



Faculty of Management
Faculté de gestion

SPACE AND DECADE

Electronic Board Game Business Plan
Final Group Project Report

BUSA 665 – Managing the Small Enterprise
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1. Executive Summary

Space and Decade plans to develop, build and sell electronic board games in five of the biggest cities in the USA. A subscription service will be provided and its renewal each year will give us a continuous source of income. Our objective is to develop our company into the leading supplier of electronic board games. Our company was established in September 2016 with its head office in Illinois, USA. The owners of the company are the seven founding members with equal shares.

The manufacturing of the electronic board will be done by an OEM in China. These electronic boards are then shipped to Illinois where the software will be incorporated in these boards at our facility. These finished goods will then be shipped to our retailers where they will be directly sold to our customers through our website or through other retailers.

We are targeting people who enjoy social evenings where board game playing is one of the ways of spending quality time with friends and family. We are targeting 1 million customers in our project lifespan of 25 years. The bulk of our customers is going to be children under 15 and adults over 55 years of age respectively. Our market sizing suggest that we are dealing with a \$895 million market potential in the US over the next 25 years.

Our product will be offered at a much lower cost as compared to our competition. Our digital tabletop product is a touch sensitive screen built in a way that allows the display unit to have variants of two or four display units, thus making the game board bigger and therefore easier in accommodating more people. We will also use online tools to engage customers in a better way, allowing them to reserve and pay online on our website.

Our product is simple and easy to use. The success of our offering will depend on the quality of games we bring, the target market and the price of our product as compared to our competitors. Space and Decade expects to earn a profit by the fifth year of operation based on projected sales.

The project lifetime is 25 years. We are seeking an investment of \$26 million for a 35% equity in the company, which will have 3.5 times return to \$93 million in 6 years' time. We plan to sell a hardware device - the electronic board game and a mandatory subscription service through which customers can access and play games.

We estimate the total potential addressable market in the US is represented by close to 5 million people spending on average \$20 for a total yearly market size of \$100 million. We derive our serviceable market size of little over 1 million consumers from this number, by restricting ourselves to 20% of people who would have the interest to purchase a product of the type we offer (and have internet connection and a smartphone at the same time).

Our product offering is made from recycled materials. Overall, we have achieved a reduction of about 75% of the carbon footprint as compared to our competitors.

2. The Company

2.1 Vision

Our company's vision is to create the next generation of board games. This market is currently unaddressed and has an enormous potential for a subscription based business model. Our goal is to promote family values by bringing a fun atmosphere at home among kids and the elderly alike.

2.2 Mission

Our primary objective is to become the worldwide leading supplier of electronic board games by collaborating with other game companies and providing a vibrant gaming platform to families. Through our world-class gaming platform, we aim to attract and benefit both established and independent board game publishers by allowing them to distribute their games and accessories to our customers and thus getting another source of ongoing revenues.

2.3 Success factors

- Provide high quality products and services for the best user experience in playing electronic board games
- Differentiation through the introduction of a new and innovative technology solution in both hardware and software to bring the next generation of board game play.
- Prudent and careful management of R&D, operating and marketing budgets.
- Prioritization of retailer network and partnerships.
- Controlled growth to manage start-up costs efficiently.

2.4 Business Objectives

- Space and Decade plan to capture the US market space for electronic board games and serve approximately 1 million customers.
- Electronic board product to generate revenues of \$125 million until 2042.
- Revenues from customers paying for a subscription to generate \$775 million until 2042.
- Space and Decade to turn profitable after six years of operations.

2.5 The Team

The company comprises of six departments: R&D department, Quality Control, Finance department, Marketing & Sales department, Operations department, HR department and Service

department. The head office will be in Illinois, USA. The team consists of seven people with different skills and experiences.

Stefan Fernandes as the CEO, will define the company's strategies and policies and provide guidance and consistency across different departments and functions in the organization.

Mansher Bhinder as the CFO, will be responsible for all the financial planning, budgeting and forecasts, as well as the tracking, control and financial and environmental health of all stages of the product development.

Tejashwini Sheelawant as the VP of Operations, will be responsible for all the business operations that take place within the company.

Wasif Kamal as the VP of R&D, oversees the product development. He is responsible for setting our product specifications and milestones.

Xuting Sun as the VP of Marketing, is responsible for the sales and marketing strategies. She will also oversee communications with all stakeholders and public relations of the company.

Tanushree Talekar as the VP of Services, is responsible for making sure the clients receive the right product and take care of customer feedback for future development.

Ludan Ye as the VP of Strategy, will be responsible in defining the company's strategies and policies.

2.6 Company Ownership and Board of Directors

The company ownership is split between the founding team. Investors willing to participate in the development of the business will be allocated 35% equity stake of the company for \$26 million. We expect to pay the investors \$93 million after the sixth year when the company nets a profit.

2.7 Business canvas

The Electronic board game device is being outsourced from China. Once the board is received in Illinois, we will incorporate the software onto the board. We will partner with board game developers and the games can be installed in the board through a common app which is available on any smartphone.

Once the board passes through the final quality check, we will sell the board through our own online website and other online retailers such as Amazon and Target. Our board game will also be available in brick and mortar stores such as Walmart, J&L gaming etc.

Users can renew their games every year for a subscription fee of \$50. This will ensure us continuous income through the subscriptions once the board has been sold.

2.8 Partnerships

Since the visibility and availability of our product are crucial to its success, we choose to engage in a few but strong relationships with board game publishers as well as retail partners.

2.8.1 Game Publishers

We plan to develop and build effective partnerships with the largest board game publishers, such as: Hasbro, Atlas Games and Mattel who collectively own the most popular board games of today.

We believe that game publishers will see our gaming platform and the proposed gaming experience as another potential source of revenues in their existing game portfolio and will be incentivized by the promise of ongoing royalty revenues as reasons to participate. In their traditional model, once a game is purchased, the customer provides no additional revenues. In our business model, the game publisher will be entitled for an ongoing revenue stream well into the future.

2.8.2 Independent Game Developers

Apart from large, established game publishers listed earlier, Space and Decade plans to work closely with smaller and even individual game developers to source for the latest content. We believe small game developers would be incentivized to partner with Space and Decade as we will offer a distribution channel for their games. Knowing that publishing games through large game publishers is a lengthy and tedious process, we believe that our simplified process would additionally serve as an incentive for game developers looking to distribute their games.

2.9 Legal

Our device is patented in the USPTO (United States Patent and Trademark Office) and our software is copyrighted in the US Copyright Office. The games will not be copyrighted as they belong to other companies.

3. Market Analysis

3.1 Current Situation, The Problem Faced and Our Solution

3.1.1 Current Situation

Board games are having a renaissance right now. People increasingly tend to play board games on apps with friends and families. One advantage of playing board games on the internet is that the amount of book-keeping that some games need can be eliminated, which allows the users to have more fun. Another advantage is that people can have memories and records of what has happened before and continue to play as per those records. Besides, the role of a host which is needed in some board games can be substituted by board game apps, which enables everyone get more involved in the games.

3.1.2 The Problem Faced

With the fast rhythm of modern lives, people have less time spending with families like old times. In recent years, people have willingness to have more family reunions. The problem is that in many of these reunions, not having enough communication usually happens among people of different age groups.

3.1.3 Our Solution

Space and Decade can improve this situation by enabling children, young adults and elders get involved in board games together at a minimum cost. In this way, different generations can have more communication and interactions, which improves the relationships and understandings among various generations of a family.

3.2 Market Size and Trend

As indicated in the figure below, the growth of the market size of board games in the United States is occurring at the rate of 29.15% right now and at least till 2021. The total market size in the US now in 2017 is \$1.75 billion US dollars and would come up to \$4.87 billion in 2021.

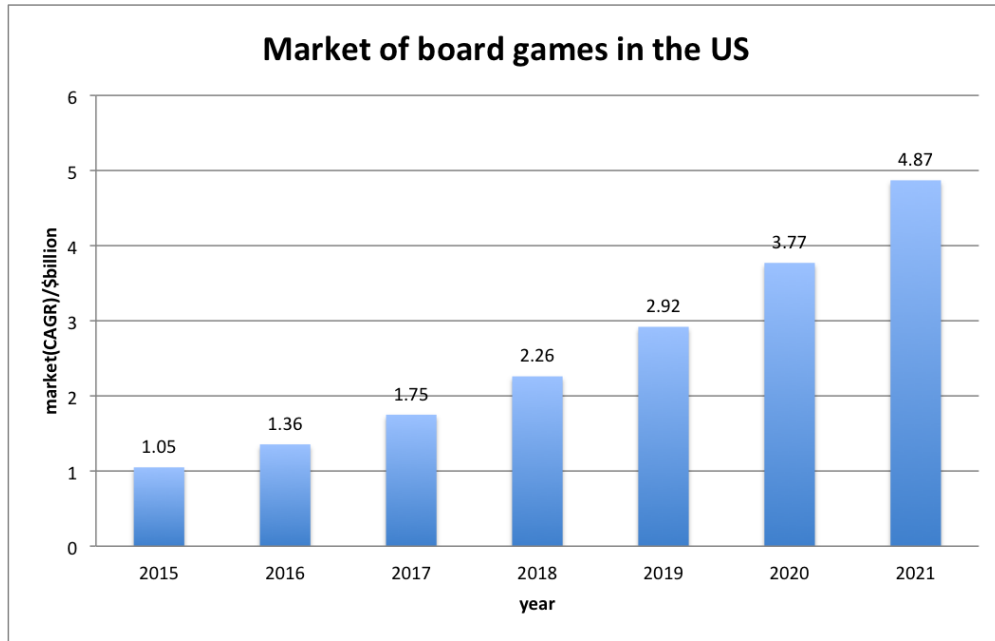


Figure 1. Market of board games in the United States from 2015 to 2021

3.3 Market Segmentation

Figure 2 shows five basic market segments of board games, which are collectible games (e.g. Pokémon), hobby board games (e.g. Pandemic), non-collectible miniature games (e.g. Star Wars X-Wing), hobby card and dice games (e.g. Texas hold'em), and roleplaying games (e.g. Dungeons

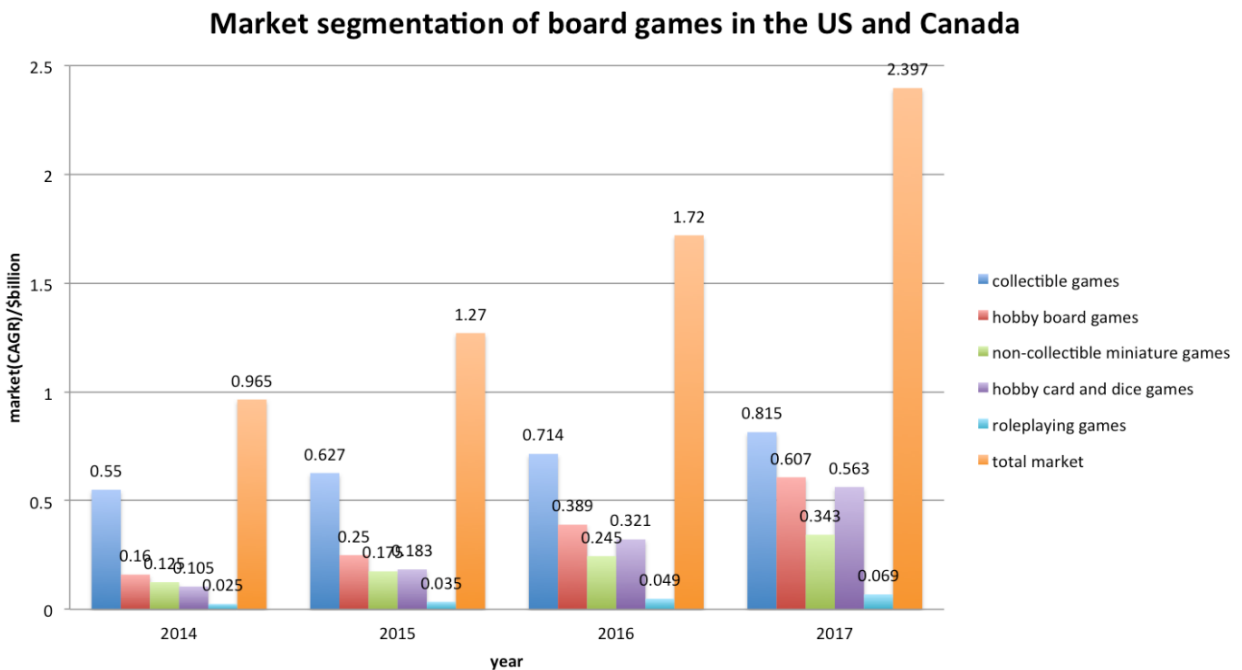


Figure 2. Market segmentation of board games in the US and Canada from 2014 to 2017

and Dragons). Since Space and Decade aims at helping family's reunion and play board games like old times with one distinction, that is using electronic devices, we target two segments, which are hobby card and dice games and roleplaying games. Collectible games are great for card-collecting, which cannot be realized by our devices. Hobby board games are usually complicated and depends highly on complex tactics, which mainly target board game geeks. Those who are fascinated by non-collectible miniature games are mostly fond of the visual and aesthetic features of those miniatures and the involvement of creating and painting them, which could not be provided by electronic devices.

