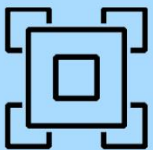


# Marketing Plan: Recommendation of Amino's Computers



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**WPI**

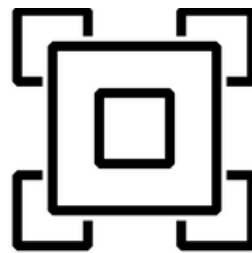


innovation and technology in recent years. For instance, many technology events, such as G20 Summit, International Transportation and Logistics Expo, and Robotics Championship of China, have been hosted there. Through these events, Hangzhou aims to become the “Riverside Silicon Valley” (“海尔中央空调杭州区域: 节能样板的诞生”, 2019). Hence, more and more high-tech and internet companies tend to locate their headquarters in the city of Hangzhou - Alibaba being the biggest.

As a renowned internet company in China, Alibaba specializes in E-Commerce, retail, Internet, and technology, aiming to build a smart city (“Alibaba Group”, n.d.). Its reputation and technological accomplishments have a strong attraction for IT-related employees (“杭州市”, n.d.). In addition, Alibaba started helping small or

startup enterprises on their market in recent years (“阿里巴巴主动调整营收指标: 为小企业创造利润共同成长”, 2018). This strategy also draws entrepreneurs to choose Hangzhou as the base for their companies. Since Amino is a tech-based startup, these factors make Hangzhou an ideal location.

## AMINO



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Figure 2: Amino Network's logo

Amino was founded in 2010 in New Zealand by Dr. Michael O’Sullivan, Prof. Cameron Walker, and Dr. Felix Xia. They are three researchers and experts in

technological fields such as AI, Big Data, distributed systems, information security, risk governance, economics, and blockchain. Through the use of blockchain technology, Amino aims to create a decentralized computer network that allows contributors to lend computer power to consumers (Amino, n.d.). This technology could assist in the development of emerging industries such as 5G technology, Artificial Intelligence, Augmented/Virtual Reality, and blockchain, creating a high demand in the market that Amino can fulfill (A Medium Corporation, 2018).

A blockchain is simply a chain of time-stamped blocks of data managed by a cluster of computers. Initially used for cryptocurrencies, blockchain now assists in several industries including real estate, health, and finance. Each block stores information about several transactions, who is participating in

those transactions, and information that distinguishes them from other blocks. Each block can store up to 1 MB of data. To compete in this market, companies try to overcome the 'blockchain trilemma'. To be competitive, companies need to ensure that their blockchain technology is secure, scalable, and decentralized.

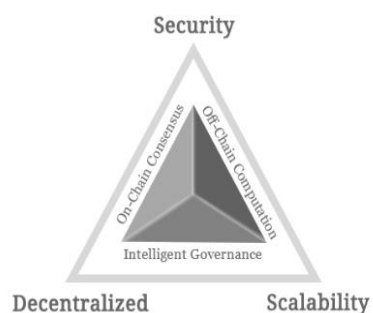


Figure 3: Blockchain Trilemma

## AMINO PRODUCTS AND SERVICES

Those interested in joining Amino can purchase one of the computers offered and join the network.

Currently, two computers, Amino One (1200 USD) and Amino Pro (2988 USD), are available. Both types of machines come with Amino OS, an operating system designed to allow connection to the network. Amino is offering a risk-free investment by paying back investors over time on their investment. For Amino One, the purchase price is paid back over a period of 480 days (about 16 months). Amino Pro is paid back with an extra \$80 over two years. These payments are in addition to any money earned through mining or contributing resources. Once enough of these computers are sold and connected, a cloud network would be established. Then, the individuals or companies needing additional computer resources could purchase access to resources available on the network. Using a three-tiered node system, Amino believes that this network can be operated in a way

that is both attractive for the contributors to join and stable enough for consumers to get what they need when they need it.

The node system of Amino, as seen in figure 6, can be best compared to a factory, in which there are laborers, supervisors and managers.



Figure 4. Amino Pro

The laborers of the system are called slave nodes. Like laborers, slave nodes are the ones performing the necessary tasks. In Amino, each computer running Amino OS is considered a slave node. The next tier up is the master nodes. Master nodes, in a sense, supervise the slave nodes. Each master node is responsible for several slave nodes and allocates tasks to slave nodes based on their individual capacity.

When tasks are complete, the master nodes report to the super nodes, which manage the rest of the nodes. Super nodes are responsible for returning the finished products to the consumer in a safe and timely manner and completing the ledgering.

