenue growth has stagnated can instead choose to compete on the basis of customization rather than cost. This differentiates their product from their competitors', and adds value to the consumer. For example, the Honda Civic product family consists of seven models, each offering a slightly different feature to appeal to different customer requirements. While Honda is selling more cars now than ever, it typically sells less of any individual product due to high consumer selectivity. This trend of increased production variability goes beyond the automotive industry, and is more broadly indicative of the variability introduced to products as they enter a mature phase. 3D printing would al-



low companies like Honda to enhance the value of its products by allowing the consumer to customize the details of their mass manufactured product to suit their specific needs and desires.

In the short-run, manufacturers in most industries are likely to adopt 3D printing in some form to offset the high fixed costs associated with tooling a low volume assembly line. Certain niche industries such as the aerospace or medical sectors require parts of increasingly greater complexity that are difficult, inefficient, or in some cases even impossible to produce with traditional methods. As manufacturers become aware of the benefits 3D printers provide over traditional manufacturing processes, they will adopt 3D printing as a complimentary solution to their operations.

To navigate this phase, Stratasys needs to be disciplined in its spending and only focus on value-added segments of the market. Stratasys' Mojo is a relatively inexpensive professional printer that is effectively a consumer product. The consumer realizes little value from what 3D printers currently offer; the average cost of a consumer 3D printer is around $5,000 and is very limited in what it can produce - a small variety of parts such as jewellery and action figures made of limited materials. Additional constraints such as print speed and quality make it ill-suited for the consumer market. The size of a 3D printer available to consumers at a reasonable cost further limits their ability to print objects much larger than a basketball.

The consumer market should be abandoned entirely as currently there is no appropriate infrastructure or consumer demand to support any mass adoption of this technology. Beginning shipments in Q2 2012, Stratasys generated orders for over 275 Mojo printers worldwide with the help of 130 dedicated sales agents. However, without a significantly improved sales channel and customer buy-in, Stratasys will not be able to reach unit sales figures that justify such a significant investment in the consumer market. Stratasys should exit and let 3D Systems target the consumer segment. Down the road, Stratasys will have learned from 3D System's mistakes and can re-enter the consumer market with a fully formed, well-integrated technology that will have significantly higher adoption rates.

It is commonly accepted that the first mover in a market enjoys the strongest advantage, but in the 3D printing industry this may not necessarily be true. Choosing to launch too early may cripple a company by sinking its capital in inventory it cannot sell due to insufficient market demand. While the consumer market is growing at a high rate in terms of unit sales, the dollar growth rate is considerably lower. Stratasys should continue to develop its professional and industrial printers through R&D and M&As to improve its technology and to decrease prices. This approach generates sales today and improves Stratasys' technology for the future.

Through Phase I, Stratasys needs to improve sales of its professional and industrial printers to medium and large sized companies. A powerful way to do this is by creating an in-house pro bono consulting branch aimed at analyzing potential customers' operations, and identifying areas where 3D printing could enhance output, reduce costs, or drive sales. The branch will consist of engineers and commercial consultants who will travel to clients and offer their professional insight into company-specific benefits offered by 3D printing. Furthermore, these consultants will double as a full-time sales force, dedicated to building relationships with clients so they can purchase Stratasys' 3D printers and transition their businesses to the next level. A consulting department initially made up of 10 people, at an annual cost of $3 million, could be fully-funded with a 2% incremental increase in printer sales. Further, some of these cost increases would be offset by the reduction in sales staff dedicated to the Mojo line.

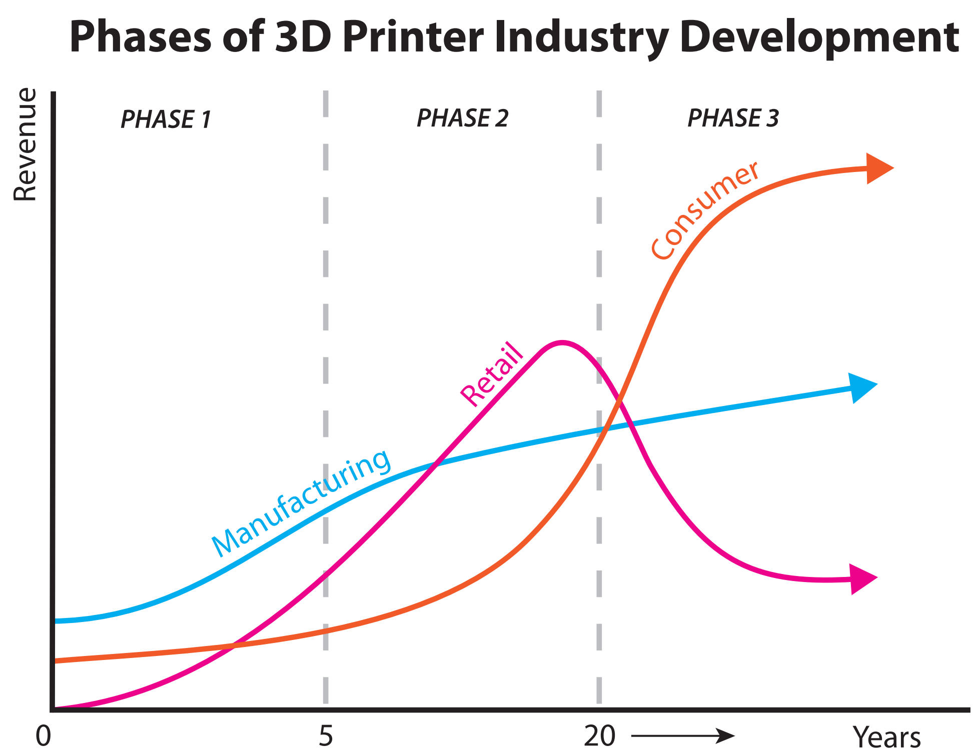
Stratasys' competitor, 3D Systems, is currently establishing a consumer printer base that will distract it from the market of value in this phase – the industrial market. Projecting and planning for phenomenal short-term retail customer growth will likely leave 3D Systems with underutilized staff and assets "gathering dust", forcing costly write-offs and tying up cash that could be otherwise used for research. If sufficient growth does materialize in the consumer market earlier than expected, Stratasys can always enter at only a slight disadvantage, since any type of mass adoption would be predicated on infrastructure that does not currently exist.

Phase II: "Retail"ization (5-20 years)

The true value of a 3D printer lies in the objects that it can print. This is what will drive the sale of 3D printers, whil the pace of development of the technology itself will be a constraint. Within 10 years, 3D printing technology used by manufacturers will achieve a level of quality and general awareness that will motivate centralized retail services to adopt the technology. These retail locations will offer the ability to print products in a variety of materials and sizes. Stratasys should aim to create a store within a store, selling its printers in retailers like Costco. Given that 3D prints require post production finishing, qualified Stratasys staff should operate these locations. The store within a store concept should be pursued only in Phase II, as sales in the long-term are unlikely to come via big box retailers. Rather than directly compete in such a market, Stratasys' partnership with an existing retailer will limit downside risk, as Stratasys' presence in this segment will only be temporary. Stratasys should use this retail model to transition from an industrial focus to a consumer focus.

Additionally, when 3D printing material costs drop low enough, traditional retailers may adopt 3D printers to replenish stock and promote customized product sales, including one-off or novelty items. A retailer could use 3D printers to produce specific products as they are sold and replenish shelves as they empty, reducing its reliance upon traditional supply chains and granting them the ability to hold less inventory. However, the importance of the price of 3D printing materials is not to be underestimated - a retailer will not give up significant margins for the sake of variability, and will only switch to 3D printers if the added sales generated from this variability overcomes the loss in margins.

Finally, Stratasys should invest in additional products and features for their current 3D printers. While it is too early to sell the consumer printers themselves during Phase II, it is not too early to invest in certain secondary markets that will bolster the competitive advantage of its products. Success in this consum-



er market will not be determined by who has the fastest printer or the largest document library. It will be determined by who has the full ecosystem required to deliver value to the consumer. The system that makes this extremely complicated process simple for the consumer will be the ultimate winner in the market. This full ecosystem needs to be built over the next 20 years so that when the technology and the consumer are ready for broad 3D printing adoption, consumers choose Stratasys.

Stratasys should focus its capital investment in two areas. First, it should begin the development of a complete software suite to solve its customers' needs, providing a seamless user experience unparalleled by competitors. Currently, a Stratasys printer ships with printing software, but the CAD development is completed on other software. Second, Stratasys should begin developing a CAD file library to offer extensive product selection. While many companies host online libraries containing CAD files available to the public, they are currently free to access. It simply does not make sense to acquire one of these free distributors; rather, Stratasys should develop its own proprietary database amassing files currently in the public domain along with additional internally produced proprietary designs.

> "SUCCESS IN THIS CONSUMER MARKET WILL NOT BE DETERMINED BY WHO HAS THE FASTEST PRINTER OR THE LARGEST DOCUMENT LIBRARY. IT WILL BE DETERMINED BY WHO HAS THE FULL ECOSYSTEM REQUIRED TO DELIVER VALUE TO THE CONSUMER

Development of this CAD library can be handled in-house and should be released concurrently with the start of Phase II. However, development of the software will require a significant time and cash investment. Regardless, Stratasys has the time to invest in the code and the programmers necessary to successfully pursue this strategy. By developing a vertically integrated system during Phase II, Stratasys will be primed to take off in Phase III.

Phase III: 3D Printing Utopia (20+ Years)

While the traditional focus on 3D printing highlights the idea of 3D printers invading the homes of consumers, this is a rather abstract thought in the current development of the industry. Upon successful adoption of 3D printing technology in Phase II, consumers may begin to find that they can print almost anything from the comfort of their home. In this 3D printing utopia, consumers will find a wide variety of product CAD files and 3D printers available. The enhanced convenience and unique feature selections will lead to widespread adoption of 3D printers. Therefore, the company that offers the most complete 3D printing package will be well placed to dominate this market.

Upon consumer household penetration, 3D printers will likely deliver margins at a fraction of the 53% Stratasys enjoys today. These lower margins will be caused by future competition and low unit-prices demanded by consumers. As sales of 3D printers will offer little to the bottom line, Stratasys should position itself to adopt a "razor-and-blades model". Under this model, Stratasys can enjoy profits from repeat purchases of high-margin consumables (i.e. 3D printer material) and the licensing/sale of intellectual property (i.e. downloadable CAD content) after the initial purchase of the printer. The recurring cash flows of this model are particularly attractive, but in order to reap them Stratasys will have to use the coming years to position itself as an effective curator of intellectual property and an effective supply chain manager of 3D printer consumables.

Divest in Hype, Invest in a Plan

Stratasys' stock price has skyrocketed, rising almost 400% over the last two years, signalling a sudden awareness of the enormous potential 3D printing has to offer. Whether this sudden awareness is simply hype or a legitimate sign of a long-term trend, it is imperative for the company to predict industry trends and follow a plan that aligns with those predictions. Overestimating the 3D printer market could set Stratasys back further than if it had originally underestimated the growth. Considering its current cash constraints, mistiming the market could be a fatal move. Stratasys must be realistic and focus on projects that offer profitability in the near term, rather than prematurely investing in future sales. In doing so, it will position itself to be the dominant player in the 3D printing industry for the next 20 years, and beyond.

