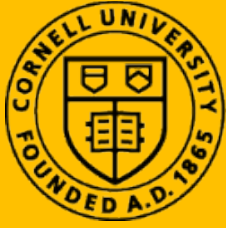




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AFRICA'S NO.1 ONLINE RETAILER

THE FIRST UNICORN IN AFRICA

By: Tosin Adeniji, Asya Bashina, Rebecca Kim & Nikhil Swaminathan

The humidity in bustling Ikeja is thicker than usual as Jeremy Hodara and Sacha Poignonnec sit with ice cold drinks together to toast their recent success and cool down after a frantic few months. Closing a \$326 million investment round for any technology company is a huge feat, let alone for one that headquarters in Lagos, Nigeria. A city known for its energetic nature, colourful culture and as a hub for doing business the African way is not used to unicorns emerging.

For a Unicorn (a privately held startup that is worth \$1 billion or more) to stem from the populous mega city points to a long road and one that many did not anticipate. Despite the doubts, Jumia has been crowned the first unicorn of Africa, but how did they get there?

HISTORY

Today, Jumia controls 70% of the African e-commerce market and is viewed as the most successful African web- based business and start-up to date. However, like many companies, Jumia faced difficulty penetrating the market. It was founded in 2012 by Nigerians Tunde Kehinde and Raphael Afaedor originally merging their individual startups into one called Kasuwa, which in the Hausa dialect largely spoken in Nigeria, translates to 'marketplace'.

Prior to starting Kasuwa, which later became Jumia in Nigeria, Afaedor was Head of African Marketing and Sales at Notore Chemical Industries, while Kehinde was in the UK assisting alcoholic beverage multinational Diageo, where his main role was mergers and acquisitions with African brands. While both founders studied at Harvard Business School prior to pursuing their startup, they had not met before. Afaedor initially came up with the idea for an e-commerce business based in Africa after observing what Amazon had done for the United States. Kehinde independently had the same idea. When a mutual friend learned that both were considering pursuing the same project, he introduced them. Ten days later, Kehinde and Afaedor went into business together.

"The Jumia story started with Raphael (Afaedor) pretty much. He was already in Nigeria running an e-commerce venture, so he already sampled the market and knew that there was a big market here and he was thinking about doing something bigger. So he actually got in contact with some investors who were interested in investing in Nigeria. At the same time I had heard he was working on something with these guys, I reached out to him and about ten days later I was in Lagos, working with Raphael on Jumia" Kehinde recalls in an article on *Daily Trust*.

In mid-2012, Afaedor and Kehinde quit their day jobs to pursue the project full-time. Around June 2012, the team was approached by their first investor, Rocket Internet, a German VC firm and internet incubator looking to penetrate the African market. Rocket Internet had expertise in ecommerce and a substantial network of retailers (such as Zando, South Africa's leading fashion retailer) as their core strengths.

In September of 2012, Kasuwa merged with Sabunta, a Nigerian fashion company, and downsized 50 employees, officially becoming Jumia. After the merger, the new brand began to gain wider acceptance and the company built their headquarters in a 20,000 square foot warehouse in Lagos state capital, Ikeja. Establishing a stake in the emerging Nigerian tech scene, Jumia's workforce steadily grew to 100 employees and the company began to run Google ads and effective marketing campaigns which led the company





INVESTMENT

With steady growth, by 2013, Jumia had initial investment from German internet company Rocket Internet, securing \$26M for their Series A round. Rocket Internet focused on building internet retail companies and invested significantly in the Africa Internet Group (AIG), who in turn invested in Jumia's first round. AIG's ecosystem believes in shaping startup internet retail platforms in Africa and have invested in over 70 technology companies (across 26 African countries) over the years. AIG has a particular penchant for companies spinning out of the traditionally strong Lagos hub in Nigeria due to their success rates.

AIG is in itself a subsidiary of Millicom International, a company based in Luxembourg and provides digital services such as telecommunications and media to over 40 markets across Latin America and Africa. Millicom International also was the lead investor for Jumia's Series B round and successfully closed at a healthy \$35M. With frequent new country launches across Africa, Jumia reached the \$500M valuation at the end of its Series C round. With buy in from established venture capitalists and investors such as AXA Group, MTN (a multinational mobile telecommunications company), Summit Partners and Goldman Sachs inputting significant funds, the executive board became more confident about the future success of the company.

In a stealth move in early 2016, AIG raised a venture round account for their recent portfolio of startups they had invested in. This included Easy Taxi, a ride hailing service and Uber rival, Hellofood, an online delivery service, Lamudi, an estate agent - Lamudi, Jovago, a hotel booking company, and of course Jumia. With the spectrum of companies, AIG raised \$326M in March 2016 from long term Jumia investors such as AXA, Goldman Sachs, MTN and French telecommunications company - Orange.

Jumia is often referred to as the golden star within the AIG portfolio and on closing the \$326M round, AIG quietly rebranded as Jumia Group, absorbing all the individual startups into 10 different lines of service embedded under the Jumia name - Mall, Market, Travel, Deals, Food, House, Car, Services, Jobs and Pay. With a \$326M round and a stronger service range, Jumia started Spring 2016 with a prominent valuation of \$1 billion and the coveted title - the first Unicorn in Africa.

LEADERSHIP

Although Tunde Kehinde and Raphael Afaedor were the original ideators of Jumia, they were not able to celebrate the feat of becoming a Unicorn company. In fact, they both stepped down in early 2014, just two years after their first major investment and increasing sales revenue. It has never been entirely clear why the two founders left Jumia at such a point of growth, but it has not stopped the rumor mill from turning. One conclusion is that the founders felt undue pressure from their German investor - Rocket Internet. Supplanting this theory are a few key incidents such as the release of Uche Ajene who at the time was the Head of Marketing. It was alleged that the founders of Rocket Internet, the infamous Samwer brothers (Alexander, Marc and Oliver) fired Ajene as she did not meet sales targets, despite being seen as one of the best early employees of Jumia by the co founders. This was not an isolated experience and one that the Samwer brothers were beginning to get a reputation for. High staff turnover seemed to be not just a Jumia issue, but one that was replicated across the Rocket Internet portfolio.

However, the co - founders praised their success and the growth of Jumia as they stepped down. In an announcement to their Ikeja campus to 500 employees, Kehinde shared that "Together we made history, together we have built Nigeria's first and biggest online retail brand; a fate we never would have achieved without you, our team."

The founders remain in the Nigerian retail ecosystem, with Afaedor starting SuperMart.ng (an online grocery delivery service) and Kehinde revealing the African Courier Express (also known as ACE - a logistics company "bridging the gap between African retailers and consumers")

As the co-founders were exiting, Rocket Internet took on their own hiring strategy. Opting for ex consultants and recent MBA graduates from top global business schools, Jeremy Doutte and Nicolas Martin, both previously McKinsey consultants, were appointed to climb on board the Jumia train as Jumia Nigeria co - CEO's.

During Jumia's recent move, co - CEO's of Africa Internet Group Jeremy Hodara and Sacha Poignonnec (also ex McKinsey consultants) consolidated titles and became the co-CEOs of the Jumia Group in the transition of closing the \$326M round. While Doutte and Martin still retain co-CEO titles, they have moved into operational roles across the African region, heading up the Jumia Mall (aka the online marketplace) expansion in the continent. With such frequent movement in the C-suite, as well as investor versus executive tensions, the Jumia Group finally seems to have found its footing. Although the recent absorption of Hodara and Poignonnec have led some media outlets to mistakenly call the two co-founders of Jumia, which erases the work of Kehinde and Afaedor's original vision.

It can also be argued with such a French centric executive team and a lead German investor, to what extent Jumia is a Nigerian or even African company? It is not entirely clear and it is an issue that has become even more important since African companies led by Africans do not seem to get the same access to large capital or global press as Jumia has over the last 5 years. On the one hand, the business still operates out of its headquarters in Ikeja, Nigeria and treats the Lagosian hub as its Silicon Valley for decision-making, despite being present in Algeria, Egypt, Ghana, Morocco, Kenya, South Africa and 20 other countries in Africa. On the other hand, the biased narrative has gained headlines from TechCrunch to Forbes suggesting that the two European consultants saved African retail.

Many have also questioned how much revenue and profit Jumia has made since Kehinde and Afaedor stepped down. As a





privately held company, there is no obligation for Jumia to share. Poignonnet also provided in a mission statement that *“We want to be profitable but we are very long term oriented. Amazon is a great model to look at. They have a great valuation, they have a great customer base. Everyone is confident that Amazon has a great future but they are still yet to make money.”*

Such a comment did not reassure many critics for whom the question of profit remains. Likewise, the concern of whether Jumia will remain ‘African led’ is left to the future.

COMPETITIVE LANDSCAPE

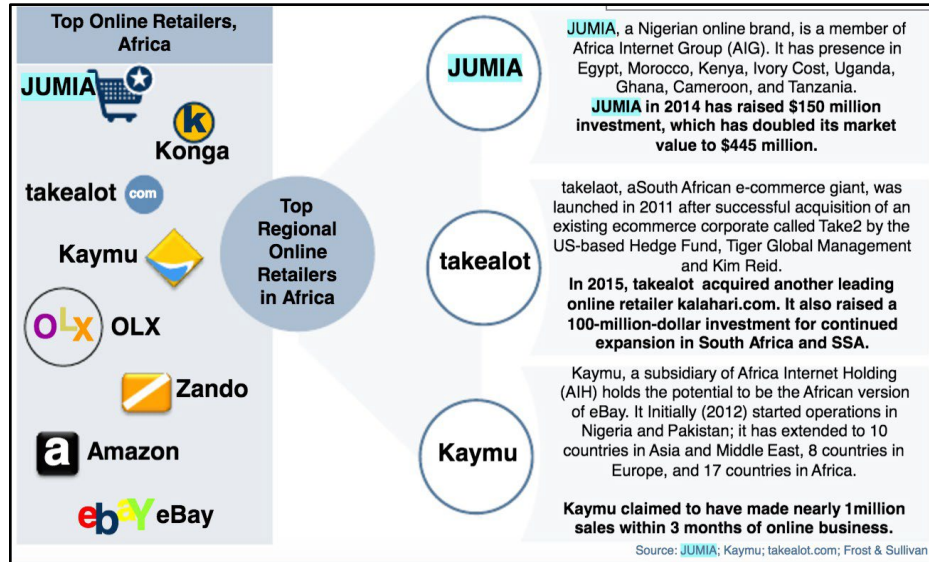
While Jumia has spread significantly to other regions in Africa, it is a Nigeria-first company, given the country’s population, growing workforce, and increased spending as one of Africa’s largest countries.

Despite the company’s success, there are certain infrastructure issues that Jumia has faced, such as the lack of internet access in certain parts of Africa and the lack of widespread commercial banks. In order to address these challenges, Jumia has adapted to the local market with options such as pay on delivery or pay with your ATM card. Moreover, Jumia has opened up new customer adoption centers that allow users to place orders on WiFi connected laptops and tablets.

The increase in internet infrastructure and the ability to address payment and connectivity issues has allowed Jumia to focus on customer experience and loyalty. With competitors such as Konga, customer trust and loyalty are currently at the forefront of Jumia’s mindset.

Although now a unicorn, Jumia and the African e-commerce industry as a whole is still relatively nascent and faces numerous challenges that hinder its growth. Last mile delivery and traffic problems, lack of consumer confidence in online purchases, low literacy rates, prevalence of informal markets with many buyers and sellers and no aggregation makes it difficult to operate new e-commerce businesses. Additionally, Africa has disparate economies rendering it difficult to reach customers across the continent because of complex regulations. Such high barriers to entry keep out short-term international players, but provide an opportunity for a local player to monopolize the market if they can solve the challenges laid forth.

The African online retail market is expected to hit \$50B by 2018, compared to just over \$8B in 2013. There are a large number of online retailers (listed below) attempting to become the dominant player in the African continent. Jumia, Konga, Takealot and Kilimall are the major local players, while Amazon and eBay are still waiting cautiously from the outside.



All the competitors are engaged in similar verticals – electronics, fashion, home appliances and children’s items. Fundraising is critical to the success of any ecommerce business in Africa given the need to expand the market. Profitability in this space is a long-term objective, as startups inject cash into their businesses to scale their teams, operations and logistics. As of 2017, Jumia has raised the most among African e-commerce businesses and has established the largest operation base. The two closest competitors, Konga and takealot.com have raised smaller rounds and are focused on establishing local markets. Jumia is also backed by high profile global investors which has meant for rapid expansion across countries. Currently Jumia have expanded to 23 countries within the African continent.



Company	Founded in	Funding	# of countries
Jumia	Nigeria	\$211M	23
Konga	Nigeria	\$78.5M	1
takealot.com	South Africa	\$100M	1
Rupu	Kenya	(undisclosed)	1
Kilimall	Kenya	(undisclosed)	3

Jumia has multiple business models - while sourcing their own inventory, they also partner with over 500,000 merchants on the Jumia marketplace. Konga and Kilimall are moving away from managing their own inventory and focusing on merchant marketplace models. Kenyan startup, Rupu has gained traction through its daily deal model, while OLX, also based in Kenya, has developed a peer-to-peer platform for consumers to buy and sell goods.

International firms like Amazon and eBay are adopting a wait-and-see cautious approach when it comes to entering the African continent due to the many challenges related with establishing an online business in Africa. Without major competitors with similar scale and access to funds, Jumia has raised the mantle of the 'Amazon for Africa.'

If Amazon does enter the market, it will only serve to enhance Jumia's position. For instance, when Amazon entered the Indian market, the local player Flipkart was able to raise over \$4B in cash. Investors saw Amazon's entry as a validation that the Indian market was mature enough for ecommerce.

CURRENT STRATEGY

Evaluating Jumia's strategy throughout the rise of the business, pinpoints where they made individual operational decisions that from the outside may have been met with cynicism, but that when placed together within the marketplace are integral to growth within Africa's online space.

Co-CEO Hodara stated in an interview that due to the high cost of real estate, only a small number of shopping malls existed to serve large populations in inconvenient locations. By understanding this gap, Jumia was able to target the increasing middle-class consumer in areas like Lagos and Abuja in Nigeria and scale to become the largest e-commerce company in Africa in just a few short years.

Another one of Jumia's earlier methods was placing emphasis on customer satisfaction. Once an order is placed through the site, customers receive a confirmation call within 30 minutes. This reduces the risk of mistakes and allows buyers to be confident that their order is important. Products also include user-generated reviews, allowing for unbiased feedback and better-informed decisions. Additionally, Jumia is quick to embrace new technologies and accommodate its users at various touch points. By incorporating a mobile app into its digital products, as well as chatbot functionality, it gives customers the ability to continually stay connected within its ecosystem. With an increase in smartphone usage and over half of its orders coming through mobile, the company has had to quickly adapt to meet its customers' needs.

This agile strategy has allowed the company to aggressively expand into marketplaces, travel services and more, which has attracted the attention of investors and media alike. Recently, Jumia announced its plans to offer services that allow users to book flights directly across all major airlines - further boosting its ability to provide a holistic e-commerce experience and become a "one stop shop" for customers.

Jumia has had to develop its own delivery infrastructure with customer adoption centers that offer Wi-Fi in places with limited connectivity. Moreover, the company created its own digital payments platform called Jumia Pay in order to facilitate safe and fast payment solutions in response to the number of orders made on mobile. Not only are these payments more cost-efficient than banks, they bypass the need for users to have bank accounts.