From Figure 2, the total market of board games in the US and Canada in 2017 is \$2.397 billion USD. As mentioned previously, the total market of board games in the US only in 2017 is \$1.75 billion. The market of the US accounts for 73% of the total of North America. Our target market in the US and Canada is \$0.632 billion in 2017, accounting for 26.4% of the total market. Calculated by the 73% of the US market derives our target market in the US in 2017, which is \$0.461 billion.

3.4 Target Market

For a clear revision, the total market in the US and Canada is \$2.397 billion. The accessible market in the US is \$1.75 billion. From this, we focus on the hobby card and dice games and roleplaying games, our target market would be \$0.461 billion. From our target market, we can refer to our target customers.

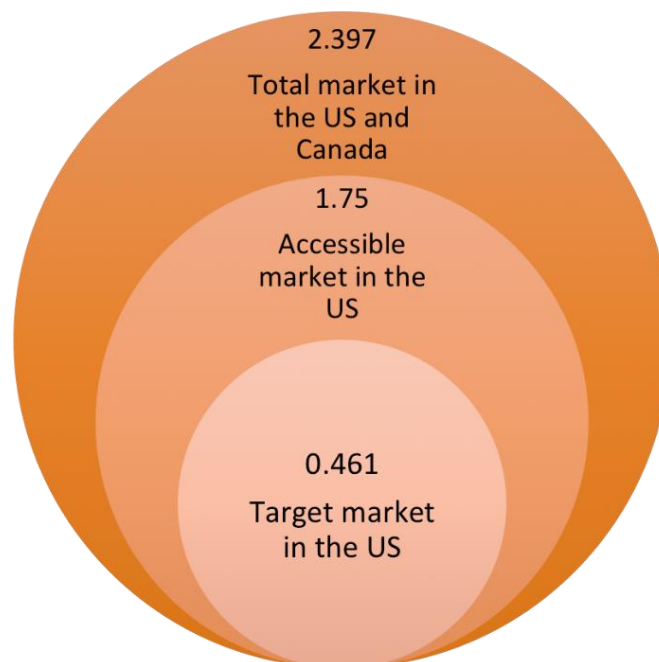


Figure 3. From total market to target market in 2017 (CAGR/\$billion)

3.5 Target Customers

As indicated in Figure 4, our target customers are 1 million people in the US. The Bass model is used to estimate the number of consumers who will be buying our products. For details please refer Annexure II- Bass model for market penetration.

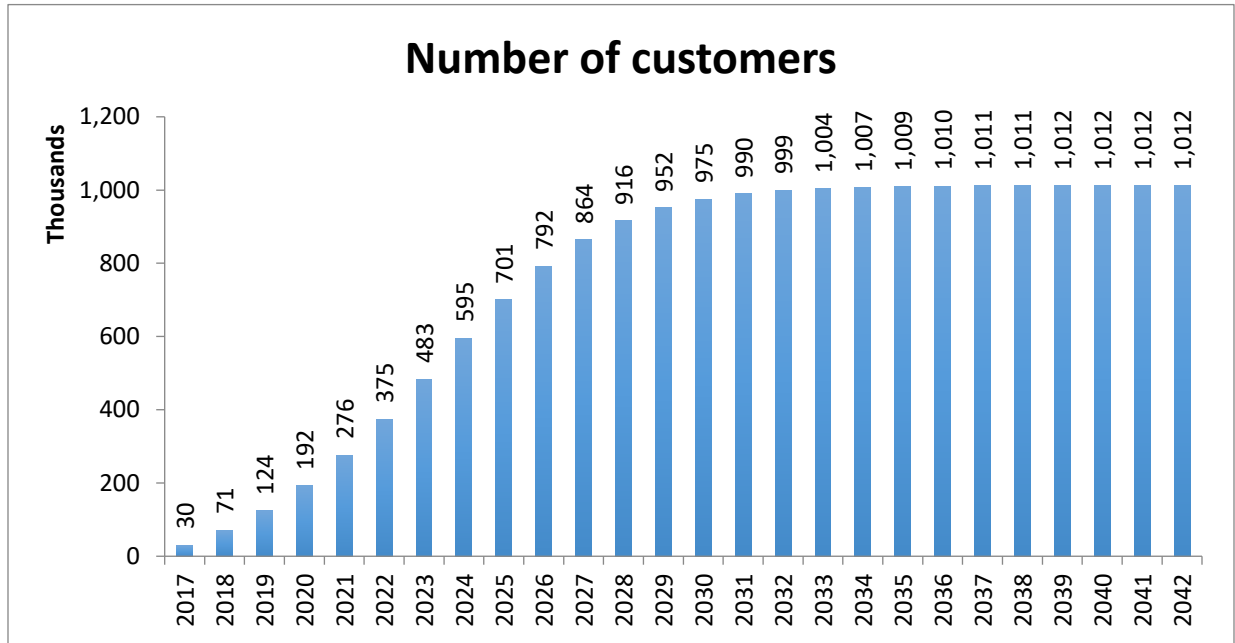


Figure 4. Number of customers cumulative

4. The Product

We discussed the difficulties faced by the board games market. The new product launched by Space and Decade aims to bridge the gap between technology and families. FUNtable is a tabletop gaming console made to enliven the board gaming experience, by adding a hint of technology to family time.

4.1 Value Proposition

Technology nowadays, is advancing at the speed of light. If you don't pick up the tempo, you will be left behind and everyone is aware of this. However, life is meant to be enjoyed with family and friends. We have always listened to people complaining about the pace of technology stealing the notion of togetherness from families. Well, not anymore. This time, technology will bring families closer and brighten up their together-time by spicing up the tabletop board gaming experience with our brand-new product –



4.2 The Product Specifics

The device has two distinct types of units; **a core unit and a display unit**. The core unit is the necessary component containing the controlling unit which carries a logic IC, PFO, the processor, RAM, and memory unit along with the LCD and touch screen module. The other part of the device is a display unit. It only contains LCD and touch screen module. Both the units contain connectivity elements to extend display.

To access the games in the FUNtable users will need to purchase subscriptions. There are a few free games provided with the console. Other than these free games, other games are available with a subscription package. The FUN packages we are offering are as follows.

- Core Unit
- Core Unit+ Display Unit
- Core Unit + 3 Display Units

Core Unit:

Space and Decade's initial product, the *Core unit*, is a lightweight (4.1lbs), table-top design tablet computer device with a touch-sensitive screen specifically for gaming applications. The *Core* unit contains the bulk of the processing power required for all operations and for the interface extension to the auxiliary *Display* units, which have minimal processing capabilities. We have implemented a modified top of the line SoC design processor unit developed by MediaTek: the

Helio X25. An SoC, or system-on-a-chip to give its full name, integrates almost all processing components into a single silicon chip. Along with a CPU, an SoC usually contains a GPU (a graphics processor), memory, USB controller, power management circuits, and wireless radios (Wi-Fi, 3G, 4G LTE, and so on); the result of which is a drastic reduction of hardware costs and overall decrease in E-waste generation. Also, due to its very high level of integration and much shorter wiring, an SoC also uses considerably less power.

The hallmarks of this chip include an innovative Tri-Cluster CPU architecture with ten processing cores by ARM clocked at up to 2.5Ghz maximum frequency, and the Mali 850MHz graphics processing unit, which is designed to deliver a smooth, lag-free gaming experience across the auxiliary display units. The SoC is also equipped with 2x LPDDR3 POP 933MHz Random Access Memory (RAM) of 4GB eMMC 5.1, and the Integrated Wi-Fi 802.11ac w/throughput up to 280Mbps for internet connectivity. For storage, the device is equipped with a 32 gigabyte NAND flash memory which contains the operating system and games. Additionally, while the board is powered by an AC adaptor (included with the package), a 10000 mAh battery is built into the system for backup power on-the-go, with an expected battery life of 3 hours. The device is programmed to run only games developed by Space and Decade's software development team, which prevents implementation of hardware for other purposes other than stated.

One of Space and Decade's strongest selling points is the friendliness of its proprietary resident Graphic User Interface (GUI) software. The software is a plain English, menu-driven format allowing access to game libraries through connected devices, basic internet access to our custom application store (where users can purchase games and renew their subscription), and simple settings to customize the gaming interface. The software also allows users to customize the gaming display area based on the number of *Display* units connected, which is achieved using our proprietary sensor module integrated into the *Core* and *Display* units.

The hardware is configured using the industry standard IEEE 422 Multi-Purpose Interface Bus through our manufacturing partners at Altadox Electronics Design and Manufacturing in Shenzhen, China. The bill of materials for raw materials and components making up the *Core unit* amounts to 5 items, with the single most expensive component being the Mediatek SoC, which will be sourced from the manufacturer directly. Electrical circuitry and other components are expected to remain in abundant supply as per our mass production partners at Altadox. The custom-produced items in the bill of materials are the screen, touch-screen modules and the sensor device, which will be manufactured from recycled materials sourced through the Tronicycle recycling program.

The *Core unit* will be priced at \$100 per unit. The unit price is inclusive of factory, shipping, and includes resident software, the SoC, and one-day installation and training, all of which have been

outlined in the Costing section. Complete documentation and an easy-to-read user's manual are also in the package.

Display Unit:

The *Display Unit* is an auxiliary display unit with the sole purpose of expanding the gaming interface for a more immersive experience. Like the *Core* unit, the *Display* unit is a touch-screen display panel with a 10000 mAh backup power supply which weighs in at 3.1lbs. Unlike the *Core* unit, the *Display* unit lacks the high performance MediaTek SoC which reduces the bill of materials. The processing power of the *Core* unit is expected to support the display extension across any additional display modules. The touch screen and display implemented has the same resolution as the core unit and the components composition is the same except for the processing chip. The sensor unit handles the transmission of the game interface between the *Core* unit and the *Display* unit with minimum losses in performance.