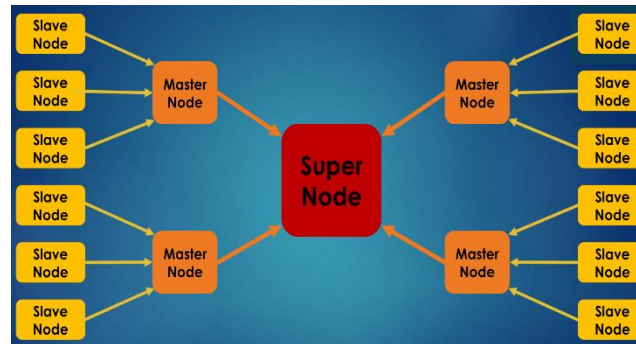


Figure 6: Node Infrastructure

high-speed mobile networks (Rajiv, et al., 2018). 5G is expected to help enable self-driving cars, delivery drones and, possibly, replace WiFi in many places, suggesting a significant leap in wireless mobile technologies (Chandler, 2017).

## NETWORK APPLICATION

The main industries Amino will likely service are cloud computing companies, such as cloud gaming, and 5G applications. Cloud computing is the delivery of computer services over the internet (Microsoft Azure, n.d.), and companies in that field, such as

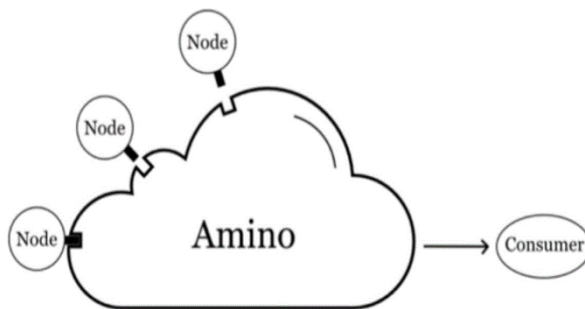


Figure 5: Amino's cloud

Amazon Web Service, Google Cloud, and Microsoft Azure, are dominating the market. Cloud gaming is an industry that uses this technology to prevent consumers from having to purchase expensive gaming equipment. Through cloud technology, remote servers are used to handle all input actions, limiting the number of tasks client computers must perform.

5G technology, the newest generation of wireless technology, is spurring the innovation of new industries and services. It offers low latency and virtually unlimited capacity, for various industries like

## REWARD SYSTEM

Amino is not the only company with a goal of creating a market for computer power, but it separates itself through its rewards system. Rather than reward contributors for the number of tasks completed, Amino's rewards are based on how long the computers are connected to the network (Amino, n.d.). This ensures that contributors are paid as long as the machine is available, instead of getting nothing on a bad day or possibly losing out due to other issues.

Bitcoin offers a way to idly gain money called mining. By performing up to billions of calculations per second, users have a chance at earning potentially thousands of dollars' worth of bitcoins

called cryptocurrency. There is no physical component, but it can have a significant value relative to other currencies, both physical and digital, if enough people buy it. AMIO, for instance, had a value of 0.4RMB at the end of October 2019 (CoinMarketCap, 2019). The other type of token is FOG. FOG is a proof-of-contribution, serving as a way for Amino to track who is contributing. When a computer is on and connected, FOG is generated

Amino has also developed a token system to ensure fair compensation. This system is comprised of two tokens, the first one being AMIO. AMIO is a form of virtual currency

for that user. At the end of each day, the user earns AMIO equal to the AMIO Amino is distributing amongst all contributors multiplied by the percentage of FOG they generated relative to all FOG generated that day (Amino, n.d.). This way, it is assured that every contributor receives a fair cut. After a payment, all FOG for that day is erased and the next day begins on a clean slate.

Once a user begins earning AMIO, it can either be converted and spent, or held for additional benefits. Accumulated AMIO can be essentially tied to a user. When enough AMIO is held, it starts functioning more akin to stocks. Users with AMIO begin to get voting rights for the company and have a say in matters like the election of management units. Holding AMIO also passively generates FOG, so users willing to invest more and wait



Figure 7: Group Photo with HDU Partners

for the payout can earn more from their involvement (Amino, n.d.).

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## BITCOIN

The blockchain/cryptocurrency model has the potential to be extremely lucrative, as seen with Bitcoin. Bitcoin, the most successful and widely known blockchain company, was founded in 2009 and is the first decentralized peer-to-peer payment network (Bitcoin, n.d.). Despite only being a decade old, Bitcoin has been experiencing rapid growth and, as of May 2018, had a total value exceeding \$100 billion (Bitcoin, n.d.).