WAL-MART: CAN IT HANDLE THE SPICE?

Can the world's largest retailer conquer the Indian marketplace?

By Farzan Bhanwadia

In September 2012, the Indian government opened the floodgates to its country's booming consumer market by agreeing to make its retail sector more accessible to foreign giants such as Wal-Mart and Ikea. The move came as a pleasant surprise to foreign firms who now, for the first time, will be permitted to operate wholly-owned subsidiaries in India. Significant upside potential exists given that organized retail, which refers to operations undertaken by licensed businesses, represents less than 5% of the Indian market. In aggregate, the retail sector generates more than US $500B in sales, driven by India's growing middle class' increasing demand for Western goods. Retailers interested in entering India will be forced to answer a difficult question: how do we persuade the Indian consumer to purchase goods at a supercenter instead of from their local street vendor?

Wal-Mart hopes to be an integral part of this market shift by being the first foreign retailer to enter India. The retail market is growing at 12% per year and is free of Wal-Mart's familiar competition; there is an opportunity to gain a first mover advantage in the wake of market liberation. Over the past few months, the media has also taken an optimistic stance on the proposed expansion. Bloomberg attributes forecasted success to a high population density, and the Wall Street Journal expects Wal-Mart to capitalize on the fragmented nature of the competition. Success, however, is far from certain. Wal-Mart must remain cognizant of the significant headwinds it will face in this unfamiliar market when determining which market entry strategy will maximize value, without compromising its tolerance for risk.

Wal-Mart's Current Value Proposition

In North America, Wal-Mart offers a wide range of products to its customers at "Everyday Low Prices". Thanks to its state-of-the-art supply chain management system and enormous size, Wal-Mart is able to negotiate the best prices from suppliers. Typically when entering new markets, Wal-Mart has sought to acquire or collaborate with a large firm in the target country to attempt to quickly replicate its supply chain advantage. This strategy is best illustrated through Wal-Mart's $2.4B acquisition of Massmart in South Africa. This acquisition provided Wal-Mart with insights into South African consumers' preferences, while granting it access to prime real estate and well-established distribution channels. Wal-Mart's 1998 expansion into Germany failed because they neglected to address the concerns of German consumers, and were forced to exit eight years later. Wal-Mart has generally enjoyed success wherever it has been able to understand the local culture, and adapt its value proposition accordingly.

Previous Experience in India

Wal-Mart first entered the Indian market in 2006 through a joint venture with Bharti Enterprises, one of the largest Indian conglomerates. Government restrictions prevented Wal-Mart from operating in retail, so instead it opened wholesale or "cash and carry" stores, targeting the business-to-business segment. In cash and carry stores, customers pay for goods immediately in cash; no credit terms are offered. Wal-Mart gained a basic understanding of the Indian consumer through this venture. Going forward, Wal-Mart is looking to take advantage of changes in government policy and move out of the small and crowded wholesale segment. If Wal-Mart moves into retail in India, the question must be asked: should Wal-Mart continue to operate with partners, or can it succeed on its own?

Wal-Mart's Potential Challenges

1. Inability to Compete with the Local Vendors

The retail sector in India is primarily composed of neighborhood "mom and pop shops", known locally as "kirana" stores. Essentially, they are street vendors. These vendors have a personal, long-standing relationship with their customers. They have gained the trust of the consumer with respect to price and freshness, values that are deeply embedded in the Indian consumer's buying behavior. Wal-Mart would be unable to compete with these street vendors in the grocery space due to the "kirana" stores' negligible fixed costs and daily inventory replenishment. Furthermore, these vendors offer value added services such as home delivery and a short credit period without interest - services that would be a deviation from Wal-Mart's business model. Wal-Mart cannot compete with the convenience of the ubiquitous "kirana" stores.

The players that currently compete in India's organized retail market include Reliance, Spencer's, and Big Bazaar, each of whom sell groceries and dry goods. Although these companies have adopted an aggressive growth strategy in Mumbai, India's largest city, none have developed significant brand equity due to their inability to provide a product mix or price level that can compete with local vendors.

2. Preferences of the Indian Consumer

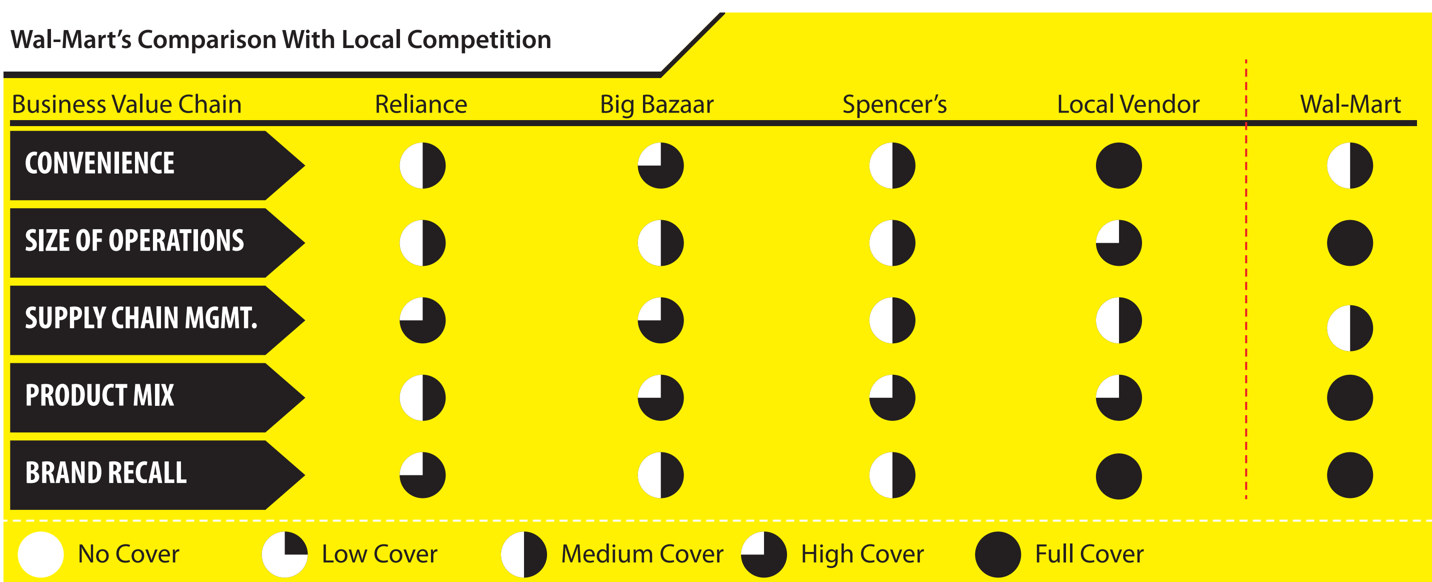
There are a number of key cultural differences between the preferences of the Indian consumer and the typical Wal-Mart customer. Wal-Mart customers buy in bulk, visiting infrequently. However, Indian consumers prefer fresh food, and visit a store almost every day. They also have limited access to personal vehicles or public transportation and, as such, prefer to purchase hard goods in small, transportable quantities. This would not support Wal-Mart's current "one-stop-shop" business model.

In addition, there is a perception among the older generation in India that bigger stores charge premium prices and sell exclusive products, while smaller stores sell average products at a lower price. This suggests that Wal-Mart's big box image, as is, may limit its success selling generic goods to the Indian consumer.

3. Booming Real Estate

An exploding Indian population and rapidly expanding public infrastructure has sent real estate prices in metropolitan areas skyrocketing. Given the floor space required to operate a big box store, Wal-Mart's success would be highly dependent on the per square foot cost of real estate it is able to acquire. Due to previous government regulations, Wal-Mart lost the chance to bid for prime, low-cost urban real estate to its Indian competition.

Historically, Wal-Mart has set up its stores on the outskirts of cities where real estate is proportionately less expensive. This strategy could be risky in the Indian market, as consumers have limited access to transportation and would be dissuaded by the need to travel long distances. Thus, Wal-Mart may be required to incur high real estate costs, which will increase the size of the market-entry investment, and put downward pressure on its profit margins.



4. Lack of an Organized Supply Chain Management System

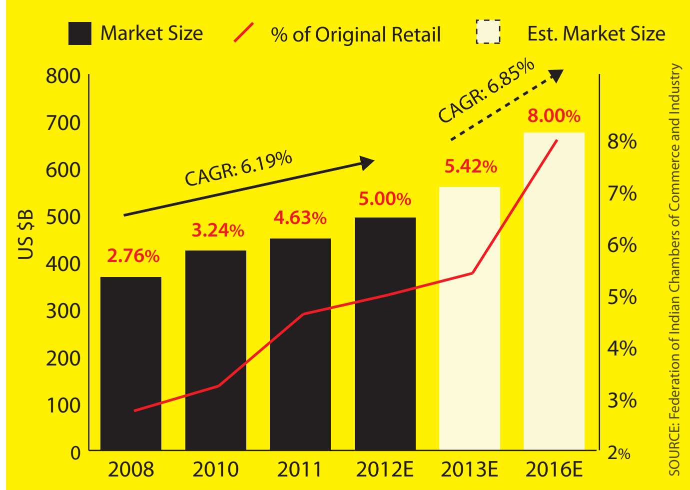
Since Wal-Mart's competitive advantage is its supply chain superiority, entering alone would necessitate a large investment to establish distribution systems from scratch. Corruption, distrust, and a general lack of transparency throughout Indian supply chains has required many retailers to sell goods through middlemen, driving down retailers' margins. Getting the necessary products to stores without delay would be a significant hurdle to Wal-Mart's success given the scattered logistics. According to McKinsey, 40% of fresh produce in India goes to waste due to the lack of investment in back-end infrastructure, such as refrigerated systems. Conversely, established players in the market have already built supplier relationships with farmers and manufacturers, streamlining distribution and reducing waste. Also, in the dry goods space, only a few players have gained access to quality distribution systems. Gaining access to these networks presents a sizeable challenge, given that in large part they were established by a small number of players looking to gain a sustainable competitive advantage.

Recommendation

Wal-Mart does not need to partner with a local player to better understand India's socio-political fabric and establish effective supply chains, but a calculated entrance strategy is nonetheless necessary. Wal-Mart has gained a basic understanding of the Indian consumer through their Bharti partnership, and could acquire local management knowledge by hiring directly from the local labor pool. The primary purpose of a domestic partnership would be to decrease risk, reduce time to market, and signal to the Indian consumer that Wal-Mart is willing to make a commitment to the community. These requirements for entering the Indian market can all be achieved through proper strategy execution.

First, in order to overcome the concern of high real estate prices, Wal-Mart should look to acquire prime space from an established player, such as Future Group's Big Bazaar, or through the continuation of its wholesale joint venture with Bharti. Big Bazaar has attractive, developed supercenters across the country, and Bharti's real-estate subsidiary owns prime real estate in Delhi, with upcoming projects in Bangalore and Patna. This strategy would reduce time to market, allowing Wal-Mart to secure its first-mover advantages amongst global retailers. If entering alone, Wal-Mart would also have to reduce its average store size of approximately 200,000 ft^2 to better align with the 10,000 ft^2 unit sizes that are available in most Indian metropolitan areas.