The *Display unit* will only be available as a bundle of two or four units at \$145 and \$175 per unit respectively. The costing is inclusive of profits and the manufacturing costs of the *Core* and *Display* units outlined in the earlier section. As with the *Core* unit, complete documentation and an easy-to-read user's manual are also included, with additionally connectivity jack for connecting to the devices.

Subscriptions

In this gaming console, five free games will be provided. To access more games, customers will need to buy a subscription package of \$50. The games included in the subscription package are as of follows.

Free Games	Subscription		
1. Snakes and ladders	1. Monopoly	9. Guess Who?	17. Challenge
2. Ludo	2. Life	10. Sorry	18. Uno
3. Hearts	3. Picnic	11. Catan	19. Exploding Kittens!
4. Chess	4. Scrabble	12. The jokes on you!	20. Poker
5. Tick-tac-toe	5. Battleship	13. Match Madness	21. Blackjack
	6. Clue	14. Chain Reaction	22. Crazy 8's
	7. Risk	15. Rummy	23. One Card
	8. Ticket to ride	16. Go Fish	24. Slapjack
			25. Split

4.3 Future Product Development

The product has numerous opportunities for improvement. Customer feedback, suggestions and advancing technology will play a crucial role in the development process. Other than enhancing software capabilities focus will also be given game development by making available development platform for a minimal cost. Advancements in technologies will be incorporated in the product and the services as much as possible to always be ahead of the game.

While the specifications outlined for our current products are expected to have a Life-Cycle of approximately 5 years, Space and Decade plans to release new hardware revisions of its product before the end of the life cycle. With the rate of progress and performance improvement noted in computer hardware and decreasing costs, Space and Decade plans to implement an improved SoC that fits the current costing model, with visual changes to the board design. Also, holistic improvement of software will be performed based on customer input, and software updates and patches will be made available through our app store.

5. Business Operations

5.1 Manufacturing

Space and Decade plans to outsource the manufacturing process of the board. Outsourcing of manufacturing process has resulted in reduction of total cost of our product and reduction of risks involved in procurement of raw materials. The electronic board will be made from recycled electronic components such as the display unit, screen panel, main PCB, WLAN PCB, connector PCB, speaker assembly and sensor PCB. These components (having lead time-1 week) would be procured by Altadox Electronics Design & Manufacturing in Shenzhen, China. The electronic board will be manufactured and assembled there and will have a lead time of 1 week.

5.2 Shipping

Once the electronic board has been manufactured in China, it will be shipped from the Shenzhen port to the Illinois port and then transported to our operational centre at Rockford, Illinois. The total cost related to shipment is \$5.45 & the lead time for shipping is 1 week.

5.3 USA Operation Centre

5.3.1 Product operations

Software integration of the electronic board takes place at the operational centre located at Rockford. The stores department will receive the electronic board and enter the product and the shipment details in the system. Then the board will be sent to the quality department for inward inspection for two parameters mainly- touch and hardware of board. If the electronic board is rejected by the quality department, then it would be sent back to China for repairs or replacement by the stores department. If approved, it would be sent to the R&D department to incorporate our software in the electronic board. Further, the board will be sent to the quality department again for software testing and final hardware inspection. After the approval from all departments, the electronic board will be sent to the stores department where it will be packed in recyclable bubble wraps and recyclable carton boxes.

We will have an ERP system at the US Operation Centre, which will help to manage the operations and track the product flow at distinct levels. Finally, our product would be distributed to different retailers (lead time-1week). Thus, the complete process right from raw material procurement to being distributed to retailers would take about 6 weeks.

5.3.2 Warehouse

The US Operation Center has a single warehouse. We are strictly going to follow JUST IN TIME (JIT) delivery of our product. Hence, best & effective practices are being implemented in our warehouse. We won't have any still or standing inventory in our warehouse. The electronic board received from China would be processed at the earliest through all departments and distributed to the retailers. Warehouse or stores department will carry out receiving the electronic board, inventory control, packaging and shipping processes.

FIFO (First In First Out) system with gravity flow system, and fixed location system for the inventory are the practices followed in our warehouse. This system will ensure that the inventory that was received previous day is moved for processing before the inventory that is been received on the present day. Also, this would reduce the chance of obsolete inventory sitting in warehouse bins. Gravity flow system would result in more utilization of labor work, reduce labor costs, effective use of floor space. Also, our warehouse will have less stacks or aisles, as at least 50% more goods can be stocked in the same amount of floor space due to this system.

5.3.3 Departments and Head Count

USA operational centre has administration, management, legal, finance, marketing, sales, service, quality control and product development departments. We have a projection of 35 employees (including 7 of us in management) in total for the first year. The number of employees in each department is conditional to the business in the succeeding years. We also have employment rotational policy in the beginning where employees must work in other departments also. In future, these 35 employees will grow along with the business to management level. Refer A1.3. for the details of employees, headcount and departments.

5.4 Distribution and Retail Channels

We will be selling our product through various retailers mentioned below:

5.4.1 Online Distribution

We have our own website where customers can directly purchase the product by placing an order. But these orders would be directed to the retailers and the retails will fulfil the order and deliver the product to the customer. Similarly, customers can purchase the board game through the websites of various retailers (mentioned above). The customers can also order our product online through Amazon and through exclusive gaming websites like eStarland, SimplyGames.

5.4.2 Game Stores

- Exclusive Gaming Stores- GameStop, Game Over Videogames, Funagain Games, J & L Game (New York), GameChamp, EB Games, etc.
- Superstores, supermarkets, warehouse clubs- Walmart, Target, Costco, Fred Meyer, Kmart, Meijer, etc.
- Electronic Shops – BestBuy, Fry's Electronics

6. Service Support

The customer experience is the next competitive ground. The Service department will mostly focus on customer relationship. The aim will be to impart a sense of excellence to the company by ensuring contentment of customers. In the end, a happy customer is the most effective marketing. Keeping this in focus, a service excellence model will be followed to achieve the optimum customer delight. To assure the quality service, the department responsibilities will be classified between various divisions.

6.1 Warranty

We warrant that all the company manufactured equipment will be free of any defect in materials or workmanship for the period of 1 year. The extended warranty will also be provided at the end of default warranty period for the minimum cost of \$20 per year. The applies to all the company manufactured products purchased, installed, and used for the purpose for which such equipment was originally designed. The above warranties cover only defects arising under normal use and does not include malfunctions or failures resulting from misuse, abuse, neglect, alteration, problems with electrical power, usage not in accordance with product instructions, acts of nature, or improper installation or repairs made by anyone other than the company or a company authorized third-party service provider. The company reserves the right to substitute functionally equivalent new or serviceable used parts. The other information regarding warranty and claim procedure will be provided precisely in the warranty statement documentation.

6.2 Customer Support

The department will mainly handle customer interaction activities e.g. instruction guides, complaints, support forums, etc. An inefficient communication platform can result in denting the

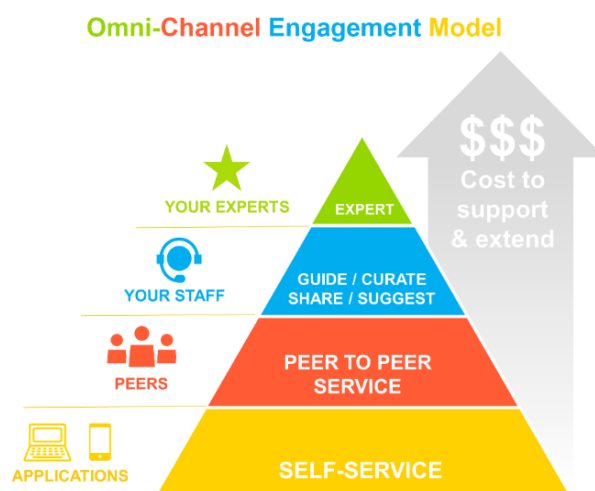


Figure 5. Omni Channel Model for Customer Support

impression of the product. The user manual with small print and various intricate diagrams is “exhibit A” of repelling customers. Instead of depending on such colorless media to explain how to start the fun of board games, we will use more interactive tools like videos, social media support, android/iOS apps etc.

To register complaints or warranty claims and to aid with the product issues, complaints, expectations, and recommendations, an omnichannel engagement model will be implemented. Self-service through the mobile app, website FAQs forms the basis of this model. Construction of perspicuous website and mobile applications is crucial, as it enhances the self-service experience with minimum expenditure on our side. The second level is peer to peer assistance through online support portals and discussion forums on social media. This is advantageous in two ways. In addition to connecting the customers to confer their experiences, it also can be used to assay customer response to various elements of the product via their discussions. The third and the fourth stage involves assistance fo the staff member to help out customers with their problems.

6.3 Complaints Handling

To handle complaints regarding the product and/or services a separate division is established. This division will strive for two objectives, swift response, and immediate mitigation. The customer accessible platform is already established in customer support division for recording complaints and criticism. To effectively handle complaints a 12-step clock model will be employed.

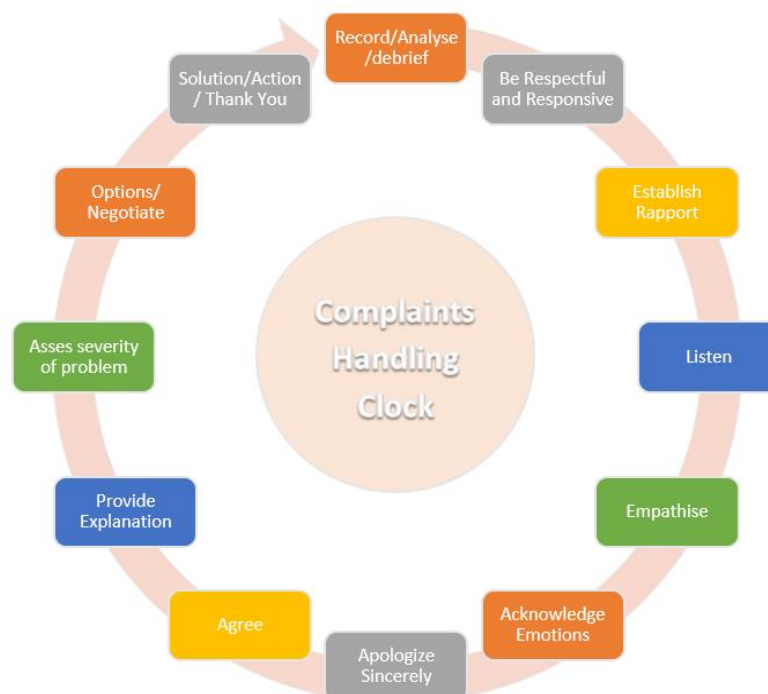


Figure 6. Complaint handling model

6.4 Customer Reviews

Getting feedback from customers about the product and the services is crucial. The advantages are threefold. Firstly, analysis of the review data can be useful for predicting the expected number of future subscriptions and the product demand. Secondly, these reviews aid self-analysis. They also assist in comprehending flaws and faults in the product and/or services, upgrades expected from the users and suggestion provided by them.

SAMPLE FEEDBACK FORM

The feedback form consists of four categories, each with a horizontal slider bar. Above the sliders are five emoji icons representing a scale from sad to happy. The categories and their ratings are:

Category	Rating (Emoji)
Product	4.0 (Happy)
Software	5.0 (Very Happy)
Packaging	2.0 (Sad)
Customer Support	3.0 (Neutral)

Figure 7. Feedback form

Lastly, the publicity of the product's/services' credibility. These days, a brand is determined far more by the way that you're seen to interact with your customers.

The reality is that people care less about what you say about yourself; and more about what other people say about you. To facilitate the ease of access to the feedback platform, we plan to eliminate monotonous multiple choice forms(online/paper). Instead of this, adding colorful emoticons to register responses of customers will make the process exciting.

