

Roden Scholars' Case Competition

March 1, 2009

“All people are entrepreneurs, but many don't have the opportunity to find that out.”

*– Muhammad Yunus,
Grameen Bank Founder*



Eddy Fong | Robert Huynh | Wendy Lin | Sameer Ramani

EXECUTIVE SUMMARY

Project “BetterLife” (BetterLife) is a social entrepreneurial mission that confronts societal challenges with Massively Multiplayer Online Games. MMO is a category of video games that simultaneously supports an immense number of players in persistent virtual worlds. Linking gaming to philanthropy reaches a more extensive audience and thus achieves a greater degree of social impact.

Vision

Pixelvision identified education in entrepreneurialism as its cause. Entrepreneurialism is widely acknowledged to be the driver of economic growth, which leads to better lives for more people. There are a lot more potential entrepreneurs than actual ones primarily because of a lack of education, funding, or confidence. Pixelvision aims to create a game (*Absolute Advantage*) that helps to bridge this gap. Studies show playing and participating in a virtual economy is more effective than studying economic theories. Moreover, this game enables players to empower entrepreneurs in developing countries through microfinance.

To execute this vision, Pixelvision needs to build mutually beneficial partnerships with Junior Achievement and Kiva.org, the first peer-to-peer microfinance website.

Game

Two recently successful genres of MMOs are Massively Multiplayer Online Social Games (MMOSG) and Massively Multiplayer Online Tycoon Games (MMOTG). MMOSGs are non-combat MMOs heavily focused on socialization. MMOTGs are business simulations and have been adopted by many universities and corporations. *Absolute Advantage* is a browser-based MMOSG-MMOTG hybrid.

Absolute Advantage is a virtual representation of a real economy in which players can build businesses and virtual lives. In designing the game, Pixelvision incorporated success factors in existing blockbusters and identified areas of differentiation. Key areas of differentiation are the educational and philanthropic value, the browser-based format, and the connection to social networks and mobile phones.

Users

This game generates revenue from subscriptions and targets players with the following qualities: 1) 15-35 years old, 2) casual gamers, 3) with household income greater than \$35,000, 4) is in or has graduated high school, and 5) considers him- or herself socially conscious. After two years, Pixelvision also suggests for BetterLife to reach out to middle and high schools (see Appendix I: Middle and High Schools).

Impact

With the increased adoption of *Absolute Advantage*, there will be more entrepreneurship which will create more jobs and encourage education. As the workforce of a country educates itself, the country will attract foreign investments. Implementing *Absolute Advantage* is one step towards a future of economic development and higher standards of living worldwide. Financially, *Absolute Advantage* has a standalone net present value of \$110 million and will create \$480 million of value for charitable parties.

PROPOSAL

Pixelvision proposes a browser-based MMO that expands education in entrepreneurship. This game generates revenue from subscriptions and targets players with the following qualities: 1) 15-35 years old, 2) casual gamers, 3) with household income greater than \$35,000, 4) is in or has graduated high school, and 5) considers him- or herself socially conscious. To better execute this philanthropic vision, the game partners with Junior Achievement and Kiva, the leading peer-to-peer microfinance website. To make sure the game generates values for all related parties, Pixelvision has mapped out the flows of benefits to Junior Achievement, Kiva, and the players in Exhibit 1.

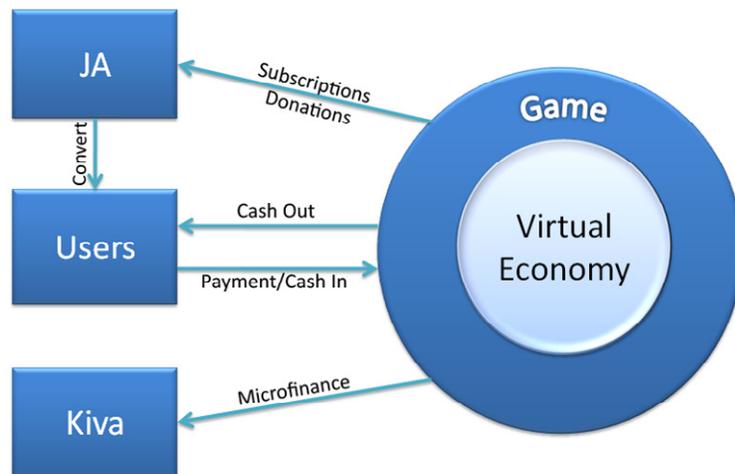


Exhibit 1

VISION

Pixelvision aims to expand education in entrepreneurialism across the globe.

The expansion of in-game economies is a recent but marked phenomenon. IGE Ltd., a gaming services firm, estimates MMO players spent \$1 billion last year on virtual goods and services. Edward Castronova, professor and author, asserts, “we can ... view synthetic worlds as ... unregulated playgrounds for economic organization.” In this way, virtual worlds provide an excellent way of teaching and testing entrepreneurialism.

Entrepreneurialism is widely acknowledged by economists to be the driver behind economic growth, which leads to better lives for more people. One of the best examples is the People’s Republic of China. After China limited government-run enterprises in 1978-1982, growth skyrocketed to a high of 15.2% in 1984 before the government decided to slow it for fear of the economy overheating.

There are a lot more potential entrepreneurs than actual entrepreneurs.

In spite of vast interest in entrepreneurship, there is a gap between interest and execution. Even in developed countries like the US where training in entrepreneurship is fairly accessible, a lot of potential entrepreneurs do not execute because they do not think they will be successful. The gap between potential and actual is even more blatant in developing nations where people do not view entrepreneurialism as an option because of lack of funding and knowledge on how to implement an entrepreneurial venture.

Simulations of real economies are the best way to teach entrepreneurship.