Industry Size in India



Second, Wal-Mart should develop a distinct value proposition in order to draw consumers into its stores. As Wal-Mart cannot compete with local vendors on price, it should distinguish itself by highlighting its differentiated merchandise and consumer experience. Wal-Mart's competitive advantage, relative to domestic big-box stores, would be access to global products at an affordable cost.

Wal-Mart should look to enter emerging marketplaces such as Bangalore and Hyderabad, where competitors are less developed and rental prices are trading in-line with what Wal-Mart would see in its other successful markets. This geographic segment, which contains a proportionately large, young middle class who support the shift to a new-world economy, have also shown an increased willingness to change their buying behavior in favor of Wal-Mart's classic value proposition. Wal-Mart's target market should be young families, who purchase large baskets of Western goods in regular intervals. Although these markets are not as large as the metropolitan areas of Delhi or Mumbai, they still have the necessary infrastructure to enable the provision of inventory and supplies.

Being an early mover could prove to be an advantage, but only if Wal-Mart is able to learn from its market-entry failures in countries like Germany, where it refused to adapt its market entry and positioning strategies to the preferences of the local consumer. If Wal-Mart succeeds in the Indian market, it would not only lead to the transformation of one of the world's largest retail markets, but could aid Wal-Mart in entering neighboring emerging markets, such as Sri Lanka and Bangladesh, offering further opportunities for sustained growth.

THE RUNWAY TO VIRTUAL RETAIL

How a market leader can use a new selling medium to solve an age-old industry problem.

By Jeffrey Cobourn & Vivek Morzaria

The boring, archaic, and stagnant world of grocery retail is about to be turned upside-down. Thanks to technological development and investments in supply chain management, an opportunity has arisen for large grocers to shift their consumers' behaviour towards an acceptance of virtual retail. Virtual stores are large, interactive touch-screens, three by six feet in size, that customers use to reveal virtual shelves of frequently purchased goods. Each grocery product has a QR code beneath it for customers to scan with their smartphone, adding the product to their digital shopping cart. After selecting a basket of goods, shoppers can use their smartphone to pay and select a preferred home-delivery time. A calculated roll-out of these virtual stores in locations with delivery capabilities will combat consumer resistance and disrupt a maturing industry.

Big box retailers can use the unique capabilities of virtual stores to address the issues associated with selling groceries through traditional e-commerce platforms (i.e. websites). Consequently, they can increase market share vis-à-vis competitors, mimicking the familiar customer experience outside of a brick-and-mortar establishment.

Growth in the United States' $1.2B grocery industry is a meagre 3.6%, leading to vicious price wars for market share and razor thin margins. Instead of continuing to compete with each other on price, Wal-Mart, Kroger, Safeway, Supervalu, and other big box grocery retailers looking to grow revenue must steal market share from regional players that control 76.7% of the market. To accomplish this, they must match the convenience that regional grocers offer their consumers through well located stores. Many of the large retailers are opening smaller-format urban locations, but this type of growth carries high investment costs and only incremental customer acquisition given market saturation. E-commerce proposes to reduce this fixed cost dilemma for retailers and win consumers by conveniently delivering goods. Unfortunately, dozens of failed online grocery efforts have proven that grocers will not succeed in the digital retail space unless they can achieve cost efficiency and appeal to prevailing consumer behaviour.

The Online Grocery Business Model: A History of Failure

Many retailers and entrepreneurs have sought to provide the convenience of online grocery shopping to consumers since the emergence of the Internet. However, without massive investment into supply chain management and inventory technology, the business model is infeasible. The costs of distributing, packing, and delivering goods must be passed onto consumers to protect profitability as shoppers will not pay prohibitive premiums when they can go to the store themselves. Historically, low sales volumes for e-commerce grocers do not justify the infrastructure investment that is required. However, over the past decade big box retailers have adjusted their cost equation, driving down prices by investing in automated inventory management and distribution systems.

Online grocers continue to suffer from consumers' ingrained routine of physically searching through aisles in-store each week; consumers are creatures of habit, and when it comes to groceries, this tendency is amplified. While most groceries are dry packaged goods, an important portion of a shopper's product basket is composed of fresh produce. This further complicates grocers' efforts to bring stores online. The inability to see and feel items makes consumers hesitant to purchase on an e-commerce platform. The online shopping experience, either on a desktop or a mobile device, has failed to attract and maintain a strong following.

A Non-Internet E-commerce Solution?

Virtual stores are the solution to consumer behaviour problems that have previously plagued efforts to take grocery stores digital. The virtual store concept has been launched outside of the U.S., and those formats can be applied in North America to generate new revenue in a saturated grocery industry. Tesco, a multinational grocer, has opened virtual stores in Seoul, South Korea, and the London Gatwick Airport, realizing "great success with customers, paving the way to the opening of more." Large interactive screens present groceries in a user-friendly platform using appealing life-size images, consequently reducing the barriers to acceptance of a digital medium. When online, consumers have limitless distracting content, requiring them to make an active effort to navigate past Internet intrusions to reach the grocery website. Moreover, virtual stores are novel. They prompt customers to react on the spot, maximizing use of idle time and consequently minimizing resistance to the digital platform.

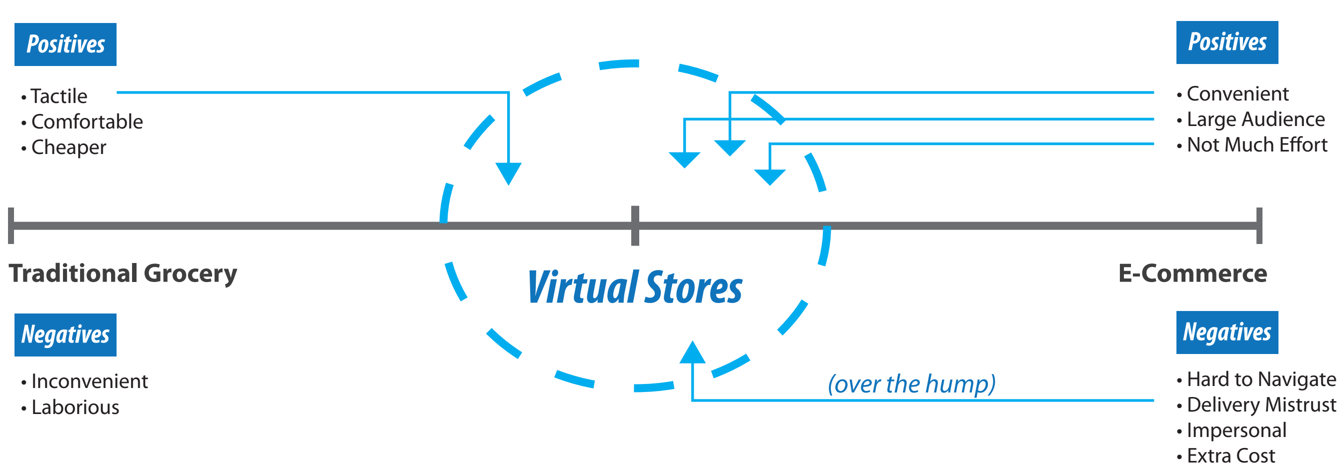
"VIRTUAL STORES ARE THE SOLUTION TO CONSUMER BEHAVIOUR PROBLEMS THAT HAVE PREVIOUSLY PLAGUED EFFORTS TO TAKE GROCERY STORES DIGITAL

Not all grocers are capable of operating this innovative model. Only large retailers who have invested heavily in bolstering their in-store inventory and supply chain management systems can cost-effectively ship and pack goods beyond the boundaries of their physical stores. Simply put, only the biggest and most efficient grocers can achieve the necessary economies of scale to support product delivery.

Airports are the ideal location for virtual store technology due to heavy foot traffic, and idle, captive consumers (while waiting at flight gates). Annually, 188 million leisure passengers fly domestically through America's 29 busiest airports, representing 72 million households and a large group of potential customers. After checking in and passing security, distractions are limited.

The Candidate

There is only one company in the U.S. with the scale and competencies to implement a virtual store grocery model: Wal-Mart. Wal-Mart leads the industry, with double the market share of any of its competitors and groceries accounting for over 55% of its overall revenues. But size alone is not enough. It is vital that Wal-Mart demonstrate its dependability in delivering high quality produce for virtual stores to be successful. Wal-Mart's just-in-time inventory system is able to consistently keep goods fresh. Orders from virtual stores, and Wal-Mart's growing online consumer base, will increase turnover and reduce spoilage. Wal-Mart recently announced an agreement with UPS for same-day delivery of groceries ordered online for a flat fee of $10, further supporting this transition. This agreement, extended to include virtual stores, would allow airport shoppers to specify a date and time window for delivery in advance. This lead time, given from orders made at departure gates, will allow Wal-Mart-UPS trucks to enhance their capacity utilization. The UPS partnership must



be closely managed, but nonetheless sets Wal-Mart apart in its ability to deliver goods to virtual store consumers at a reasonable price, utilizing the core competencies of a seasoned logistics firm.

Why Is This A Good Strategy?

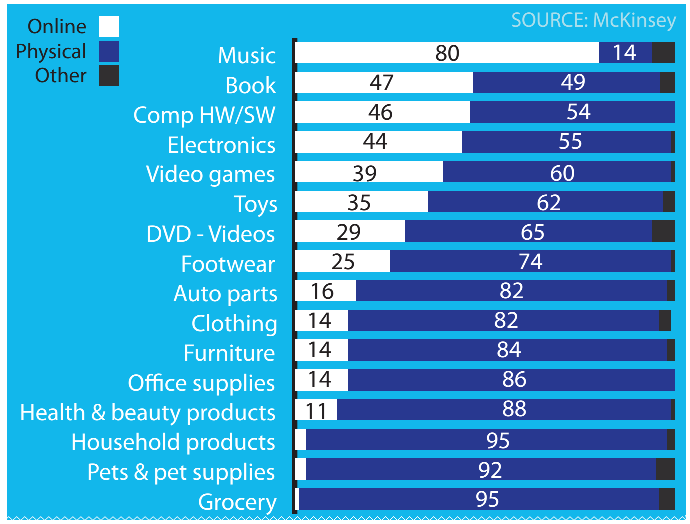
The recommendation that Wal-Mart expand into virtual stores is based on this format's ability to accommodate traditional grocery shopping behaviour previously ignored in past online ventures. The ability of the virtual store to provide a tangible representation of groceries on an interactive screen will help consumers transition from actually touching and feeling a product in traditional stores to solely viewing images on a screen; virtual stores ultimately help reframe consumer perception towards e-Commerce grocery shopping.