## DEVELOPMENT PROCESS

In order to make better recommendations for Amino's marketing strategies, understanding their products was essential. We started with their website, reading all the information on the site itself and in the uploaded whitepapers. From there, we developed a list of questions on aspects that we either did not understand or did not know enough on. We were put into contact with a technical operator at the Hangzhou office that we communicated extensively with. When they did not have an answer, we asked our main point of contact, who would either send us documentation or direct us to someone who would be able to help.

After understanding Amino's offered products, our next step was to identify target groups. We first broke down potential contributors

into two categories. The first category comprised of young individuals interested enough in Amino to either buy a computer or

### Our objectives were:

1. Understand Amino's current product offerings, marketing strategy, and infrastructure.
2. Identify potential user target groups.
3. Determine the benefits, risks, and factors for why potential users would buy the products.

spread word of the company. The second category was more financially well-off individuals, such as professional investors, CEOs, or tech professors, who presently had the means to purchase a computer. From there, we developed a survey for the first group. The survey targeted students ages 18-25 years old at our partner university Hangzhou Dianzi University (HDU)

and surrounding campuses, and was aimed to gauge interest in Amino and opinions on certain aspects of the business. The survey was distributed with the help of our HDU students, who sent it out to people on their campus. To get more responses, we sent it out to several other outlets. We reached out to our sponsor for contacts, resulting in the survey being sent into a WeChat group of blockchain enthusiasts. We also reached out to several American universities' chapters of the Chinese Student Association in



Figure 8: First Sponsor Meeting

addition to contacting other sponsors from the Hangzhou site.

To target the second category of people, we developed interview questions that largely overlapped with the survey questions. Our HDU students were responsible for finding interviewees. They found 15 people to interview, some face-to-face and others who provided written answers to our questions. We also contacted high professionals involved in blockchain via LinkedIn and secured a few interviews this way.

Following data collection from the survey and interviews, the next step was to find trends in the data. We looked at the demographic categories, such as age and profession, to determine if there were any groups that were more willing to join Amino. We also analyzed if there were any factors

in the Amino business model that make people less prone to joining.

## FINDINGS

In order to figure out how to better their marketing plan for the computers, it was important we learned about their marketing strategy. It was brought to our attention that Amino had more success in marketing people who had little to no knowledge of blockchain than those with experience in blockchain. This gave us a topic to look out for during our data analysis stage.

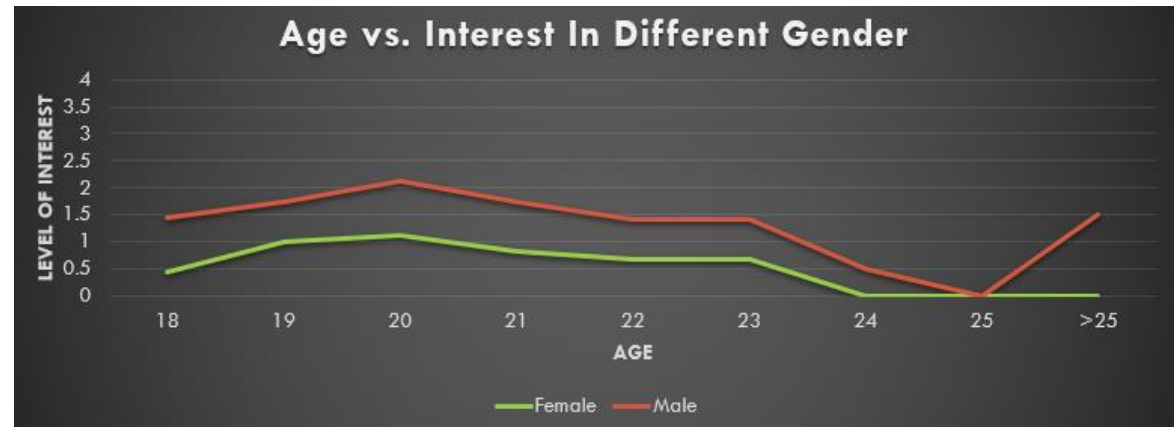
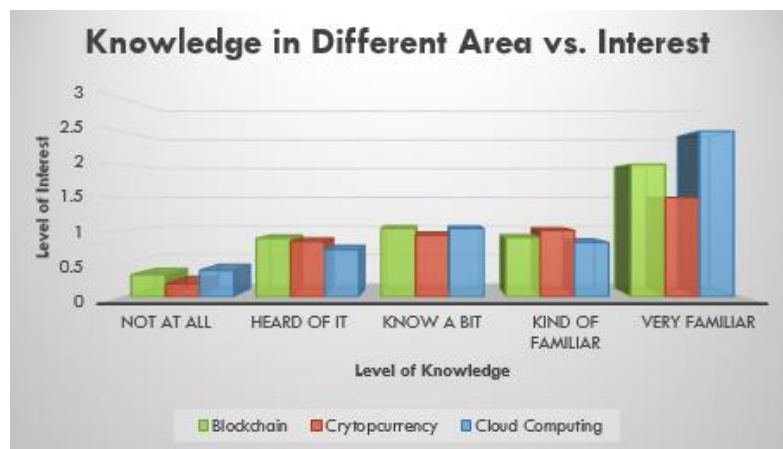
At the end of week four, we closed the survey and acquired data from seven interviews. We planned on starting data analysis in week five, but became aware that the products offered were not what we thought they were. While we originally thought the products were servers that served no other use, they were actually fully functioning computers.