Entrepreneurship is difficult to learn without experience. In fact, venture capitalists prefer entrepreneurs with experience, even if it ends in failure, versus academic credentials. Pixelvision envisions an MMO that simulates a

real economy, where players can start and run businesses and see their ventures impact their virtual lives, real lives, and the lives of others. *Absolute Advantage* encourages entrepreneurship by introducing people to it, helping them learn to be successful entrepreneurs, and providing avenues to aid entrepreneurs in developing nations, through microfinance – *all while having fun*.

This is more impactful than just donating money to a cause.

When designing the game, Pixelvision closely examined the maxim *it is better to teach a man how to fish than to give him fish*. While it is tempting to design a popular game and simply channel funds to an unrelated cause, a game that incorporates the cause and, in some sense, *is* the cause, is much more impactful. Pixelvision aimed to create the game so that it *facilitates* education in entrepreneurship and, eventually, economic development. In this way, increased popularity not only generates more revenue to support the cause but also educates more people in entrepreneurship.

A specific case study that illustrates the failure of just donating money to fund schools is Ghana. In Ghana, nonprofits and government entities came together to build schools, thinking education will fundamentally transform society. Instead, many students ended up graduating without jobs because of the unresolved problem of job scarcity. These educated, jobless people became a threat to political stability, so the government decided to employ them. However, the government did not have enough funds to pay these new employees, and these new employees began accepting bribes. Ghana is now considered one of the most corrupt countries in the world.

BetterLife cannot do this alone. It needs the help of Junior Achievement and Kiva.

One of BetterLife’s tasks is to identify the people it will aid. Pixelvision looked at underdeveloped areas and realized the only people with the time to play the game are those in schools. However, BetterLife needs help to identify which students or schools will benefit the most from *Absolute Advantage*.

Junior Achievement

Pixelvision identified Junior Achievement (JA) as a partner to help advance its vision. JA is the “world’s largest organization dedicated to educating students about workforce readiness, entrepreneurship and financial literacy through experiential, hands-on programs.” It focuses on “prepar[ing] young people for the real world by showing them how to generate wealth and effectively manage it.” The partnership benefits both parties in several ways.

Benefits to BetterLife. The first benefit is JA’s strong name recognition and credibility. JA’s focus on entrepreneurship sends a clear message about BetterLife’s vision. Additionally, JA is closely affiliated with numerous Fortune 500 companies and estates, who have contributed significant time and money. JA’s established network is a great asset for BetterLife’s marketing efforts and impact.

The second benefit is JA’s geographic reach. JA has a wide network of volunteers located in over 120 countries, often in areas in need of economic development. These volunteers can help BetterLife identify institutions in need due to their familiarity with the area. Additionally, volunteers teach a JA-built curriculum that complements the experiential learning of the game. Finally, JA’s network of 383,761 volunteers is a significant force in adopting the game and spreading the word about it.

The third benefit is the opportunity of growth through JA. JA currently focuses on children K-12, and as infrastructure develops, BetterLife can extend to reach younger people through JA.

Benefits to Junior Achievement. The partnership only succeeds if JA also benefits. There are three main benefits. The first is a more powerful and fun game for JA. JA already has an economic simulation called *JA Titan*, but it is basic and not fun. Pixelvision views this as an opportunity to provide JA with a more effective game. JA understands ability of games to educate and already has a base of 47,082 players. *Absolute Advantage* will have

a higher retention rate and greater impact than JA's current game. Because *Absolute Advantage* is fun, students will want to play the game more frequently and beyond the scope of their JA curriculum.

The second benefit is that BetterLife saves JA game-related costs. The game also enables JA to reach a larger audience by reducing the overall volunteer to student ratio. Further, since JA receives tax deductions per number of students it reaches, *Absolute Advantage* allows JA to save more money.

The third benefit is *Absolute Advantage* allows JA to expand its presence in middle and high schools. Currently, elementary schools make up almost 50% of JA students. However, it is important to reach older students as it is during middle and high school that students develop long-term interests and begin to think about careers.

Kiva

Kiva Microfunds operates Kiva.org, the first person-to-person microfinance website. At Kiva, a person makes a loan to an entrepreneur in the developing world for as little as \$25. Lenders first find a project they want to support. Kiva then donates their money through 113 microfinance partners. Over time, the entrepreneur repays the loan. Pixelvision seeks to partner with Kiva to allow *Absolute Advantage* players to lend money converted from virtual money, to support real-life entrepreneurs.

Microfinance allows less fortunate people to take advantage of economic opportunities. According to Consultative Group to Assist the Poor, reliable sources of credit provide the foundation for expanding business activities. Studies show that borrowers who join microfinance programs have better economic conditions and that over long periods of time, many borrowers graduate out of poverty. Specifically,

- In Bangladesh, the incomes of members were 43% higher than incomes of uninvolved members.
- In El Salvador, the weekly income of members increased by 145% on average.
- In Indonesia, the incomes of members increased 112%, and 90% graduated out of poverty.

Like with Junior Achievement, BetterLife needs to make sure the relationship is mutually beneficial.

Benefits to BetterLife. BetterLife benefits from Kiva's name recognition and partners. Many organizations, from Google to The Clinton Global Institute, support Kiva. Also, Kiva is a recognized name that has received coverage in publications like *Newsweek* and *The Wall Street Journal*.

Another benefit to BetterLife is Kiva's ability to provide quick, measurable results. Though the game is great at encouraging entrepreneurship, people like to see concrete results quickly. Players will enjoy seeing their money help an entrepreneur in a developing nation. Further, microfinance can be profitable. The average return is 5.5% according to MicroBanking Bulletin. This attracts players because their money can earn them more virtual dollars.