6.5 Fault Management

The Fault Management division will improve efficiency in processes associated with incident management and problem management. This not only improves efficiency but contributes to improved performance and user satisfaction and reduced costs. It basically follows five processes.

- I. Reporting: What is the problem?
- II. Analyzing: Why has arrived?
- III. Resolving: How can it be solved?
- IV. Operationalizing: How much effective is the solution?
- V. Implementation: Improvement of product

7. Marketing and Sales Strategy

7.1 Our approach

The first few years of our business are essential for creating brand awareness and establishing customer demand to make sure our business can grow and succeed. We will spend 40-50% of capitals on marketing in the first two years to raise awareness of our FunTable. Different marketing strategies will be utilized to promote our products to the customers.

In 2017, we will begin to sell our products through local game stores and supermarkets in our chosen five cities. We will also accept online orders from our website, and deliver the products to the customers through retail stores. Customers also have the choice to pick up their product at stores as well. Sustainable packaging will be used for FunTable to reduce environmental waste.

Depending on the sales of FunTable and optimization of our supply chain, we will expand our supply in the United States in the next three years. Nationwide online purchasing will also be allowed through our website and Amazon. We also consider to go to international market if the sales are successful in the country.

Meanwhile we will keep upgrading our devices and improve our services based on the feedbacks received from our customers. We listen and value the opinions from our customers so that a high-quality family-centered product will be delivered to our customers



Figure 8. Space and Decade's Timeline for Marketing and Sales in the next few years.

7.2 Target Cities

Starting in 2017, we will begin to sell our products in the following five cities in U.S.: New York, Los Angeles, San Francisco, Seattle, and Indianapolis. These five cities have high population, a good economic foundation, and a great potential for game industry in U.S. In addition, there are many gaming conventions taking place in these cities every year, such as Gen Con and PAX, attracting game players all over the world to come and learn about the new games released every year. We also plan to sell our products nationwide soon once the sales are increasing and the funds are sufficient.

7.3 Pricing and the device

The prices of our product vary depending on the different demands from our customers and the subscription of our game services. The size of the game board screen could be increased by having either two or four display units connected to the core unit, which accommodates the increased number of people joining the board games. Depending on the package and the chosen game, the maximum number of people joining the same game is around 10 – 14 people, which will be perfect for family activities in family gathering or home parties.

Our starting price is \$100 for a basic core unit which is composed of one 15” touch sensitive screen and a control panel. We also offer a package at \$145 with a core unit and a display unit, and a package at \$175 with a core unit and three display units.

Every device comes with 5 free board games installed. If customers want to download more games on their devices, there will be an annual subscription fee at \$50. Furthermore, since Space and Decade is a start-up company, we want to raise brand awareness for our business and promote our FUNtable to as many customers as possible in the first few years. Therefore, no subscription fee will be charged for customers in the first year once the sales of FUNtable is launched. Customer will have unlimited access to all the board games available from our services without being charged of subscription fee in the first year.

7.4 Marketing Strategies

We will depend on promotion events at conventions of the gaming industry, different advertising strategies, and corporations with our external partners to establish our business. To promote our products, our marketing strategies and practices include:

7.4.1 Gaming Conventions

A substantial portion of our marketing budget will be used to support our “Grand Opening Event”, which will be held at Gen Con on August 17-20, 2017. Gen Con is the biggest tabletop-game convention in North America, which takes place in Indianapolis every year attracting tens of

thousands of game players and game companies. We will be an event partner of Gen Con this year with a sponsor budget of \$25,000. Our company's name, logo, and descriptor will be shown on Gen Con 50 Program book, their websites, email newsletters, etc. During the convention, we will have gaming events to launch the sales of our product. Attendees will be invited to try our prototypes and purchase our product with a promotion price at the convention.



Figure 9. Space and Decade's event poster at Gen Con 2017.

7.4.1 Social Media

We will use social media including Facebook, YouTube, Twitter and Instagram to engage our current customers and potential customers through promotion posts. We will encourage our customers to subscribe our email newsletters by providing them discounts for the products, so that we can advertise directly through emails in the future. Special online events will also be created on holidays when family plan to stay together and celebrate for the holidays (Christmas, Family Day, etc.). In addition, depending on our budget, we also plan to put advertisements on YouTube or invite owners of popular YouTube game channels to promote our devices.

7.4.2 Corporations

We will work with local game stores as well as retail stores, such as Walmart and Target, in those cities. We will have in-store promotions at those stores to raise our brand awareness. We will also corporate with our game provider companies (Hasbro, Scrabble and Mattel) to promote our devices. The partnership with our game providers is promising as we can take advantage of their marketing channels and existing customer base to promote our products. Our game providers will run advertisements of FunTable on their websites. In addition, they will sell a package containing their traditional board games along with our FunTable at a discount price.

We also plan to corporate with local board game cafes and pubs. Board game cafes are cafes that provide food and tons of board games to attract customers who like to play board games with their family and friends. Once those cafes start to use our device in their stores, it will become something new to the customers and will attract more people to come and play with our FUNtable. Meanwhile, these café stores can also save budgets on purchasing traditional board games in a long term.

7.4.3 Marketing Campaigns

In addition to the marketing channels mentioned above, direct marketing campaigns will be held in places where people would like to go with their families. Examples of such areas include shopping malls, park, cinemas, churches, etc. Free trials of games will be provided at sites so we can let people try our demos and promote our products at the same time.

7.4.4 Referral Programs

We offer discounts when our current customers recommend our product to their friends/ family within the first year of purchasing. Once customers purchase our products, a discount code will be provided to them. Their friends or family could use this discount code, either through online ordering or shopping at retail stores, to get a 10% discount for the product. Once this code is used, the referee will also get a free board game in return.

7.5 Sales Strategies

7.5.1 Website

Our own website will have a showcase of our products and packages. It will also introduce our partners and available brand board games from our services. In the first year, online purchasing orders in those five cities will be accepted through our website. Once supply is expanded across the country, nationwide online purchasing orders will be accepted through both our website and Amazon.

7.5.2 Retail Stores

In the first two years, we will sell our products through local game stores and supermarkets in those five cities. We have applied to be a supplier for local game stores including GameStop, J&L Games, FunAgain Games, etc. We will also supply to retail stores and electronic shops including Walmart, Target, Costco, BestBuy, etc. With the expansion of our supply, we will increase the number of retail stores that we corporate with across the country.

7.5.3 Delivery/Pick Up

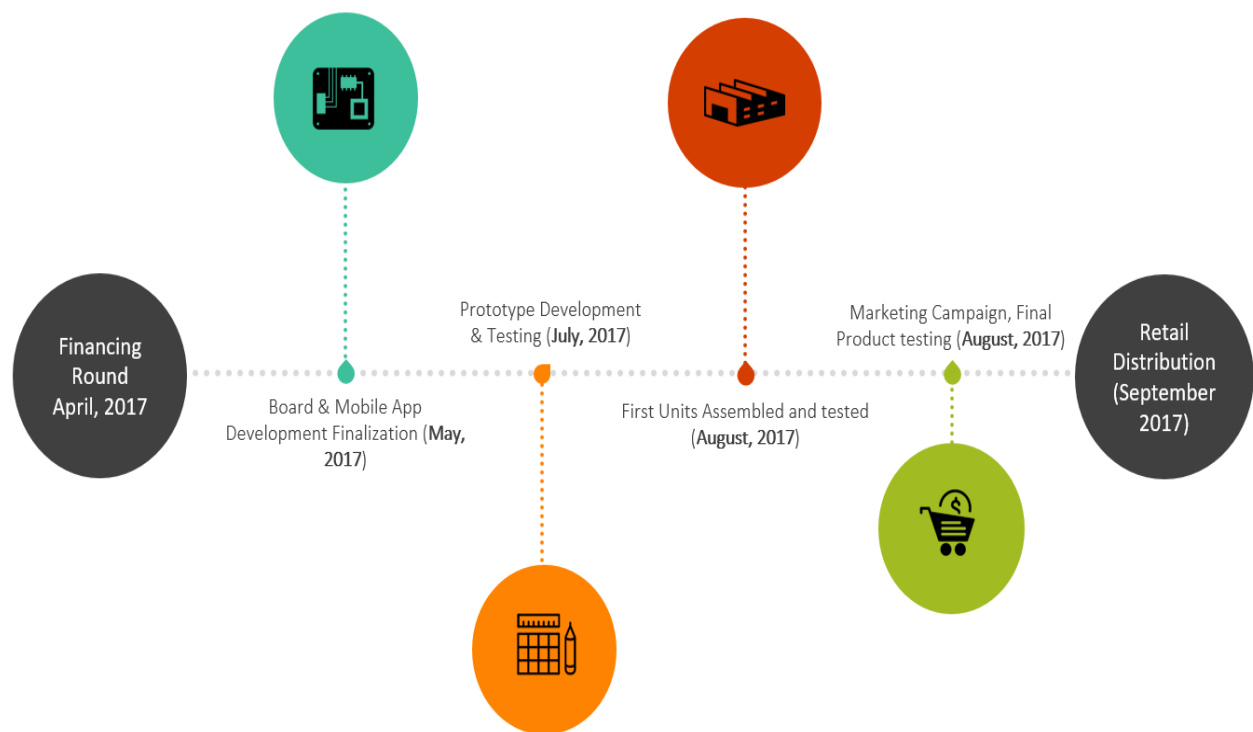
All the delivery and pick up services will be carried out by the local retail stores which we corporate with. Customers will have a choice on our website to select the closest local store where they pick up their devices, or to ask the closet local store to deliver their products. We will have a shared database with our local stores to ensure the orders are processed in time. To minimize environmental waste, we will use sustainable packaging for the devices throughout process of the sales and delivery.

7.6 Competitive Advantages

Based on our market research for our competitors, our prices are conservative that customers will find our game board and subscription services much affordable with a maximum 50% less cost. The strong external partnerships with our game providers are also promising since they already have multiple marketing channels and a huge existing customer base, which plays a critical role in promoting our products. In addition, our R&D department have designed our product in a way that the standby time of our device is 30% longer than most of our competitors. A longer standby time means that less charging time is needed for the product, so customers can save costs and consume less energy, which is consistent with our green policy. We will also use recyclable material throughout the manufacturing process which helps to minimize the environmental waste.

8. Project Schedule and Milestones

While operating and manufacturing specifications for the *Core* and *Display* units are substantially finalized, software development must be completed and tested prior to beta site installation. Software development clearly poses the most formidable obstacle to Space and Decade in moving the devices into production on schedule. To mitigate this exposure, the development process has been divided into five segments (drive, controller interface, operating system, networking, and sensor input) for simultaneous development. Responsibility will be divided amongst the relevant engineers (outlined under operations) for fast execution. Coordination of the project will be handled by the Vice President of R&D who will report to the CEO. The target date for software completion is within three months from the expected injection of capital in April 2017.



The aggressive development plan will require the addition of hardware and software developers and testers to accomplish the task within the time frame allotted in the figure below. The candidates have been identified and interviewed by Space and Decade's chief executive officer and vice president of R&D. Each is prepared to commit upon successful funding of the company.

Following successful development and testing of the products, the devices will be manufactured on a mass scale by our manufacturing partners at Altadox. Initial production scale will be limited to 5000 units to meet the deadline of our product unveiling at Gen Con in August 2017 and minimized inventory backlog in the case of a lukewarm customer response. Altadox has assured

us on a maximum monthly production capacity of 1,50,000 units on demand. Software integration and testing at our Rockford headquarters will commence according to the incoming hardware units from our manufacturers and is expected to be complete during our Marketing Campaign starting from the end of August. The operations are expected to be running at maximum capacity in time for our retail distribution starting September 2017 depending on the success of our marketing campaign and customer reception.