Jumia has also incorporated a social conscious component to its mission, giving the company a positive public sentiment. In October 2016, the company announced an initiative to promote local products and entrepreneurs through its Jumia Local feature. The program allows consumers to consciously buy locally made goods and leverage e-commerce platforms to boost manufacturing. In Nigeria, Jumia Local vendors were able to quadruple their sales in just six months using the platform, supporting the economy and small business owners. Jumia charges just one percent commission for the first three months, and then implements a tiered rate based on demand. Receiving around 1 million visits to its website daily, small businesses can significantly increase their reach by utilizing Jumia's platform.

Building a company within a largely emerging market has played an important role in the decisions made over the years. Perception is crucial and emphasized by the Head of Customer Experience, Deji Oduntan. Jumia is *"relentlessly building the most effortless and reliable online shopping environment to ensure a trusted shopping destination by every consumer in Africa."*

Creating trust and fulfilling customer needs in Africa is integral for every employee as much as it is for the company. Oduntan emphasizes that *"every Jumia employee is detail oriented and must be prepared to 'Fly High & Dive Deep'. Focusing on precision and flawless execution is key"*





Separately, Oduntan describes that *“Customer Experience is [the] North Star at Jumia. We have several customer feedback channels including social media platforms, email, focus groups, chatbots, etc where we receive real time customer feedback. We analyze them to generate improvement points to achieve our current focus to create value for all African consumers.”*

While Jumia has been able to achieve fast-paced growth since its inception, it has not been without setbacks. In October of 2015, Jumia laid off about 300 workers in Nigeria -- the equivalent of 30% of its overall 3000 member workforce. It was seen as a move to restructure and downsize its operations, which has been common among other e-commerce startups. Also, despite being Africa's first unicorn, analysts have been skeptical of e-commerce ventures, which, in the case of Amazon, take years to turn a profit. Jumia recorded an \$18.8 million USD loss for the first three months in 2016. Its day-to-day operations have stayed afloat through venture capital funding, which brings to light the profitability of e-commerce operations.

Additionally, in 2014, Jumia attempted to launch a Black Friday sale touting discounts on coveted items like PS4s, cell phones and tablets. However, the site was not equipped to handle the influx of traffic and wound up crashing. Moreover, users were unable to complete purchases and receive items under the discounted price, causing a backlash on social media.

FUTURE PLANS

Now that Jumia has overcome initial core challenges for the African consumer, namely online shopping suspicion and infrastructure adaptations, what is to come of Jumia in the future?

As the African consumer's acceptance of online shopping strengthens, the current method of paying cash on delivery may begin to decrease as Jumia utilizes more sophisticated methods of payment. With significant mobile based investors such as Orange and MTN, Jumia is in prime position to create a mobile payment system, similar to M-Pesa or one click payments to make final purchases.

Opting for such methods and ultimately converting the Jumia customer away from cash, will make way for much more operational scale and a nuanced layer of efficiency. Jumia has also implemented a number of customer adoption centers to assist wary customers in their purchase journey via local wifi connections and tablets. Internally, the team behind these conversions are often referred to as the J Force team.

J Force agents possess unique knowledge including how to ensure free delivery in the Lagos area for all Jumia customers. The initiative's success will be measured in great detail. If positive, it will be rolled out across other major cities across Jumia's African network. With free delivery comes a plethora of other opportunities and concerns including enhancing logistics to possibly include drone delivery.

With an ever changing African infrastructure, Jumia requires a strong eye on external influences. The impact of fluctuating currencies derived from recent recessions across West Africa, change of Presidents across the continent and other political occurrences have led more squeezed middle classes. With a population of nearly 200 million, the average Nigerian is particularly affected by the Nigerian Naira to US Dollar rate. There may be an opportunity for Jumia to pull levers to promote cheaper brand products ahead of many international high mark-up products.

Like other emerging markets, in times of economic tightening, street hawkers are the real winners as they provide convenience (selling whilst consumers are stuck in traffic) and the ability to give rock bottom prices (consumers are able to haggle with them until they are both satisfied with the transaction).

Furthermore, with a large number of the consumer population paying via cash, it leaves little room to understand consumers credit capabilities. With such a stake in the value chain, Jumia may plan to enter the unregulated and untapped opportunity to provide an ecommerce based credit scoring infrastructure. Jumia could follow countries that have implemented tactics that have seen positive results, such as India and Indonesia.

Since technically and financially, Jumia has the resources to effectively impact Africa, this verticalization appears most lucrative. Nigeria alone is due to grow its population by 44% by 2030, making it one of the Top 5 populous countries in the world. With an increasing population in its headquarters region, it remains an attractive base to trial and test new methods.

As Hodara and Poignonnec finish their drinks, satisfied that the fundraising chapter is over and rejoiced with their team's hard work. Poignonnec checks his phone as they clamour into the Jumia Car and notices the email from the Board Chairman titled "Great work team! What's next?" Poignonnec calmly exhales and puts his phone back in his pocket. Tonight, he can celebrate. Tomorrow it's back to work.





Exhibit 1: Jumia territories



Exhibit 2: Financial performance for Rocket Internet Selected Portfolio Companies Update Q1 2016 update

Jumia



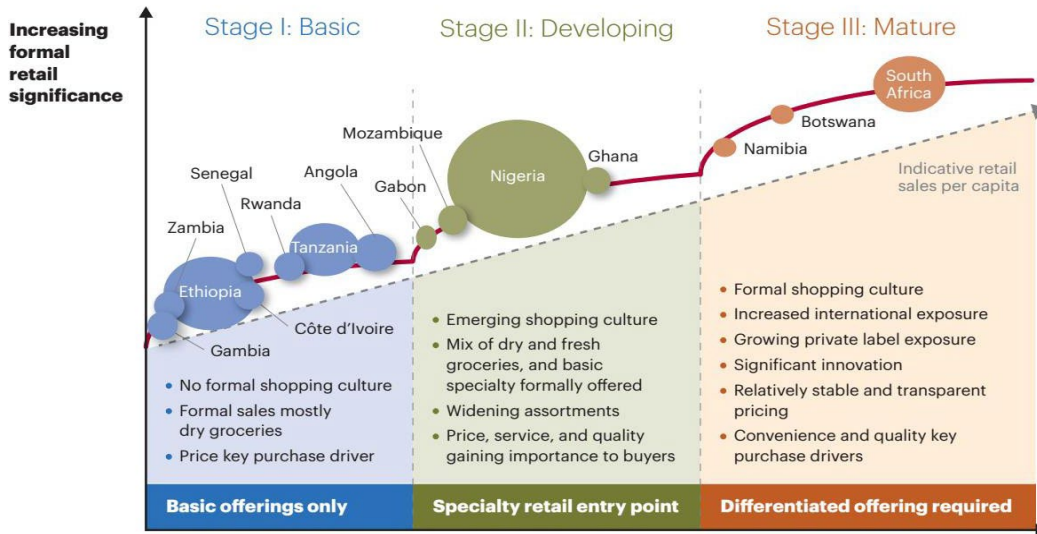
EURm	FY 2014	FY 2015	Q1 2015	Q1 2016	Key Performance Drivers
GMV	94.5	288.7	56.1	51.6	Financial <ul style="list-style-type: none"> GMV and net revenue negatively impacted by challenging macro-economic environment in Nigeria – the largest country of Jumia in terms of GMV Net revenue further impacted by the acceleration of the shift to the marketplace model Gross profit and adj. EBITDA both improving in absolute terms, driven by a number of initiatives on margin and efficiency improvements as well as the successful shift to a marketplace model
% Growth		205.6%		(8.0%)	
Net Revenue	61.8	134.6	33.0	20.9	
% Growth		117.8%		(36.6%)	
Gross Profit	10.9	14.9	1.8	6.0	
% Margin	17.6%	11.1%	5.5%	28.7%	Operational <ul style="list-style-type: none"> Acceleration of strategic initiatives with existing shareholders (MTN, Tigo) across all countries, and kickoff of strategic initiatives with new shareholders Axa and Orange Introduction of "Jumia First" in several key markets, offering Jumia customers faster delivery for all products, which are held in the Jumia distribution centers
Adj. EBITDA⁽¹⁾	(47.9)	(111.3)	(25.0)	(17.4)	
% Margin	(77.6%)	(82.7%)	(75.9%)	(83.2%)	
Cash Position	21.2	9.3	8.8	7.2	
Total Transactions (m)	1.2	3.2	0.7	0.7	
% YoY Growth		169.0%		8.3%	
Total Customers (m)	0.6	1.6	0.8	1.8	
% YoY Growth		179.9%		136.8%	
Active Customers (LTM, m)	0.5	1.2	0.6	1.3	
% YoY Growth		173.0%		112.7%	

Source: Company's unaudited consolidated financial statements based on IFRS and management reports

(1) Adjusted for share based compensation expenses



African retail value proposition "stages"



RESOURCES

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- <https://en.wikipedia.org/wiki/Jumia>
- <https://www.crunchbase.com/organization/africa-internet-group#/entity>
- <https://www.rocket-internet.com/companies/jumia>
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PROTECTING FARMERS IN EMERGING MARKETS WITH BLOCKCHAIN

By: Sam Haveson, Alan Lau and Vince Wong, Cornell Tech '17

CURRENT AGRICULTURE TECHNOLOGY LANDSCAPE

In the field of agricultural production, a vast ecosystem of systems has cropped up to serve consumers and institutions on a global scale. The landscape is diverse and ranges from global agribusiness to smallholder farms to crop insurers to Ag Tech startups. Modern precision technologies empower farmers by identifying and preempting disaster. For example, soil mapping provides geo-referenced information on growing conditions while automated guidance systems utilize GPS to self-steer application of water, pesticides, and other crop treatments. However, the agricultural sector as a whole remains conservative and monopolized by large-scale agribusiness.

80% of American corn and 90% of American soybeans are grown using Monsanto's patented seed traits. Additionally, in a study measuring digital adoption and usage for 22 industries, McKinsey and Company ranked the agriculture sector in last place. In an increasingly digital world, farmers are being left behind with less influence on their circumstances.

In an effort to feed their rapidly growing populations, emerging markets have fueled global growth in agriculture. GSMA estimates an agricultural market of \$515 billion in developed economies versus \$2.4 trillion in emerging markets. Likewise, agriculture is a major economic driver in emerging markets, contributing 11% to GDP versus only 2% in developed economies. This growth is due in no small part to smallholder farmers, who represent up to 80% of the food supply in Sub-Saharan Africa and Asia.

However, agriculture is still a resource-intensive sector with high externalities - it accounts for 70% of global freshwater use, 38% of global land area, and 14% of total greenhouse gas emissions. With growing concerns around climate change and economic uncertainty, there is a greater need for platforms that protect farmers from volatility yet also protect the environment from anthropogenic destruction. Blockchain technology possesses a potential solution that can sustainably unlock greater agency for farmers.

BLOCKCHAIN TECHNOLOGY OVERVIEW

Blockchain and Bitcoin Origins

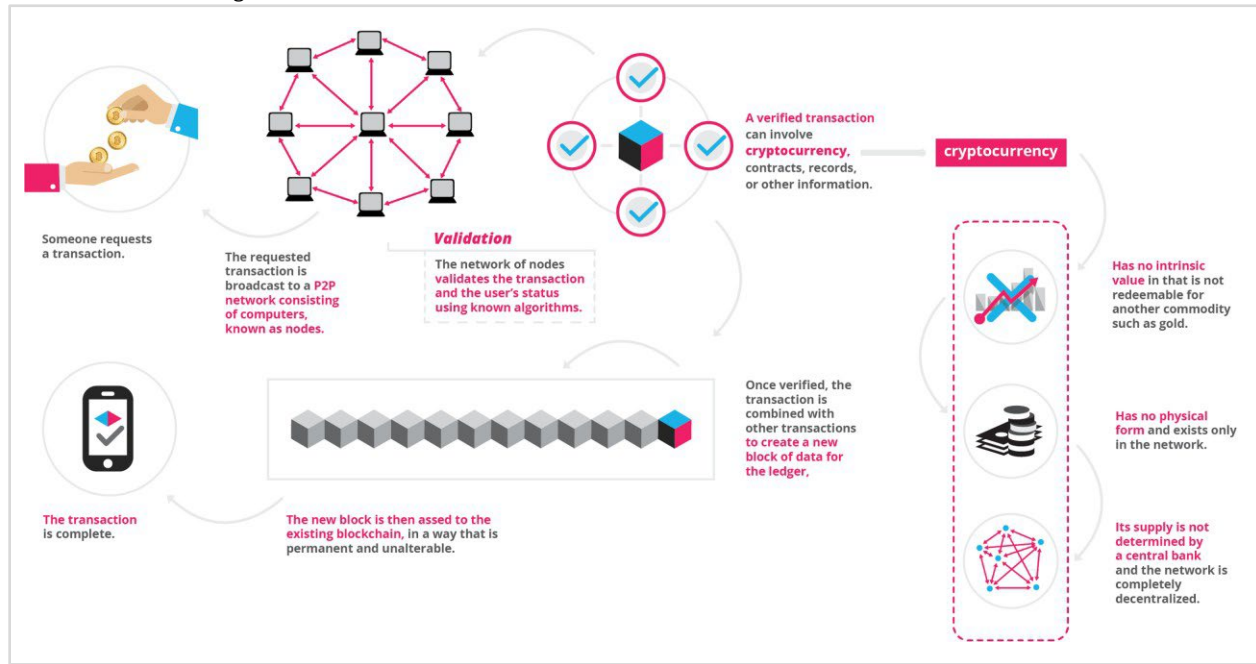
The concept of the Blockchain was first discussed in a paper published by a mysterious cryptographer named "Satoshi





Nakamoto” in 2008. The paper was thought to be part of the international response to the 2008 financial crisis when a large number of banks failed and lost consumer trust. Satoshi wanted to create a peer-to-peer payment system without the need of transacting through a third party financial institution. The system has become the basis of the digital currency bitcoin in which payment transactions are recorded on a public ledger managed on the blockchain. Figure 1 provides a more detailed view into the blockchain ledger mechanism. The bitcoin use case is the first of many use cases of the blockchain technology. Today in 2017, there are close to 600 blockchain startups listed on AngelList ranging from government (electronic voting) to healthcare (patient records).

Figure 1. Blockchain Technologies Overview

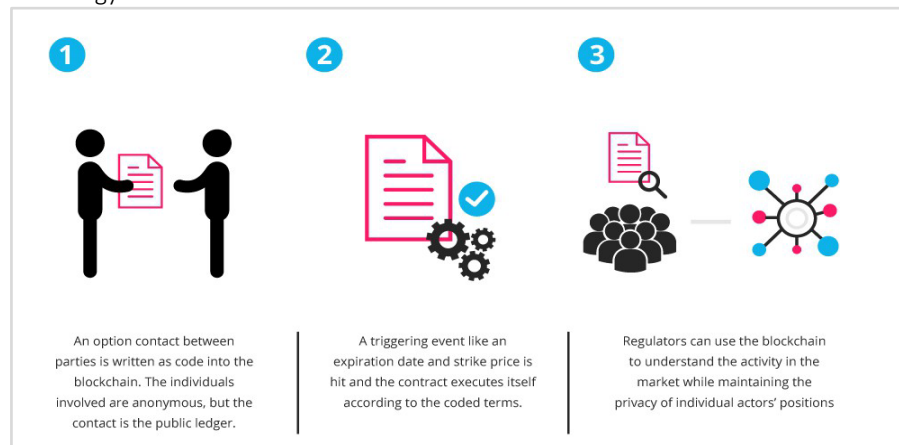


Source: Blockgeeks - What is Blockchain Technology

Smart Contracts Origins

The term smart contracts can be traced back to a term coined by “Nick Szabo” in 1994. Smart contracts are automated contracts that execute certain contractual clauses when a condition is triggered. Behind the scenes, they are converted to computer code and stored on a system supervised by a blockchain network. They can be used to track ownership for anything of value such as money, property, physical asset without a middlemen. Figure 2 provides an overview of how the technology works.

