Team Final Project: Ripple

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"As a Hokie, I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do."

1. **Precisely explain major challenges on technology/innovation the company is facing and why. Dig deeper and precisely discuss the root causes of these challenges.**

A blockchain is a decentralized and distributed digital ledger that facilitates online transactions in a secure environment. It records transactions across many systems so that the previous records in the transaction cannot be altered without altering proceeding blocks of information and the network as a whole. bitcoin is a prominent cryptocurrency operating on the blockchain network. Another company, Ripple, is similar to bitcoin in that it also utilizes the blockchain system, however, it is also significantly different to the bitcoin strategy and process. If bitcoin is described as a decentralized peer to peer network developed to operate as an alternative financial network to that of the existing global financial system, Ripple can be explained as a protocol structured to serve and enhance the existing global financial system. Ripple built a digital payments network for real-time financial transactions, and also created XRP a digital currency. It has partnered with leading banks and major financial institutions to settle cross-border and cross-bank transactions transparently, with strong security measures in real time. Essentially, Ripple utilizes blockchain technology and the concept of digital tokens to simplify global banking. Major banks and financial institutions are in agreement with Ripple's vision and strategy and have adopted Ripple's system (Shin, 2016).

Ripple seeks to create an "internet of value," a world where money is exchanged at the speed in which information moves today. Transactions would occur in real time and across global networks, offering a solution to international payment systems that are not compatible. Ripple is trying to make this a reality by offering a distributed ledger service that tracks payments without the use of a central authority. This platform was inspired by blockchain technology, but Ripple is open to anything of value, including existing currencies (OpenMarkets, 2015).

We have identified a number of challenges facing Ripple. First, Ripple is in a precarious position. Although it is still a young company, it has secured billions of dollars' worth of cryptocurrency through its 61% stake in Ripple XRP, which has increased in value by 40 times this year. There is a total of 100 billion units of XRP in existence, priced at about 26 cents each. At $26 billion in total value, it is second among cryptocurrencies behind bitcoin, which is valued at $41 billion. Ripple owns $16 billion of XRP (Levy, 2017). Unlike other cryptocurrencies on the market, XRP is majority-owned by one company.This has led to concern that Ripple will one day capitalize on this and flood the market with currency. Investors are fearful of a sudden excess in supply, along with volatility of the currency (Levy, 2017). The company must create some long-term stability and ease the concerns of investors as well as network users.

Similar to any new disruptive technology, Ripple is facing the fact that potential customers are fearful that their money may not be transferred securely and safely. Laura Shin, of Forbes, argues that there may not be sufficient market demand for Ripple's technology at the moment. Although Ripple's technology is 'faster, cheaper, more secure and more transparent than existing technology, many people find our existing financial services — credit cards, bank accounts, etc. — to be fast, cheap, secure and transparent enough. They not only work pretty well, but also in some cases function even better than blockchain technology does at this early stage. (Shin, 2016). This statement speaks to the pattern of product evolution, underscoring the fact that because current customers feel that existing banking technology is 'good enough', Ripple may encounter difficulty competing on functionality alone (Christensen, 1997). The mainstream customer base is familiar with the current payment systems, and they feel safe about it since there are governmental and industry guarantees surrounding the systems. Blockchain technology, on the other hand, is rather complex and generally not well understood at this stage. Its customers and enthusiasts represent a relatively small number of the more tech savvy, although it is slowly gaining visibility as its benefits are becoming recognized by those across the financial sector. Clayton Christensen and Joseph Bower write “Disruptive innovation often sacrifices performance along dimensions that are important to current customers and offers a very different package of attributes that are not (yet) valued by those customers. At the same time, the new attributes can open up entirely new markets” (Bower & Christensen 1995). With this in mind, Ripple must create a strategic position that primarily involves partnering with online-only banks such as Fidor Bank in Munich to achieve a strong strategic fit and to experiment its technology (Porter, 1996). Such an an agreement would entail a co-opetition partnership, in that both Ripple and the online banks would engage one another in order to advance technological innovation (Gnyawali & Park, 2011)

Another challenge comes from its competitors, both from within and outside the industry. As Ripple navigates through this new terrain, it must be vigilant, as it may find itself at risk of losing market share to imitators and straddlers (Porter, 1996). Ripple’s mission to create an “internet of value,” allowing value to move across the internet in the same way information does: quickly, globally, inexpensively, and 24 hours a day, seven days a week (OpenMarkets, 2015). An organization that shares this mission may be a potential competitor. Further, an organization that wants to maintain the status quo can also a competitor.