9. Competition

The current board games market is a niche market; we foresee a good competition. For better categorization, we have divided our competition in various categories as follows.

1. Direct Competition
2. Non-Exclusive Competition
3. Indirect Competition

The products in these categories are explained in subsequent section with detailed analysis and our competitive advantages.

9.1 Direct Competition:

9.1.1 PlayTable

The PlayTable is a large digital interface intended for tabletop gaming in all forms and is promising to be remarkably robust and flexible in what it can do. The default size is almost 24" across, with a full HD 1920x1080p display. Gamers will be able to use Prizm's proprietary software to create their own gaming experiences, which will allow them to include figures they might have from other game lines such as Skylanders or Disney's late, great Infinity. PlayTable currently costs around \$600. The advantages of PlayTable over FUNtable is that it includes:

- A bigger touchscreen and it's not only for fingers but also for "SmartPieces".
- The Amiibo, Skylanders and Infinity toys which are compatible with PlayTable.
- A feature which allows you play with your group wherever you are by joining two or more distant PlayTables / laptops and their players into the same game session.



Figure 10. PlayTable

9.1.2 e-Pawn Arena

The direct competition is from ePawn, France which is offering the similar solution as our proposal. To tackle them, we are making our solution more compatible with other games as against their solution which is currently available with single game (ePawn Arena).



Figure 11. e-Pawn Arena

Apart from this, their game comes with a fixed board size of 26” whereas, we can assemble various boards together to adjust board size and number of players.

On the ground of pricing, the ePawn board game is very heavily priced. Their board game with a standard 26” size has been launched in the market at a price of \$400, whereas as we are launching a similar product at around \$100-175, giving us a definite price advantage.

9.2 Non-Exclusive Competition:

9.2.1 iPad and iPad mini

The iPad is developed and marketed by Apple Inc., on the iOS mobile operating system. The device has a multi touch screen and a virtual keyboard. An iPad can shoot videos, take photos, play music, and perform internet functions such as web-browsing and emailing. The iPad can be connected through the Wi-Fi. Certain models have an option to put in a phone SIM card as well. Other functions – games, reference, GPS navigation, social networking, etc. – can be enabled by downloading and installing apps.



Figure 12. iPad Mini

An iPad offers multiple options which directly impacts the cost, the price range: \$449 - \$1489 for device; \$0 - \$10 for purchasing the board games apps, plus in-app purchase which makes it a very costly option and dilute exclusivity of a gaming platform.

9.2.2 Surface Book

The Surface Book which has been developed by Microsoft, is distinguished from other devices primarily by its full-sized, detachable keyboard, which uses a dynamic fulcrum hinge that expands

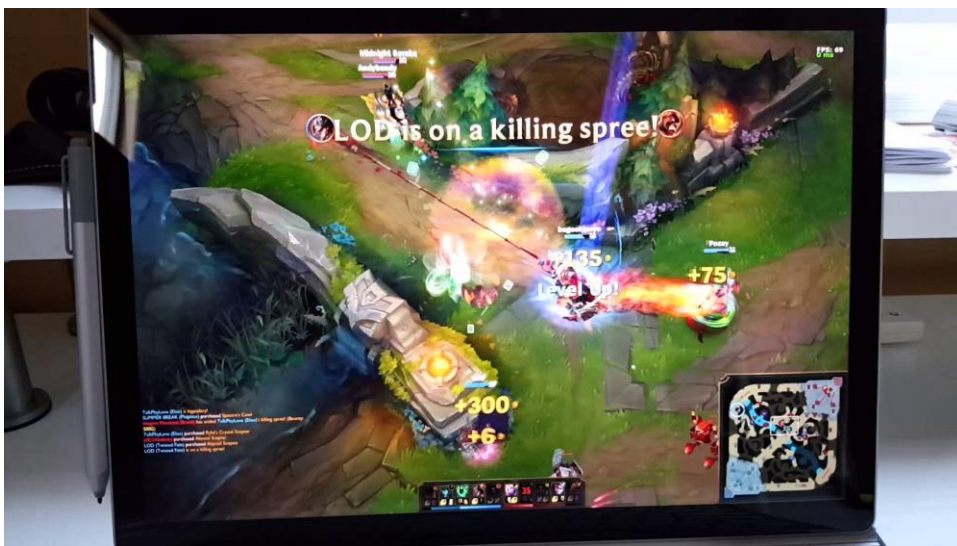


Figure 13. Surface Book

when it is opened. The keyboard contains a second battery, several ports and an optional discrete graphics card used when the screen part is docked to it. Contrary to Surface Pro devices, which are marketed as tablets, the Surface Book is marketed as a laptop, Microsoft's first device marketed as such.

The Surface book offers a great gaming platform for high end games. It offers a great gaming experience, but, their platform is more for the commercially centred as compared to a gaming solution. Also, it is highly priced. Microsoft Surface 2.0 is priced in the range of 7600\$-15000\$ against pre-order. With their focus, mostly on industrial and business centric clients, we believe that there will be a distinctive customer. Also, there is no family experience, because only a single player is playing.

9.3 Indirect Competition

9.3.1 Tabletopia.com

Tabletopia.com is a multi platform digital environment with instant access to hundreds of licensed board games. It can be accessed from any device with windows operating system. Thus, can be enjoyed via laptops, computers even if your family is far away from you. Also, with a device like Microsoft Surface, it can be enjoyed as an electronic board game. It will soon be available on iOS and android tablets.

The site can be accessed from this URL: <https://tabletopia.com/>

The services are offered at a variable cost option which varies from Zero per month to USD 10 per month.



Figure 14. www.tabletopia.com

Following are a few advantages of their platform,

- Available on any electronic devices with windows operating system.
- You can connect to your family even if you are far away from home.
- Available for freelance designers, thus increasing number and variety of games available.

But again, like Surface book this platform does not offer a family experience.

9.3.2 Electronic versions of classic family board games

With the advent of handheld electronic games in the 70's, the emergence of electronic board games was not a surprising development. While some of these games have become sought-after rarities, most have lapsed into obscurity. These devices typically cost between \$85 and \$300 with no specific advantages.

9.3.3 Traditional board games

Finally, we can have a threat from the traditional board games.



Figure 15. Traditional board games

But our platform has clear advantages over this module, first being if you want to play lot of games you should buy a lot and store a lot of these board games. Our platform gives a simple option of 30-60 games compatibility on a single board thus reducing space and maintenance requirements. Also, typical board game costs between \$20 - \$70 and this is multiple with the number of games. Also, often after some time we tend to throw these games as they become old, but our platform doesn't age, so you can store of for generations.

10. Ecological Footprint

10.1 E-Waste Overview and Trend

We have considered the environmental assessment for the manufacturing of our product. Our product falls in the category of electronic goods which is currently one of the major source of the landfill waste generated globally.

Figure 16 below shows the trend of E-waste generated and recycled in the US from 2000 to 2013. We are considering this data as we are assuming our current customer base of US market. As it can be seen, the e-waste generated is now considered to have reached a stabilized position. Though this trend seems promising as electronics industry is now showing lesser innovations as compared to previous decades but this is not absolute, as this industry is ever maturing.

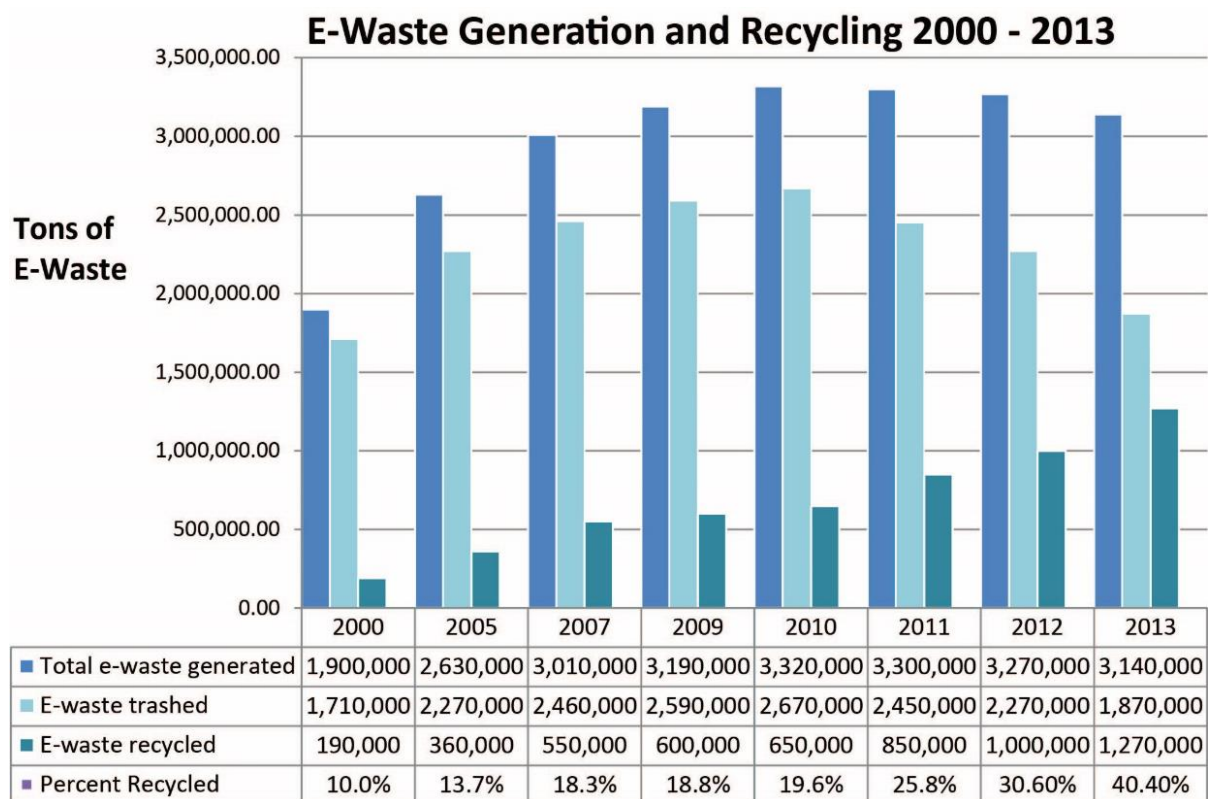


Figure 16. E-waste generation vs recycling

Apart from above, the methodology of green manufacturing is adopted based on recycle, remanufacturing and reuse principles. The sustainable manufacturing framework is adopted; activities are divided into cluster and applied outcomes are defined. The framework is shown in figure as below.