Figure 2. Smart Contracts Technology Overview



Source: Blockgeeks - Smart Contracts

AGRICULTURE USE CASES

In exploring the applications of blockchain solutions in the agricultural sector, we explored the potential of three specific use



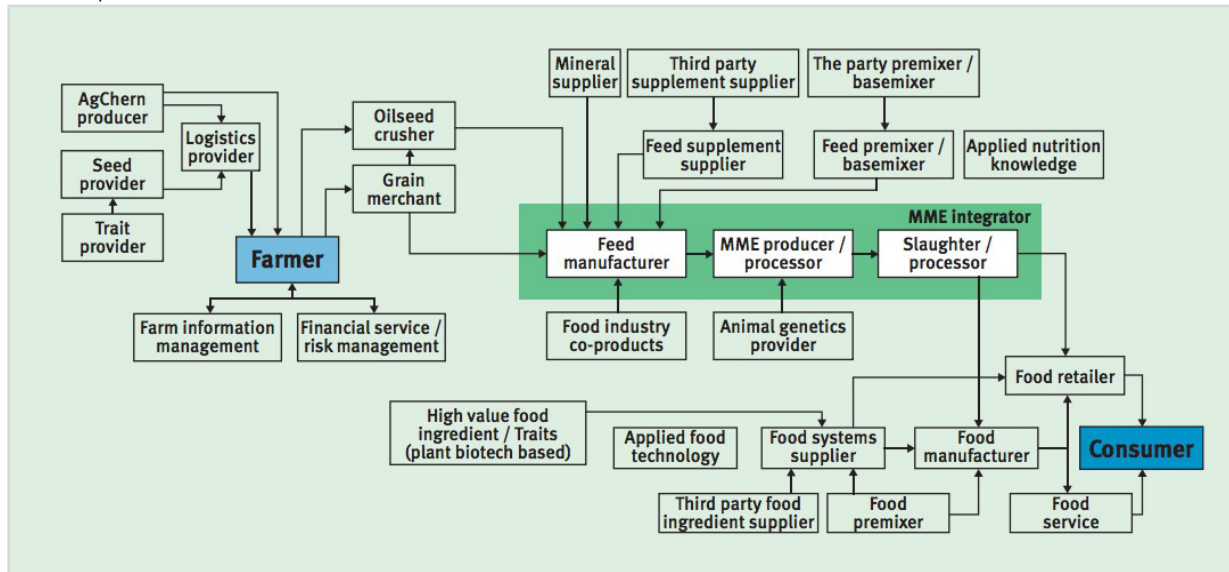


cases: 1) supply chain traceability, 2) smart contracts and crop insurance, and 3) micro-financing and bitcoin payments.

Supply Chain Traceability

With the advent of the Industrial Revolution, machine-intensive technologies began to enable production processes operating on an unprecedented scale. Young economies in Europe and North America propped up never-ending rows of factories to support food production for their rapidly growing populations. Today, in the race to serve consumers food ever- faster and ever-cheaper, food producers have fine-tuned their supply chains into highly complex yet systematized networks that traverse borders and terrains. However, as supply chains have extended their reach, they have also become more entangled.

Figure 3. The Complex Food Chain



Source: European Commission FP7, University of Bonn

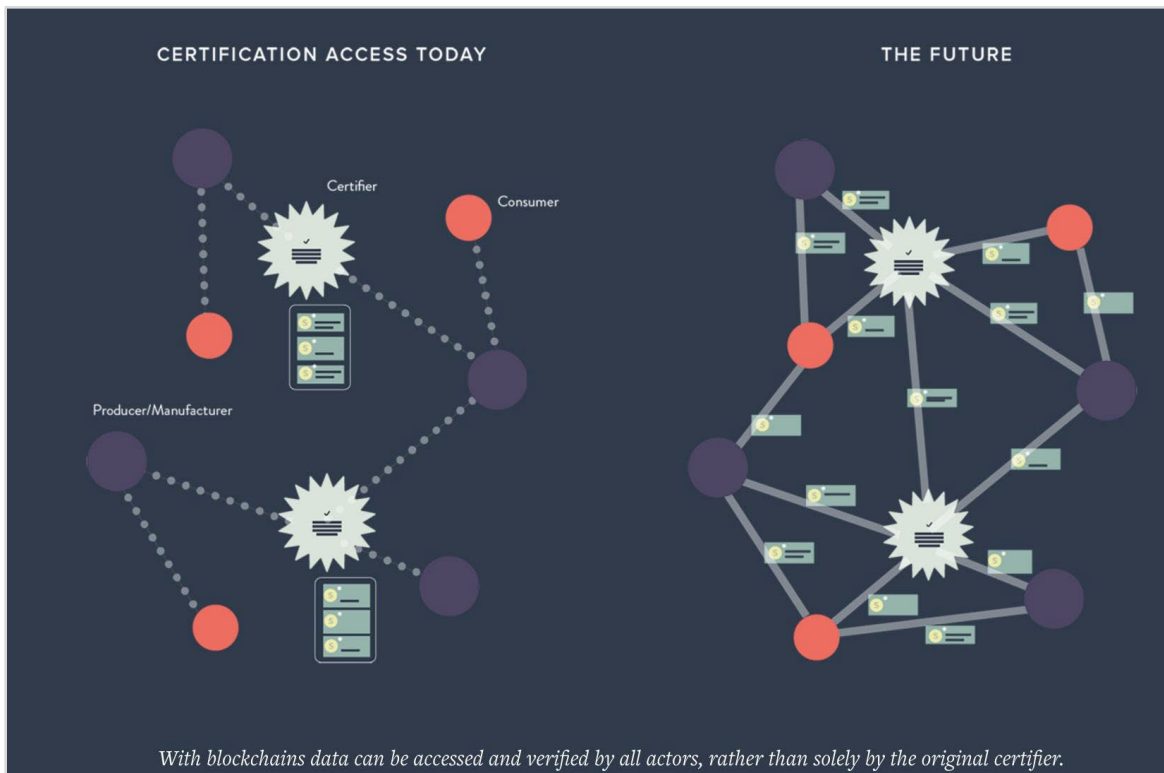
The number of stakeholders across the value chain continues to multiply - Figure 3 aptly illustrates the complexity of the modern food supply chain. As a consequence, consumers have largely become disconnected from their food. It has become more difficult for consumers to trace their food back to its provenance, or origin, and ensure hygienic, sustainable, and humane production. Numerous scandals have dogged the food industry in developed and emerging markets alike. To counter this information deficit, consumers are increasingly demanding transparency from food suppliers.

One growing movement is local consumption, which consumers perceive to be more transparent than consumption through traditional agribusiness. Local consumption has gained significant traction in the US, where local foods are expected to nearly double from 2014 to 2019. A report from Packaged Facts showed that half of Americans are currently willing to pay 10% more for locally grown and produced foods while a third would be willing to pay a premium of 25%. Yet, similar to the “all natural” and “organic” labels, “local” also suffers from fraudulent practices by corrupt stakeholders in the food value chain. Ironically, consumers face a widening information gap as most other areas of their lives become more digitized.

Meanwhile, digitization offers solutions to consumers concerned about provenance. TraceRegister, ThisFish, and m-Fish are examples of ongoing projects that capture and convert physical components into digital data along the food supply chain, all the way from first-mile (product origination) to last-mile (final delivery to consumer). They have given consumers and suppliers the ability to triangulate the flow of food products. However, since each relies on a centralized entity for accountability, fundamental flaws exist in ensuring that those entities themselves will remain accountable.



Figure 4. Certification Access Models



Source: Provenance.org

As a form of digitization, blockchain technology builds on the utility of other data capture tools but also provides a secure and transparent model for food traceability. Provenance.org, a UK-based technology platform, conducted a pilot in early 2016 using blockchain, along with mobile and smart tags, to track tuna from catch to consumer. Their pilot enabled Indonesian fishermen to convert physical tuna into codified assets linked to a digital identity that can be verified on an open registry. As a result, suppliers along the value chain as well as consumers can freely access a suite of proofs that certify a product's quality standards. In December 2016, Everledger applied similar provenance tracking technology to wine bottles to counter fraudulent sales. With the rise of proven use cases by programs developed in industrialized markets, blockchain may garner even greater attention in emerging markets.

Smart Contracts and Crop Insurance

Since the advent of agriculture, farmers have confronted unpredictable weather conditions in their work. One way that farmers protect themselves from weather and commodities risk is through crop insurance. However, processing these claims is often a slow process and hinders farmers when they need coverage the most. It might take months or, in the extreme, years before these claims are verified.

From an insurance provider perspective, processing large amount of claims for each weather crisis puts tremendous operational burden on its workforce. Weather patterns are often unpredictable, making it extremely difficult to efficiently scale the workforce to accommodate for weather events. Furthermore, once an event happens, farmers processing claims may engage in fraud and report losses larger than the actual damage. Insurance providers are unable to accurately verify the validity of such claims and incur losses due to fraud.

Farmers and insurance providers have been using inefficient claims processing systems built on legacy technologies. Traditionally, the agricultural industry has been slow to adapt with technologies and innovation. However, with the introduction of Blockchain technologies and Smart Contracts, the crop insurance industry is now facing major disruption and has tremendous opportunity for improvement.

Smart Contracts will create major improvements in the claims processing system. In the event of a natural disaster, weather data will be proactively used to trigger conditions and rules to begin issuance of capital for claims. In this case, farmers are able to receive the resources that they need to mitigate the risk of a weather crisis. The operational volatility of running an agricultural business due to unexpected weather is greatly reduced.

The insurers are able to avoid the operational burden of processing a large volume of claims because of the automated processing afforded by smart contracts. Also, Internet of Things (IoT) devices can be used on major equipment possessions to feed data back to the smart contracts in the event of disaster for verification purposes.





Microfinancing and Bitcoin Payments

Many individuals in emerging markets have cell phones but do not have bank accounts. To address this, mobile solutions have been implemented to help these underbanked populations participate in the mainstream financial system. In Kenya, many businesses are incorporating M-Pesa, a top mobile payment platform in Africa, as part of their entrepreneurial business model. One small business uses it to help parents make more timely tuition payments, while another uses it to establish informal savings groups. Bridge International Academies, a low-cost, for-profit educational franchiser, found that it was able to improve trust and reduce record keeping when it obtained real-time financial data with the M-Pesa platform from its franchisees.

Small and medium-sized business owners living in emerging markets are particularly sensitive when it comes to financial literacy and gaining access to financial resources. The inability to microfinance business needs has left many businesses in the dark. Zeroing in on the agriculture industry and the farmers living in rural emerging markets provides a great opportunity to improve financial inclusion and transparency. Through blockchain technology, underbanked populations will have the opportunity to receive payments and micro-financing, as well as to access transparent transactions that are tamper-free.

Atlas is a startup launching a mobile peer-to-peer application to give to communities in the developing world access to savings and credit through a decentralised solution built on blockchain technology. The rise of mobile penetration in developing countries has enabled these markets to bypass traditional financial infrastructures, resulting in the emergence of microfinance and mobile solutions for the general public.

The app aims to create a network of people from local communities, which in turn will create and cultivate trust while boosting financial inclusion. In addition, access to capital through savings accounts and loans are offered through the Atlas platform. The blockchain shows proof of origin for the money and all transactions, ensuring users know exactly where their money is and the latest transactions on their account.

Solution Deep Dive Selection - Smart Contracts in Crop Insurance

After evaluating the three blockchain use cases, we further investigated the smart contract solution for crop insurance. We found the crop-insurance-use case to be most compelling because of both its potential feasibility and impact. The resulting product can help farmers mitigate risk before a natural disaster happens. The natural disaster trigger event would automatically create payouts for the parties most in need. Also, the insurance companies would benefit by significantly reducing the number of resources needed to process claims, which in turn boosts huge back office cost savings.

MARKET SELECTION

Evaluation Methodology and Results

For our analysis, we wanted to systematically evaluate the opportunity size for a crop insurance solution in key emerging markets. To do so, we first identified top emerging markets (primarily comprised of BRIC nations), as well as other markets with anecdotal evidence of success for other financial programs. Then, we applied our selected markets against evaluative criteria assembled from a combination of industry indices and proxy measures. Cells with a full harvey ball indicate strong potential while an empty harvey ball suggests poor potential. Overall, China represents the best opportunity for a smart contract-powered crop insurance solution based on our evaluative criteria.





Figure 5. Analysis of Emerging Markets against Crop Insurance Opportunity Factors

CROP INSURANCE OPPORTUNITY MATRIX						
Market	0. Overall Ranking	1. National Significance of Agriculture Industry Size	2. Appropriate technical infrastructure	3. Government Cooperation	4. Maturity of Crop Insurance Sector	5. Likelihood of User Adoption
China						
Russia						
Kenya						
Mexico						
India						

Harvey Balls



Opportunity Matrix Glossary:

1. National Significance of Agriculture Industry Size - Indicator demonstrating agriculture's importance relative to the national economy (revenues as % of GDP)
2. Appropriate technical infrastructure - Ability to leverage prior implementation of technical infrastructure for a smart contract solution
3. Government Cooperation - Level of regulation levied on new entrants (can be found on Ease of Doing Business report)
4. Maturity of Crop Insurance Sector - The crop insurance market is more mature with a competitive number of players, which provides more leverage for a partnership
5. Likelihood of User Adoption - User familiarity with technology and financial solutions that would make them more likely to adopt a smart contract solution; as measured by smartphone penetration, bank account ownership, Internet usage

China

Agricultural industry accounts for only 12% of Chinese GDP - however, China is one of the largest producers of food in the world. The country is a strong exporter of a variety of goods (wheat, rice, peanuts, tea etc.) and the industry employs more than 300 million people in China. China ranks at 78th for doing business overall and 5th globally for contract enforcement.

China's government is incentivising innovation with Blockchain solutions by permitting some exchanges to operate without licenses. The government is building blockchain parks in certain regions to entice talent around the world. The private industry is embracing Blockchain as well as Chinese banks are hiring blockchain experts to partner with the government to increase transparency and combat fraud in financial sector.

64% of Chinese consumers have an account at a formal financial institution while roughly 40% of consumers own a smartphone, accounting for 28% of worldwide smartphone adoption. The Chinese agricultural insurance market is also the 2nd largest in the world.

Russia

The Federal Assembly of Russia State Duma, the Ministry of Finance and the Federal Financial Monitoring Service, known as Rosfinmonitoring, are set to review a proposal drafted by the Association of Financial Innovation (AFI) regarding regulatory improvements to the National Payment System. One of the main provisions of the proposal was a roadmap that entailed the utilization of Blockchain technology to create an immutable and transparent client identification system. In essence, the Russian government is





cautiously planning the usage of Blockchain to identify clients of the National Payment System. The government is also highly conducive to business, with an overall Ease of Doing Business ranking of 40th and a strong contract enforcement ranking, at 12th in the world.