Benefits to Kiva. Partnering with BetterLife allows Kiva to expand its user base tremendously along with the growth of *Absolute Advantage*. This expansion provides more funds, helping Kiva further its vision. Additionally, Kiva can gain benefits from BetterLife's partnership with JA in terms of volunteers, geographical reach (Kiva is in under 50 countries), and name recognition. Thirdly, *Absolute Advantage* provides Kiva with an established social network. Players can use this network to connect and pool money to make a greater impact in developing countries.

BetterLife needs to measure impact to insure accountability.

BetterLife should incorporate some of the ways JA measures its results. BetterLife should use:

- Number of students reached
- Profiles of the students reached
- Dollars donated to partners and percentage attributable to *Absolute Advantage*
- How often students play
- Dollars lent through Kiva
- Student/teacher surveys

Additionally, BetterLife should implement optional in-game assessments. For example, every three months, a player can be asked to run a company for one hour, while his/her progress is tracked. This feature allows BetterLife and its partners to measure improvement using a common standard.

GAME

Pixelvision incorporated success factors in existing MMOs.

Massively Multiplayer Online Role Playing Games (MMORPGs) is the most common subgenre of MMO. In MMORPGs, players act out characters that progress through the game by gaining experience.

Two genres with more recent success are Massively Multiplayer Online Social Games (MMOSG) and Massively Multiplayer Online Tycoon Games (MMOTG). MMOSGs are non-combat MMOs heavily focused on socialization. MMOTGs are business simulations and have been adopted by many universities and corporations. *Absolute Advantage* is a browser-based MMOSG-MMOTG hybrid.

Trends in MMOs

2008 saw an increase in MMO games entering the market despite the economic downturn. There was also a rise in browser-based games due to higher accessibility, cheaper development costs, and opportunities for mobile versions. Another current trend is more user-generated content. Developers are embedding a number of tools that enable players to design objects in the game. Yet another trend is that gamers are building bridges between their MMO games and established social networks.

The current MMO market is dominated by *World of Warcraft (WoW)*. However, this game does not significantly impact the MMOSG and MMOTG segments of the market because of a marked difference in audiences. The most successful MMOTG is *CapSim*. *CapSim* potentially competes with *Absolute Advantage* but lacks the MMOSG factor that is unique to *Absolute Advantage*. Moreover, *CapSim* is a text-based simulation whereas *Absolute Advantage* has a graphical user interface. It has 451,600 users and primarily targets campuses and corporations. MMOSGs on the market can also compete with *Absolute Advantage*. The most successful MMOSG is *Second Life* which is similar to *Absolute Advantage* but lacks the educational and philanthropic aspect.

These benchmarks are mapped against *Absolute Advantage* in Exhibit 2.

Features	Absolute Advantage	World of Warcraft	Second Life	CapSim	RuneScape
Easy to learn, difficult to master	X	X			X
Currency exchange	X		X		
Measured goals	X	X		X	X
Social interactions encouraged	X	X	X		X
Solo play viable	X	X	X	X	X
Replayable	X	X			X
Educational	X			X	
User generated content	X	X	X		
Free trial	X	X	X	X	X
Philanthropic	X				
Revenue Model	Absolute Advantage	World of Warcraft	Second Life	CapSim	RuneScape
Subscriptions	X	X	X		X
Virtual goods	X		X		
Institutions	Yr 3			X	
In-game advertisement	X	X	X		X
Market research reports *	X		X		X
Lifetime fee		X		X	

*Market research reports are reports on player behavior sold to companies interested in targeting them.

Exhibit 2

Also, like *CapSim*, BetterLife should target institutions like high schools. However, to make sure resources are not stretched too thin, BetterLife should not target high schools until after two years. For details on this second phase, please see Appendix I: Middle and High Schools.

Pixelvision then looked at *Absolute Advantage's* points of differentiation.

Absolute Advantage is competitive because of several points of differentiation:

1. **Education and philanthropic value.** *Absolute Advantage* appeals to players who want to learn or make an impact. This aspect makes the game more socially encouraged, appealing to casual gamers and people who traditionally do not play games.
2. **Browser-based.** This characteristic lets more people play because the game is compatible with all operating systems. Additionally, changes are easy to implement, allowing the *Absolute Advantage* world to adjust quickly like a real economy.
3. **Social networks.** *Absolute Advantage* contains a buddy list that imports contacts from outside sources like Gmail. It also links easily to Facebook and LinkedIn, facilitating the transfer of in-game contacts to the real world. This allows people to use the game to network. Also, *Absolute Advantage* allows players to share game stats on Facebook.
4. **Mobile Devices.** To make *Absolute Advantage* more engaging, BetterLife should allow players to receive updates in their emails and through text. Since the game world is continuous, there will be changes in the world when a player is not logged in. Continuous updates to emails or phones allow players to keep up to date on the game world and encourage greater engagement.

So how do you play?

Absolute Advantage emulates a real economy. Players can create and join businesses, and even invest in the stock market. Players use their income to live virtual lives, where they socialize and create in-game content, such as a house. To play, players go through several steps, as shown in Exhibit 3.