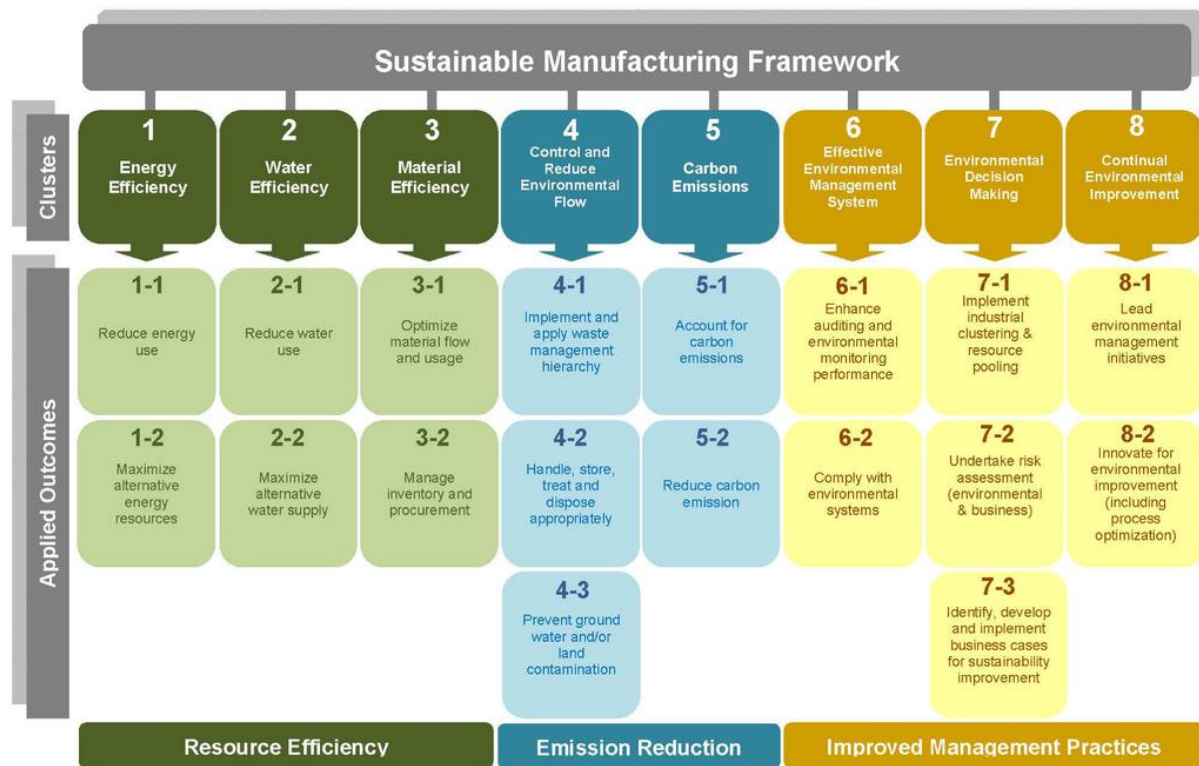


Figure 17. Sustainable manufacturing framework

10.2 Life Cycle Assessment (LCA Analysis)

We have done the LCA (Life cycle analysis) to better understand the effect of implementation of our principles. Life-cycle assessment (LCA, also known as life-cycle analysis, Eco balance, and cradle-to-grave analysis) is a technique to assess environmental impacts associated with all the stages of a product's life from raw material extraction through materials processing, manufacture, distribution, use, repair and maintenance, and disposal or recycling.

The use of the current modification and use of recyclable materials was compared to conventional models using Open LCA software. The results are indicated as under,

- Climate Change: Improvement of 400%
- Eco-System: Improvement of 230%
- Resources: Improvement of 33%
- Human Health: Improvement of 200%

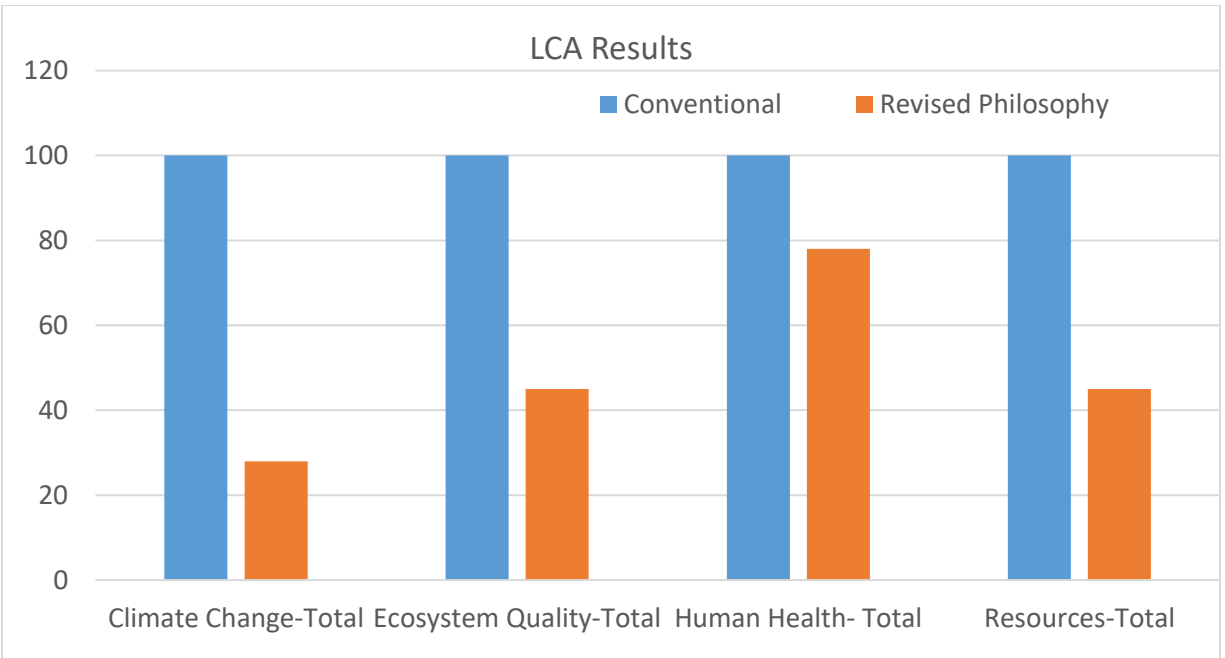


Figure 18. LCA Analysis Results

11. SWOT Analysis

Strengths

- Variety of games.
- Game play experience.
- Ease of setup/use.

Weaknesses

- Poor financial position to implement the project internationally.
- Dependence on game publisher's willingness to participate and make games for the platform.
- Dependence on retailers for mass market.
- Relatively high board unit costs preventing bigger adoption.

Opportunities

- Nonexistent market of electronic boards leaves room for first mover advantages to be established.

Threats

- Competitors who deliver a better game experience at a price point that captures our market, including game console manufacturers (Xbox, Play Station 4).
- Game play experience never picks up; users end up still preferring the conventional board games and do not migrate to the electronic version.
- Economy conditions that prevent people from spending on these "luxury" leisure items.

12. Financials

12.1 Assumptions

We have done the Financial Modelling based on the following assumptions –

- We will generate lifetime subscriptions.
- Focus on US market only, despite obvious international potential.
- Our competition does not affect our projected growth rate.

12.2 Revenue Model

We have two revenue streams, first is through sales of the boards itself and second, through the yearly subscriptions. Let's first consider the revenues generated through the sales of boards. Currently, we plan to offer two distinct types of boards:

Core Unit: With a price of \$100, the basic core unit is composed of one 15" touch sensitive screen and a control panel which is the brain behind the complete system. A consumer needs to have a core unit to access our library of games online.

Core + Display unit: If a user wants a much larger playing area he can do so by purchasing our second model which is basically a core unit combined with two or four other 15" display panels. This results in a larger display surface on which a user can project any game using our subscription. The cost of the two and four panel models are \$145 and \$175 respectively.

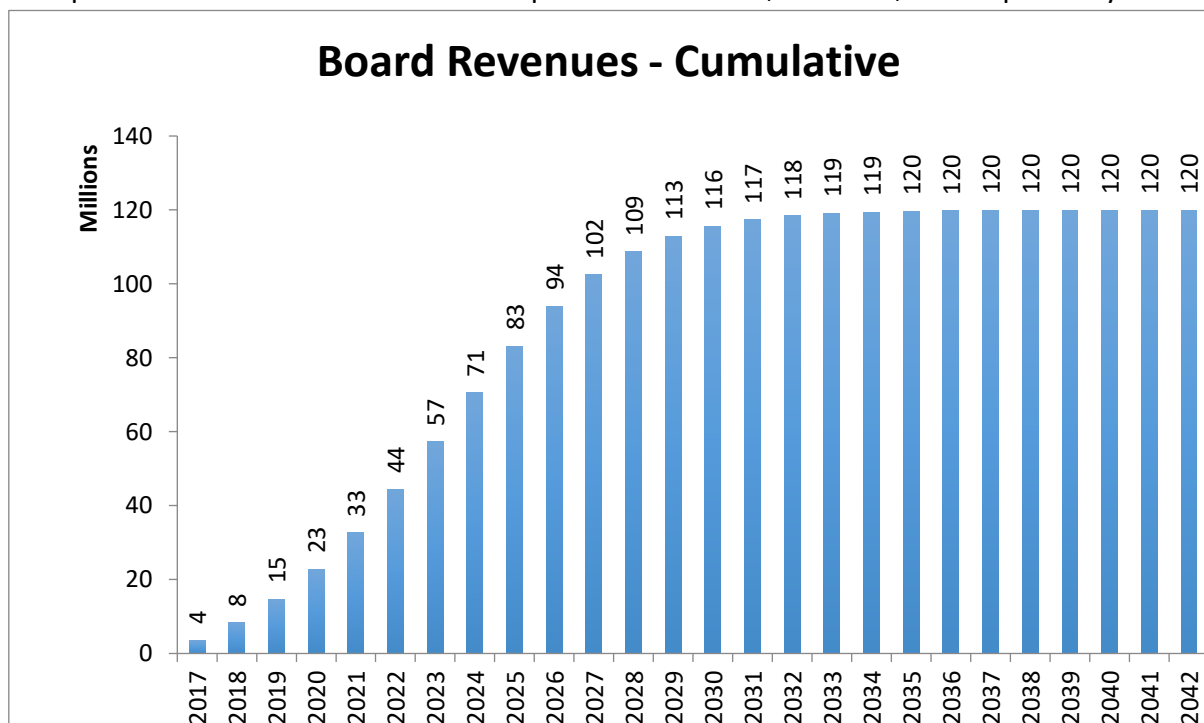


Figure 19: Projected Cumulative Board Revenues

We expect to sell around 1 million boards in total, of which 75% would constitute the basic model and the remaining 25% would be the advanced core + display model. Based on these, and using the industry average $p = 0.03$ and $q = 0.38$ in the Bass model, we get the following revenue projections.

To calculate the value of the firm based solely on the revenues generated through board sales we used DCF model. The DCF model gave us a post-money valuation of \$4.74M

Next, we used the Bass model to estimate the number of consumers who will be buying our products. With a subscription price of \$50, we could estimate the revenues generated through our subscription service per year.

As can be seen the cumulative revenue keeps on increasing. This is because of our assumption that a person who buys our board will renew his subscription every year. Thus, for each year we will have subscription revenues from new users who are buying the board and subscription revenues from users who had bought our board in previous years.

Because of this ever-increasing nature of the graph, we didn't apply the DCF method and used discounting of cash flows (CF) to calculate the value of the firm.