Fortunately, our HDU partners had eight interviews scheduled that week that this new information could be injected into. As a result, we decided to divide the interviews into two different groups: with the knowledge of the products being high-functional computers, and without it. Simultaneously, we found out that there were some problems within the survey data; after the survey was closed, we realized that the way the questions were posed made it difficult for us to compare one answer to the next. As a result, we decided to code the data for each question separate from one another, which made it possible for us to learn what people think of each aspect on their own.



## DEMOGRAPHIC RECOMMENDATIONS

By the time we closed the survey, we had 197 completed responses. We began analysis by breaking down the data into groups based on attributes like age, gender, income, and knowledge on the topics we were asking about. Initial analysis showed that people knowledgeable of blockchain were more interested in joining Amino than those who were not. One of the earlier survey questions gave basic information on Amino and asked for initial interest on a scale of 0-4, 0 being not at all



interested and 4 being extremely interested. Out of the entire surveyed group, 67% were interested in joining Amino. Amongst the people knowledgeable in blockchain, the average interest was 71%, whereas it was 65% amongst those not knowledgeable about blockchain. However, the ones interested had a higher rate of answering 2 or higher.

This leads into the first and second recommendations, the

first of which being to **focus on people familiar with blockchain and related technology**. Our survey results showed that knowledge of blockchain positively correlated to interest in joining. As a follow-up to this, the second recommendation is to **develop a pamphlet or advertisement to spread knowledge and awareness of blockchain and cryptocurrency**. An effective way to do this would be to ease the readers into the information with more general terms that they would be familiar with.

Men appear to be slightly more interested in joining, with the average interest among those identifying as male being 70% and those identifying as female, 65%. Additionally, when we analyzed the trend in interest based on their age, we observed that the older their age, the more wary they were about joining Amino's community.

While our survey targeted people age 18-25, we received some responses from people older than that. There was not, however, enough answers for a proper analysis.

## BUSINESS RECOMMENDATIONS

The fact that the transactions will take place in cryptocurrency has an overall negative effect on people's willingness to join, as shown by the results of both the survey and the interviews. Interviewees cited the fact that it is illegal to trade cryptocurrency in China, and a new

company does not have enough of their trust for them to want to get involved. Furthermore, there were concerns regarding the Chinese government releasing their own cryptocurrency, as the introduction of a legal tender cryptocurrency could severely devalue all other cryptocurrency in the country. When asked about it, our sponsor said they thought the introduction would instead be positive, serving as a way to introduce the general public to cryptocurrency and spreading acceptance.

Our recommendation based on this information is to **offer an alternate form of payment**. It could be at a lower rate than AMIO to encourage use of that instead, but offering different payment could persuade more people to join. From there, as these people become more involved in Amino and develop a higher level of trust, they could switch over to AMIO for the added benefits. A

second recommendation for this is **high levels of transparency**. Relating back to the positive correlation between knowing about blockchain and interest levels, people are generally more interested when they have the information on how the system will work. Transparency will help to mitigate some of the initial skepticism over the cryptocurrency.

We also recommend Amino being **upfront about any and all safety concerns**. There were a few interviewees who told us that they were not aware of potential concerns until we brought them up. Telling potential contributors up front about risks, while possibly deterring some from joining, could start fostering their trust with Amino. This way, the whole endeavor comes off as more legitimate and contributors are not blindsided.

Survey results showed that people generally reacted positively to the fact that the network will have real world applications in many up and coming industries. As such, a recommendation is to **emphasize the application in advertisement**. The knowledge of what Amino hopes to become and help create could excite more people into joining.

We also recommend that Amino very **clearly explains that their products can be used for other purposes**. As it was a mistake we made, it can be assumed others would make a similar mistake. Making sure that information is clear taps into the market of people looking to purchase a computer, as Amino is essentially selling computers with added benefits.