Agriculture is not a critical input into GDP, only contributing 4%. In general, farmers appreciate the value of crop insurance, with 69% of farmers purchasing multi-peril crop insurance. User adoption tendencies are mixed: 48% of Russians have an account at a formal financial institution while only 11% of Russians have a smartphone.

Kenya

Despite vehement resistance to Bitcoin as an accepted currency, the Kenyan government is now partnering with IBM to develop a blockchain solution to counter academic credential fraud. Kenya overall under-indexes as the 92nd most business-friendly country, but ranks #3 for Ease of Getting Electricity and #8 for Ease of Enforcing Contracts. These conditions suggest that the resource-intensive computational needs of permission-less blockchains, upon which smart contracts could sit on top, would be more viable in a low-cost energy environment. Kenya's favorable attitude towards rule of law would also be conducive to supporting smart contract-based programs. Additionally, government estimates place the tally of NGOs at 330 suggesting a robust proxy of financial inclusion resources.

Agriculture heavily impacts Kenya's economy, representing one third of national GDP. Of Kenyan farmers, 75% are smallholder subsistence farmers who are highly vulnerable to the economic effects of natural disasters such as drought and flooding. However, the agricultural insurance market is small with less than 1% of Kenyan farmers covered by some form of crop insurance. Consumer awareness of modern digital and financial tools is also relatively low - 42% of Kenyans own an account with a formal financial institution while only 26% of the population reports smartphone ownership. Together, these measures suggest that user adoption would likely be low as well.

Mexico

Agriculture only plays a small role in Mexico, contributing only 4% of the national GDP. 27% of Mexicans have an account at a formal financial institution while 18% of consumers have a smartphone. Mexico performs moderately well on the Ease of Doing Business index, ranking 47th overall, 93rd for starting a business, and 40th for enforcing contracts. Dating back to 1926, crop insurance is a relatively mature market in Mexico, with 37% of cropped land covered by insurance. Mexico also has a thriving fintech market, however infrastructure needed to support blockchain technology is underdeveloped.

India

In India, agriculture and supporting industries do not constitute a high share of GDP, with contributions expected to reach 17% of GDP in 2017. However, 58% of households in rural India rely on agriculture for their livelihood, which is indicative of its regional influence. Businesses also have a difficult time operating. India under-indexes as a business unfriendly market, ranking 130th overall and 172nd for contract enforcement. Financial access and smartphone adoption are low - 35% of Indians own an account with a formal financial institution while only 14% of the population, or 30% of mobile subscribers, has a smartphone. Crop insurance coverage is relatively low as well, with only 20% of all cropland in India covered by some form of insurance. Lastly, India has traditionally been known for its strong reputation as a global technology hub. Blockchain technology is in a nascent stage in India, but has observed a slew of recent blockchain implementations with banking partners around fintech, which will increase the nation's blockchain knowledge base in the years to come.

SOLUTION DEEP DIVE

SmartCrop

Introducing: SmartCrop, an Android-based mobile platform leveraging smart contracts and intelligent weather prediction to help farmers hedge against crop volatility. Through the use of weather APIs, SmartCrop provides farmers with the option to initiate crop insurance payouts before natural disasters strike. The solution is a win-win for all stakeholders in the value chain.





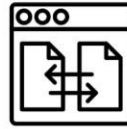
Figure 6. Features of the SmartCrop Solution



Predefined Crop
Insurance Contract



Intelligent Weather
Predictions Alert
Scenario/Event



Option to initiate an
earlier payout through
smart contracts from
insurance company to
policyholder



Settlement happens
automatically and
digital assets are
recorded on the
blockchain

Users

The target user is a progressive farmer living in the rural regions of China, between the ages of 24 and 56. This user has access to a smartphone, bank account and has a demonstrated need for weather insurance.

Insurance Companies

Insurance companies will be keen on partnering with SmartCrop in order to provide a competitive offering in the marketplace to consumers. Users will be keen on signing up for SmartCrop to enjoy the benefits of receiving an earlier payout as a form of risk mitigation for natural disasters. SmartCrop remains transparent by informing the consumer that a percentage of the policy will be given up and in turn the insurance company will salvage the resulting amount. For example, 10 days prior to a hurricane striking, a consumer can initiate an early payout beginning with a 90% reduction in the overall sum of the policy coverage. With each day inching closer to the hurricane striking, that 90% will increase by 1% until it reaches the incident date in which the consumer can collect 100% of their insurance policy up to 30 days following the hurricane, which serves as the standard terms for today's weather related insurance coverage. While the opportunity cost of choosing to be paid 10 days prior to an event occurring is the difference between receiving 90% - 99% of the policies coverage as opposed to 100%, the ability to salvage the harvest prior to an event striking is a far bigger gain in the long run. *SmartCrop's mission is that preparation always prevails.*

Product Interface

SmartCrop's mobile solution enables users to purchase insurance policies for their valuable crops and monitor weather conditions for proactive insurance payouts.

Figure 7. Mobile Insurance Policy Purchase

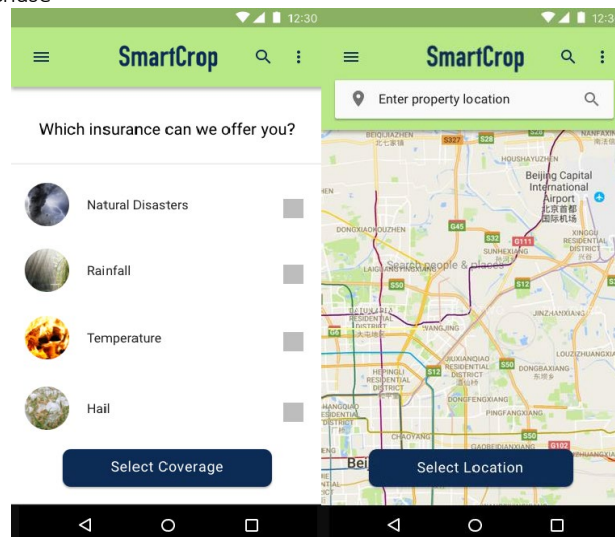
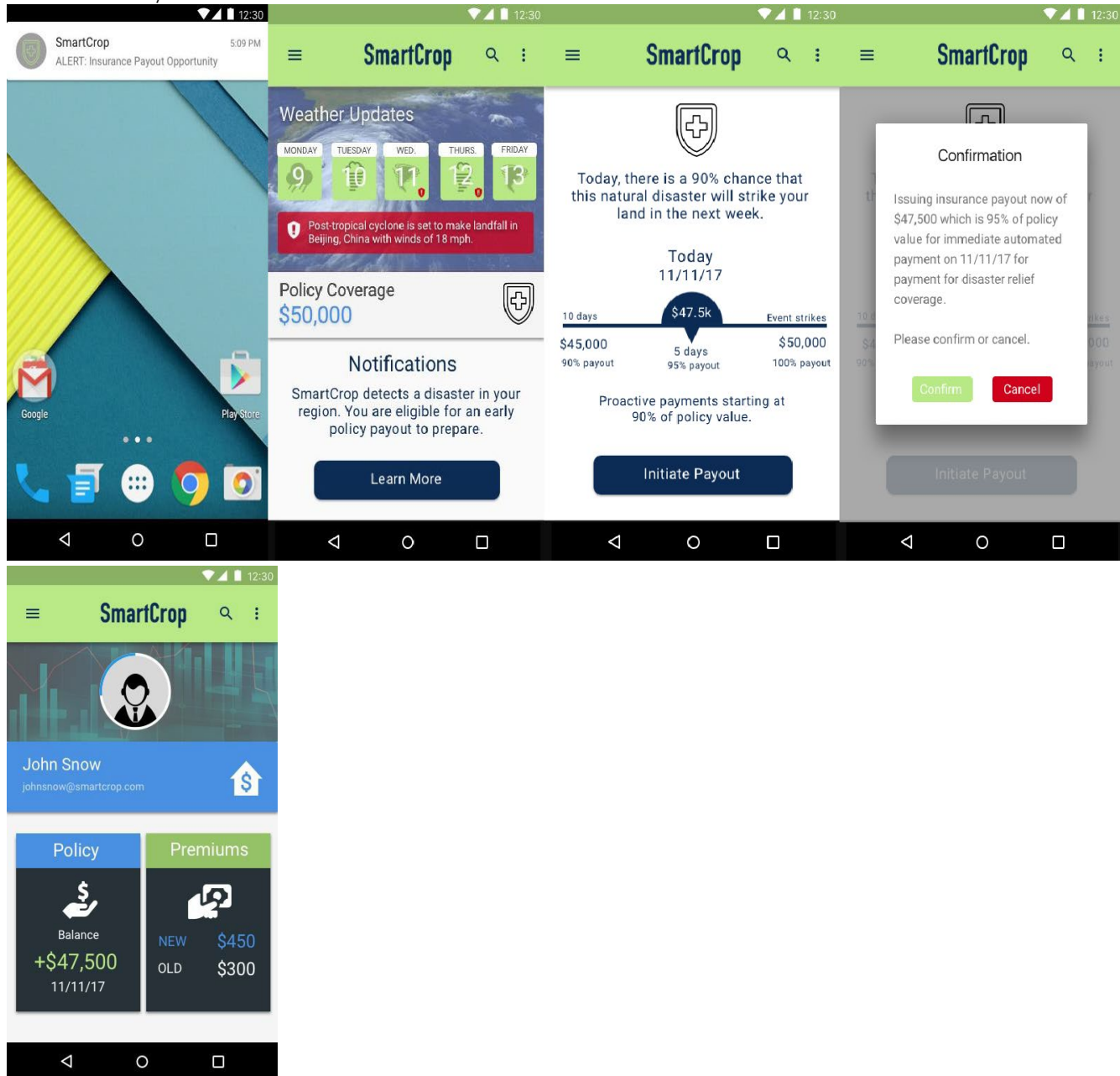


Figure 7 shows the ability users have to purchase insurance policies on the SmartCrop mobile platform. The user selects the policy type that best fits their needs and enters basic details of the assets to be insured. SmartCrop will then deploy an on-field agent to visit the target location and appraise and confirm the asset value before finalizing the terms of the insurance contract.



Figure 8. Proactive Payout Event

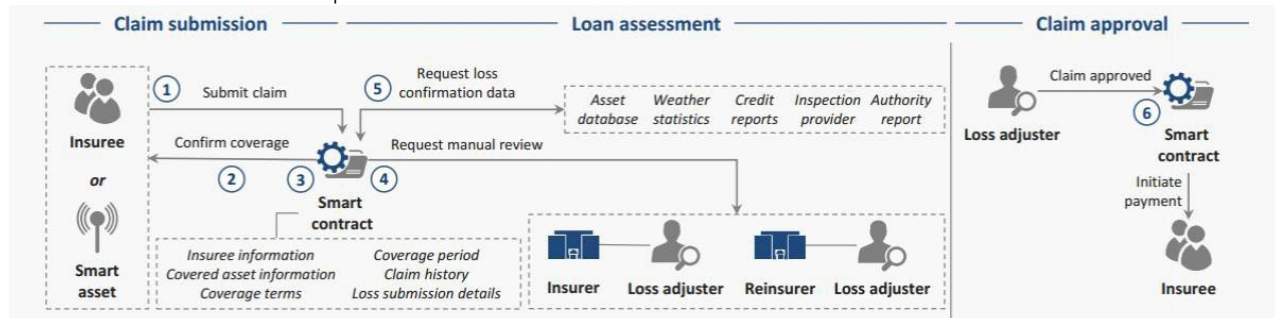


Once the contract of the insurance policy is finalized and initiated, SmartCrop uses intelligent weather monitoring technologies to detect events that may trigger an advance payout. Figure 8 illustrates a user scenario where a hurricane has been detected in the region and a notification is pushed to alert the user: the user is now eligible for a proactive payout to prepare for upcoming losses. The user can receive up to 90% of the insured policy amount 10 days prior from the estimated event strike date. Once the user decides to receive the payout, the payment will be immediately initiated through the SmartCrop's Smart Contract system and deposited into the user's designated bank account. The policy premium will increase accordingly based on the frequency of the event occurrence.

Architecture



Figure 9. Architecture of the SmartCrop Solution



Source: World Economic Forum - The future of financial infrastructure: An ambitious look at how blockchain can reshape financial service (August 2016)

SmartCrop uses a Smart Contract architecture to power the claims process. Smart contracts are computable legal contracts that automatically execute when a set of pre-programmed conditions set forth in the contract are satisfied. They can be stored in the blockchain ledger and are secured using cryptographic key pairs to make them tamper resistant. Smart contracts will trigger automatic payments upon the occurrence of certain weather trigger events. If SmartCrop detects that there is a 90% chance that a natural disaster will occur within a certain timeframe, a Smart Contract condition is triggered to give the user the option of an early payout under the insured amount.

The insurance claims process is dramatically streamlined by reducing the staff needed to verify and distribute the claims. As a result, insurance companies save on back office expenses. Also, insurees will receive immediate payment of the policy value through the blockchain infrastructure, enabling them to quickly use the capital to plan for the upcoming natural disaster.

GO-TO-MARKET

China's mature financial services sector, technologically savvy demographics, and government interest in blockchain position the country as a viable point of arrival for our solution. China represents the world's second largest agricultural insurance market, based on premium income, serving 129 million rural households. The market is also valuable: agricultural insurance premiums are valued at \$2.3 billion while effects from climate change cost the Chinese economy \$32 billion in 2014. However, the market is unique in that there are currently no private insurers in the space and the sector is supported entirely by the government.

Currently, the Chinese government subsidizes up to 80% of insurance packages for farmers. As such, it will be important for SmartCrop to partner with key government entities, such as state-owned enterprises, to power our blockchain-enabled solution. Several use cases around blockchain are currently underway in China with support from the government. Specifically, the government has joined forces with multinational organizations such as Walmart and IBM to develop new solutions that improve transparency and counter fraud. However, applications for agriculture are nascent, providing an opportunity for SmartCrop to disrupt the sector with government buy-in.

The agricultural insurance market is highly centralized and mature. 21 state-owned providers compete in the market, yet 3 players (People's Insurance Company of China, China United Property Insurance, and An-Hua Agricultural Insurance) represent 80% of the market. Insurance providers in China are incentivized to shield farmers from adverse weather events in order to minimize claims. Examples of cross-selling tactics include training farmers to manage erratic weather patterns and through marketing artificial hail suppression services.

On April 26, 2017, the Chinese government launched a plan to promote agricultural insurance programs in 200 local counties across China's 13 main grain-producing provinces. The plan targets "family farms, large scale growers and farmers' cooperatives, covering the costs of agricultural materials, fertilizers, and land use fees for planting rice, wheat and corn." Working with the government, the local counties will develop custom plans that suit their agricultural risk profiles. In the current system, insurance programs are suboptimal in light of the lack of timely and sufficient reimbursement to farmers and exorbitant cost of disaster-related claims.

With SmartCrop, all stakeholders in the value chain win. Smart contracts provide the flexibility for farmers to fulfill insurance payouts in preparation for upcoming weather-related calamities. Insurers benefit by reducing the value of claims that get processed, while instantaneous smart contract execution generates back-office operational cost savings.