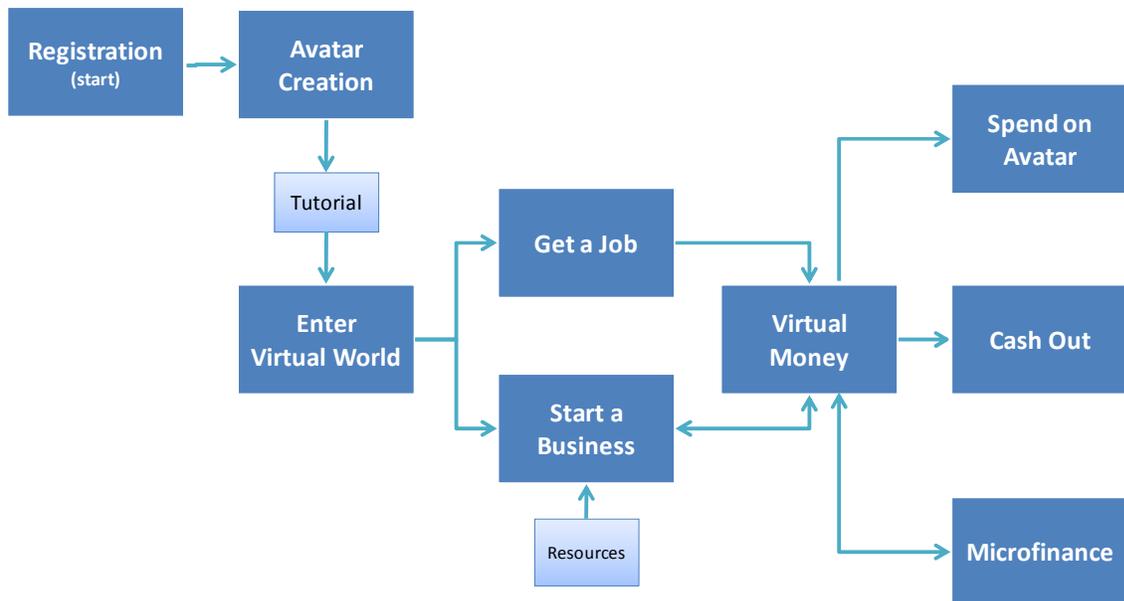


Exhibit 3

Registration

Registration involves creating a unique profile and avatar which represents the player in the virtual world. After, while players can choose to immediately become a subscriber, *Absolute Advantage* provides the opportunity to try the game free for two weeks. If players select the trial, they enter the virtual world with less starting capital than subscribers and regain the difference in capital, plus interest, when they convert.

Entering the Virtual World

Upon entering the virtual world, players can go through a short tutorial. This tutorial covers various aspects of the game including starting different industries, using the stock exchange, working for others, and owning items. Players begin the game with \$500,000 Pixel Dollars.

Virtual World

The freedom and flexibility of the virtual world is core to the game play of *Absolute Advantage*. Players can purchase real estate and virtual goods such as cars. *Absolute Advantage* also has an item creation system, enabling players to design houses, clothing, vehicles, and more. User-generated content provides limitless options and allows individuals to craft unique virtual lives.

While avatars have a lot of freedom in the virtual world, they have three needs: hunger, rest, and social interaction. Hunger creates a natural demand, jumpstarting the economy. Rest simulates the real world need for sleep and encourages time management and cooperation with others. Social interaction is necessary to do well in the game. It allows players to network and purchase content created by others.

Business in *Absolute Advantage*

To make money in the virtual world, players must participate in the economy. *Absolute Advantage* begins with seven industries: automotive, capital goods, consumer goods, energy, foods, industrial supplies and materials, and other goods. Players choose to start a business in one of these existing industries or to work in an existing business.

Running a business involves a variety of decisions. First, players must buy or rent premises. Players must also make business decisions like purchasing, production, and resource allocation to tasks like marketing, research and development, and more. Players make these decisions based on information from various sources such as automatically generated quarterly reports, news issued by other companies, and information gleaned from other players.

Business owners also have the option of employing other players. *Absolute Advantage* automatically generates virtual resumes detailing players' past performance in the game. These resumes allow business owners to hire the most qualified individuals and further encourage players to perform well. Business owners can also "interview" individuals in in-game chat rooms. Owners decide which parts of the business employees will run. As businesses grow, owners face an increasing need to hire employees.

Economic Balance

Balance is essential to creating a virtual economy. *Absolute Advantage* establishes a system which allows the exchange of in-game money for real money and vice versa. This link to real currency necessitates the prevention of market exploits, monopolies, and economic imbalances. BetterLife controls these issues by acting as the in-game government.

To drive the creation of businesses and fulfill basic needs before the economy fully develops, there will be government-owned businesses that provide goods at a much higher price. This is an incentive for more efficient players to join that industry. In addition, the virtual world has a finite amount of resources like land, wood, and oil. Players might also encounter random events like natural disasters. The random events and individual players' actions will naturally generate business cycles.

BetterLife will encourage players to submit ideas for new industries as the number of players grows. This feature encourages players to find new opportunities. As a reward for innovation, the player who submits the idea for a new industry gets a certain amount of time before others can enter the industry.

As with real life, bankruptcy is also possible in *Absolute Advantage*. Bankrupt players can work for others, accumulate virtual unemployment benefits, or restart with virtual capital by paying a fee.

The unique qualities of Absolute Advantage appeal beyond the typical gamer market, and BetterLife can tap into this new segment.

Game players play for four main reasons: to explore, achieve, socialize, or kill. *Absolute Advantage* has something that appeals to each type of player except for killers. Explorers can travel the virtual realm and discover various objects ranging from 5 Pixel Dollars to a gold mine. Achievers can measure their success in Pixel Dollars, build successful businesses, and funnel money to successful virtual lives, real lives, or philanthropic causes. Socializers can interact with others to collaborate, negotiate, and network.

In addition to the traditional gamer market, *Absolute Advantage* appeals to socially conscious gamers and potential entrepreneurs who want to test their ideas with minimal risk. 72% of the US population, or 216 million people, dream of starting their own business. However, only 600,000 new businesses are started each year and 76% of these fail due to a lack of training. *Absolute Advantage* also targets socially conscious individuals by providing incentives for players that engage in microfinance or donate to BetterLife's nonprofit partners. In addition to potentially earning money from microfinancing, players supporting social causes gain "efficiency points" which allow their companies to function more effectively. These groups have not been significantly courted by existing games.