Virtual stores will also help consumers overcome their distrust in the delivery concept. Specifically in airports, consumers are keen to take advantage of an opportunity to eliminate the hassle of shopping to replace essential goods (i.e. milk, bread, cheese, orange juice) following a trip away from home. By placing virtual stores in airports, where consumers have no other convenient, realistic option for replenishing their groceries, consumers will be compelled to try purchasing virtually. If properly executed, Wal-Mart's delivery capabilities (in partnership with UPS) will legitimize any delivery guarantees.

Virtual stores are a cost-effective way to reach consumers that would not otherwise shop at Wal-Mart. This sales medium helps the big box retailer grow its reach beyond its typical consumer segment. The company's current strategy of reaching new markets by opening smaller, urban stores carries high recurring and non-recurring costs. Virtual airport stores, on the other hand, provide sales opportunities with a diverse cross-section of consumers for less investment. This is not to say that Wal-Mart should exit its brick-and-mortar expansion efforts. Rather, Wal-Mart should complement its existing strategy with the introduction of virtual stores in support of their broader e-commerce strategy, an area Wal-Mart considers to be a "priority going forward".

Compared to Wal-Mart's other efforts at increasing market share, virtual stores would require very low levels of capital investment and related investment costs. Each airport terminal will have several virtual screens, accompanied by two employees to provide assistance. The operating costs would be composed of this minimum wage labour, and the inexpensive floor space of airport aisles. The inventory management and packing costs would be marginal given Wal-Mart's existing in-store infrastructure. The upfront costs are limited to technological development of the software platform

Current Online / Offline Market Share



and the screens themselves (roughly $6,000 each). Virtual stores are easily scalable, and should Wal-Mart experience overcapacity at airports, screens can be added without a noticeable impact to operations. This selling medium can also reduce empty space in UPS trucks delivering existing online orders, lowering the distributors' per order costs, and thus rewarding collaboration.

So What?

In an industry where fractions of a market share percentage equate to millions of dollars in revenues, competitors are sure to take notice. However, it is unlikely that they will be able to replicate Wal-Mart's virtual stores. The retail giant has best-in-class inventory and excellent supply chain management, both of which are necessary to implement this strategy on a significant scale. Competitors could operate regionally, but Wal-Mart's ability to insert virtual stores ubiquitously in domestic airports provides value by allowing flight-goers to order groceries for when they arrive home from wherever they are departing. Alternatively, large grocers may try to attract consumers by implementing a similar technology in other high traffic areas, such as train stations. However, these locations will not have the same idle and captive audience as an airport.

The saturated in-store grocery market requires that large box retailers find growth via new mediums and consumer segments. Wal-Mart is uniquely positioned to use modern technology to spawn a shift in consumer behaviour, helping unlock the potential of the previously failed digital grocery business. By opening virtual stores in U.S. airports, the company can tap into a captive and diverse set of consumers to increase revenues. Virtual stores may be the catalyst to finally push grocery shoppers into the 21st century.

THE GHOST OF OIL'S FUTURE

How big oil can enter new markets by partnering with governments.

By Eric Fong and Mario Campea

In 1928, Henry Ford constructed a town in the Amazon Rainforest called Fordlandia. Initially devoid of inhabitants, this "ghost town" aimed to dramatically cut production costs so Ford could access cheap and abundant natural rubber resources. The Brazilian government saw the agreement as an opportunity to realize economic benefit from utilization of its natural resources, and cultivate the beginnings of an economy. Despite the promising strategy, the emergence of synthetic rubber as a superior alternative to natural rubber ultimately resulted in Fordlandia's failure. Known primarily for revolutionizing manufacturing operations, Mr. Ford developed a unique market entry strategy with Fordlandia, in which a firm could collaborate with a country in order to gain access to natural resources. This strategy has recently been given new life by Chinese state-owned firms.

To satisfy growing resource demands, China has increased its investments in Africa at an annualized growth rate of 33.5% since 2000. State-owned China International Trust and Investment Corporation (CITIC) revived the ghost town strategy in 2009 for its Kilamba project. A contract with the Angolan government called for CITIC to construct several commercial and residential developments, housing up to half a million people at a cost of $3.5B. In return, CITIC would receive access to Angola's natural resources and be able to establish a symbiotic relationship with the Angolan government.

The Viability of Ghost Towns

The ghost town strategy is best suited for multinational oil firms seeking to gain access to oil reserves in underdeveloped countries. These firms would construct a ghost town, which includes key infrastructure components such as a hospital, retail space, roads, water mains, and a power grid. Upon completion of the ghost town, the host nations would gain possession of the infrastructure while the oil firm continues to manage the system operations. Prior to construction, the firm and government would agree to a discounted royalty rate. Royalties are taxes on oil and gas sales generally ranging from 10% to 30% of revenues.

From the firm's perspective, costs saved through reduction of the royalty rate offset the initial required investment of building the town. The ghost town strategy is predicated upon the idea that oil and gas companies will exchange a large capital expenditure and energy development expertise in return for reduced royalty rates on hydrocarbon extraction. The infrastructure will foster growth independent of oil production, making ghost towns desirable for a developing country aiming to decrease its dependence upon natural resource extraction, and move towards a modern economy.

The Implication for Firms

Multinational oil and gas firms are facing an increasingly competitive bidding process for extraction rights as conventional oil fields are depleted, and state-owned enterprises (SOEs) - which currently have access to 80% of the world's oil reserves - continue to grow. As accessible conventional reserves become scarcer, producers have been shifting focus to unconventional, and quite commonly expensive, oil fields. For example, Canadian oil sands mining projects have seen C$55B of capital expenditures over the past ten years despite a production cost 6x higher than the conventional field. Firms would be willing to accept higher political risk to access a conventional oil field because they would profit off the comparatively lower operating expenses. Royalty reduction strategies, albeit to a lesser extent, are already used in the industry. Often, oil and gas companies will sign production-sharing agreements in which corporations finance the host country's portion of the oil and gas infrastructure. In return they accept payment via a reduction of royalties until all financing costs are covered.

Surprisingly, the ghost town strategy can also help mitigate risks associated with the extraction process. Oil and gas projects with large, immobile fixed assets in unstable political climates face a significant risk of nationalization. If states choose to nationalize the oil field, multinational firms and their employees - who control, operate, and maintain key infrastructure - will leave the country rendering the ghost town infrastructure useless. While it is possible that a state could regain this functionality, it could take years to train and develop the personnel necessary to understand and operate complex infrastructure systems.

State Urgency and Benefits

Many states with a diminishing supply of oil are strained to parlay oil and gas revenues into diversified economic and social development. One such example is Equatorial Guinea, where President Obiang recently initiated a Social Development Fund and expressed a desire for rapid urban development, stating "there need[s] to be a vision for the future, we [need] to develop Equatorial Guinea and build its infrastructure… the oil will not last forever."

Due to aforementioned considerations, states are warming to the notion of a reduction of royalty rates in exchange for construction of public infrastructure. This aggressive approach quickly provides necessary infrastructure, an essential ingredient in states' efforts to foster economic development, at the expense of long-term royalty cash flow. The ghost town model also allows states to utilize private corporation expertise, capturing the benefits of exploring and developing the oil fields without having to invest the technical expertise themselves. From a sovereignty perspective, multinational corporations are more desirable than SOEs. Angola's willingness to allow CITIC to take such a significant development role, despite the sovereignty concerns associated with a Chinese SOE accessing its natural resources, indicates how appealing the ghost town energy development strategy can be to host countries.

Potential Locations

There are four criteria used to evaluate the optimal atmosphere for implementation of the ghost town strategy:

1. **Political stability** is essential. No corporation will invest unless they are confident the royalty agreement will remain in place and unaltered by transitioning governments. Political stability can be expanded to include factors such as civil unrest, revolutions, and the rule of law.

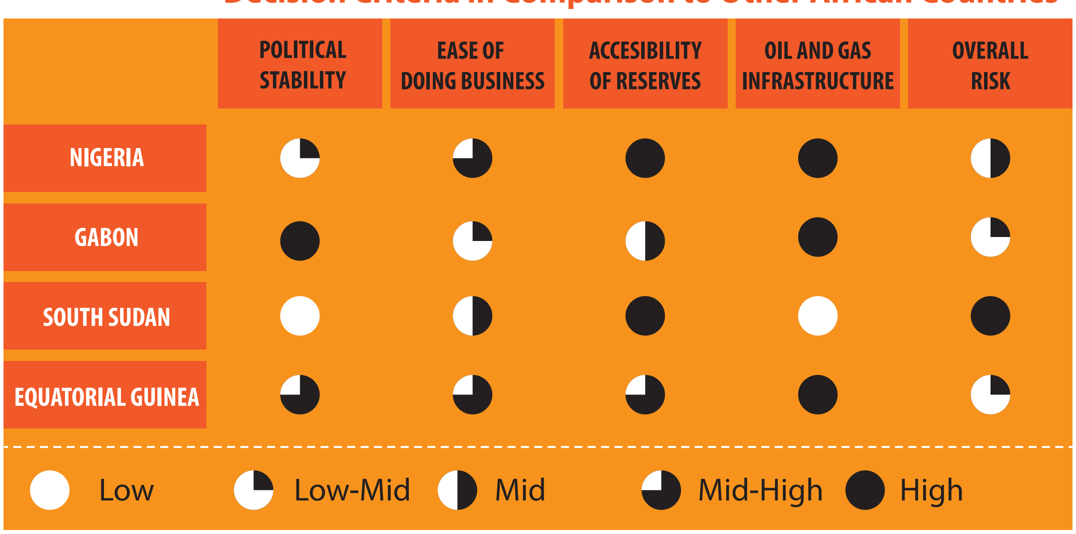
2. **Ease of doing business** is an indicator of potential success of foreign direct investment.

3. **A large and accessible oil reserve** is significant from a revenue generating perspective for the corporation; neighboring reservoirs will open the opportunity for continued collaboration between both parties.

4. **The presence of developed energy infrastructure**, particularly oil and gas facilities, is extremely important. Refineries, pipelines, and ports are essential to process crude oil and move it to market.

With such stringent requirements Equatorial Guinea appears to be the only

Decision Criteria in Comparison to Other African Countries



country that currently satisfies the identified criteria. Exhibiting a stable government, Equatorial Guinea has expressed clear intentions to collaborate with a foreign entity to rapidly develop a diversified economy. In addition, Equatorial Guinea has a strong commercial judicial system, ranking 61st of 190 in the "enforcing contracts" ranking. As Africa's third largest oil exporter, Equatorial Guinea has the significant reserve potential and the associated industry-specific infrastructure. The country's current environment is primed for a collaborative effort with a multinational investor to implement the ghost town strategy.

