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Assignment 5

Financial Modeling and Projections

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Cost-Revenue Models

Revenue

The UEBA market is vastly developing, foreseen to grow from $890 million in 2019 to almost $1.2 billion by 2025 (Market Data Forecast, 2020). North America takes up 40.5% of the global market share (Industry Arc, 2020).

Without purchasing detailed market reports on the UEBA business, we can conclude a rough estimate of our total addressable market using a top-down approach, we can estimate the total addressable market. The finance industry is where we place our target market on. The financial industry accounts for the largest segment of the UEBA market (Market Data Forecast, 2020). With a 40% estimate, we can see the UEBA market in finance with potential of roughly $350 million. As we can see, this is a growing market. Insider threat is not only a growing problem, the industry also increasingly recognizes the need for a non-traditional solution with data science in combat of the problem. We plan to stay in course with the growing market by continuous development on improving our service's performance, as well as inventing alternative data analysis models tailored for more specific areas.

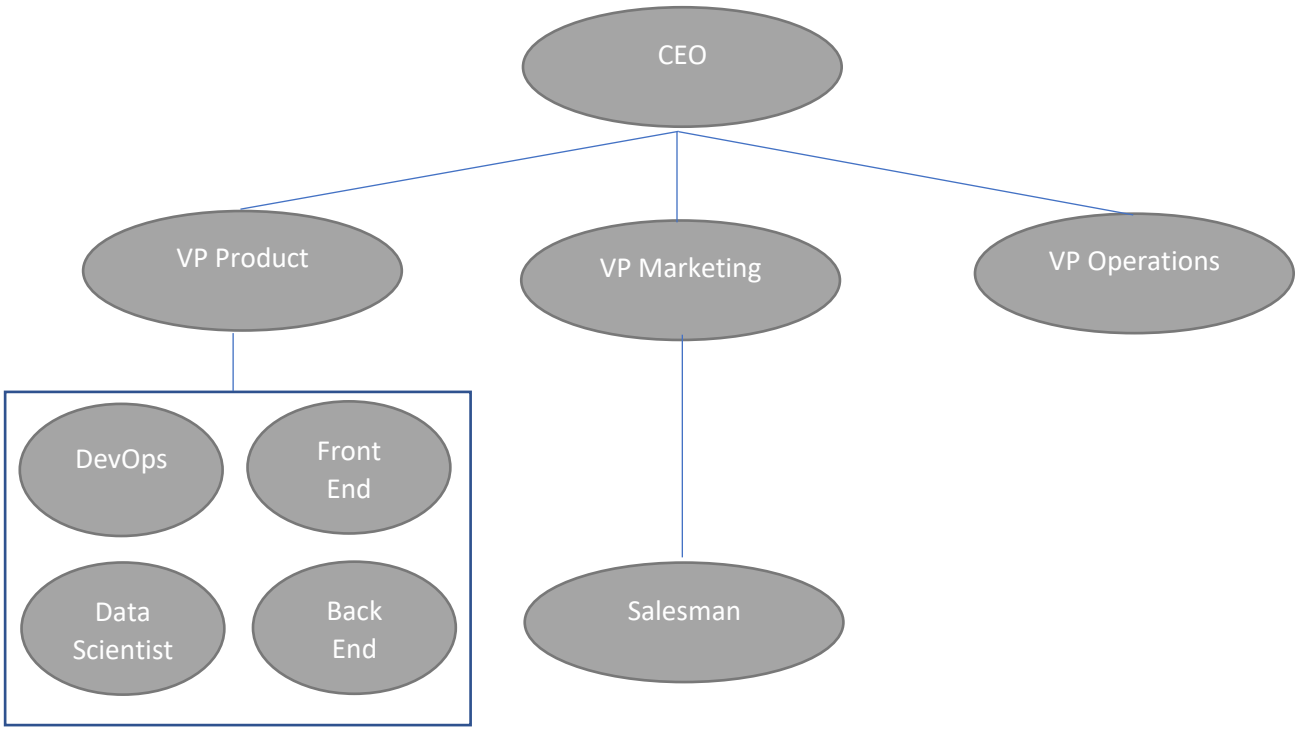
We have included the financial model spreadsheet in the submission. In the spreadsheet there are detailed specifications on the user and cost assumptions, as well as bases of calculation as shown from our rough work ("Details" tab).

In our model, we propose a quarterly subscription service. The pricing, shown in the spreadsheet, is set mainly according to our cost predictions. A typical sales cycle would be the following: We research into companies that we think may be in need of our product; We initiate contact with them, presenting our solutions; Based on the client's situation, we pinpoint the specifics in order to maximize the quality of usage of our product, such as types of behavioural logs needed for data analysis; We present our pricing and performance projections to the client; After closing the deal, we migrate our services onto the clients' platform. In this field, we are expecting relatively low churn rate due to our promise in quality and the nature of the complexity of cyber security SaaS for the client. Our pricing policy is comparable with out competitors. From our research in the previous assignment, pricing of major direct competitors in this field ranges from $160 per 2 years to $1800 per year, depending on the technology of the security solution.

Cost

As mentioned earlier, we plan growth in our product and services. In addition to a well-performing data analysis tool, we aim to build a platform that allows flexibility in data onboarding, which will decrease the migration time and provide the client with more freedom in choosing what analysis tool to use, what data to provide, etc. We have included a rough product roadmap in the “Details” tab of the spreadsheet.

The following graph is a preliminary organizational chart at the start of our business, after achieving an MVP from this course. We have included the salaries of each position by year in our “Details” tab in the spreadsheet attached.