A challenge for the company, and the industry as a whole, is in reaching acceleration. Technologies such as distributed ledgers and cryptocurrency take years to become mainstream, due in large part to the ‘waterfall effect’. Chris Skinner, of coindesk.com, describes it as the following: ‘But this waterfall effect – new technology, startup developers, incumbent providers, main markets of usage, clients of main market users and, finally, customers of clients – means that any major technology change takes at least a decade to maybe three decades before it gets mainstream. After all, the mobile telephone was invented in 1973 but took almost 30 years to become mainstream. We talk about how things are moving faster – apps go viral in seconds – but these are things that move once you’ve changed the underlying architecture, and that’s why groundbreaking change takes decades. (Skinner, 2016).

At the industry level, the volatility of cryptocurrency, and of currency in general, has been a concern. Cryptocurrency has demonstrated some recent volatility (Levy, 2017). For example, a recent crash of Ethereum shows vulnerability in the crypto market. Within a short period, the value of Ethereum went from $320 to $0.10. Traders who had an existing buy-order (an order to purchase the currency once it hits a certain value/threshold) had their orders filled. This means after the market bounced back, individuals could have made a return upwards of 3200% (Roberts, 2017). While this crash specifically happened with Ethereum’s coin, the waves it sent through the community are resounding. For many cryptocurrency consumers, their confidence was shaken by an event like this, and as a result the entire market is facing a downward trend. This market volatility is expressed in bitcoin’s percentage of Market Capitalization, from July

2013 through January 2017 (See Exhibit 1). Bitcoin has experienced market volatility and shifts of up to 20% percentage of market cap.

Although the current financial system is regulated, the lack of global regulation with cross-border financial transactions, and the difference in currency and monetary policies, adds more complications to the challenge. The current regulatory environment is outdated, in that it was established to deal only with physical assets (Rosner & King, 2016). The regulatory system has not adjusted for technology innovation, and could potentially prevent or slow growth and adoption. It's important to note that regulators are suspicious of this technology because of the negative attention to bitcoin in 2016 (Waters, 2016).

2. Discuss which of those challenges arise due to the firm's culture, strategy, and partnerships and why. Also discuss how these challenges relate to innovation skills, strategic positioning, planning processes and patterns of evolution.

Ripple is facing challenge to create long-term stability and ease concerns that Ripple will flood the market with currency, creating excess supply and the potential for volatility. This is due to strategy, particularly, Ripple's strategic positioning and business model. Ripple utilized a variety-based positioning approach to position itself in an industry while specializing in serving the needs of a subset of the industry customers (Porter, 1996). Ripple benefited from the growing interest in blockchain technology amongst the enthusiasts in that market, along with an increase the value of its XRP currency by 40 times this year. There has been a shift in innovation pattern to seamless transactions, with whom banking and regulatory organizations are not familiar. Ripple brings transformative technology with potential to alter business transactions similarly to how the internet changed communications and information-sharing in the 1990s. There are assumptions and speculation about the stability of such a new technology, and organizations must adapt and learn to best advise their customers. Not only is there a finite amount of XRP—just as with bitcoin—but XRP is actually a deflationary cryptocurrency, meaning a tiny amount is permanently shredded after each transaction—the opposite of an unlimited supply. As time goes on, bitcoin supply remains stagnant while that of XRP depletes, making it even more valuable with each passing day.

Ripple is facing the fact that potential customers are fearful that their money may not be transferred securely and safely. This can be attributed to decisions in partnerships and strategy. Ripple made a big splash when it hit the market in 2012. As the firm experienced rapid growth, its leadership aimed to convince the public of its credibility by touting its partnerships with major banks as evidence. Unfortunately, Ripple has been accused of trying to "be everything to everyone" (Rizzo, 2017). If the team had pursued a strategic variety-based approach and established expertise in one niche, and then broadened its offerings using that initial product's success as evidence of its credibility, it might not have experienced the same doubt or hesitation from the public (Porter 1996).

Ripple's vulnerabilities to competitors are a function of its strategy and the industry culture. Ripple has secured billions of XRP through strategic decisions and cultural factors, and as market share increases, so do threats from competitors. It can be argued that both the culture and Ripple's strategic positioning have helped to established itself among the top companies on the blockchain network.With these massive resources on its balance sheet, it may be difficult to pivot and adjust to market conditions and threats from imitators and straddlers.