Financial Analysis

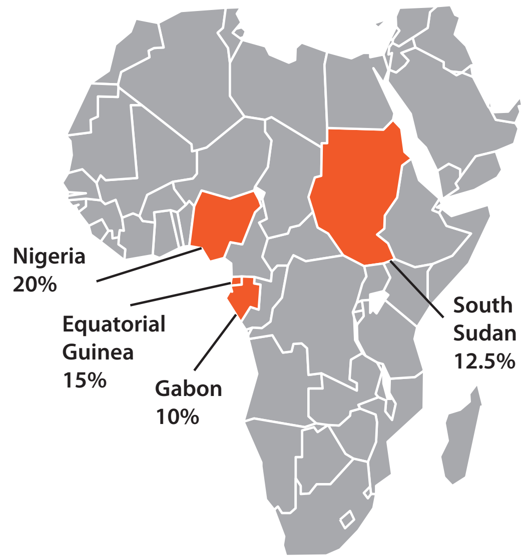
This financial analysis is predicated on a multinational oil and gas firm identifying an oil field with an internal rate of return (IRR) of roughly 40%. This IRR is required to account for the significant political risk of entering a potentially volatile country and the technological risk associated with developing an oil and gas field. Assuming this requirement is met, the following analysis studies the incremental royalty savings and infrastructure expenditures associated with the ghost town oil strategy:

To determine the town's construction cost, the CITIC project in Angola can be used as a scalable proxy to construct a town in which 50,000 inhabitants could live. Revenues are based off of Equatorial Guinea's Alba oil field and a long-term oil price outlook of $94 per barrel. In this scenario, the oil field equipment investment would be 13x greater than the ghost town component. For the ghost town strategy, the target IRR for royalty savings minus capital expenditures is 20%. The required IRR is lower than the hurdle rate for the oil field equipment because the ghost town mitigates the nationalization risk of the oilfield equipment investment As a result, one can view the ghost town as both an entrance strategy into a large production play and as a hedging strategy to protect the investment in oil field infrastructure.

This illustrative example predicts that a royalty reduction of 6%, after tax shield implications, would be required to meet the 20% IRR target. As a result, the royalty rate for Equatorial Guinea would be reduced from its current 15% to 9%. It is difficult to definitively state what a government would be willing to accept in terms of royalty discount, but the cost to the government of financing a ghost town project through its own long-term bonds can be compared to the lost revenue from the royalty rate decrease. In the case of Equatorial Guinea, the cost of debt is assumed to be the central bank's discount rate of 8.5%. Foregone royalty revenues, when discounted by this rate, equal a net present value of $338M, compared to the required cash outflow of $350M for an infrastructure investment. Clearly, this project is within the realm of financial feasibility and is something that both parties should consider given the long-term strategic benefits.

> THE COUNTRY'S CURRENT ENVIRONMENT IS PRIMED FOR A COLLABORATIVE EFFORT WITH A MULTINATIONAL INVESTOR TO IMPLEMENT THE GHOST TOWN STRATEGY

ROYALTY RATES



Recommendation

The ghost town strategy is an aggressive undertaking; however, decreasing conventional reserve options has necessitated riskier oil development strategies. The ghost town model is an entry and hedging strategy that multinational oil firms can use to access reserves in the developing world. It is also clear that states are open to this type of arrangement, given the Kimbala project's development despite the obvious sovereignty concerns.

Equatorial Guinea would be the most advantageous location for a company like Royal Dutch Shell, who is well poised to execute on the ghost town strategy. Shell has the ability to finance the project at a low cost of 8.2% and has significant experience working in Africa, as 31.5% of its 2011 revenues come from the continent. Shell also has not experienced volume or reserve growth over the past two years, making it well positioned for new reserve opportunities.

With their backs to the wall, private companies are confronted with increasingly high risk or high cost opportunities. If they do not jump into the fray with the ghost town strategy, private corporations will be forever haunted by their hesitation.

UP AHEAD: TESLA'S NEXT EXIT

How can the electric car company steer themselves around obstacles in their road to success?

By Justin Postlewaite

In early 2012, Tesla Motors (Tesla), considered the rising star of the electric vehicle (EV) industry, was struggling. The company was incurring significant losses, burning four times more cash than it earned in revenues, and was embroiled in a myriad of supply chain issues. However, Tesla reversed its course over the second half of 2012 – through the introduction of a new product line (the Model S) and a momentous ramp-up in production. Tesla grew from manufacturing five cars per week in July, to 100 cars per week in October. Tesla continues to grow rapidly and is expected to increase production to 385 vehicles per week in 2013, the same year it is projected to generate positive cash flow.

Tesla is at a turning point in its dynamic history and intends to challenge the internal combustion engine's dominance in consumer vehicles. However, significant obstacles lie ahead. In order to revolutionize the auto market, Tesla must gain traction by successfully commercializing the EV, something traditional auto manufacturers have failed to do – the Chevrolet Volt being a recent example. To succeed in the long-term, Tesla must resolve technical issues relating to battery charge time, a lack of supporting infrastructure, and negative consumer perceptions that have sent past electric vehicle models to the graveyard – a place for good ideas before their time.

The Company

Founded and directed by CEO and Chief Product Architect Elon Musk of PayPal, Tesla is Musk's attempt to accelerate EV adoption. Tesla produces high performance, fully electric vehicles at price points similar to mid-range BMW and Mercedes-Benz models. In 2008 the Roadster, a luxury electric sports car, was Tesla's first entry into the car market. Although the vehicle was revolutionary and received great fanfare upon release, the Roadster ultimately was a proof-of-concept for EVs and has since been discontinued.

Tesla's second release and current production vehicle, the Model S, is a four-door luxury sedan priced between US $49,900 and $97,900, after a $7,500 federal tax credit. The Model S has received critical acclaim for its superb quality and performance (achieving 0-100 kph in 4.4 seconds) and has won numerous awards, including Motor Trend's 2013 Car of the Year.

A midsize crossover titled the Model X is planned for delivery in 2014, offering additional cargo space at the cost of ~10% reduction in driving range relative to the Model S. Both the Models S and X are targeted towards an affluent market as an environmentally friendly alternative to standard luxury vehicles. In contrast, Tesla is currently designing a third generation (Gen III) of vehicles geared toward mass production and offered at a significantly discounted price to its current model. These vehicles are expected to roll off the line in 2015. Tesla also develops electric powertrains for Daimler AG, which owns 4.7% of Tesla, and Toyota, which owns 2.5%.

EV Concerns

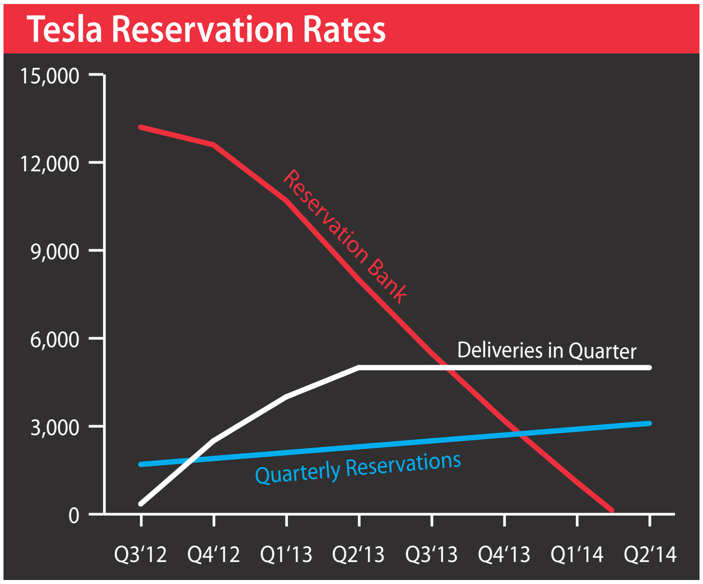
The major concern with purchasing an EV is the range. To combat consumer pessimism, Tesla has built six 'Supercharger' stations to provide free electricity to Tesla vehicles in California and has roadside assistance teams available. Superchargers – the EV industry's answer to gas stations – charge vehicles five times faster than a wall connection, providing 240 km of range after a 30-minute charge. Over 100 Superchargers are planned across the US, with key locations being completed by 2015. Delays in establishing Supercharger stations outside California could limit Tesla's sales in other lucrative markets, such as the Eastern Seaboard.

To further persuade consumers to purchase an EV, Tesla is currently building showrooms in high traffic locations such as shopping and entertainment centers in North America, Europe, and Asia Pacific to display the Model S for potential consumers. Validating EV technology and creating brand awareness is crucial to consumers make an EV purchase. Currently, Tesla sells its vehicles entirely through an online reservation system unlike firms with widespread dealer networks. Since the company needed capital to produce vehicles, potential buyers were required to make a fully refundable $5,000 deposit to reserve their right to purchase a vehicle. If the buyer followed through and purchased the vehicle, the sale price less deposit was paid upon delivery. In Q3 2012, 1,700 reservations were placed with Tesla, bringing total order backlog to 13,200 vehicles. Production is expected to eat through this backlog by 2014.

Are Consumers Ready for Tesla's Offerings?

A study completed by J.D. Power indicates that consumers have historically purchased EVs primarily for their environmental benefits. However, a significant shift is occurring in buying behaviour – the largest consumer group interested in purchasing EVs are now drawn to the vehicles' fuel cost savings. Unfortunately, there is a stark distinction between buyer perception and reality regarding EV product quality. For example, most consumers who avoid purchasing an EV do so because of concerns regarding driving range and fuel availability, despite the fact most EV owners only commute 34 km daily, well within the battery range of 426 km. Combustion engine vehicles require service every 8,000 km, meanwhile, Tesla vehicles are expected to provide over 19,000 km of use before service is recommended due to fewer moving parts in EVs decreasing vehicle wear-and-tear.

Tesla is now at a crossroads. The company is coming off the heels of its best quarter yet, but is still too small to conquer the rapidly evolving EV industry. Faced with changing consumer preferences, stubborn attitudes towards battery technology, and high infrastructure costs, Tesla may need the resources and distribution network of a larger player to lead the industry. In the long run, growth through a sale of the company may be the best way forward for Tesla; however, several steps



must be taken immediately to create maximum value for shareholders and position the firm as an attractive acquisition target.

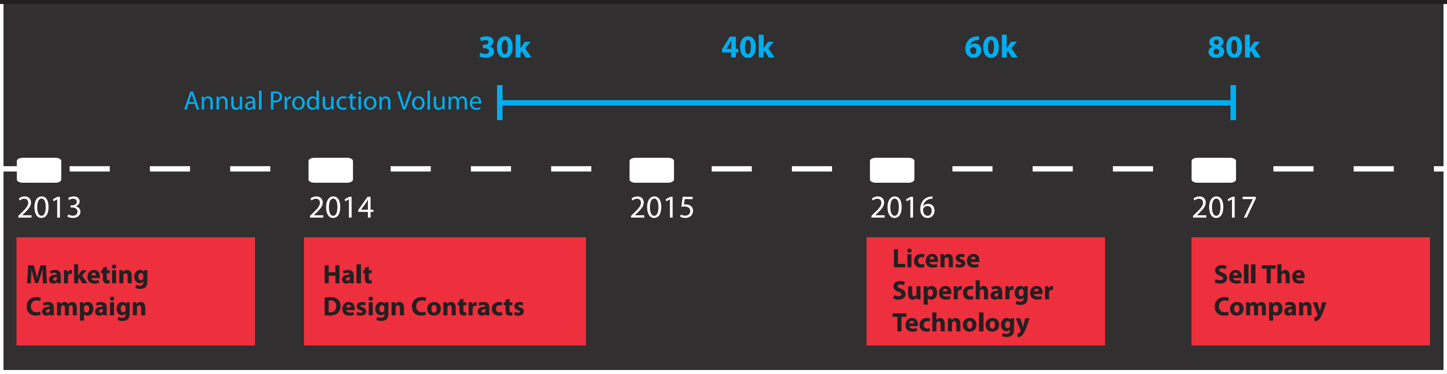
Marketing Campaign

It is clear that Tesla is intent on transitioning away from solely targeting EV enthusiasts towards the larger market of consumers interested in quality luxury vehicles. Therefore, a marketing plan should be directed at this emerging segment in the US. Model S test drives are currently offered at certain Tesla locations and special events, but taking vehicles directly to the consumer will increase Tesla's brand awareness and kick-start relationships with potential buyers. By offering a coast-to-coast test drive tour, Tesla would allow consumers to experience its products and create the necessary excitement to increase reservations. The tour would target locations of future Tesla facilities and Supercharger stations, providing the additional benefit of showing consumers exactly where they would be able to charge their purchased vehicle. The campaign could then be repeated for the Model X. Getting more consumers behind the wheel is critical to increasing sales and addressing consumers' misperceptions.