SmartCrop will plan to build relationships with a top 3 Chinese insurer, pilot with farmers currently covered through that provider, and then target a co-branded launch with our partner following the pilot period to distribute our solution. Following the success of our China launch, we will revisit commercialization prospects in other moderate-to-high potential markets, such as Russia.

IMPLEMENTATION PLAN

In order to successfully launch SmartCrop in China, the following implementation plan will be executed: Figure 10.





Figure 10. SmartCrop Timeline of Activities



Development activities will be primarily divided into three workstreams: product development, infrastructure partnerships, and marketing and operations. The goal is to launch SmartCrop after 12 months, and complete and onboard our initial set of customers by the 15 month mark. Any post-production launch fixes and feedback solicitation will be completed by the end of 18 months. The key for the product launch is to partner with local stakeholders in China, and distribute the product through channels that best reach target agriculture customers.

CONCLUSION

The advent of scalable technologies in the digital age, such as blockchain and smart contracts, has given rise to new solutions for ancient problems in emerging markets. Agriculture, the world's least digitized sector, is a prime candidate for disruption. We see this need heightened in crop insurance, an area where farmers have low agency over their fate. With our solution SmartCrop, farmers make informed insurance decisions powered by smart contracts to anticipate and prepare for natural disasters. China presents a promising opportunity for our launch given the country's strong commitment to blockchain development, their mature agricultural insurance market, and their reliance on agriculture.

It is difficult to prevent disasters, but it is always possible to prepare. We believe that preparation always prevails.



SECURITY & PRIVACY

SECURITY AND PRIVACY IN THE EMERGING MARKETS

By: Martin Chan

Faculty Reviewer: Professor Nicki Dell

INTRODUCTION

This paper examines current practices and mental models regarding digital privacy and security in emerging markets. The analysis of the data produced identifies current risks, as well as opportunities, for new designs and technologies.

METHODOLOGY

Online survey methods were used to collect data from a range of technology users in emerging market.

A set of 45 questions was designed to gather information related to participants and their views and habits on digital devices/applications, security, passwords, account sharing, and surveillance.

These questions were distributed via Amazon's Mechanical Turk to emerging markets. The responses were analyzed individually and in conjunction with one another, with the results summarized below.

DEMOGRAPHICS

The participants for our survey primarily fall between the ages of 20 to 40. They are educated with college or graduate degrees and earn between \$100 to \$5,000 USD per month. Approximately a quarter of the participants are females and three-quarters male.

The Mechanical Turk platform is overwhelmingly popular in India, and as such, there are 199 participants from the country—the majority of our participants.

As the following table shows, the countries featured include: 1) Asia—India, Thailand, Indonesia; 2) Africa—Algeria, Kenya, South Africa, Nigeria; 3) Latin America—Peru, Argentina, Brazil, and Mexico.





Table 1. Demographics

	Latin America	Africa	South Asia
Total Participants	43	18	213
Age			
Below 20	2%	0%	1%
20-40	88%	83%	88%
Above 40	9%	17%	10%
Gender			
Female	33%	22%	25%
Male	67%	78%	75%
Education			
Completed College/Graduate degree	79%	89%	94%
Average Monthly Income			
Below \$100	5%	6%	7%
Above \$100 but below \$1000	37%	33%	59%
Above \$1000 but below \$5000	44%	44%	29%
Above \$5000	14%	17%	5%

DIGITAL DEVICE EXPERIENCE AND HABITS

The responses reflect that most participants had experience with mobile phones and computers (over 80% participants have 5 years of experience with either device). This aligns with the education level and age range of these participants described in the prior section.

As a whole, major categories of apps/services were used in all 3 regions with similar percentages of participants, with 2 exceptions. First, transportation apps are used significantly less among the African participants relative to other regions (28%). Conversely, they are used significantly more among Latin Americans (72%). Second, entertainment apps are used relatively less by the South Asia participants.

The popular types of personal data stored on devices and social media are similar across regions. These include the participant's photo and videos, name, and date of birth. Most notably, photos and videos are the most popular type of personal data stored in devices across all regions by far. This is possibly an important reflection on the prevalence and ubiquity of using devices to capture and store digital media across the globe. In other words, it may be wise to focus on improving security for this area.

Table 2. Digital Device Experience and Habits

	Latin America	Africa	South Asia
Experience with Computers			
Over 5 years	98%	100%	87%
Experience with Mobile Phones			
Over 5 years	95%	100%	82%
Apps/Services used on phone or computer			
Email	98%	100%	94%
Social media	100%	94%	92%
Entertainment	93%	94%	84%
Money Service	81%	78%	84%
Transportation	98%	28%	72%
Top 3 types of personal data stored on device	Photos/Videos	Photos/Videos	Photos/Videos
	Name	Name	Name
	DOB	Address	Address
Top 3 types of personal data shared on social media	Photos/Videos	Photos/Videos	Photos/Videos
	Name	Name	Name
	DOB	DOB	DOB

SECURITY PERSPECTIVE AND HABITS

There were multiple insights observed regarding the participants' perspectives and habits on both the digital and physical





security of their devices and accounts.

First, we found that most of the participants surveyed do not believe data stored on social media to be safe. This was mostly the case for Latin America and Africa, but less so for South Asia for unknown reasons.

As mentioned in the prior section, photos/video was the most common type of data stored on social media, aside from name and date of birth. It is possible to surmise that participants were thinking about the security of the private images when they responded to this question.

Second, we found that almost the exact same percentage of participants who “felt that their data was stolen or misused” equals to the percentage of participants who “had their accounts hacked before”. This logical link may indicate that the former conclusion may not be reached unless consumers believe they have been hacked.

Third, Africa has a higher percentage of participants who have been hacked or have had their devices stolen. This may be due to poorer security technology or habits. One might presume the latter has an impact when we observe that Africans were the least worried about stolen or misused data (67%), and were the least likely to install security updates (67%). As such, it seems logical that Africans had proportionally more victims of stolen devices (44%) and hacking (33%) than other regions.

Fourth, Latin Americans seem to have more careful security habits in this section. They had the highest percentage of participants installing security updates often (88%) and tend to be much more careful about leaving devices unattended (only 2%). These relatively good habits reflect their relatively higher concern regarding data being hacked or stolen (88%) relative to other regions. However, they still have a relatively high rate of stolen devices (33%) despite their carefulness, which may be due to higher theft crime rates in the participants’ countries.

Fifth, participants from all regions were most concerned about identity theft and financial losses due to the compromise of their personal data. Perhaps there is more that can be done to prevent these two events from occurring on all fronts (both before and after data is compromised) or to mitigate the damage of these events.

Sixth, it is surprising to note that while most Latin Americans and Africans state that they would change their passwords or block access to their accounts after their device is stolen, most South Asians responded that they would report to the police. It is possible that South Asians are not taking the most effective action first, or that they have much greater confidence in the police system in solving these problems. It may also be due to a different interpretation of this question. More questioning is required to confirm the findings from this question.

Table 3. Digital Security Perspectives and Habits

	Latin America	Africa	South Asia
How safe/secure do you feel about data stored on social media?			
Very/Somewhat Safe	28%	30%	43%
Somewhat Unsafe/Not safe	67%	65%	45%
Felt that data has been stolen or misused	19%	33%	15%
Email or social media accounts had been hacked before	16%	33%	17%
What would you do if your email or social media accounts got hacked?			
Change passwords	71%	100%	45%
Contact customer service	6%	0%	11%
How worried would you be if your personal data was hacked or stolen?			
Quite/Extremely Worried	88%	67%	81%
Believes updating software makes your device and/or apps more safe and secure	67%	61%	70%
Often or immediately install software updates	88%	67%	74%
What trouble or harm do you think you might suffer if your personal data was hacked or stolen?			
Identity Theft	23%	11%	29%
Financial/bank/money	40%	28%	38%
Blackmail	7%	0%	0%
Had left devices unattended in public spaces before	2%	17%	19%
Had phone or computer stolen/lost	33%	44%	29%
What would you do if your phone/computer got stolen or lost?			
Change passwords	54%	41%	11%
Block access	61%	36%	29%
Report to police	24%	32%	60%

PASSWORD HABITS

Across regions, most participants use password or PIN protection on their devices and a high proportion use strong passwords with numbers or special characters. However, most participants do not change their passwords often enough, with South Asians faring the best, having around half the participants changing passwords within 6 months or less. This should be highlighted as an area for improvement across regions.





For applications, it is perhaps surprising to find there is not a higher percentage of participants using passwords or PIN for money services, despite the relatively higher risks and potential damage. Only 67% of Africans responded yes to this question, which may be related to the fact that only 28% of Africans responded “financial harm” when asked about what they are most concerned about if their data is compromised in the previous section. Perhaps financial institutions and services can play a bigger role to emphasize the potential problems here.

Transportation apps, likewise, usually do not require passwords by most participants, which corresponds to western society. As transportation applications often have private location data or payment information for ride services, there may be significant potential risks and harm for users across the globe. In particular, as mentioned in the “Digital Experience and Habits” section, Latin America participants are the heaviest users of these apps and would be prone to the most risk.

Most participants have multiple passwords, but not many use password managers. The most common reasons are safety concerns, lack of a compelling motivation, or unawareness. Further educating consumers might help users to improve their password habits. Approximately half of the participants use 2-factor authentication. Like password managers, those who don’t use it believe it’s unnecessary, complicated, or have not heard of it. Again, there could be greater efforts to promote awareness and the benefits of 2-factor authentication to improve user password security.

Table 4. Password Habits

	Latin America	Africa	South Asia
Devices are typically protected by a password or PIN code	91%	83%	86%
How often do you change your passwords?			
6 months or less	11%	28%	54%
1 year or longer	87%	73%	46%
Use strong passwords e.g. numbers or special characters	95%	100%	89%
Which of these applications require password or PIN?			
Email	93%	100%	85%
Social media	86%	89%	83%
Entertainment	33%	11%	15%
Money Service	93%	67%	82%
Transportation	23%	11%	20%
Approximately how many different passwords do you typically have?			
1 - 3	35%	0%	29%
4 - 6	35%	39%	35%
7 - 10	14%	39%	28%
more than 10	16%	22%	8%
Use password manager	16%	33%	20%
Why/Why not? (top reasons)	Cannot trust/not safe	Cannot trust/ not safe	No Need
	Don't need/few pw	It's useful	Don't know
	Don't know		
Use 2 factor authentication	49%	56%	46%
Why/Why not? (top reasons)	Unnecessary	Feel safe	Safer/ secured
	Complicated/ time/trouble		Don't know
	Safe/ security/safer		
	Don't know/never heard		

SHARING DEVICES AND ACCOUNTS

Out of our participants, Africa has the highest proportion of people sharing devices with another person (50%). Even though this is relatively common, most do not keep separate logins and accounts from those they share their device with. It also seems to be relatively common across regions to share passwords with others (roughly half). There may be a privacy or security risk for this.

In South Asia, it appears that privacy for children is deemed less important, with the high proportion of parents having login access to their children’s accounts (69%). This stands in opposition to Latin America (30%), which seems to prioritize more privacy for children. Parents may feel they can trust their children more, or do not feel they need to protect their children as much in the digital world. In this case, there is a potential need to address deeper security issues for younger children who are not monitored by parents (e.g. online stalkers, cyber-bullying, inappropriate material for children, emergencies etc.).



Table 5. Sharing Devices and Accounts

	Latin America	Africa	South Asia
Shares device with others	26%	50%	34%
If you share a device, do you each have separate logins and accounts?	16%	17%	30%
Someone you know shared their password(s) with you (e.g. spouse, child, relative)	67%	67%	54%
Shared password(s) with another person(s) previously (e.g. spouse, child, relative)	56%	44%	33%
Parents: Have login access for children's account	30%	56%	69%
Someone helped you use a computer or phone? (e.g. spouse, child, relative)	16%	17%	35%
You helped someone use a computer or phone (e.g. spouse, child, relative)	79%	94%	80%

SURVEILLANCE

The level of concern towards both government and corporate monitoring and surveillance are similar across regions. In general, South Asia participants are slightly more concerned, whereas Latin America participants are slightly less so. Each region perceives the government as more reliable and legitimate than most corporations in terms of surveillance. They may also assume there are more important needs for government surveillance versus corporate.

Table 6. Surveillance

	Latin America	Africa	South Asia
Concern about government monitoring and surveillance of data			
Not at all concerned	16%	6%	4%
Not very concerned	5%	6%	8%
Neutral	12%	28%	23%
A little concerned	40%	17%	36%
Very concerned	1%	39%	28%
I don't know		4%	1%
Concern about corporations monitoring and surveillance of data			
Not at all concerned	7%	6%	3%
Not very concerned	12%	6%	4%
Neutral	5%	17%	15%
A little concerned	51%	28%	32%
Very concerned	26%	44%	46%

SUMMARY AND RECOMMENDATIONS

Overall, it appears that most participants from all 3 regions have a decent level of awareness regarding digital security and privacy. There is some degree of precaution taken, but there is still room to improvement. These general patterns seem to be in line with developed countries, since most participants are educated and fall within a 20-40 (technologically familiar) age range.

The key highlights in our study are:

Participants across the three regions are generally worried about the security of data on their devices and social media platforms. On these devices and platforms, pictures and videos are the most popular form of data stored. The rise of media capture and storage on devices and social media over the last couple of years have been observed across the globe. This field deserves further research as it impacts a high number of users worldwide.

Transportation applications mostly do not require passwords or PINs to access for most participants across the three regions, much like those in developed countries. Since transportation apps include personal travel detail and sometimes payment information, it is especially vulnerable to hackers and thieves. Of the three regions, Latin Americans may be at the most risk since 98% of the participants use these apps.

1. There is lower than expected usage of passwords or PINs for money service apps, despite the financial risks. This is especially so for African participants.
2. Identity theft and financial losses are the top fears resulting from security breaches and stolen data.
3. Across all regions, most participants use a strong password or PIN on their devices. However, most participants would benefit from changing their passwords more often and using password managers or 2-factor authentication. Governments or companies should encourage these habits by spreading awareness, communicating benefits, and assuring security for these methods.





4. Latin Americans and Africans are much more prone to answer “change password” or “block access” when their devices or accounts are compromised, whereas South Asians are more prone to answer “report to police.”
5. For those who share accounts and device, the majority do not have separate logins from those they share their device with.
6. The majority of participants who are parents do not have login access for children’s accounts, especially in Latin America. While it may be appropriate to respect the privacy of children in many cases, if parents do not have login access for younger children, they may not be able to protect them from certain risks to which these children are vulnerable.
7. For those who share devices, most do not keep separate logins and accounts. Likewise, for those who don’t share, it is still relatively common to share passwords with others (roughly half).
8. The relatively large percentage of consumers concerned with corporation surveillance of their data suggests that it would be worthwhile for corporations to undertake actions to alleviate concerns.





SYNKERS & SPEED@BDD

By: Sam Assaf & Abhiram Muddu

Prior to starting this project, we wrote an article titled “Searching for Unicorns in the Land of the Phoenix: The Lebanese startup ecosystem.” That article gave us a little idea for what could be a creative capstone project for our Emerging Markets Institute fellowship: we had spent a lot of time reading up on Lebanese startup accelerators and it just occurred to us that we could send them an email and see how we could allow them to benefit from our Cornell Tech experience in entrepreneurialism and product development.