The primary barrier for Ripple in reaching full-fledged acceleration is the fact that the firm is trying to strategically position itself in too many corners of the market at once. If Ripple were to focus on building out the underlying distribution technology, *or* focus on its XRP currency, *or* continue other work with Ripple Labs, and give each individual goal the attention it deserves, the company would increased success in the long term. Ripple seems to be relying heavily on its core capabilities (Leonard-Barton, 1992), such as its massive control of XRP value and dominant position in a relatively new market, to properly prioritize its projects and allocate resources according. (Christensen, 2017).

Lack of industry-wide regulation is emblematic of a flaw in many currencies. Early adopters own a majority of the market value of existing coins. If they sell all of it at once a complete price change could happen. There are exchanges that would prevent such a move from happening, e.g., Bitfinex or Kraken, because they would separate the single trade into many separate smaller market orders. Many existing exchanges have been rapidly deployed by coders without financial backgrounds. While these exchanges still exist, and without common regulation among exchanges, it is possible that moves like this could impact the value of a currency. This is because real world currencies have their values derived from competing interest rates. Whereas cryptocurrencies don't have their direct value tied to anything for that matter. This can be dangerous, considering this is a speculative market. With speculative markets, many people want to see short term gains. While stocks are trading well, investors will observe exceedingly high returns such as XRP valued at half a penny at the start of the year up to 40 cents at its highest point.

This also means, at any sign of trouble, these buyers can panic sell. Although the market does correct itself, as long as there are more people buying into the long-term vision of cryptocurrency technology, rather than trading them as forms of short-term investments, the total market cap will continue to increase despite these fluctuations. However, this is contradictory, as fluctuations in the market make it difficult for users of the coins to actually use the coin as it is intended. From this, one can observe that the goals of the adopters of the currency and investors are completely misaligned, and while this is the case, this is a challenge that cryptocurrencies as a whole will have to overcome.

3. Based on your insights on the above and what you know from the various class readings (including *The Innovator's DNA* textbook) and class discussion, develop several key recommendations to the company in order to effectively deal with these challenges. The recommendations should be very precise, should be based on your analysis above, and should clearly draw from relevant readings and cases.

Due to concerns of safety and security, it often takes years for Mobile Payment Systems to gain the trust of end user trust. ("Who Uses Mobile Payments?," 2016). Cryptocurrencies and blockchain technology are still well within the early stages of of this trust-garnering process ("Blockchain wave headed toward CPG and Retail industries," 2017). One can observe Tencent as an example. Their partnership with Didi Taxi demonstrated that introducing a reputable partner can be effective in establishing trust among the consumer base: “Partnering with Didi Taxi was Tencent’s first successful attempt to break down the barrier between WeChat Payment and user bank cards... The campaign was remarkably successful” (Tencent, 2014).

Ripple can look to form strategic alliances or co-opetition partnerships with well-known companies such as Uber, Amazon, or even airbnb. If these well-known platforms begin to accept payments in the form of XRP, Ripple can gain publicity/traction without having to spend money on marketing (Porter, 2016)(Gnyawali & Park, 2011). This is similar to how Amazon accepts bitcoin or Alibaba partnering with Neo (formerly known as Antshare).

As for currency exchanges, Ripple may consider shifting from online shopping platforms, to targeting the most popular cryptocurrency exchanges. Coinbase, for example, is a mobile and online platform that allows users to buy and sell bitcoin, Ether, and Litecoin. If Ripple were to strategically position itself to readily sell XRP through Coinbase, it could see an increase in transactions and a likely market cap. Ripple has already taken precautions against flooding the market without a cap and devaluing XRP by placing 55 million XRP into escrow to provide market predictability (“Ripple Commits…”, 2017). Ultimately, Ripple is still focusing on building a specific client base that will provide stability and sustaining growth while the fresh cryptocurrency/blockchain industry develops.

There are benefits to Ripple’s current strategy of building a client portfolio filled with large banks. Ripple could maintain its growth within large banks as it may prove too costly to persuade the public that blockchain is secure at this early stage. Mainstream customers may not know or trust blockchain technology, and Ripple’s own XRP. Ripple can avoid the extremely expensive marketing investment that Tencent did to “brute force” customers to adopt their product by continuing their focus on large banks as their primary clients (Yang, 2014). By utilizing this strategic trade-off (Porter, 1996), and keeping their business with clients who understand the technology’s potential, Ripple will thrive until the mainstream customers begin to accept blockchain as a secure financial technology, at which point they can pivot into end-user technologies if it’s still a viable option. By operating within the large bank client portfolio, Ripple opens up opportunities for strategic “co-opetition” partnerships within their clientele that can drive innovation for everyone involved (Gnyawali & Park, 2011).