A final recommendation is to **allow contributors to use their own computers if they have similar**

**specifications**. Part of the reason Amino is selling computers is to ensure that those connected can meaningfully contribute. However, if there was some minimum specifications, those with an adequate computer could do it from their own computer. One of interviewees expressed that they would not consider joining if it required additional hardware, but would be far more likely to join if they could use what they already had. Increasing the options for contribution could increase overall interest and participation.

## RECOMMENDATION SUMMARY

1. Initially focus on those knowledgeable about blockchain.
2. Develop an advertisement or awareness campaign that explains blockchain & associated technology for those unaware.

3. Offer another form of payment/reward to incite more individuals to join.
4. Be transparent with the overall system and any potential risks.
5. Emphasize that it's a computer purchase with added benefits.
6. Allow individuals with high-powered computers to use their own machines.

## ACKNOWLEDGEMENTS

- Our advisors, Professors Adrienne Hall-Phillips and Thomas Balistreri, for their invaluable guidance and support throughout the process.
- Our sponsor liaison, Dr. Felix Xia, for providing us an interesting project to work on.
- Our project liaison, Mr. Hanyang Xia, for all the assistance he provided on the project.

- Our HDU buddies, August and Judy, for helping us with interviews, always attending sponsor meetings, and making us feel welcomed.

## REFLECTIONS

### MICHAELA GAMACHE



One of the aspects I was most looking forward to was being immersed in a culture entirely different than

what I'm used to, and I was not disappointed over the course of the project. It has been such a unique experience that I'm glad I've been able to have. Of course, there were some challenges – such as the differences in transportation and food – but nothing that could not be

overcome. This contributed to the fact that IQP has taught me a lot in terms of perseverance and adaptability. Our project changed a few times over the course of ID2050 and IQP, but we stuck with it. Furthermore, I learned much about leadership. As the person who was generally the group leader, this experience has made me significantly more comfortable in a leadership role. I'm more confident in delegation and decision making, skills that are going to help both at WPI and in a professional environment. Overall, though living on the opposite side of the world for eight weeks was originally daunting, IQP has been very enjoyable and taught me both professional and personal skills.

### DAVID JIN



I think the most important thing I got out of this project is teamwork. During the course of the

project, I have experienced and witnessed problems happened within different teams as well as the solutions to them. It became clearer to me how a team actually works.

Another thing I learned from this experience was how important communication is in work. Since there were HDU students working on the same project with us, there had to be communication between two groups. Even though I am a Chinese national with no language barrier with the HDU students, I still thought it was a challenge communicating with them, and it had some level of

impact on the progress of the project.

All in all, the things I learned from this project are really valuable. I believe I will apply them to the future.

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### RIMSHA KAYASTHA



After a year of taking Chinese courses, I got the opportunity to practice my language

skills and, while I failed to communicate a lot of the time, I felt very accomplished when I did manage to hold a conversation. Working in a country where people were not comfortable speaking any language I knew also meant a lot of information got lost in the language barrier so, there was the constant

worry of missing something that troubled me. In addition to that, there was the challenge of steering the project in the right direction every time a new impactful information popped up.

Initially, I was wary about stepping ahead in conversations as my team had both native English and native Chinese speakers, speakers of the two important languages involved in our project, that could better represent the team and phrase things well, while communicating, than I could. However, as I started presenting my ideas during meetings and taking initiative in reaching out to interviewees and communicating with them, I realized that good ideas can overcome language barriers. At the same time, the fear of not contributing enough in verbal communications also pushed me to take the initiative in all the background tasks.

I learnt to rely on my capable teammates and stop aimlessly worrying. Facing all these challenges has only been making me excited for future projects I could partake in in the real world, without the fear of grades looming over me.

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### HANSEN DING



Working on a project in my home country gave me some kind of relief but put pressure on

me at the same time, because I felt like I had responsibilities to help out others who stepped out of their comfort zones. Luckily, everything turned out fine - everyone seemed to be pretty used to live in here and had a good working time. And

based on that, I learned that division of labor can be crucial sometimes within a group. Especially when we were working with our HDU buddies, division of labor and communication became more and more important. And we managed it – English speakers worked more on paper works and Chinese speakers put more efforts on communicating and translating. When we put our work together the result would just be great.

The other thing I learned was from the experiences as we collecting data. It was my first time doing a such big social survey, so some of the questions were being asked in a wrong way, hence, we couldn't get the right results and made some impact to the project. Same thing happened in interviews. I would take this project as a good lesson next time when I do a similar one.

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