Absolute Advantage targets players with the following qualities: 1) 15-35 years old, 2) casual gamers, 3) with household income greater than \$35,000, 4) is in or has graduated high school, and 5) considers him- or herself socially conscious. BetterLife should employ the following methods to reach them:

- **Facebook Applications.** There are two applications.
 - a. *Lemonade Stand.* BetterLife should create an application in which players run a lemonade stand. Players use the money to purchase decorations for their stands which they can display on their profile pages. Players also receive money for every friend they get to play. At the end each play, BetterLife should advertise *Absolute Advantage* as a bigger and better version.
 - b. *Absolute Advantage Tracker.* BetterLife should create an application linking *Absolute Advantage* to Facebook so players can share their in-game performance with friends.
- **LinkedIn Advertisements.** BetterLife should advertise on LinkedIn to target young professionals.
- **Competitions.** BetterLife should hold competitions with cash prizes and publicize them on social networks. Exposure to the game potentially leads people to become subscribers.
- **Advertising in Relevant Publications.** BetterLife should advertise in publications like *BusinessWeek*, *Newsweek*, and *Entrepreneur*.
- **Game Reviews.** BetterLife should invite bloggers and journalists to review *Absolute Advantage*. This process will spread information to a larger audience and alert BetterLife to flaws in the game.
- **Discounts to Strategic Organizations.** BetterLife should offer special discounts to affiliates of JA or Kiva. BetterLife can also consider offering discounts to employees of large donors to Kiva or JA. In addition, BetterLife should consider offering discounts to alumni of particular MBA programs.
- **Referral Program.** BetterLife should reward players who refer friends to the game. This is very compatible with the discounts: the discounts attract JA and Kiva affiliates and the referral program spurs them to spread the word. This is impactful because JA alone has 384,000 volunteers.
- **Presence at National Nonprofit Events.** To gain the ability to set up booths or pavilions at national nonprofit events like marathons, BetterLife should reach out to other nonprofits and seek to sponsor portions of events aligned with *Absolute Advantage's* vision. This strategy allows BetterLife to reach other socially conscious people.

FINANCIALS AND OTHER

Technology

Absolute Advantage is browser-based because it is easier to execute updates, which is necessary for an always changing virtual world. Being browser-based also allows *Absolute Advantage* to reach a larger audience. Further, browser-based games require less computational power and can run on any operating system. *Absolute Advantage* can scale itself to each computer's processing power, permitting less powerful computers to play. With respect to hardware needs, BetterLife should run its own servers to ensure continuous support of its players.

Risk Analysis

The main risks are a lack of game appeal, a lack of interest from JA and Kiva to partner with BetterLife, online privacy and security issues, and the recession.

Because the number of players heavily affects BetterLife's success, BetterLife's greatest risk is if *Absolute Advantage* is unable to capture the market. This would occur if the game is not entertaining because it is too complicated. To prevent this risk, *Absolute Advantage* is built with ease of use in mind. Additionally, Pixelvision carefully looked at existing success factors and points of differentiation to make *Absolute Advantage* both fun and impactful. However, should any feedback be decidedly negative about certain features, *Absolute Advantage* can be easily adjusted as it is browser-based.

Pixelvision believes JA and Kiva will agree to partner. However, if JA and Kiva are unwilling, BetterLife can target less established educational charities (like SIFE) and peer-to-peer microfinance sites (like DonorsChoose) that need *Absolute Advantage* to pull ahead of competitors. However, because of the significant benefits BetterLife brings to the partnerships, it is unlikely that JA or Kiva will refuse.

Thirdly, the recession is a large concern for most companies. However, video games are expected to weather the recession. Sales grew 15% in 2008, defying trends in most other industries, and are expected to grow just short of 15% in 2009, according to research firm DFC Intelligence. This is because video games are a cheap form of entertainment and are used to escape the grim economic reality.

Finally, an issue that affects all online activities is security. BetterLife will use strong security measures, like those used by online banks. BetterLife should also implement moderators and a system that flags certain actions and words to prevent abuse.

Long Term Prospects

Absolute Advantage was created with scalability in mind. Land, resources, and industries in the virtual world can be added to accommodate more players. Expansion outside of the game world is also possible. BetterLife can expand *Absolute Advantage*'s user base to players beyond the current market. For example, BetterLife can develop a children's version that can be used by younger players. BetterLife can also expand its institutional presence to places such as universities and corporations.

Implementation

The key aspect to note in Exhibit 4 is Pixelvision does not suggest for BetterLife to target middle and high schools until Year 3. This scheme allows BetterLife to better manage resources.

	Year 1				Year 2	Year 3 and On
	Q1	Q2	Q3	Q4		
Vision						
JA Partnership	Negotiating	Ongoing				
Kiva Partnership	Negotiating	Ongoing				
Users						
<i>Marketing</i>						
Facebook Application Development	Building					
Competition	Hosting		Hosting		Hosting biannually	
Advertising in Publications	Designing	Ongoing				
Generating Game Reviews	Generating	Ongoing				
Targeting middle and high schools						

Exhibit 4

Financial Impact

Exhibit 5.1 & 5.2 – Users and Income Statement. Exhibits 5.1 and 5.2 show the five-year user and financials for *Absolute Advantage’s* standalone operation. The original user base and subsequent growth rate was derived from user populations of comparable games such as *World of Warcraft*, *Second Life*, *CapSim*, and *Stocktrak*. Similarly, all revenues and expenses were derived from public data of comparable games. These estimates lead to an initial user of base of approximately 62,000 and a first year net income of \$810,000. Due to low startup costs (game is assumed to be fully created), *Absolute Advantage* will breakeven in approximately one month.