CONTACTING SPEED@BDD

We contacted Berytech through the contact page on their website, explaining who we are and that we would love to do some *pro bono* consulting work for a startup that needs helping solving any kind of problem. Our email was forwarded to two accelerators, one of which was Speed@BDD, a Berytech-affiliated accelerator housed in the Beirut Digital District. We scheduled a Skype call with Kevin and Gracia from Speed who got a little more details of what we wanted to do for our project. We discussed our article, essentially validating most of its points, and mentioned how getting involved in the ecosystem by helping out a struggling startup in the frontier market would be an excellent follow-up to that.

Upon the conclusion of our call, Kevin and Gracia sent out an email to their accelerator’s alumni companies, asking if any would be interested in our services. Fortunately, one company did come forward.

INTRODUCTION TO SYNKERS

Synkers is a Beirut-based tutoring app on iOS and Android where tutors register to teach a set of courses offered by local universities. Students, in turn, register on the platform and search for a suitable tutor and book them through the app. Once the booking is confirmed, the student and the tutor use the in-app chat feature to agree on a venue and discuss any other details. Effectively, the application was an Uber-like platform for tutoring services. The startup is led by Audrey Nakad as CEO and Adam Ghani as CTO. There are other members of the team with whom we were never in contact with. We set up a call with Audrey to discuss what we could do for her and her startup.





THE PROBLEM

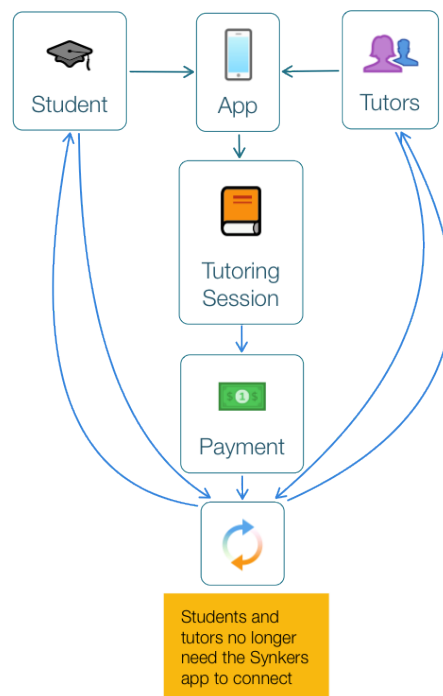
During our call, Audrey explained to us that her primary problem is that students and tutors stop using the application once they match. That prevents Synkers from making any money in the transaction and limits activity on the application which is crucial for community development.

We spent the first call understanding the mechanics of the application. The first thing we noticed was that payments could only be completed in cash. That meant that the application was no longer required once the appointment was booked. Audrey explained that the reasons for that were twofold.

1. Students in Lebanon rarely have access to credit cards. Credit is hard to come by in Lebanon.
2. The Lebanese government requires that cash payments be acceptable for any kind of transaction.

This allowed tutors to set up private relationships with their students, offering them payment deals that are not supported by the Synkers application in order to avoid paying royalties or fees to the Synkers platform.

Once we mapped out the system diagram and product loop, we noticed that while the business model mimicked that of Uber, the product loop was more similar to a Tinder-like dating application than it was to Uber. Once a user finds a suitable partner (tutor) they no longer need the application. Conversely, when a tutor finds enough students to fill their schedule, they no longer need the platform.



Audrey made sure to mention that her team was working on a credit card payment feature but that it would take time to deploy and that it would not fully replace cash payments.





OUR SOLUTION & RECOMMENDATIONS

The first, and most obvious piece of advice we gave Audrey was to launch the credit card payment feature as quickly as possible. There was little we could do for students who preferred to pay with cash although we were willing to bet that if a student had access to a credit card, the reduced friction of making payments would make the continued use of the Synkers application necessary.

One of the major issues the Synkers team is currently facing is the fact that a lot of tutors and students are engaging outside the app and for the past few months, the team has observed a decline in engagement on the app. To counter this we proposed a few solutions listed under:

1. Tying the incentives that tutors receive at the end of the academic year to the number of students they engage with, the frequency of engagements they have with different students, and the continuity of the interactions. The incentives could range from cash, discounts at select partner stores, to internships during summer months. Rewarding loyalty to Synkers would motivate tutors to restrict bookings to the app and refrain from receiving offline payments from students.
2. Engage with students online by providing them with additional content (cheat sheets, summaries and frequently asked questions) that will increase retention rates on the platform and provide an incentive for the students to come back to the platform for activities other than booking a session with a tutor.
3. Display ratings that tutors receive from mentees only after their 3rd interaction with the particular student. This would create a positive nudge for tutors to suggest their mentees to book a tutoring session on the app and not contact them otherwise.
4. Provide tutors and students neutral venues to conduct a tutoring session to better protect their privacy and security. This would also serve a dual purpose of preventing any kind of unwanted familiarity that either parties might take advantage of to take their interactions offline.

We also had a talk with the chief engineer, Adam Ghani, and tried to understand the technical challenges. After looking at the overall architecture, it was evident that they were piling up a lot of technical debt, inefficiencies in the technical architecture that could be costly to fix later on. The architecture was overly complex and sparsely documented in a way that if Adam were to leave or hire an engineer to help him, it would take a long time for anyone to navigate the system.

Also, the application itself was developed as separate native applications for iOS and Android devices which require the application and any changes or new features to be coded twice. This is as opposed to using a hybrid cross-platform framework that allows them to code the application once and packaging it for different devices. While much simpler, using a hybrid framework inevitably requires sacrificing on performance but we argued that since the application was fairly simple, dips in performance would be negligible, and their development speed would increase greatly.

Finally, Adam admitted that it was extremely difficult to find a competent native mobile developer in Lebanon. That's understandable since native mobile development is so difficult to learn and the market for it is virtually nonexistent in Lebanon which causes competent developers to seek lucrative work abroad. Since hybrid development typically leverages much more commonplace web development skills, we assured him that finding developers then would be a breeze.

Our recommendations on the technical side were to:

5. Simplify the architecture. Leverage as many ready-to-use solutions while focusing on the application itself.
6. Take a couple of days to explore hybrid development. Attempt to recreate your entire application in 2 days. If you feel as though you made significant progress, consider launching the next version of your app as a hybrid application. Otherwise, soldier on with native development.

Our next set of recommendations include feature/ experiential changes that would reflect on the overall engagement on the platform are:

1. Direct tutors to post better display pictures that match the professional standards of Synkers.
2. Replace placeholder logos of universities with actual ones to provide an inclusive experience to students.
3. Match tutors to students based on preferences that center on location, language, and subject matter expertise.
4. Validate the skills and subject matter expertise of tutors by conducting a 15 minute online test and post the results of the test to better categorize mentors. This would also help tutors price their services accordingly.
5. Improve students' engagement and conversions by tailoring recommendations according to the student profile and their relevance.
6. A responsive search feature which would recall subjects instantly without having to spend additional time searching for a specific course.
7. A check-in feature on the app to better track user information and recommend neutral venues in the future.
8. Modify the tutor guide book to better reflect the values of Synkers rather than force tutors to adhere to a certain set of rules or risk having their accounts banned. For example, instead of warning tutors to not engage with students outside the app, Synkers can suggest them to book sessions online to make the experience more secure for both the parties. This isn't to say that Synkers will not penalize users who try to game their system but it should be framed around values that are important to the Synkers community, such as privacy and integrity and that any attempt to break these values will be unwelcome. This





may be even truer for a frontier market such as Lebanon, where corruption is high and the general population is incentivized to find loopholes to gain an edge. Aligning users with common values is a more effective motivator.

9. Our input has greatly helped the Synkers team find a direction to drive engagement on their platform instead of simply working on functionality. For that reason, we have extended our services beyond this project and hope that the Synkers team continue to seek us out.

FUTURE RELATIONSHIP OF EMI WITH SPEED@BDD

The secondary objective of this capstone project was to establish a relationship between the Emerging Markets Institute and Speed@BDD for future fellows to undertake such projects. This would be especially beneficial for more technically-inclined MBA candidates at Cornell Tech as it closely resembles what they already do with the yearly iTrek course.

The Speed@BDD team have expressed interest in maintaining this channel of mentorship. Having the Cornell name associated with their accelerator will bring valuable exposure to the growing ecosystem.



AFRICODE SIMULATION

By: Tosin Adeniji and Martin Chan

EXECUTIVE SUMMARY

AfriCode, an African tech startup, has been gaining traction over the last eighteen months among global venture capitalists, including a popular and established VC based in San Francisco - SF Ventures, which has successfully invested in a number of unicorns. SF Ventures now sponsors tech startups in emerging markets, which they support not only as a core investor but also as a board member in the company with the aim to either IPO or to be acquired by a larger company within eighteen months.

We want students to walk away with key insights into how negotiations occur when one party seems more powerful than the other. We also want students to understand key nuances that are relevant to a negotiation including culture, status, power and trust despite both parties wanting to conclude an agreement.

These lessons will be vital for students to absorb because they should be cognizant of these situations in an agreement, whether they are the main party or not.

To summarize, the main focus is to outline how power and dominance play out within a multinational negotiation. The context is a growing African startup negotiating with successful San Francisco venture capitalists.

GENERAL INFORMATION DOCUMENT

Africode was founded in the summer of 2016 in the heart of Nigeria, Lagos. Wale started the big data company while studying Computer Science in University of Lagos. He shared his idea with Lola, who recently graduated with her MBA from Cornell University. She met Wale when she moved back to Nigeria with a common interest in data and the many possibilities for which they believed it could be used.

In just 3 months Wale and Lola managed to build a unique and clean AI driven algorithm that allows companies to gather data but more importantly decipher the analytics and not use manpower to do the task. They made significant progress in the remaining 6 months of 2016 with the launch of Africode, as a result of which they gained significant customers in retail businesses such as Texoil and even JD.com. This all came by surprise, considering they had yet to chart the entrepreneurial path until then.

Africode also had low start-up costs since Wale built the algorithm, dashboard and the front end website himself. He graduated in summer 2015 and since he was unable to find a job in Nigeria's tough job economy, he committed his time to building out the product. Meanwhile Lola deployed her Cornell business skills by seeking out business models, sales plans and potential customers. She, too, was unable to find a job in the USA and returned home focused on Africode.

In the beginning of 2017, Africode began attracting significant interest from investors. Working with JD.com and others led to a feature piece about the business in TechCrunch. They were shocked, but pleased, that their work was gaining recognition and publicity, particularly as an African startup.

Among the investors, successful SF Ventures approached Africode with a offer to come on board as their first investor. Their track record includes Snapchat, YouTube and Facebook—with experience in B2C social platforms and B2C retailers, but not yet to as





much traction in the B2B space, particularly with data products.

AFRICODE'S ROLE - SELLER INFORMATION

Suppose you are Wale—i.e., one half of the Africode founding team. Although Lola, your co-founder, usually deals with the business side of Africode, she has been travelling a lot out of the country and won't be able to join your meeting with a representative from SF Ventures to finalize the deal in your Lagos headquarters.

SF Ventures are a huge deal—or so you have been told. If you were honest with yourself, you didn't know who SF Ventures was before or any of these VC firms. You built Africode in your bedroom due to boredom, joblessness and an appetite to develop something. Coding has always been a joy for you, a peaceful place and when you saw the opportunity in data, building

Africode became a huge distraction for you. It's only until you meet Lola that you realize this was a global business opportunity, not just a small-scale idea any more.

It has been quite a fast-paced year and although Africode made unimaginable revenues (in the \$500,000 region), it still feels unbelievable that you have built something that so many want. Having Lola onboard has shifted the business, so much so that Africode made its first revenue from Texoil within three weeks of launching. Lola has accessed much of her business school network to get meetings and close deals, while you have continually improved the dashboard. You are a strong team with the right skills to make Africode as big as Facebook is from your point of view. You grew in confidence once you and a investment banker friend of yours were featured in Techcrunch, which valued the company at \$5 million. This significant growth makes you believe Africode is the future.

Aside from SF Ventures, you have received offers from other VC firms, the best of which from Marc Andreessen at \$2.2 million investment for 15% of Africode. You don't believe that between Lola and yourself anything more than 25% of the company should be given away, even if Lola is prepared to give away more of her share if the offer is right.

You hear that VCs often want to take roles on the board, which you and Lola are unsure about due to tensions between the board and investors. Although you did not start with a board, you both have been increasingly working on bringing on some key board members who have been vested in the success of Africode from the beginning, with the majority having significant experience in data companies in Africa. Your ideal board would consist of 6 members.

Lastly, having the Africode headquarters in Lagos is more important to you than it is for Lola. You had the opportunity to study in an American school, but remained in Lagos because you believed it was vital for talent to remain and build, so that Nigeria and Africa as a whole can be seen as a key tech hub like Silicon Valley, London or New York City.

No matter who you go with, you are keen in having main operations and decision making in Nigeria, even post-IPO. You just signed a new one year lease and hired 5 new developers who are expecting bonuses soon, so it's important that you get a deal signed.

SF VENTURES ROLE - BUYER INFORMATION

Suppose you are Sean, one of SF Ventures recent hires and analysts. You have worked in the Valley for five years on early stage startups and decided two years ago to switch gears to become part of the team providing finance, rather than requesting it. You have been designated to close the recent negotiation with Africode because you were the only one that had experience in a country outside of USA. Although it was in Canada, SF Ventures felt like this would be a good task for you. Now here you are in hot Lagos, Nigeria to close the deal.

You have been told to capture at least 35% of the company (25% is standard procedure for SF Ventures investments, but partners believe that they deserve more since it is a startup based in Africa). Furthermore, you were told to close a deal of no more than \$2.5M.

For such a deal, Africode would get to continue operations within Africa, but SF Ventures prefer to set up another office in the West Coast of America, where core decision making would occur. Since Africode has yet to formulate a board, the partners ask to hold at least half the positions as SF Ventures contend they have the right people for the board.

Within 18 months, SF Ventures have plans for Africode to either IPO or be acquired by a larger player. Otherwise, SF Ventures will have the right to take over the whole company, including overturning the board. This is factored into the standard terms for all investments and must be included in the case of Africode. It is not the norm for many VC firms to have such a clause, but since SF Ventures were one of the first in the market with such a successful track record, many start-ups risk this for the huge payoff that many get.

Your last few deals did not go very well, so it's crucial you come back to SF Ventures with a positive, successful deal.

TEACHING NOTES

The case outlines the negotiation with two parties, with one representative from each side. As such, the exercise should be carried out by only 2 students, with 1 of them playing the role of Wale and the other playing the role of Sean.

Students should read the case and individually prepare a planning document before entering negotiations, which will clarify the issues at hand, their reservation price, aspiration price, etc.





There are several key learnings to take away:

1. Finding out the needs of the OP is key to success in negotiations, especially in cross-cultural settings.
2. Breaking apart the issues, including price, ownership percentage, control, exit terms, among others. Being able to identify these separate issues provides for more flexibility and greater chances for win-win situations. Common ground is more difficult to find if all issues are lumped together and negotiated as such.
3. Establishing trust. Greater distrust is more likely among others from a less familiar background. As such, it is important to establish trust so that both sides can take a logical approach to the negotiation. Part of this involves sharing information from the side that the other is unfamiliar with - but how should the information be shared, and how much of it is to be shared?
4. Handling power imbalance. Startup have the lower negotiating power to begin with versus an established VC in the heart of Silicon Valley. This power imbalance is further amplified in a developing country, which has less access to startup capital and elite networks compared with the Valley. Students from both sides need to recognize how this power imbalance would translate into their negotiation methods.