Ripple has deepened its strategic position in its preference of target customer; not the public end user, but the banks that safeguard and invest their money for them (Porter, 1996). Ripple has to continue its ability to break down the blockchain technology to new potential client banks, creating co-opetition within the banking industry (Gnyawali & Park, 2011). Banks are already investing internal and external resources toward adapting blockchain technology for themselves; major banks understand the future of banking lies with financial technology (or ‘fintech’ to those in the industry), and ultimately, blockchain (Keane, 2017). By creating strategic partnerships with banks which are already exploring blockchain technology, Ripple will prepare to acquire the business if an fintech company needs to carry the implementation to completion (Gnyawali and Park, 2011). Ripple has already built a strong foundational client portfolio. Once it breaks into larger banks that have already started their own blockchain endeavors, Ripple will be able to sustain itself until blockchain is universally adopted. Also, Ripple can leverage these strategic partners and their extensive currency experience to stabilize their XRP cryptocurrency. Ripple can lead the effort in stabilizing the current volatility of cryptocurrencies in general by creating "co-opetition" partnerships with direct fintech competitors, and together establish regulations and consistency across all cryptocurrencies (Gnyawali and Park, 2011). By adopting this strategy, Ripple can tackle three of the challenges we prescribed earlier: build a rapport with clients in terms of the security of the blockchain technology, promote stabilization in the cryptocurrency environment, and keep competition at a healthy "co-opetition" length to establish dominance in the fintech industry. If successful, Ripple may emerge as a major player in the industry, and set the industry standards.

However, as the regulatory framework becomes more established, more products and services that mainstream consumers use will utilize the technology, though in many cases consumers won"t be aware of the change. Ripple strategy is not to focus on changing the regulations right away, just focus on the technology aspect of current systems. Ripple's vision was to provide a more efficient infrastructure for the centralized institutions and the conventional finance industry as Ripple executives state "banks aren't going away," and that "bitcoin is getting it wrong" by focus on changing the whole banking system. Because modern currencies have always been created and regulated by national governments, blockchain and bitcoin face a hurdle in widespread adoption by pre-existing financial institutions if its government regulation status remains unset

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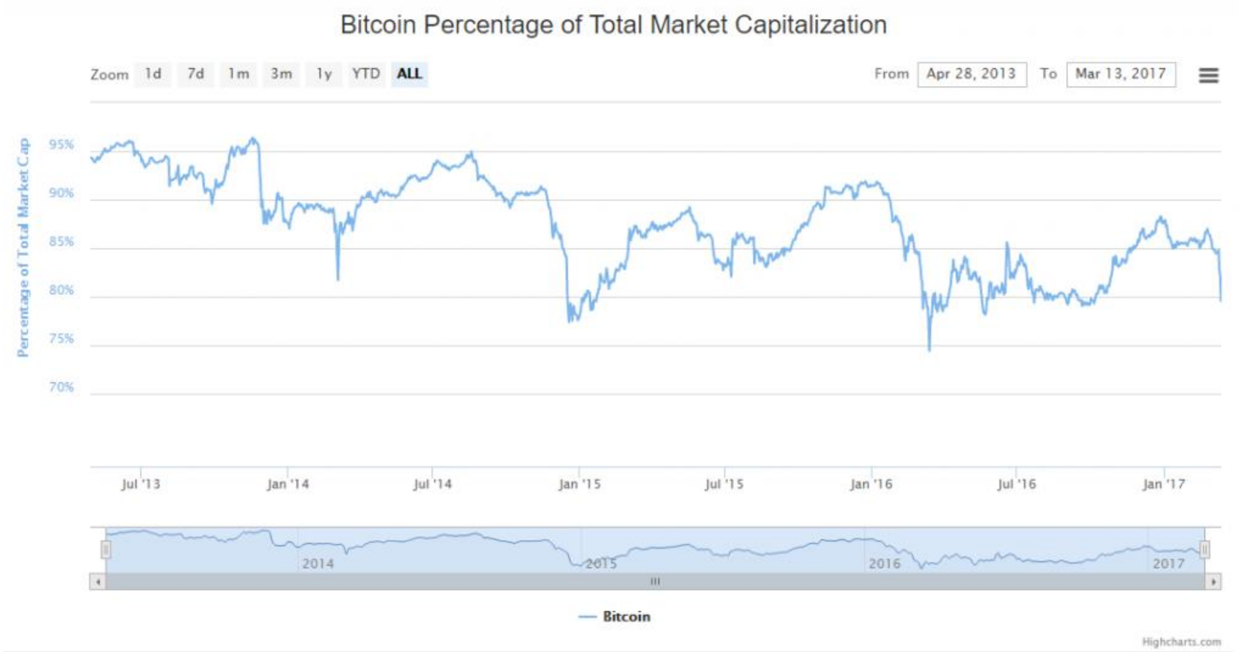
APPENDIX