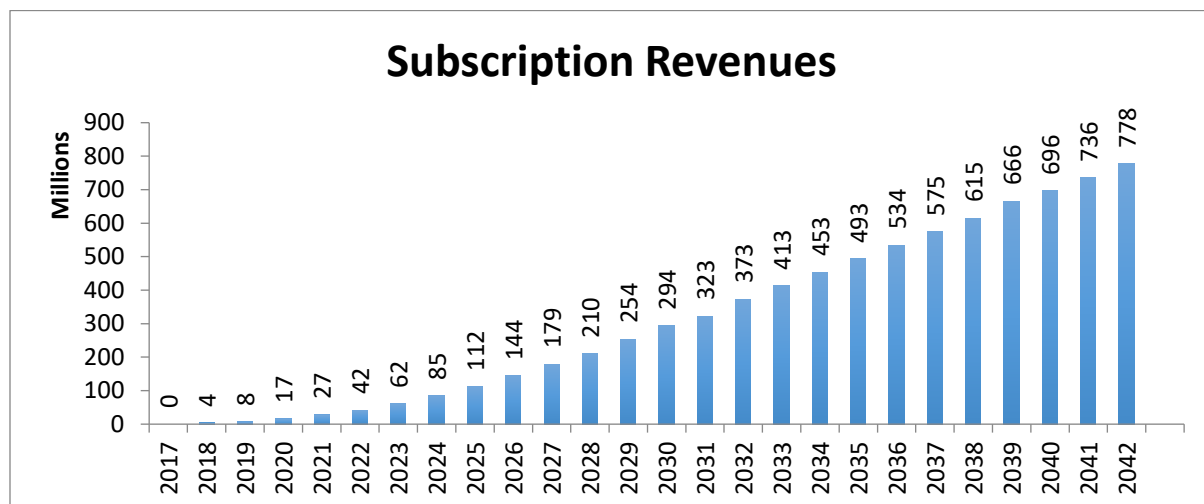


Figure 20. Projected Subscription Revenues

We discounted each year CFs to time $t=5$ which was our exit year, then discounted it further using WACC weighted by the likelihood of successful exit to arrive at a valuation of \$24.24M.

12.3 Cash Flow

Considering cash flow with the expenses and the annual sales of board and the subscriptions, we are expecting to turn into profits in year 6. It is taking us so much time because our margins on boards are very less. We are selling the \$96 board for just \$100. We are losing \$26 million for the first 5 years because of royalties and administrative costs which consists of salaries, rent and a

huge marketing budget. Subscription is the major revenue source, and we need a large subscription base of 1,75,000 subscribers to be able to turn into profit, which we can reach only in year 6.



Figure 21. Projected Profits

	Year	2017	2018	2019	2020	2021	2022	2023
Revenues	Boards sold per year	30,375	51,856	78,443	109,559	143,076	174,776	198,527
	Board Sales per year	\$3,607,031	\$6,157,924	\$9,315,099	\$13,010,156	\$16,990,281	\$20,754,690	\$23,575,139
	Subscription revenues	\$0	\$2,841,399	\$4,975,137	\$7,699,194	\$11,052,727	\$14,989,963	\$19,343,163
Costs	Manufacturing Cost	\$3,485,531	\$5,950,499	\$9,001,328	\$12,571,919	\$16,417,977	\$20,055,585	\$22,781,029
	Administrative costs (Salaries, Rent, Marketing)	\$5,425,000	\$6,425,000	\$7,425,000	\$8,425,000	\$9,425,000	\$5,425,000	\$5,425,000
	Royalty payment	\$759,375	\$1,775,874	\$3,109,461	\$4,811,996	\$6,907,954	\$9,368,727	\$12,089,477
	Profit	(\$6,062,875)	(\$5,152,051)	(\$5,245,552)	(\$5,099,565)	(\$4,707,923)	\$895,341	\$2,622,796

Figure 22. Projected Cash flow

12.4 Licencing and Royalty Model:

To get game developers to design games specifically for our usage we will be entering licensing deals with them. To decide which game developer gets what share of the royalties, we propose a tiered structure. Our thinking behind this tiered structure is that the most played game (from any game developer) and the most recognized brand should get paid the most. This is to lure in

the big names in the industry which would help us get the initial momentum which could then be carried forward by newer games.

In our tiered structure, we place all the game developers into three tiers based on the level of their brand recognition and board game popularity.

Tier I: Consists of big name brands such as Hasbro who own monopoly and other well-known board games. Weightage = 0.5

Tier II: Consists of lesser known board game developers. Weightage = 0.3

Tier III: These are independent game developers who would be attracted to our electronic board because of the large market potential. Weightage = 0.2

Let's look at an example to understand this better.

Scenario 1: A customer plays game from three different developers, all of whom are in different tiers and hence have different weightage.

	No. of Plays	Weightage	Royalty
Dev 1	20	0.5	50%
Dev 2	20	0.3	30%
Dev 3	20	0.2	20%

Scenario 2: A customer likes a new game developed by an independent game publisher and thus plays it more often than other games.

	No. of Plays	Weightage	Royalty
Dev 1	5	0.5	31%
Dev 2	5	0.3	19%
Dev 3	20	0.2	50%

From the above example, we can see that this tiered approach is beneficial for both big-name developers as well as independent developers. The big-name developers earn 2.5X more than any independent developer for the same number of plays. The independent developers on the other hand can earn much more than the big-name developers if they come out with an interesting game. Our platform provides both visibility and revenue stream for these small developers.

Here, we want to leverage the network effect, the more the number of developers the more the number of consumers and vice versa. The larger the network grows, larger will be our bargaining power with both customers as well as suppliers. Also, by incentivizing indie game developers, over time we will be able to reduce our dependence on big name players.

12.5 Exit Strategies

Based on the market penetration as indicated in Annexure II, we have decided to have two exit points in the stable growth phase. Exit 1 is the earliest exit point (EEP) and Exit II is the latest exit point (LEP). These are indicated in the figure below. We are planning to exit from business once we have received 95% projected customer base. This not only gives a higher valuation to our company, but also better exit options.

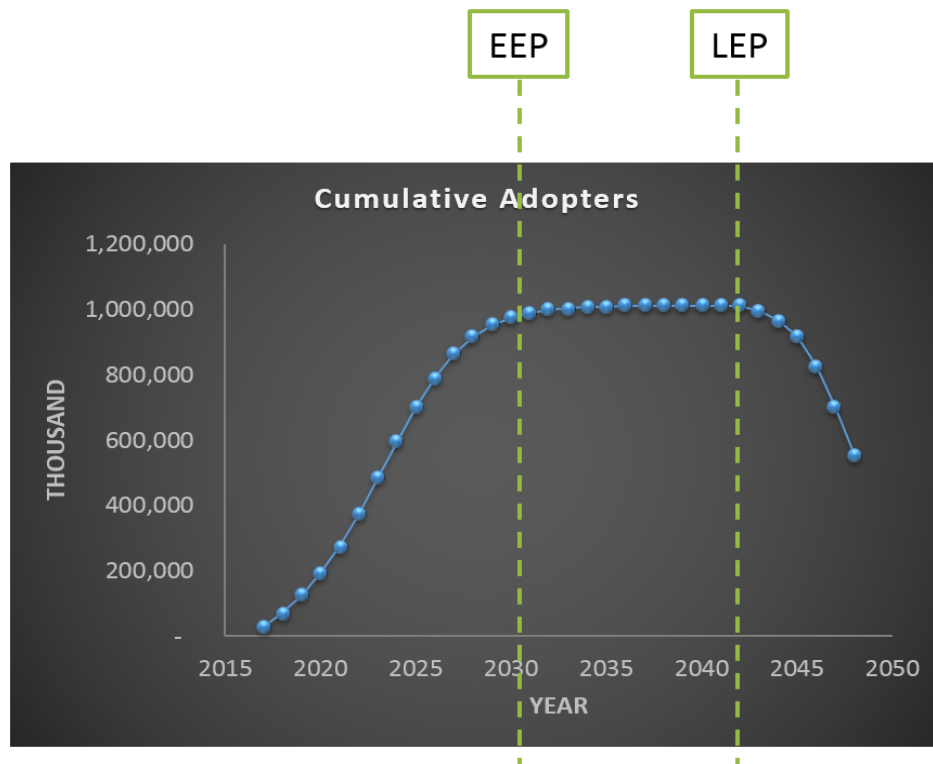


Figure 23. Exit Strategies

From the figure, it can also be observed after LEP, we are expecting the business to decrease and we will be in Laggards phase of bass model. We will have following options in our exit paths,

1. Go Public
2. Mergers and Acquisition
3. Selling to the Management Team

We will consider the above three options equally, as we will develop new products which will further bolster company's reputation and valuation in market.

13. Risks and Challenges

We foresee several potential risks and challenges in the success story of Space and Decade. This section outlines our current view of the most important risks facing Space and Decade.

Inability to raise required funds - Given that our business model and revenue projections suggest a significant funding requirement in the first few years there is a risk that a young, unproven business idea might not get the required funds as per our plans.

Contingency plan: “do more with less” should be our mantra. We will try to cut unnecessary costs, simplify operations, work with smaller staff as the project evolves. We will also be more aggressive with crowdfunding our venture.

Game Publisher Partnerships - will have a substantial effect on how successful our gaming platform will be. Without quality games our gaming board will have little appeal to consumers. Similarly, without a large user base of consumers, game publishers might not be so inclined to spend time and resources building games for our platform.

Our strategic interest is to ensure that early in the sales of the board we have enough games and publisher partnership in place. In this respect, we seek advisory and investor help in establishing and building close relationship with game publishers.

Contingency plan: Identification and active relationship development with smaller game publisher and especially with independent game developers may be our best alternative if we are unable to sign up the main game publishers to the platform. In addition, we will attempt to develop in-house games by hiring game developers. This will have serious implications in terms of time and variety of products but would be a way for us to ensure some games are available for play.

Finally, we would consider existing games on the app store and how we could make the playable on our platform as a last resort. Note that we strongly believe that having game developers as partners is a critical factor to the offering as we do not have the necessary resources nor intellectual property rights to create the variety of games as what we envision is required.

Sales prospect for very popular board games might not be appealing enough - For certain very popular board games such as Monopoly, Scrabble and Risk, our board game platform might not provide enough financial appeal to accept the terms outlined in our contract of having their game accessible on Space and Decade’ platform.

Contingency plan: We plan to spend significant resources in building the most important relationships with these game publishers. We see a likelihood to have special licensing agreements in place ensuring that the publisher will be agreeable to join the platform. However,

this also means there is a chance that for certain games we may not be able to put together a financial model that makes sense for Space and Decade. We do hope that in time the popularity of our platform will serve as a strong influencer in our favor when approaching game publishers.

Inability to effectively reach our target consumers - Our marketing plans and general market potential suggest a huge opportunity for our gaming platform. We have outlined earlier that we plan to use big box retailers in the US as our primary distribution channels. As we do not own these distribution endpoints our products would be potentially lost to our consumers among many other products on offer in a typical electronics store or section of the retailer.

Contingency plan: To avoid this, we may need to have extensive advertising and awareness raising campaigns to generate sufficient interest from the consumers. This type of expenditure might have significant short term financial strain on our operations and cash flow (which we highlight in our cash flow projections for the first several years). However, we strongly believe that taking responsibility of marketing our product is necessary to achieve the necessary target levels of customers on our platform.

Cash running out - Given that we would have outsourced manufacturing and distribution of our products while needing significant marketing efforts and an initial delay in getting revenues from consumer subscription we see a serious issue around ensuring that Space and Decade will have enough cash to operate for the initial 24 to 36 months.

Contingency plan: we will be vigilant to ensure any investment money is made available as promised so that we do not end up without the funds we are counting on. We will actively negotiate payment terms with our partners and seek flexible, delayed payments where possible. We will actively assess our expenses and, where financially appropriate, seek to substitute fixed costs with service providers to minimize cash outflow.

Price point too high for the consumer - Although our market research suggests that our price points as outlined in our business plan would have enough appeal for mainstream consumers there is a danger that it may be too high for market penetration that we are aiming for. We would have likely challenges in finding significantly cheaper ways of producing the board given today's outsourced electronics supply chain we depend on (assuming no revolutionary change happens in the meantime).

Contingency plan: we will partner with an advertising platform to offset some of the costs of board production with income from ads. We will consider ways of optimizing our cost structure in producing the board to minimize the price. Finally, reducing our profit margin on the board might be an option if nothing else works since we believe that in the long run our success will be about the number of people enjoying games on our board platform and paying subscriptions to be part of that network.