Furthermore, to provide peace of mind to apprehensive buyers concerned about limited battery technology and service issues, the capabilities of Tesla's roadside assistance teams should be expanded to include emergency services. These teams could operate as Tesla's proprietary AAA service, delivering charge or replacement batteries for Tesla vehicles in emergency situations.

Halting Design Contracts

Once Tesla achieves a greater level of annual run-rate production and the related economies of scale, they should reconsider the implications of supplying electric powertrains to other manufacturers. Currently, the market is small enough that capturing



Tesla's Road Map

any part of an EV sale aligns with Tesla's interests. However, as the market grows, Tesla will stand to benefit more from selling a complete vehicle than manufacturing for competitors. To prepare for this shift, Tesla should complete its current design contracts and refrain from signing additional agreements. Tesla stands to gain more production efficiencies, and grow at a faster rate, by focusing on its core business of producing complete vehicles.

Licencing Supercharger Technology

Although the rollout of supercharger stations deals with the limitations of battery technology and alleviates some buyers' hesitations around driving range and fuel availability, they also come at a significant cost. Tesla bears the capital investment, and accrues no recurring cash inflow from charging. By exploring licensing opportunities with the charging technology (the configuration that allows Tesla vehicles to charge at stations) with other manufacturers (and by extension, other vehicle types), Tesla can increase revenue while keeping charging costs low for consumers. Furthermore, once other auto manufacturers further develop their EV operations, they may contribute to expansion of Supercharger stations, allowing Tesla to move away from the capital-intensive process of building a worldwide network of charging stations on their own.

The Final Step: Selling the Company

Despite pursuing the value-creating strategies described above, Tesla will still not have the distribution and volume production needed to support the introduction of their forthcoming Gen III line in 2015. Given Tesla's limited resources, and Musk's vision of widespread consumer adoption, Tesla shareholders should consider partnering with and eventually selling to, a volume-based manufacturer. This would allow shareholders to realize significant gains from the firm's growth, and provide Tesla with access to both a global distribution network and the manufacturing technology to make a lower cost model a reality.

Though increased cooperation with a volume producer would be ideal, neither Toyota nor Daimler is the ideal partner. Daimler cannot provide the scale necessary for a Gen III rollout as the thirteenth largest auto manufacturer, and Toyota's Vice-Chairman has indicated that they will not pursue fully EVs any further, choosing to focus on the less risky hybrid alternative. Therefore, it is recommended that Tesla develop a relationship with Volkswagen Group, with the ultimate goal being an outright sale.

Volkswagen is the king of manufacturing mass-market vehicles at a consumer friendly price, and also maintains a portfolio of luxury brands such as Porsche, Bentley, and Lamborghini. This mix of products aligns well with Tesla, who could continue to support models across a broad range of price points. Volkswagen has also indicated an interest in entering the EV industry, with plans to release an electric Golf in 2014. However, the Golf is expected to possess a range of only 150km, less than half that of the Model S. Volkswagen can benefit from Tesla's technological prowess and experience and is much better suited to take over the establishment of the Supercharger stations. Tesla simply does not have the capacity or capital resources to build Superchargers on a large-scale, while a big player such as Volkswagen has the financial capacity and stands to benefit from the development of Superchargers, and by extension the expansion of the EV market. Initially, Tesla's established management team can direct the company as it launches Gen III, and Musk can pass off control to achieve his goal of proving the consumer EV a viable concept.

These recommendations can strengthen Tesla's operational capabilities and create value for both parties. Tesla needs to address the three primary concerns: battery technology, supporting infrastructure and consumer misconceptions currently preventing widespread commercialization of EVs. In doing so, Tesla will position itself as an attractive acquisition target and ensure the industry is prepared to benefit from Tesla's offerings in the long-term. The road towards mass adoption of electric vehicles may come with several obstacles, but careful planning and sound strategic decisions will make the journey an exciting and successful ride.

BUILDING THE NEXT CANADIAN SHIELD

How Canada's construction companies can defend their market against foreign entrants

By Keith Stinson

The Canadian construction industry is experiencing a major shakeup. Once relatively protected from foreign threats, domestic players have recently been subject to a wave of international competition. International players are aggressively entering the booming Canadian market, acquiring domestic firms and positioning themselves as full-service alternatives to domestic players. Canadian contractors have done little to counteract this new reality; they have either stood idle or allowed themselves to be acquired. Consequently, unless they are proactive in protecting their home turf, domestic firms will feel the pressure from foreign rivals.

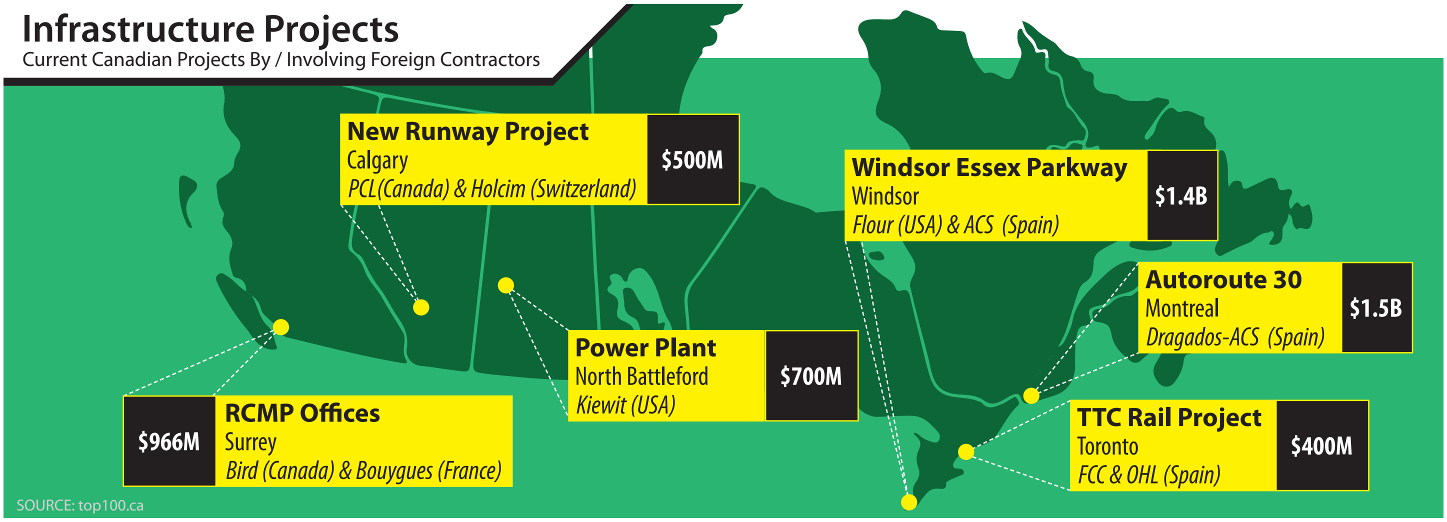
The effects of replacing Canadian firms with international builders are far-reaching: management roles disappear, control shifts abroad, and financial gains are repatriated to the foreign country. The strategic flaws of Canadian contractors are highlighted by the fact that profits from vital Canadian infrastructure projects are flowing out of Canada. Barring a change in strategy from large domestic players, construction is poised to be next in Canada's long list of industries where domestic players cannot compete with their international foes.

Particularly concerning is how Canadian contractors have almost completely conceded revenues associated with acting as the long-term operator and maintenance provider of infrastructure projects. Earnings from the operation and maintenance of bridges, roads, and hospitals - known as concession revenue - has been a pillar in the strategy of international contractors' attempts to learn more about Canada and entrench themselves in the market. Canadian firms have the capabilities to compete for concession contracts, but have chosen to instead focus their resources primarily on new construction as it offers higher margins and immediate returns. Canadian firms have thus prioritized short-term gains at the expense of protecting their long-term position vis-à-vis foreign firms. If Canadian contractors do not revise their strategy, their long-term success will be in jeopardy.

Why Canada is a Target for Foreign Entrants

Canada is particularly attractive to foreign firms because of the country's robust growth projections. The Great White North is predicted to be the fifth largest construction market in the world by 2020, largely driven by strong economic growth and a historical infrastructure deficit. Across the country, there is growth in both the complexity and scale of projects taking place: more condominiums are being built in Toronto than any other city in the world, Alberta's oil sands require supporting infrastructure, and Canada's aging roadways are becoming increasingly complex to redevelop.

Ongoing fiscal austerity in Europe and ballooning government debt in the United States have limited the growth potential of those markets. European and American firms have consequently chosen to look abroad for growth. Since 2010, the largest in-



ternational contractors have experienced an 18.1% increase in revenue from projects outside their home countries. This trend shows no signs of slowing as firms are continuing to shift their corporate strategy to growth markets, of which Canada is one of the most lucrative. Yet, like any boom, the Canadian construction industry's growth will not last indefinitely. Once this growth stops, the effects of foreign entrants will truly be felt.

Public Private Partnerships (P3s) vs. Traditional Development

The ability to help finance and obtain concession contracts has become increasingly important with the development of an alternative method of financing: Public Private Partnerships (P3). In a public private partnership, private partners finance, design, build, operate, and maintain public works projects.

Several companies, including general contractors, are responsible for providing upfront financing, often to the tune of hundreds of millions of dollars, and recoup this initial investment through operating revenues. P3s are different from the traditional public financing model in that P3s do not rely solely on government money to build infrastructure, and maintain and operate long-term projects. Another aspect of P3s is that the Canadian government has chosen to remove itself from the operation and maintenance of infrastructure projects, commonly known as the concession contract. Concessions are the final element of a P3 and can last upwards of 30 years. They generate revenue through a per usage charge, such as the 407 Electronic Toll Route fee, or regular public disbursement.

Canadian firms have been slow to react to clients' changing need to share the risk of a project by providing upfront financing. In contrast, European firms have years of experience with P3 contracts in their home countries and have used this as a competitive advantage when entering Canada. The C $1.4B Windsor-Essex Parkway, one of the most expensive highway investments in Ontario's history, highlights this trend. Spanish giant Actividades de Construcción y Servicios (ACS) and American's Flour Corporation are responsible for both construction and maintenance over the next 30 years.