Exhibit 5.3 & 5.4 – Game NPV Analysis. Exhibit 5.3 shows free cash flows. These calculations involve the following assumptions: 1) server capital expenditures depreciate over 12 months, 2) net working capital remains constant at 39% of net income, 3) a discount rate of 25%, and 4) a perpetual growth rate of 3%. The first assumption is from official opinions. The second assumption was calculated using financials from Activision Blizzard, Take-Two Entertainment, and Electronic Arts. The discount rate was calculated from Activision Blizzard’s cost of capital plus a risk premium. The perpetual growth rate was assumed from the historical US annual GDP growth of about 3%. These assumptions lead to a \$110 million net present value of game profits.

Exhibit 5.4 shows a Monte Carlo simulation of the net present value. The exhibit reveals a 92.4% chance of success, with the bulk of the distribution between \$0-\$60 million.

Exhibit 5.5 & 5.6 – Charities’ NPV Benefit Analysis. Exhibit 5.5 calculates the value of the benefits to the charities. The benefits consisted of donated subscriptions, donated cash from users, and donated profits. The calculations include the following assumptions: 1) a discount rate of 25% and 2) a perpetual growth rate of 3%. The discount rate was taken from the Game NPV analysis. Since money is derived from the game, the risk associated with the flow is similar, and thus so is the discount rate. The perpetual growth rate was assumed from the historical US annual GDP growth of about 3%. These assumptions lead to a \$480 million net present value of benefits to charities.

Exhibit 5.6 shows a Monte Carlo simulation of net present value. Due to the partnership structures, JA and Kiva only face upside potential. There is a 57% chance of \$0-\$500 million, 39% chance of \$500 million-\$1 billion, and a 4% chance of greater than \$1 billion worth of benefits to charities.

Social Impact

The social impact of *Absolute Advantage* is significant. *Absolute Advantage*, by teaching and encouraging entrepreneurship across the globe, will cause the level of entrepreneurialism to increase. This increased entrepreneurship will create more jobs, something very necessary in this down economy and highly important for developing countries. Because of the presence of paying jobs, people previously uninterested in education due to of a lack of opportunities will begin to pursue education. As the workforce of a country gradually educates itself, the country will naturally attract foreign investments. Implementing *Absolute Advantage* is one step towards a future of development and higher standards of living across the globe.

Exhibit 5.1 – Users and Income Statement (Years One and Two)

Year Quarters	1				1 Total	2			
	Q1	Q2	Q3	Q4		Q1	Q2	Q3	Q4
Total Subscribers	71,257	87,768	108,104	133,151	133,151	179,441	241,822	325,891	439,185
Growth		23%	23%	23%		35%	35%	35%	35%
Percent of Market	0%	1%	1%	1%		1%	1%	2%	2%
Free Users	35,629	43,884	54,052	66,576	66,576	89,720	120,911	162,945	219,592
Trial Users	2,138	2,633	3,243	3,995	3,995	5,383	7,255	9,777	13,176
Total Users	109,023	134,284	165,398	203,722	203,722	274,544	369,988	498,613	671,953
Revenues	2,394,403	2,917,912	3,562,718	4,356,927	13,231,959	5,800,893	7,723,679	10,314,912	13,806,974
Subscriptions	1,995,469	2,457,824	3,027,306	3,728,739	11,209,338	4,884,798	6,582,972	8,871,508	11,955,642
Virtual Goods/Marketplace	176,576	217,489	267,882	329,950	991,897	432,248	582,517	785,026	1,057,937
High School Subscriptions	0	0	0	0	0	0	0	0	0
Institutions	222,358	242,599	267,530	298,237	1,030,724	483,847	558,190	658,378	793,395
Expenses	1,920,129	2,176,091	2,861,007	4,258,988	11,216,214	4,326,373	5,282,522	6,932,933	9,677,476
Server Operation	229,209	282,318	347,731	428,301	1,287,559	561,092	756,152	1,019,025	1,373,283
Game/Idea Development	540,000	540,000	900,000	900,000	2,880,000	1,260,000	1,260,000	1,620,000	1,620,000
Technical Support	245,000	294,000	364,000	448,000	1,351,000	588,000	784,000	1,050,000	1,414,000
Partnership Support	48,000	48,000	48,000	48,000	192,000	48,000	48,000	48,000	48,000
Direct Sales	24,000	24,000	24,000	24,000	96,000	48,000	48,000	48,000	48,000
Marketing Efforts	243,773	266,891	295,365	1,330,437	2,136,467	388,240	473,149	587,575	1,741,782
General SGA	459,412	559,857	683,575	835,959	2,538,803	1,113,012	1,481,935	1,979,112	2,649,130
EBITDA	474,274	741,820	701,711	97,939	2,015,745	1,474,520	2,441,157	3,381,979	4,129,498
Depreciation	125,000	120,333	69,667	85,333	400,333	125,667	201,000	270,000	364,333
EBIT	349,274	621,487	632,044	12,606	1,615,411	1,348,853	2,240,157	3,111,979	3,765,165
Taxes	104,782	186,446	189,613	3,782	484,623	404,656	672,047	933,594	1,129,549
Net Income	244,492	435,041	442,431	8,824	1,130,788	944,197	1,568,110	2,178,385	2,635,615

Exhibit 5.2 – Users and Income Statement (Years Three, Four, and Five)