FEEDBACK ON SIMULATION

We tested the simulation with two groups - Nikhil & Sam, as well as Yon & Zach. As stated above, the primary objectives of the simulation are to teach students the importance of understanding the needs of the other party, breaking down the issues, establishing trust, and dealing with power imbalance. In testing out this simulation, the dynamics of the negotiations depended mainly on the student's internalization of their power/position within the structure of the negotiation more than any other factor.

How a student interpreted the amount of potential leverage they possessed over the opposite side determined the amount of trust they were willing to place in the other side's claims, the issues they were willing to negotiate/be flexible on, and the amount of effort undertaken to understand the other side's needs.

In instances where the buyer felt an overwhelming sense of status over what they perceived as a smaller, "less powerful" international company, there was a tendency to push a hardline stance for all of their desired positions and be extremely inflexible; in some cases, to the detriment of reaching an agreement at all. For the seller, such inflexibility often generated distrust as they became skeptical that the other party was interested in reaching an agreement that was mutually beneficial. When the seller perceived themselves in a position of power as a "high-value startup," this distrust often translated into a deal not being reached at all.

As the party providing the most value in the negotiation, they saw the potential switching costs of finding another financial backer as less than the cost of agreeing to a bad deal. When the seller saw themselves as the weaker side in the negotiation, however, they tended to overemphasize their need to "have cash now" above other negotiation issues. This would reportedly lead to feelings of vulnerability and an inability to properly break apart each issue; heightening the willingness to concede positions as other issues/negotiating points became lumped together.

In instances where the buyer viewed their relationship with the seller as more of a potential partnership where both sides could help each other benefit, there was more of an openness to be flexible on positions and understand overall what the other side wanted in the interest of making a deal. For the seller, this willingness to engage in "give and take" often heightened feelings of trust in whatever deal was eventually reached. When the seller felt themselves in the power position of adding more value to the relationship, they tended to push more forcefully for what they wanted, but the shared feeling of mutual trust and respect prevented them from taking hardline stances. The trusting environment also seemed to take some pressure off of the negotiation process, allowing for a more thoughtful discussion around what issues overall were important to both sides in the pursuit of higher mutual utility. When the sellers felt themselves in an inferior position, they tended to concede more points overall than when the opposite was true, but the established environment of trust enabled both sides to feel comfortable with the deals that were made overall.

With the primary objectives to teach students the importance of understanding the needs of the other party, breaking down the issues, establishing trust, and dealing with power imbalance, feedback would indicate that the simulation was successful. In their reflections and feedback students were able to take a step back and see the impact that culture driven power imbalance had on their approach to negotiating and the way it helped or hindered their ability to perform. Discussing their reflections with one another also seemed helpful in their breakdown of motivations behind positions taken during the negotiation, and evaluation of their performance with respect to the learning objectives.





CAN BOCA BEVERAGES ACQUIRE A BENEFIT CORPORATION?

By: Maximillian Kaye, Vincent Wong, Rebecca Kim, Asya Bashina, and Alan Lau, Cornell Tech '17

EXECUTIVE SUMMARY: DELIVERABLES AND KEY LEARNINGS

This simulation is intended to teach students: Distributed Bargaining, Multi-utility Value Scale, Joint Value Creation, Cross-border Negotiation, and Advanced Organizational Change. The context is set as a multinational M&A between Boca Beverages, a US multinational beverage company, and HaoCha, a local Chinese multi-generational tea maker. At its core, the case is intended to offer students a window into the tenets of an integrative negotiation, capturing value for both teams. It is also designed to unpack the real-life implications for distributive bargaining, which is not always the direct inverse of the Opposing Party (OP). This negotiation builds on the literature regarding how to seek common ground through optimal solution sets that maximize joint value creations. The case is unique in the situational analyses and data structures that rethink the way we make decisions when negotiating managerial process controls of a business. Furthermore, the simulation integrates a real-life complex payoff architecture in a high context cultural setting.

The paper is intended for use in classes including: Managerial Negotiations, Social & Organizational Psychology, and International Entrepreneurship. It is also applicable for further expansion into cross-border M&A transactions. More broadly, those seeking understanding of balancing values with short and long-term monetary payoff can utilize the issues in this case as a tool to assess the tradeoffs of “doing well by doing good.”

Students should derive the following key lessons from this assignment:

- The difficulty of negotiations when values are involved, especially in a global transaction
- Assessing trade-offs to come to a reasonable Zone of Possible Agreement
- The importance of understanding cultural differences in a negotiation to lock down key tenets of a multinational dealings for becoming empathetic leaders
- Screening and signaling techniques to understand OP’s preferences and constraints
- Transforming relationships by making concessions to come to a negotiated agreement
- Understanding the key structure of a B Corp that aligns social good in a for-profit model

GENERAL INFORMATION FOR BUYER AND SELLER

Boca is a major American beverages conglomerate seeking to gain a strategic foothold in the high-potential and fast-moving Chinese tea market. The economic rise of China’s middle class and urbanization, together with increasing levels of consumer health





awareness, have driven Chinese demand for not only premium health beverages, but also for beverages produced sustainably. In 2016, herbal and traditional teas accounted for the highest proportion of value sales in natural health beverages. Further, technology has accelerated grower manufacturing capabilities in China, replacing the need for manual production processes.

Throughout the past decade, China has faced a number of high-profile food and beverage quality scandals. Sanlu's milk powder scandal rocked the nation in 2008 and damaged the "Made in China" brand for domestic consumers. In order to cut costs, Sanlu watered down its milk, which led to an unacceptable protein content level. The Chinese milk manufacturer, along with 21 other Chinese companies, had knowingly added melamine, a toxic chemical used to make coatings and laminates, to its products in order to compensate for protein content deficiency when tested under lab conditions. As a result of the lack of transparency, 6 babies died and approximately 300,000 people suffered from kidney damage.

To counter this information deficit, consumers are increasingly demanding more sustainable and transparent practices from food and beverage suppliers, like clear bottle labeling and food tracking technologies to trace the item from production to consumption. HaoCha, a Certified B Corp based in Chengdu, has established a firm position in the tea beverages segment of the natural health drinks market.

BENEFIT CORPORATIONS

There are five key category requirements B Corp applicants must meet: Environment, Workers, Customers, Community, and Governance. B Corps must match business standards across these categories in order to achieve a score of at least 80 / 200 to become certified. As of May 2017, there are now 18 B Corps in Taiwan, 4 in China, and 2 in Hong Kong. The goal of B Corps is to achieve the highest score possible so that they can demonstrate alignment between investors, civil society, and their consumers. While B Corps are for-profit businesses, obtaining mission alignment often comes with the tradeoff of slower, yet sustainable business growth.

THE OPPORTUNITY

Large-scale enterprises are beginning to realize the benefits of acquiring and investing in companies to demonstrate to the public that they are "doing well by doing good." This enhancement in corporate best practices comes at an even higher cost because they may have to change status quo processes that require significant time and resources. Furthermore, their stakeholders may not be happy with these "positive changes" if it means lower returns on investment.

China and the US have also reached a unique point in history, which has been marked by uncertainty. A new wave of economic populism and protectionism has swept across the US, fueling political pressure for American companies to establish practices and policies favoring homegrown products over products sourced abroad. Chinese companies, on the other hand, are joining the global stage in droves, and strive to exert their newfound influence and might around the world. Both nations' governments have committed to partnering together on key geopolitical and economics issues, but the relationship occasionally takes on an adversarial tone, which extends to bilateral commerce.

NOTE ON THE POINTS STRUCTURE:

The use of points enables both parties to combine the five core issues discussed in the case: labor/community/environment/supply chain/customers into a single currency. Each party's goal is to earn as many points as possible, and the multiple ranges of points have different implications for the respective companies, as well as those negotiating on their behalf.

CONFIDENTIAL INSTRUCTIONS FOR THE HAOCHA (SELLER)

You will represent the owner of a major Chinese Tea Enterprise, HaoCha. Your family has operated HaoCha for more than 200 years, and has always been a strong believer of health benefits of tea products and a family-oriented working environment for employees. Based on these values and principles, HaoCha became one of the first Certified B Corporations (B Corps) in China and has been at the forefront of the B Corp movement in the Asia Pacific region.

You firmly believe that generating profits and making a social impact to community go hand in hand, and thrive off the brand promise, "doing well by doing good." Chinese investors and top Chinese brands have encouraged companies to adopt the B Corporation model in the wake of the recent foodborne illness scandals and governance issues to instill confidence in consumers. HaoCha's B Corp certification serves as a quality assurance boost and provides a competitive advantage against rival tea companies.

Climate change has also adversely affecting the harvest of your tea crops. Compared to 10 years ago, your crop yield has dropped by an aggregate of 20%. As a result, you invested heavily in zero water waste sewage and irrigation techniques and still use high grade soil, but have generated no significant increase in your income as a result. Your strong financial commitment to your employees and investments in farming technologies have created substantial costs for your business. Your net profits have decreased by 10% as compared to five years ago. You are afraid that competition from a growing number of new tea companies may also





Option 1

You have recently been approached by Boca Beverages, an American beverage conglomerate, on a new potential offer. You are intrigued by the opportunity and want to learn more, but want to make sure that HaoCha remains a B Corp with a score above 80 total points across the 5 key payoff categories. Your econometrics advisor has assessed that each point between 80-100 generates ¥100,000 (Yuan - Chinese Currency). Each point at and above a score of 100 generates a Social Return on Investment (SROI) of exactly ¥200,000 to the business. Any points below 80 has a yield (-) ¥25,000. This is because HaoCha would lose their status as a B Corp, lose the trust of their current impact investors, and eliminate HaoCha's brand promise to consumers.

Option 2

YumCha, a leading Southeast Asian distressed debt investor for agriculture based in Singapore, has been looking to expand its presence in the mainland China market for many years. You and the investor both studied Agricultural Sciences at Cornell University and have remained friends ever since. She is aware of your situation and has offered to purchase 50% of your company for ¥7MM, and this would also lower your score 10 points. Currently your B Score is 110, which would reduce your SROI from ¥14MM to ¥12MM. She wants to keep your business growing as a stand-alone brand rather than selling to a global acquirer.

In order to help you prepare for this negotiation, your staff has put together a scoring system where you can earn up to 142 or as little as 0 points. This information is Confidential, and you may not show it to your opposing party, although you can discuss information from your sheet.

B Corp (Seller) Table

B Corp Payoff Table				
Labor / Community				
Issue Key	Point of Negotiation	Payoff		
		High	Medium	Low
1	Fair labor	8	5	0
2	Profit Sharing / Charitable Giving	8	3	0
3	% women / underprivileged employees	6	3	0
4	Talent Development Program	4	3	0
Key	Issue			
1	High = *Approve 3 regulations (minimum wage, overtime pay, child labor limitations); Medium = 1 or 2; Low = 0 regulations passed			
2	High = 15%+ profit sharing; Medium = 1-15%; Low = 0%			
3	High = 30% of workforce; Medium = 10-30%; Low = Below 10% (company currently has 10%)			
4	High = 1 Training Session / week; Medium = 1 Session Semiannually; Low = None			
Environment				
Issue Key	Point of Negotiation	Payoff		
		High	Medium	Low
1	Organic Fertilizer over Pesticides	10	3	0
2	Grade Soil Used	10	3	0
3	Renewable Sewage System	8	0	0
4	Bottle Recycling System	3	2	1
Key	Issue			
1	High = 100% Organic; Medium = 50 - 99% Organic; Low = Less than 50% Organic			
2	High= High Grade Soil; Medium = Mid Grade Soil; Low = Low Grade Soil			
3	High = Implement System; Low = Don't Implement System (No middle ground)			
4	High = Nation-wide; Medium = County-wide; Low= Local System Only			



B Corp (Seller) Table Continued

Supply Chain				
Issue Key	Point of Negotiation	Payoff		
		High	Medium	Low
1	Factory Usage over Feng Shui Green Farm	20	0	0
2	% COGS spent in China/country of operations	11	6	3
Key	Issue			
1	High = Use current green infrastructure; Low= Switch to factory (no green infrastructure); No middle ground			
2	High = 75% + COGS in China; Medium = 25-75% COGS in China; Low = Less than 10-25% in China			
Customers				
Issue Key	Point of Negotiation	Payoff		
		High	Medium	Low
1	PR Spend to Improve Customer Perception	30	10	0
Key	Issue			
1	High = Place 100% burden on acquirer; Medium = 50-50 PR share; Low= 100% on Self			

CONFIDENTIAL INSTRUCTIONS FOR BOCA (BUYER)

You will play the role of the Vice President of the M&A division for Boca, a large American multinational corporation specializing in manufacturing, marketing, and distributing beverages. While Boca has focused on carbonated beverages and bottled water, consumer habits have evolved in the last few years and the market for tea is growing. The company is also determined to break into the Chinese market, as it presents a lucrative opportunity of growing consumers. However, two years ago, Boca's former CEO was lambasted on social media when he posted a culturally insensitive Tweet about people in China, and was caught underreporting costs by 8% to beat earnings estimates. He stepped down from his role due to the controversy, but the negative press continues to harm Boca's brand. Additionally, one of the manufacturing plants was shut down last year due to improper ventilation, causing two workers to be hospitalized. Meanwhile, workers are rioting about safety using chemicals, trickling down to consumers.

Boca is constantly in the news due to its size and dominance in the industry. Therefore, competitors and outsiders are constantly trying to gather insider information to glean insights around stock performance, internal governance and more. It is your fiduciary duty to make sure the company's information for operations stays proprietary.

The newly appointed CEO is determined to reform the company's policy and image. She has introduced a corporate social responsibility (CSR) initiative to bolster public relations efforts, which will be a top priority for the company. As the VP of M&A, it will become critical for you to introduce products into your portfolio that not only help the company's bottom line, but also strengthen its global image as a sustainable business willing to innovate to compete responsibly. You have been tasked to expand the business's tea manufacturing to strengthen the company's product line by bringing the emerging Chinese tea market to the U.S.

Option 1

Your investment associate found a promising internal lead to acquire an existing family-owned tea company in China, HaoCha. The company has been around for over 200 years and earned the reputation for being a socially responsible business. It became one of the first Certified B Corps in China and serves as a shining example of combining profit making with social impact. HaoCha would like to expand core tea offerings, and market it to young professionals in major coastal cities in America and abroad at a premium to make up for their recent lower crop yield.

You have arranged to meet with the owners of HaoCha for a financial and management buyout, but the issues and terms that the B Corp proposes may affect your goals of lowering your cost of capital. As a large conglomerate, Boca is interested in keeping compliant with environmental regulations, but also wants to keep costs low. HaoCha's current environmental policies prove to be quite costly to maintain, so you'd like to see if there are operational changes that could be made to cut costs. While there may be long-term negative effects on crop yield, you're more interested in the immediate bottom line.

HaoCha also prides itself on being able to employ marginalized laborers. This practice is important for maintaining B Corp status, and you certainly don't want to deny that. However, you feel that some of the labor can be streamlined with fewer employees.





Can Boca Beverages Acquire A Benefit Corporation?

The Boca's CFO wants you to merge some of the company's already trained labor into operations for reducing costs.