Exhibit 1



SUMMARY TABLES

Question 1	Challenges	Course Frameworks/Topics
Precisely explain major challenges on technology/innovation the company is facing and why. Dig deeper and precisely discuss the root causes of these challenges.	To create some long-term stability and ease concerns that Ripple will flood the market with currency, excess of supply, volatility of the currency, etc.	Pattern in the Evolution of Products and Technologies Importance of Technology & Innovation Strategies for Innovation and Resource Allocation Managing Risks and Rewards in Collaborations
	Since this is still a new technology, network users are fearful that their money may not be transferred securely and safely. How to educate the mainstream customer/population to trust and adapt blockchain decentralized and cryptocurrency/digital currency ideas	
	Look out for competitors, both from within and outside the industry.	
	Reaching Acceleration	
	Recent flash crash of Ethereum shows vulnerability in the crypto market	

Question 2	Origin of Challenges	Course Frameworks/Topics
Discuss which of those challenges arise due to the firm's culture, strategy, and partnerships and why. Also discuss how these challenges relate to innovation skills, strategic positioning, planning processes and	**Challenge #1: Create long-term stability and ease concerns that Ripple will flood the market with currency, excess supply, and volatility of the currency, etc.** Here Ripple leadership demonstrates clear confidence in the technology,	Changing and Updating Organizational Capabilities Platforms, Standards, and Networks

patterns of evolution as discussed in the class.	investing the majority of its funds into onboarding more software developers to extend the SDK. The company is still young, however, and has a lot to learn about strategic planning.	Strategies for Innovation and Resource Allocation
	Challenge #2: Alleviate users' fear that such a new technology won't transfer money safely and securely. Here we have well-intended but poorly executed strategy on behalf of Ripple leadership. While they've done a good job marketing their technology to potential (and recruited) bank partners, they've essentially done too good a job trying to be "everything to everyone." They've stretched the company's idea of an ideal strategic positioning too thin.	
	Challenge #3: Identify competitors within and outside of the industry. This is evidence of the firm's culture to adopt whatever points of differentiation to rule out known competitors. Rather than embracing a competitive market and striving to become the best in the business, Ripple seems to aim to qualify its offerings and its mission to always be slightly different than any potential competitors.	
	Challenge #4: Reach acceleration. This is a symptom of the company 1) still being in its infancy, and 2) attempting to tackle too many corners of the market at once. It's a	

	result of poor (too broad) strategic positioning on the leaderships part.	
	Challenge #5: Mitigate the crypto market vulnerability evidenced by the recent flash crash of Ethereum. This is a vulnerability for the industry as a whole. The industry culture is loose and not heavily regulated. Thus, many existing exchanges have been deployed rapidly by different coders lacking a financial background. Without common regulation among exchanges, this poses a challenge to Ripple, as well as to the industry as a whole.	

Question 3	**Recommendation**	**Course Frameworks/Topics**
Based on your insights on the above and what you know from the various class readings (including The Innovator's DNA textbook) and class discussion, develop several key recommendations to the company in order to effectively deal with these challenges. The recommendations should be very precise, should be based on your analysis above, and should clearly draw from relevant readings and cases.	Ripple continues to build their client portfolio with major banks, which will further convince other banks that their technology is secure and establish several mutually-beneficial "Co-Opetition" partnerships to drive innovation within the industry.	Managing Intellectual Property Managing Risks and Rewards in Collaborations Strategies for Innovation & Resource Allocation
	To fend off competitors, Ripple should differentiate itself from other blockchain companies by focusing on helping financial institutions or banks implement the underlying technology, therefore hiding the detail from the actual user/customer. The application should deal only with transaction settlements, which is a process that only involves one bank to another.	

	To encourage stability in cryptocurrency, Ripple announced a plan to put 55 billion of its XRP into escrow and release 1 billion into the market monthly, giving investors a sense of what is coming. We recommend scaling this back to 500 million monthly, as 1 billion may trigger volatility in the market.	
	Mainstream Adaptation: Provide education awareness about the technology/Highlight benefits for mainstreams users to understand	
	Regulation Change: Instead of trying to force change in the regulation, adapt the technology into it.	
	Security/Risk Management: Working with different industries, especially finance and bank entities in global in scale to create international safety and security monitoring framework	
	International Standardization: Collaborating extensively with financial institutions, regulators, central banks, and other technology groups to set up international standards that can help boost t innovations	