Year Quarters	3	4	5
Total Subscribers	672,117	1,168,803	1,912,733
Growth	53%	74%	64%
Percent of Market	4%	6%	9%
Free Users	336,059	584,402	956,367
Trial Users	20,164	35,064	57,382
Total Users	1,028,340	1,788,269	2,926,482
Revenues	89,723,257	155,139,774	252,818,755
Subscriptions	80,573,436	140,116,111	229,298,479
Virtual Goods/Marketplace	7,129,822	12,398,663	20,290,276
High School Subscriptions	200,000	400,000	600,000
Institutions	1,820,000	2,225,000	2,630,000
Expenses	51,272,651	84,962,518	130,332,955
Server Operation	9,255,057	16,094,418	26,338,339
Game/Idea Development	11,520,000	17,280,000	21,600,000
Technical Support	791,000	1,372,000	2,247,000
Partnership Support	384,000	576,000	720,000
Direct Sales	528,000	840,000	1,152,000
Marketing Efforts	6,300,672	9,853,806	14,744,924
General SGA	17,215,112	29,766,515	48,508,084
EBITDA	38,450,606	70,177,257	122,485,800
Depreciation	262,667	548,333	1,145,000
EBIT	38,187,940	69,628,923	121,340,800
Taxes	11,456,382	20,888,677	36,402,240
Net Income	26,731,558	48,740,246	84,938,560

Exhibit 5.3 & 5.4 – Game NPV Analysis

Year	1	2	3	4	5	
Annual Net Inco	1,130,788	7,326,308	26,731,558	48,740,246	84,938,560	
Growth		548%	265%	82%	74%	
CapEx	980,000	2,240,000	1,700,000	3,640,000	5,440,000	
Depreciation	400,333	961,000	262,667	548,333	1,145,000	
NWC	39%	442,182	2,864,871	10,453,078	19,059,331	33,214,278
FCF	108,939	3,182,437	14,841,146	26,589,249	47,429,282	
TV	Discount		25%		222,055,275	
	Perpetual Growth		3%			
FCF + TV	108,939	3,182,437	14,841,146	26,589,249	269,484,557	
DFCF	87,151	2,036,760	7,598,667	10,890,956	88,304,700	
NPV	108,918,234					

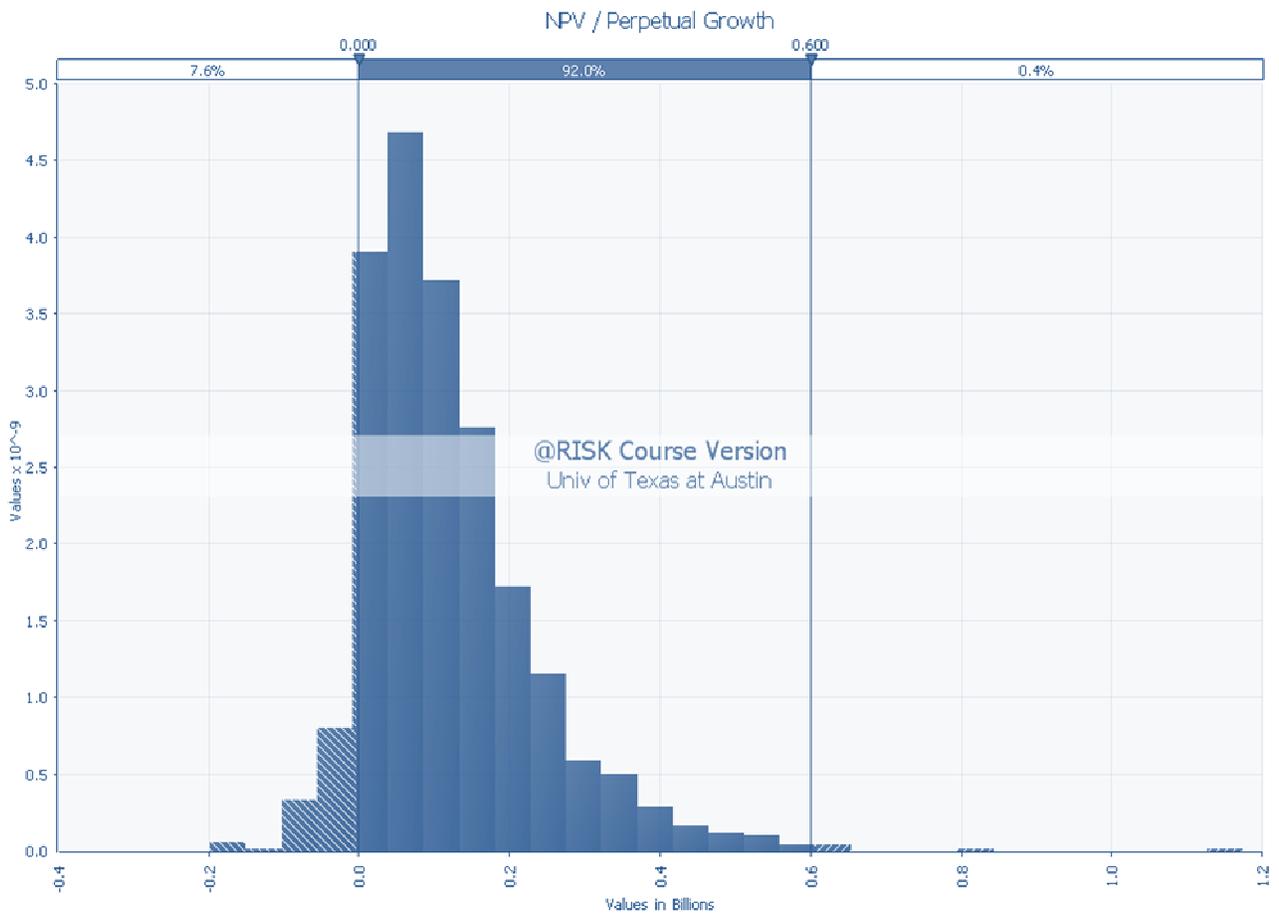
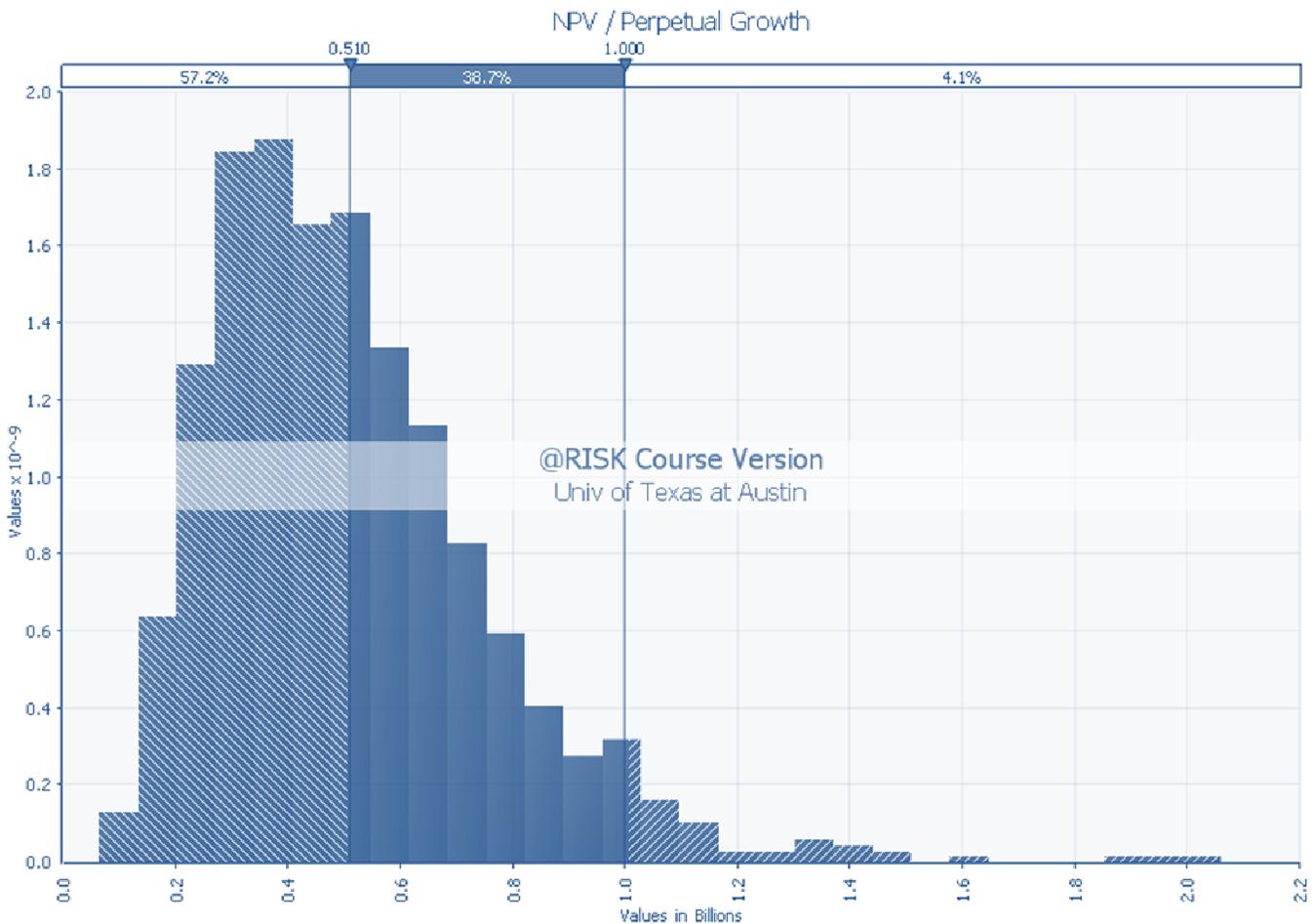