HaoCha also has a history of charitable giving and of sharing its profits with employees. While this may be beneficial for a small company like HaoCha, Boca has an entire division devoted to charitable giving. Thus, you want to convince HaoCha to remove this part from its operations and focus more on the product, among other aspects.

In order to be up for promotion, the CEO has told you to save at least 80 points, or ¥MM (*Chinese Currency- Yuan-¥*) if you make an acquisition offer to take ownership in the company. In referencing the payoff table, each point you score at and between 80-100 translates to ¥100,000 in savings for your company. For each point you score above 100 you will save Boca ¥200,000 per point. If you score between 70-90 it is likely you will not be promoted, which is a pain given that you have worked at the company for four years. If you score between 70-80, your boss is willing to accept such an acquisition because it will be for social good. However, this will come directly out of your paycheck of (-) \$5,000 USD for every point in this range. Anything below 70 would make you a "martyr" in that you will surely lose your job to a hungry associate, albeit for the social good.

Option 2

Your second option is to take on the tea manufacturing process in China internally without acquisition. This will require up to two years to gain reliable relationships from tea farmers and build the infrastructure to harvest it efficiently costing (-) ¥2MM / year before doing business. Using the same supply chain, it will cost an additional ¥7MM for Boca to set up the operation. Even then they would not be guaranteed the space without having a higher percentage of Cost of Goods Sold coming from a Chinese manufacturing facility, as compared to importing foreign parts. The net revenue generated from this 5-year project would be anywhere from ¥10-30MM per year after breakeven.

Option 3

Your last prospect is to continue manufacturing domestically. As an American company, Boca has received an offer to purchase a U.S. based tea manufacturing facility. This would lead to \$2MM per year USD savings via government subsidies incentivized by keeping jobs within the U.S. as opposed to acquiring labor in China. The company wants to ensure that consumers will view Boca in a favorable light, but this option would neither add value to the new CEO's CSR initiatives, nor realize your viewpoint that expansion in China is a beneficial cross-cultural move. Thus, you would like to ensure that investments in public relations efforts are made strategically.

In order to help you prepare for this negotiation, your analyst has put together a scoring system where you can earn up to 142 or as little as 0 points. This information is Confidential, and you may not show it to your opposing party, although you can discuss information from your sheet.



Acquirer Table

Acquirer Payoff Table				
	Labor / Community			
Issue Key	Point of Negotiation	Payoff		
		High	Medium	Low
1	Fair labor	3	2	1
2	Profit Sharing / Charitable Giving	12	6	0
3	% women/underprivileged labor	8	5	0
4	Talent Development Program	2	1	0
Key	Issue			
1	High = Avoid regulations (minimum wage, overtime pay, child labor limitations); Medium = 1 or 2; low = All 3 passed			
2	High = 0% profit sharing; Medium = 1-15%; Low = 15+%			
3	High = Below 10% (company currently has 10%)of workforce; Medium = 10-30%; Low = 30%			
4	High = No Training Sessions; Medium = 1 Session Semiannually; Low = 1 Training Session / week			
	Environment			
Issue Key	Point of Negotiation	Payoff		
		High	Medium	Low
1	Organic Fertilizer over Pesticides	10	3	0
2	Grade Soil Used	10	3	0
3	Renewable Sewage System	8	0	0
4	Bottle Recycling System	3	2	1
Key	Issue			
1	High = Less than 50% Organic; Medium = 50 - 99% Organic; Low = 100% Organic			
2	High= Low Grade Soil; Medium = Mid Grade Soil; Low = High Grade Soil			
3	High = No New System; Low = Implement System (No middle ground)			
4	High = Local System Only; Medium = County-wide; Low= Nationwide Recycling System			
	Governance			
Issue Key	Point of Negotiation	Payoff		
		High	Medium	Low
1	Transparent Product Labeling	15	10	0
2	% Same Board of Directors	6	2	0
3	3rd Party Certification on KPIs	5	2	0
Key	Issue			
1	High= Just Government Certification; Medium = 2 Certifications; Low = Environmental + Vendor/Supplier + Government Certification			
2	High = No SKU Tag Tracing Suppliers and No Ingredients on front; Medium = Only 1 of 2 Tags; Low = Both tags approved			
3	High = 50%+ existing board composition; Medium = 50-50; Low = Less than 50% composition			
	Supply Chain			
Issue Key	Point of Negotiation	Payoff		
		High	Medium	Low
1	% COGS spent in China/country of	20	7	3
2	Factory Usage over Feng Shui Green Farm	10	0	0
Key	Issue			
1	High = 75% + COGS in USA, less than 25% in China; Medium = 25-75% COGS in USA; Low = Less than 10-25% in USA			
2	High = Eliminate current green infrastructure and switch to Factories; Low= Keep farm as is (green infrastructure); No middle ground			
	Customers			
Issue Key	Point of Negotiation	Payoff		
		High	Medium	Low
1	PR Spend to Improve Customer Perception	30	10	0
Key	Issue			
1	High = Place 100% burden on acquirer; Medium = 50-50 PR share; Low= 100% on Self			





TEACHER'S GUIDE

HaoCha wants to sell their business but retain B Corp status of 80 points and above. Rather than becoming “gulped,” via a majority control acquisition in an LBO or any other deal that involves management change, HaoCha needs to translate their understanding of the ecosystem to convince investors and acquirers to uphold specific processes to retain B Corp status¹. By identifying sources of joint gain across five key categories, players get advanced exposure to multi-dimensional weighted distributive bargaining. Boca’s main goal is reaching an agreement, which will allow them to acquire HaoCha to penetrate the Chinese market and improve their CSR. Boca would like to streamline HaoCha’s processes to have a better bottom line, even though it may sacrifice HaoCha’s sustainability standards.

A real-life example of this is Unilever’s acquisition of Ben & Jerry’s. B&J² is a B Corp and was able to work out a deal with their acquirer to continue aligning interests among all parties. Doing so requires experts and intrapreneurs, who excel as influencers, leveraging knowledge of organizational behavior, negotiation strategies, data analysis capabilities, and sensitivity to diverse cultures and individuals. Not only do these individuals play a role in the negotiations exercise, but they also serve as affected third parties that both the buyer and seller have to take into account when seeking to maximize their joint payoffs leading to Pareto Efficiency.

Preparation

Students should be assigned to turn in a planning document before the negotiation.

Timing: in 30 minutes to an hour, depending on how in depth they would like to go on the negotiations deliverables.

Instructions for Professor

Distribute general material, final contract document, as well as the buyer and seller confidential information the night before the negotiations class. Tell students that you would like them to return to class with an agreement across the 5 key negotiating categories, and remind them that they do not have to reach a negotiated agreement. Further, provide them with the current exchange rate of USD to Yuan, so that they can convert their points to calculate their BATNA and reservation prices in normalized dollar value. Students who submit negotiated outcomes in points is standard, and students will receive bonus for converting to USD (\$) or Yuan.

Solutions

For full understanding of payoff solutions, BATNA’s, and Joint Payoff analysis, please refer to Excel Tabs for B Corp and Acquirer Payoff tables, as well as the joint payoff attached.

(Students may sign contract in points, and extra credit for converting to USD/Yuan. Reaching a negotiated agreement is not required.)

	B Corp Points	Conversion		Acquirer Points	Conversion	
		USD	Yuan (=USD*6.91*)		USD	Yuan (=USD*6.91*)
Reservation	80	\$ 869,565.22	¥ 6,000,000	70 at a price of up to \$-USD 50,000 out of own paycheck. No promotion	\$ (50,000.00)	¥ -345,000.00
BATNA	Singaporean Impact Investor, Sell 50% of business for ¥7MM, reducing B Score from 110 to 100	\$ 724,637.68	¥ 5,000,000	No Points (Internal Option)	Op#2: Negative \$1.6MM USD then positive \$1.5 to \$4.3MM USD net savings per year after breakeven, OP#3: \$2M USD/Year net savings	Negative ¥11M (expense) upfront and no guarantee from government plus ¥10-30MM savings / year after breakeven; Op#3: ¥13.8MM savings / year
Aspiration (Up to 142**)	Exceed current score of 110	\$ 1,507,246.38	¥ 10,400,000.00	Anywhere in between 110-142	\$ 1,507,246.38	¥ 10,400,000.00
Joint Max	(118 , 74)					
	** The maximum that the B Corp can improve their ROI is 32 points up from current score of 110		*Based on Google Search May 2017 (1 USD to 6.90 Yuan) Exchange rates subject to change and professor can modify accordingly			

¹ <https://www.bcorporation.net/what-are-b-corps/certified-b-corps-and-benefit-corporations>

² <https://www.bcorporation.net/community/ben-and-jerrys>





Key Concepts:

The pedagogical approach of this case seeks to integrate the following elements:

- *Integrative Bargaining*- New aspects to understand preferences of the OP is critical to identifying priorities and trade-offs in, especially in a cultural negotiation requiring contribution.
- *Distributive Bargaining Tactics*- Identifying bargaining ZOPA/BATNA/RP/Cost of Disagreeing through “Power Play” concessions, anchors, and psychological anchors.
- *Multi Utility Value Scale*- Using attribute analysis to link outcomes with varying issue weights
- *Joint Value Creation*- Understanding where parties can meet despite lack of perfect communication leading to lower-level information processing
- *Cross-border Negotiation*- Understanding cultural tendencies, as well as power and information-sharing strategies in China
- *Organizational Change*- Understanding motivation of agents in a corporate acquisition

Questions for Debrief and Suggestions

A. Tactics & Strategy Questions

1. What strategies did you use to capture value?
2. How did you prepare for the negotiation. What was your BATNA/RP/AP?
3. How did you set up the scope of your issue structure with your OP?
4. How did you work together to uncover the issues that were important to each party?
5. How did you come to an agreement?
6. How did this negotiation play out? Was it a zero-sum game or was this more integrative?
7. Did you look at the OP’s payoff table? If so were you able to calculate the joint maximum points allocation?
8. Class poll- Who figured out that customers category of the payoff table are exactly aligned (as opposed to inverse)? If so, how did this play out?

B. Cultural Awareness

9. How did you work to reach consensus on this debrief?
10. What does this negotiation show you about holding multinational negotiations?
11. How do culture, identity and values play into this particular negotiation?
12. How do corporate values clash or compete with cultural values in this negotiation?
13. How do the Vecchi model and the status/position model figure into this negotiation?
14. Were there any comments that raised doubts about your OP’s moral compass?

C. Reflection

15. What other types of negotiations do you think might be similar here?
16. What would you do differently if you were to redo this negotiation?
17. If you were to conduct a negotiation like this in real life, what are the key steps you would take to lead this negotiation?
18. How would you rate this negotiation based on difficulty?

Key Learnings

HaoCha would like to maintain the family name of the brand and ensure that each of their employees have been treated ethically and will have a job at the end of the negotiation. HaoCha’s goal is to sell the company under favorable terms to increase profits and ensure that they maintain their B Corp certification.

Students should consider the Vecchi model for rational and irrational negotiation. They should frame a psychological issue structure to de-escalate the conflict using Vecchi’s recommendations by building a trust and a rapport with the Opposing Party. Further, students need to consider individual incentives and roles as either a mid-level manager trying to move up the corporate ladder to make a bonus or the company owner who has equity in the business. This understanding is essential to align company interests not only with the OP, but more fundamentally with their own company’s respective goals.

Additional dynamics may arise in this negotiation such as the status, and position dynamics. Students should consider who has the power in this situation and how power dynamics actually play into this discussion. In some ways, Boca has the leverage since it has the ability to buy out HaoCha. However, HaoCha also has power in the sense that Boca really needs this acquisition to improve their brand.





APPENDIX

VP of M&A Signature: _____

HaoCha Owner Signature: _____

Final Contract

Issue	HaoCha	Boca Beverages
Labor / Community		
Environment		
Governance		
Supply Chain		
Customers		
Total Points / USD / Yuan:		

Using Payoff Tables and Solver to Find Joint Maximum

B Corp Payoff Table										Acquirer Payoff Table									
Labor / Community										Labor / Community									
Issue Key	Point of Negotiation	High	Medium	Low	High	Medium	Low	Sum	Constraint	Issue Key	Point of Negotiation	High	Medium	Low	High	Medium	Low	Sum	Constraint
1	Fair labor	8	5	0	1	0	0	1	"	1	1	Fair labor	3	2	1	0	0	1	
2	Profit Sharing / Charitable Giving	8	3	0	0	0	1	1	"	1	2	Profit Sharing / Charitable Giving	12	6	0	1	0	0	
3	% women / underprivileged employees	6	3	0	0	1	0	1	"	1	3	% women/underprivileged labor	8	5	0	0	1	0	
4	Talent Development Program	4	3	0	1	0	0	1	"	1	4	Talent Development Program	2	1	0	0	0	1	
Environment										Environment									
Issue Key	Point of Negotiation	High	Medium	Low	High	Medium	Low	Sum	Constraint	Issue Key	Point of Negotiation	High	Medium	Low	High	Medium	Low	Sum	Constraint
1	Organic Fertilizer over Pesticides	10	3	0	1	0	0	1	"	1	1	Organic Fertilizer over Pesticides	10	3	0	0	0	1	
2	Grade Soil Used	10	3	0	1	0	0	1	"	1	2	Grade Soil Used	10	3	0	0	0	1	
3	Renewable Sewage System	8	0	0	1	0	0	1	"	1	3	Renewable Sewage System	8	0	0	0	0	1	
4	Bottle Recycling System	3	2	1	1	0	0	1	"	1	4	Bottle Recycling System	3	2	1	0	0	1	
Governance										Governance									
Issue Key	Point of Negotiation	High	Medium	Low	High	Medium	Low	Sum	Constraint	Issue Key	Point of Negotiation	High	Medium	Low	High	Medium	Low	Sum	Constraint
1	3rd Party Certification on KPIs	9	6	0	0	1	0	1	"	1	1	Transparent Product Labeling	15	10	0	0	1	0	
2	Transparent Product Labeling	8	6	1	0	1	0	1	"	1	2	% Same Board of Directors	6	2	0	0	1	0	
3	% Same Board of Directors	7	3	0	1	0	0	1	"	1	3	3rd Party Certification on KPIs	5	2	0	0	0	1	
Supply Chain										Supply Chain									
Issue Key	Point of Negotiation	High	Medium	Low	High	Medium	Low	Sum	Constraint	Issue Key	Point of Negotiation	High	Medium	Low	High	Medium	Low	Sum	Constraint
1	Factory Usage over Feng Shui Green Farm	20	0	0	1	0	0	1	"	1	1	% COGS spent in China/country of operations	20	7	3	0	0	1	
2	% COGS spent in China/country of operations	11	6	3	0	0	1	1	"	1	2	Factory Usage over Feng Shui Green Farm	10	0	0	1	0	0	
Customers										Customers									
Issue Key	Point of Negotiation	High	Medium	Low	High	Medium	Low	Sum	Constraint	Issue Key	Point of Negotiation	High	Medium	Low	High	Medium	Low	Sum	Constraint
1	PR Spend to Improve Customer Perception	30	10	0	1	0	0	1	"	1	1	PR Spend to Improve Customer Perception	30	10	0	1	0	0	
Total Bcorp Value		118																	
Total Acquirer Value		74																	
B Corp Acquirer Both (2) Both No Key Sheet4 Solver Joint Payoff +																			

*See attachments to email

Pareto Efficient Frontier Payoff (118, 74) = 192

Maximum points: 142

Total Points (Summing individual table) = 200