Digital game variant poorly received - Despite a theoretical suitability that physical board games can be (and have been) translated into a digital variant there is always a risk that a certain game will not work so well in the digital world without some careful adjustments in the game play. We foresee significant potential risk in this area and a likely need to spend additional hours working with game publishers to make sure the gameplay is appealing for consumers.

Retailer partnership difficulties - There is a possibility that we will not be able to get all the big-box retailers to carry our products.

Contingency plan: actively work on developing relationships with alternative, smaller retail shops and put in place an online store for purchases of the boards.

14. Costs

14.1 Board Manufacturing Cost

We have identified Altadox Electronics Design & Manufacturing, based in Shenzhen, China as our single manufacturer of all hardware components. The manufacturer offers a “one stop” solution for our needs and can provide the entire service of assembly of our end products. The following table illustrates the costing of the *core unit* with individual components. Note that for transportation costs we have taken sea freight at standard prices.

Core Unit			
Components	No. of Units	Unit Price	Total
Pantalla/ Display module	1	\$19.89	\$19.89
Screen panel	1	\$1.99	\$1.99
Main PCB	1	\$17.50	\$17.50
WLAN PCB	1	\$1.99	\$1.99
Main Connector PCB	1	\$1.59	\$1.59
Speaker Assembly	1	\$1.99	\$1.99
Sensor PCB	1	\$7.96	\$7.96
			\$52.91
Transportation			\$5.45
Unit Price of Core			\$58.36

The display unit unlike the Core Unit does not have certain control circuit boards which makes the entire unit slightly cheaper when compared to the Core unit. The costing for Display Unit is given below.

Display Unit			
Components	No. of Units	Unit Price	Total
Pantalla/ Display module	1	\$19.89	\$19.89
WLAN PCB	1	\$1.99	\$1.99
Speaker Assembly	1	\$1.99	\$1.99
Sensor PCB	1	\$7.96	\$7.96
			\$31.83
Transportation			\$5.45
Unit Price of Display Unit			\$37.28

14.2 Transportation Cost

Transporting a 20-foot container from Shenzhen, China to Illinois, US will add \$5.45 in transportation costs for every unit.

We estimate that a 20-foot container can have 5556 board units, based on our product dimensions. For transportation from China to US we plan to rely on sea cargo shipping exclusively. Air freight option was also considered, however since the average cost is around \$5 / kg the transportation cost component becomes too expensive.

We have identified Seabay Logistics Solutions as our shipping partner for the project. The standard charges advertised by the company include **\$ 25 charge for a 21-kg package**.

As we plan to have our warehouse in Rockford, Illinois, we have calculated land transportation costs within US to be on average \$0.10 per unit, when shipping a container of units.

The following table is a detailed transportation cost breakdown for one 20-foot Container shipment containing up to 5556 units.

Payload(Kg)	25000
Weight/Unit(Kg)	4.5
No of Units per Container	5556
Sea Freight	\$29,761.90
Sea Freight per Unit	\$5.36
Road Freight	\$536.00
Road Freight per Unit	\$0.10
Total Freight per Unit	\$5.45

14.3 Employees

Planned *yearly* staff salaries alongside overall projected number of employees for each position are found below. We assume that our staff will be US based.

Role	Number	Salary (\$)	Total Salary (\$)
Management	7	80000	560000
Office admin / manager	1	45000	45000
Legal officer	1	85000	85000

Finance / accounting staff	2	55000	110000
Marketing rep	2	55000	110000
Social media / community manager	1	60000	60000
Website admin / content manager	1	50000	50000
Sales rep / account manager	3	55000	165000
Customer complaint coordinator	2	40000	80000
Customer Support Executive	2	45000	90000
Quality Assurance Engineer	2	60000	120000
Software testers	2	60000	120000
Software developers	3	80000	240000
System administrators and DevOps	2	70000	140000
Warehouse staff	4	40000	160000
Total	35		2,135,000

14.4 Marketing Expenditures

We plan to aggressively use marketing and advertising to capture our target market. The following table outlines our advertising plan against the Bass model projected total number of subscribers we are supposed to be having in each of the first four years.

	Year 1	Year 2	Year 3	Year 4
Advertising Expenditure (\$)	3,000,000	4,000,000	5,000,000	6,000,000
# of subscribers required as per Bass model	30,000	51,000	78,000	109,000

Our primary marketing spending will be going towards online ads (1 million Google Ads) for which our conservative models with a 3.13 percent click through rate and a one (1) percent signup rate and a cost per click (CPC) of 1\$.

Of the advertising expenses of \$3,000,000 in year 1, 75% will go towards online advertising and an increase of \$1,000,000 per year in the next several years will be required to obtain the levels of subscribers, we need for our business model to get to the critical point where subscription revenues will become substantial source of funding for the company.

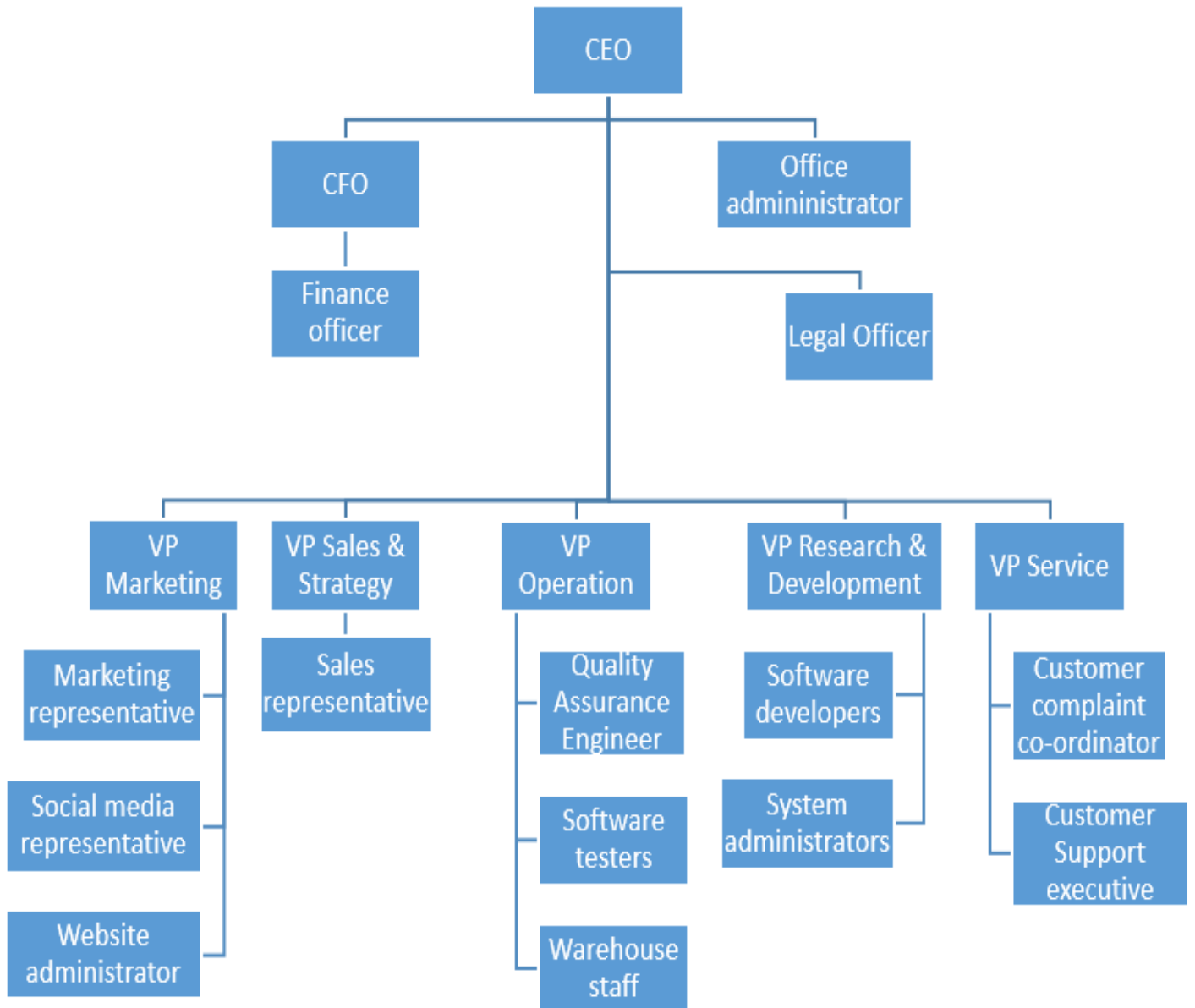
We believe that we would need to have this aggressive spending on the advertising to ensure enough new customers and subscribers are brought into the platform. In year 7 onwards our marketing spend goes down as we would have enough critical mass in the user base to have a more organic growth going forward.

Apart from online advertising we plan to spend a portion of the marketing budget on other promotional efforts, including retailer instore ads, featured blog posts and social media promos.

14.5 Office Lease, Warehouse

We plan to spend \$5,000 per month on office and warehouse rent/lease as well as monthly subscription fees for any services we use (ERP system usage, accounting system usage, etc.). In addition, we plan to spend around \$50,000 onetime for the equipment purchase/lease which will include computers, printers, scanners, office desks and chairs, etc.

Annexure 1: Organogram



Annexure 2: Bass Model for market penetration

Year	Cumulative Non-adopters	New Innovators	New Imitators	New Adopters	Cumulative Adopters	Cumulative Penetration
2017	120,000,000	3,600,000	-	3,600,000	3,600,000	3.00%
2018	116,400,000	3,492,000	1,326,960	4,818,960	8,418,960	7.02%
2019	111,581,040	3,347,431	2,974,755	6,322,186	14,741,146	12.28%
2020	105,258,854	3,157,766	4,913,514	8,071,280	22,812,426	19.01%
2021	97,187,574	2,915,627	7,020,767	9,936,394	32,748,821	27.29%
2022	87,251,179	2,617,535	9,048,349	11,665,884	44,414,705	37.01%
2023	75,585,295	2,267,559	10,630,812	12,898,371	57,313,076	47.76%
2024	62,686,924	1,880,608	11,377,138	13,257,746	70,570,821	58.81%
2025	49,429,179	1,482,875	11,046,149	12,529,025	83,099,846	69.25%
2026	36,900,154	1,107,005	9,710,258	10,817,262	93,917,108	78.26%
2027	26,082,892	782,487	7,757,161	8,539,648	102,456,756	85.38%
2028	17,543,244	526,297	5,691,842	6,218,140	108,674,896	90.56%
2029	11,325,104	339,753	3,897,389	4,237,143	112,912,038	94.09%
2030	7,087,962	212,639	2,534,335	2,746,974	115,659,012	96.38%
2031	4,340,988	130,230	1,589,902	1,720,132	117,379,144	97.82%
2032	2,620,856	78,626	974,174	1,052,800	118,431,943	98.69%
2033	1,568,057	47,042	588,075	635,117	119,067,060	99.22%
2034	932,940	27,988	351,761	379,749	119,446,809	99.54%
2035	553,191	16,596	209,243	225,839	119,672,648	99.73%
2036	327,352	9,821	124,054	133,875	119,806,523	99.84%
2037	193,477	5,804	73,403	79,207	119,885,730	99.90%
2038	114,270	3,428	43,381	46,809	119,932,539	99.94%
2039	67,461	2,024	25,621	27,644	119,960,184	99.97%
2040	39,816	1,194	15,125	16,320	119,976,503	99.98%
2041	23,497	705	8,927	9,632	119,986,135	99.99%
2042	13,865	416	5,268	5,684	119,991,819	99.99%