In the traditional infrastructure model, government provides 100% of the funding. Yet the traditional model has lost favor as governments developed a greater desire to share risk and balance their budgets. P3s have become the de facto replacement; the Canadian government has already completed 180 P3 projects and signs point towards continued growth in the sector. With the introduction of P3s, responsibility for project delays and cost overruns has essentially been shifted from the government to all stakeholders, including financers, contractors, and sub-trades.

Profiling Canada's Incumbents and Foreign Entrants

The Canadian construction industry is fragmented by geography and level of expertise, leaving only four firms with over $2.5B in revenue. PCL is Canada's largest construction firm and the only one capable of matching the financial strength of international players. The benefits of size are clear when considering that PCL's balance sheet has provided it with the ability to win 52% of the P3 projects it has bid upon. That being said, neither PCL nor other Canadian contractors have sought to expand beyond the typical construction scope over fear that it will lead to undue financial risk and divert them from their core business of building. Meanwhile, international giants coming to Canada have used their size to allow them to manage risk, take on multiple large-scale projects and perform numerous acquisitions. They have extensive construction knowledge, as well as specialized expertise in many sectors in which Canadian firms do not. Their financial capabilities, large concession entities, and P3 experience have made them a valuable but hazardous partner for Canadian contractors.

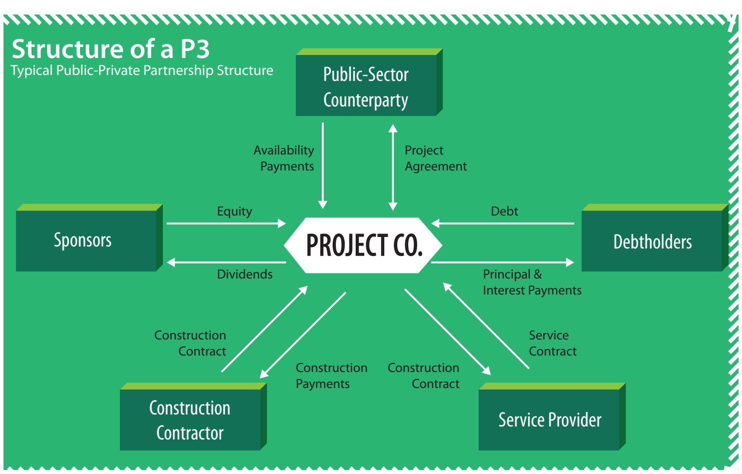
Method of Entry

In the past, when specialized services like tunneling expertise were required for a project, domestic companies would enter a joint venture with foreign partners, who participated ad hoc but did not remain in Canada to pursue continued operations. Foreign companies attempting to enter Canada alone struggled due to a lack of local market knowledge and inability to control sub-trades. However, foreign companies are now able to secure a long-term position following the conclusion of joint ventures by aggressively pursuing opportunities to take on the concession role of a P3 project.

British multinational Carillion has used this joint venture-concession approach to enter Canada and establish its presence. Through partnering with leading Canadian contractor EllisDon on various projects, Carillion has built relationships with owners and subtrades while gaining local knowledge. Carillion then purchased Vanbots Construction, giving it the construction capabilities that EllisDon had previously provided in the joint venture. Carillion is now a single integrated entity, conducting work in both the P3 and traditional markets. The firm has grown to be the ninth largest contractor in Canada, competing directly against its former joint venture partners. The Carillion example is a stark warning of what may happen to the Canadian construction landscape in ten years if domestic firms don't confirm their positions in advance.

On the Defensive

The current behavior of domestic firms demonstrates a belief that capital is better invested pursuing new building opportunities over developing a concession division. While this belief holds true during a construction boom, this strategy will prove disastrous when the market inevitably slows down. Though it is impractical to avoid all strategic partnerships with foreign firms given their diverse set of expertise, a greater emphasis must be placed on capturing concession contracts as a defensive measure by domestic firms.

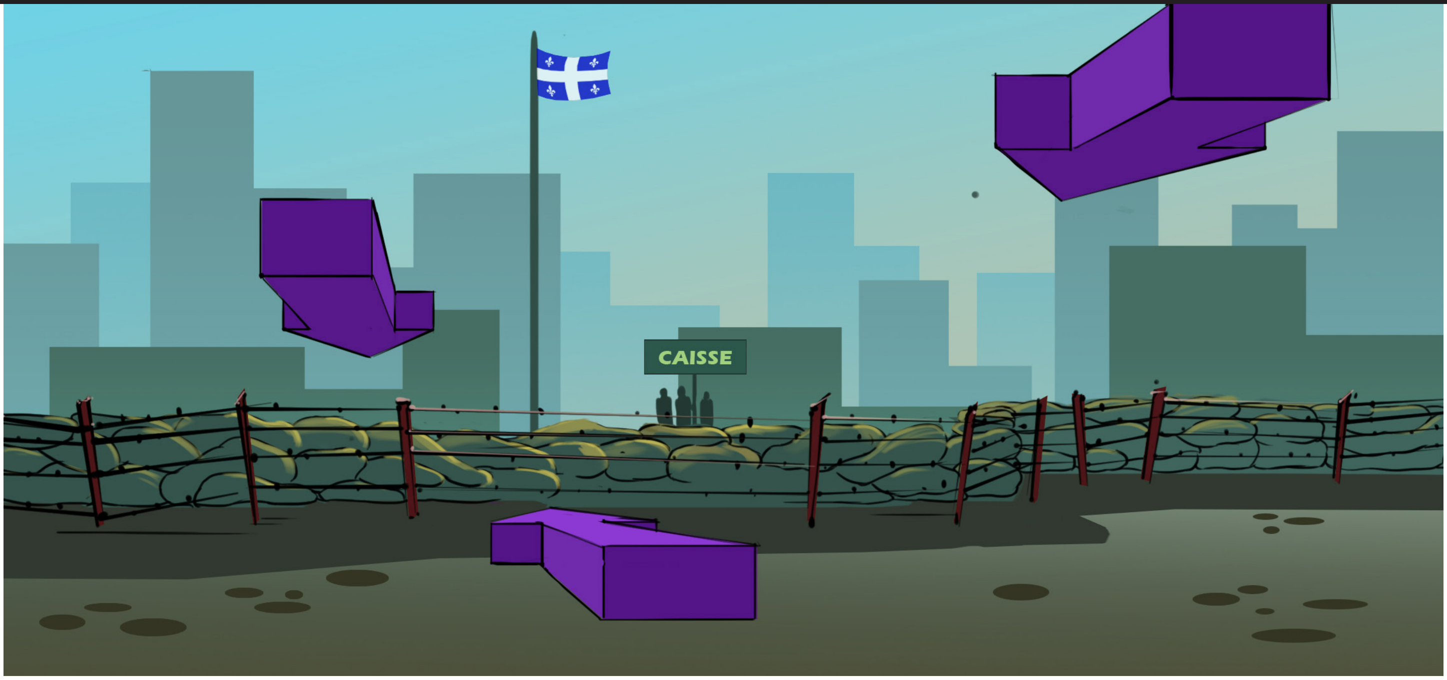


To prevent foreign firms from becoming entrenched in their home market, domestic firms must play defense today in order to secure market share tomorrow. Focusing more heavily on concessions will also allow domestic firms to offer greater value when bidding on P3 projects. This is necessary to prevent foreign firms from acquiring the strategic knowledge of local sub-trades, developers, and market conditions that is required to act as full service general contractors.

Canadian contractors will also benefit from more stable and long-term cash flows generated by concession contracts. Revenue from concessions will help hedge the risk a general contractor faces from the sporadic short-term inflows they typically experience when working on traditionally financed projects. In effect, concessions will help change the risk profile of a general contractor and reduce their exposure to the revenue fluctuation that occurs when the traditional construction business faces a slowdown.

Although a transition to concessions will require a transfer of capital away from high yield construction contracts, Canadian firms should first pursue concession contracts in industries in which they have significant experience performing contracting work. Contractors already have the resources and capabilities to maintain the physical infrastructure – if they can build the road, they can fix the cracks – but what is now needed is a change in perspective to recognize the imperative nature of concession projects. In cases where operation requires additional organizational and human resources, contractors should look at their target projects and either make acquisitions or grow organically to fill capabilities gaps. Fortunately for Canadian contractors, there are few barriers preventing them from increasing the number of low skilled laborers they employ to handle concession contracts.

From a strategic perspective, an increased focus on concessions will eliminate Canadian contractors' dependence on foreign competitors for the operation and maintenance components of P3 project bids. The progression to concession management allows contractors to further utilize market specific construction expertise during the construction and operation phases. Although foreign companies have been able to establish themselves in certain areas already, limiting their growth options will protect other sectors within the construction industry. The consequences of having established international contractors in Canada will be fully felt when growth in the Canadian construction industry slows and projects are no longer abundant. Canadian builders must refocus their strategy away from short-term revenue gains towards long-term profit maximization, and this requires aggressive defensive action with respect to concessions.



DON'T DISCOUNT QUEBEC...

Interventionists beware - how savvy firms can make a Quebec acquisition

By Steven Wellman and Carson Fullard

"As soon as you start intervening in the fluidity of the market there is a discount, there is a general chill in the province." - Adrien Pouliot, President of Montreal investment firm Draco Capital.

On the heels of Lowe's failed C $1.8B bid to acquire Quebec-based home improvement retailer Rona, potential investors cannot help but wonder whether a tense political environment and proposed changes to legal frameworks are threatening La Belle Province's investment climate. Quebec's business leaders are increasingly concerned that the Lowe's-Rona debacle has heightened the province's reputation as a difficult place to conduct business, while rhetoric from politicians on both sides of the aisle has only exacerbated the problem.

Opposed on the grounds that the acquisition would threaten Quebec economically, socially, and culturally, Lowe's bid was challenged by an organization with a well-documented history of attempting to thwart foreign acquisition bids - the Caisse de dépôt et placement du Québec (Caisse). The Caisse, Canada's second largest pension fund, is subject to significant political influence and operates under a dual mandate: seek high returns, and contribute to Quebec's economic development. As a pension fund manager, the Caisse is willing to prioritize the politics of keeping companies headquartered in Quebec over maximizing return – it seems to have no qualms about intervening in the public markets to make this happen.

Even though Lowe's bid of $14.50 featured a 37% premium over Rona's $10.61 share price, shareholders did not have the opportunity to vote on the acquisition proposal. Many analysts did not believe the claim that Rona represented a "strategic provincial asset" and argued strongly against propping up a chronically underperforming company in the name of cultural sovereignty. Lowe's eventually withdrew its bid after facing strong pressure from Rona's Board of Directors, the Caisse, and the Quebec government to do so.

Does Intervention Lead to a Discount?

Pouliot's sentiment has been echoed by others in the financial community who are fearful that Quebec's history of market intervention will dissuade firms from pursuing acquisitions of Quebec businesses, thereby limiting shareholders' ability to profit from tendering their shares in a takeover bid. The Dominion Bond Rating Service, Canada's leading ratings agency, has echoed concern about recent events in Quebec, noting that any increased interventionist mandate for the Caisse will hurt Quebec firms in the capital markets.