Exhibit 5.5 & 5.6 – Charity Benefit NPV Analysis

Years	1	2	3	4	5
Subscription Donated	5,604,669	16,147,460	40,286,718	70,058,056	114,649,240
User Cash Donated	220,316	634,745	1,583,643	2,753,934	4,506,782
Profits donated	1,130,788	7,326,308	26,731,558	48,740,246	84,938,560
Annual Benefit	6,955,773	24,108,513	68,601,919	121,552,236	204,094,582
	Discount		25% TV		955,533,726
	Perpetual Growth		3%		
Benefit + TV	6,955,773	24,108,513	68,601,919	121,552,236	1,159,628,308
Discounted	5,564,618	15,429,449	35,124,182	49,787,796	379,987,004
NPV	485,893,049				



APPENDIX I: HIGH AND MIDDLE SCHOOL PLAN

Pixelvision suggests BetterLife expand to high and middle schools after two years. *Absolute Advantage* is compelling to high schools as it complements high school economics classes, and high schools are increasingly valuing early starts to entrepreneurship. Further, the concept of “edugaming” is being accepted and adopted by school boards. Edugaming has already been used in education institutions. One education game, Oregon Trail, was very popular in the 1990s and teaches history, map reading, geography, and a variety of other skills.

BetterLife should employ the following tactics to reach high schools:

- **Advertising in Relevant Publications.** Relevant publications for administrators are education journals. BetterLife should advertise here to gain the attention of school decision makers.
- **Workbooks.** BetterLife should create suggested activities or workbooks for the game, tailored to high school students. Administrators will be more inclined to purchase the game if they see the educational value and understand how to teach the game.
- **Direct Sales Force.** Probably the biggest impact on high school sales will be the direct sales force. This group is expected to go to major academic seminars and conferences and build relationships with high school administrators and school board members.
- **Referral Program.** The referral program also applies here. JA reaches some 3,000 high schools whose administrators can tell other administrators about the game.

To make the game friendlier for a young audience, the high and middle school world needs to be separated and carefully moderated. BetterLife should screen for certain words and employ in-game moderators.