The Parti Quebecois' election promise to enact laws allowing a board of directors to reject an acquisition bid without conducting a shareholder vote has garnered criticism, as it could have the effect of entrenching bad management and a board that does not prioritize maximizing shareholders' returns. Business leaders are likewise concerned about whether the government's plan to earmark $10B of the Caisse's existing assets towards a "strategic investment fund" to protect homegrown companies from acquisition, will deter investors from the province and suppress stock prices. Though the tone in Quebec has softened since the election, concerns remain that the province does not provide a safe investment environment.

An analysis of share price movement following acquisition bid announcements for Quebec companies relative to their English Canadian counterparts suggests that investors are generally less optimistic about takeovers in the province. Given that the Quebec discount is relatively small, it is near impossible to quantifiably separate the discount from market noise. However, pessimism on behalf of investors can be used to indicate the market does place a discount on Quebec firms. After deals are announced, the spread between the market price and the acquirer's offered price gives an indication of the probability that investors place on the transaction's successful consummation. Owing to the government's history of unpredictable intervention, this spread tends to be higher for Quebec-based acquisition targets than their out of province peers when the risk profile of these transactions is otherwise comparable.

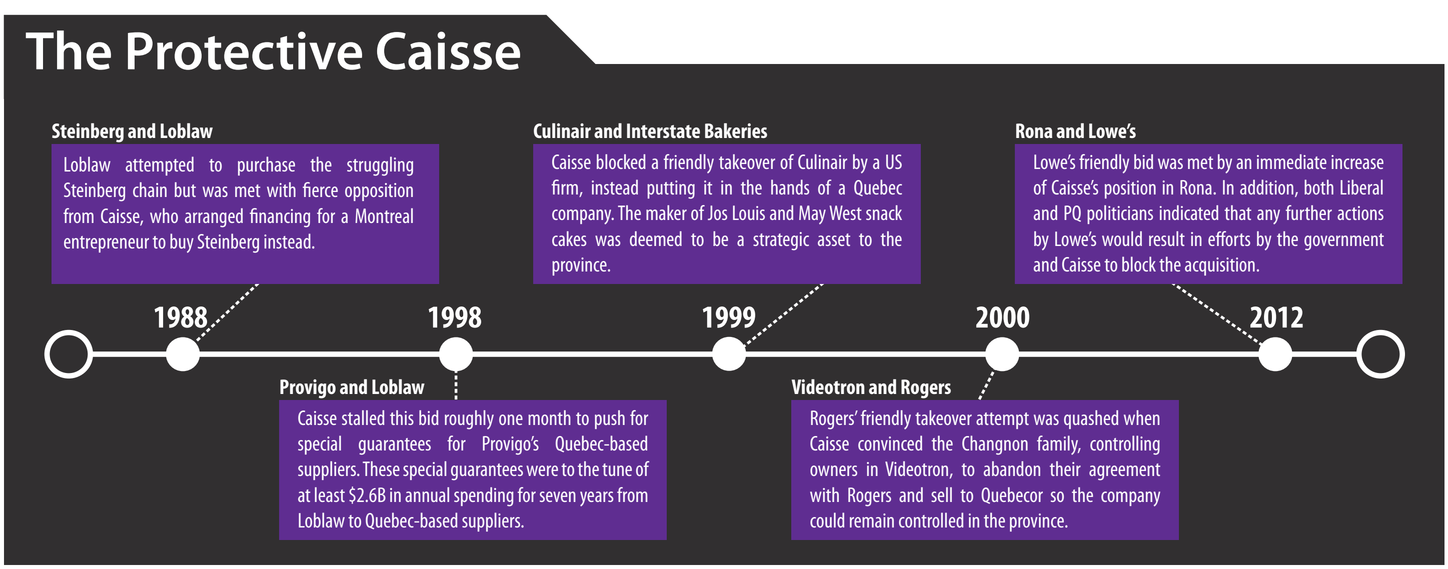
The "Quebec discount" is not an entirely new phenomenon. The Parti Quebecois' first election victory in 1976 and the 1995 referendum on Quebec sovereignty both created a sense of instability, leading to reduced common stock valuation and massive capital outflows. The current situation is not as dire as in 1976 or 1995, but valid concerns remain that the unpredictability of government intervention in the capital markets deters firms from putting money into Quebec.

Taking Advantage of The Discount

Making a play for a Quebec company is a viable option if a strategic fit exists and the acquirer believes it will be able to capitalize on the discount while avoiding the challenges associated with purchasing a Quebec firm. Despite its apparent problems, Quebec remains an attractive market, especially in the retail space. Quebec has a disproportionally high number of retailers who are successful across Canada, with brands like Alimentation Couche-Tard (Mac's), Metro, Dollarama, and ALDO leading the way. If a foreign retailer is able to establish itself in the province there would likely be few additional barriers to expansion across Canada. The Quebec discount could therefore prove valuable for a firm pursuing an acquisition to strengthen its position in the province or gain a foothold in the Canadian marketplace. If the political waters of Quebec are navigated effectively, an acquisition can be made at an attractive price.

American retailers, in particular, could benefit from capitalizing on the discount. The wave of American retailers recently entering Canada includes Target, Nordstrom, Marshall's, and Bloomingdale's, and there are no indications this influx will slow. Driven by a strong Canadian dollar, a saturated American market, and greater growth in Canada, many American companies have pursued acquisition strategies when expanding north. Acquiring a Quebec company instead of an English Canadian firm also means that there will be fewer bidders driving up an already discounted price.

The major factor limiting American retailers' Canadian growth to date has been a lack of prime retail space, as vacancies in major malls and shopping centers are at historic lows. Consequently, American companies like Lowe's and Target have attempted to acquire Canadian firms for their real estate rather than grow organically. Acquiring an underpriced Quebec-based retailer with a national presence would make strategic sense for a US firm with expansionary goals, especially considering that sales per square foot at Canada's top shopping centers are 88% greater than in the United States. Moreover, the long-term outlook for Canada's retail sector is significantly better than what is forecasted stateside. The time to make a play is now. Political and economic instability has made Quebec's firms available on the cheap and the race for American retailers to acquire prime retail space is heating up.



Finding the Right Target

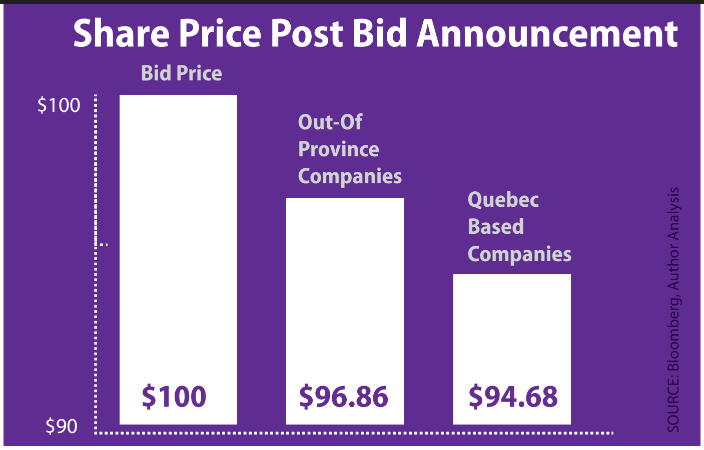
There are two additional criteria (beyond strategic fit) for finding the right target: it must exhibit characteristics that imply a large discount and it cannot be so vital to Quebec that an acquisition is likely to evoke intervention.

The Quebec discount is greatest within the retail sector, as the Quebec government and the Caisse have shown a greater tendency to intervene when a consumer-facing brand with a large labor force is involved. Firms should identify a retailer with national reach, as a firm concentrated mostly in Quebec elicits a greater sense of provincial pride. Buying a firm based in Quebec with locations nationwide provides the dual benefit of capitalizing on the discount and getting immediate access to the entire Canadian market. When searching for a bargain Quebec firm, it can be a benefit if the Caisse has holdings in the company, as this increases the discount's size by scaring off other potential suitors. Although the Caisse ownership does increase the likelihood an acquisition will be blocked, an effective bidding strategy can reduce this risk.

It is important that the target firm does not have an extensive supplier network in Quebec, as the Caisse has traditionally contested bids that threaten local suppliers. This was a major objection in Lowe's failed bid, and in 1998 the Caisse stipulated Loblaw promise to maintain the same level of annual spending from Quebec-based suppliers as its target, Provigo, did. Choosing to pursue a Quebec retailer with a large scale provincial supplier network, such as Le Chateau, should be avoided in favor of a firm with a smaller supplier network.

Seeing that politicians can use a foreign company's takeover bid to rally popular support for the protection of provincial interests, an acquisition should not be pursued during provincial election season. Information regarding the bid and acquirer's long-term vision should be widely available in French as an important demonstration of cultural sensitivity. These are two costly mistakes that tainted Lowe's bid amongst the Quebec public, their government, and the Caisse. Failing to communicate to the public in French indicates a lack of regard for Quebec's culture and heritage. This is a deal breaker.

An acquirer should search for a young target whose lack of history diminishes its cultural significance to Quebecers. Pursuing a company such as Jean Coutu, a prominent pharmacy with historical ties to Quebec and locations province-wide, could risk drawing the ire of patriotic Francophones, and by extension, their government and the Caisse.



To improve its reputation in the province, the acquirer should only proceed if they receive support from the target's board. The acquirer should also agree to maintain a Quebec headquarters of the Canadian division, a Canadian listing and a bilingual president of the Canadian division. As well, funds should be earmarked for community investments to highlight the acquirer's commitment to Quebec's development. The provincial government and the Caisse are powerful foes; however, understanding Quebec's cultural hurdles, and strategically selecting targets that do not provoke public outcry will help avoid their opposition.

Does anyone fit the acquisition criteria?

With these considerations in mind, Reitmans presents an appealing acquisition target. Between its own branded stores and a portfolio of other brands in the women's and plus-size segments, the company operates a total of 940 locations occupying prime retail space in every province. The Caisse has historically held a significant stake in Reitmans and recent filings suggest the fund currently owns 7% of its outstanding shares. In addition, Reitmans lacks a comprehensive supplier network in Quebec and the brand is not closely tied to provincial identity.

Among Reitmans' shareholders, there would likely be strong support for a takeover bid. The dividend has remained unchanged since 2010 and the company's stock has been trading its 52-week low, well below its intrinsic value, due to mismanagement. The Caisse's involvement may scare off some potential suitors, but a savvy foreign retailer could obtain large gains basing its Canadian entrance strategy on a Reitmans acquisition and subsequent rebranding.

Value is often found where others refuse to look. Recent developments have scared investors away from Quebec, producing both a valuable buying opportunity and a gateway for an American retailer to use Quebec to gain access to the whole Canadian market. Lessons learned from the failure of companies like Lowe's can be used as the foundation of an effective bidding strategy for a Quebec-based firm. American retailers take note – it is time to do some bargain hunting in Quebec.

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