The CEO is the face of the company, in charge of the major executive decisions next to the board. VP of Product takes responsibility in the development of the UEBA product, leading a team of four developers, each with specialties in DevOps, Front End, Back End and Data Science. A moderate size for the development team allows agile development cycles. VP of Marketing and Salesman make up of the sales team, which take charge in customer research and outreach. Finally, VP of Operations analysis company operations and sales, planning the course of company development.

Our hiring will be based on our product development. As salary is a big expense in the startup, we only consider hiring when necessary for the company's development. As shown in the product roadmap (see "Details" tab in the spreadsheet), we plan to maintain original services in the first two years with minor technological improvements for performance. After the third year, we plan to expand our UEBA coverage into more specific areas of the financial industry. A data analysis model designed and trained for a specific area using specific inputs can improve performance and attract customers in that area by expressing our dedication towards their field. This expansion in product direction will require expansion in the product development team, mainly increase in data scientist positions. We plan an additional hire for the development of the new data analysis tools in year 3, which explains our increase in R&D expense.

In addition to salary, we also predicted relevant operational costs for the future of our startup. Detailed numbers and rough work for the costs reported below are shown in the "Details" tab of the spreadsheet. Cost of Goods Sold include hosting fees, software tools, professional services, customer services expenses and third-party costs. We estimate hosting fees to be about $1,000 (Campbell, Saas Pricing Models, Strategies, and Examples of Success, 2020). Software tools expense will be dependent on the scale of our product, we estimate about $8,220 for the first year, with slight increases later on (Kashyap, 2019). We estimate professional services to be around $14,000-$15,500 per year (Tunguz, 2015), customer service expenses to be around $12,000-15,000 per year (Raileanu, 2016), and third-party costs to be around 4,000 per year (SaaSOptics, 2019). Selling, General and Administrative costs are estimated to be $70,000 in the first year, with a 5% increase per year (Chang, 2020).

Financial Statements (Forecasts)

Our financial statements over a five-year timeframe are presented through the "5-Year Annual P&L" and "5-Year Monthly P&L" sheets.

Our EBITDA will start off on a 6-digit deficit (-$389,401) and will stay negative throughout our first two years. It will become a 7-digit positive gain in the fourth ($2,207,837) and fifth year ($5,671,318) and displays a rapid growth in the third (303%) and fourth (365%) year. The monthly EBITDA displays a relatively slow growth until the third quarter of 2022(increased by $1,694 in June 2022), then it will grow at an increasing pace until the end of the fifth year where the EBITDA will have a monthly increase of $44,987.

Our Total Reoccurring Revenue will roughly quadruple in the second and third year and will grow around 150% in the fourth and fifth year. The increase of monthly revenue shows a roughly constant growth until March 2024 where there will be a decrease in the amount of monthly revenue increased ($10,259), then the monthly revenue will increase at a more rapid pace, showing an increase of $47,354 in December 2015.The most significant increases annually in expenses will be in the third ($134,759) and fifth ($235,164) year. Monthly, the large increases in the growth of expenses will occur in March of every year. R&D is the main reason for this increase. The expense for R&D will surpass the expense for Executive Salaries in the third year to become the category with the largest amount spent. COGS and Gross Margin will increase at a constant rate.

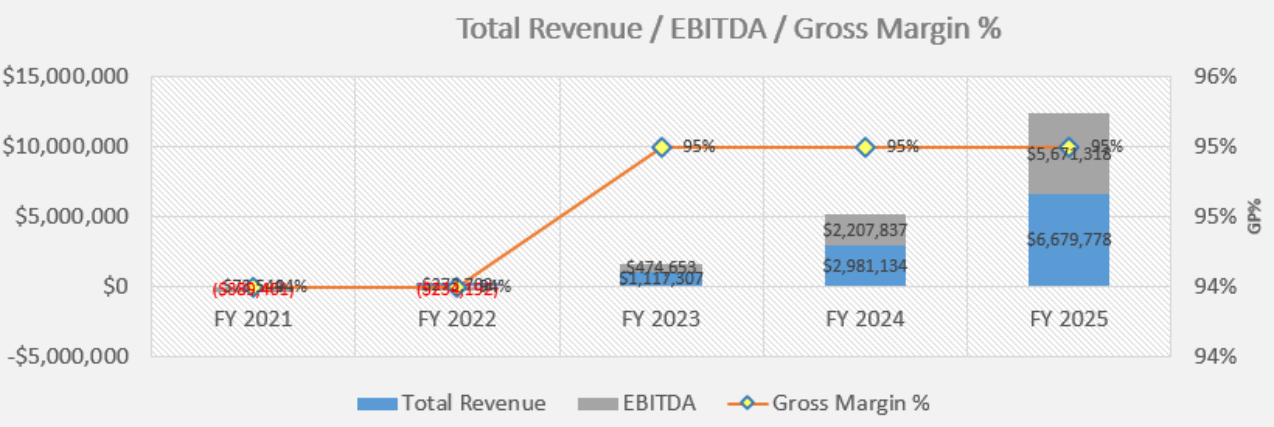
Net After Tax Cash Flow will start on a 6-digit deficit (-$574,110) and will stay negative for two years, it eventually reaches $15,580,862. The rate at which the monthly Net After Tax Cash Flow will increase shows similar pattern as that of the monthly EBITDA. It will increase by $44,987 in December 2025. The Ending Bank Balance will start at -$569,110 and reach its lowest in the second year ($-1,000,528). It will become positive in the fourth year and reach $16,856,192 at the end of the fifth year. The monthly Ending Bank Balance will show slow growth until the first quarter of 2024.

Overall, our monthly revenue and expenses shows relatively stable growths. It is evident that our company will be working without profit within the first two years, however, our subscriber base is projected to have significant increase in the first three years which will lead to a rapid growth in annual revenue. Without much increase in projected expenses caused by expanding, our company is projected to have substantial and increasing profit in the fourth and fifth year.

Financial Analysis

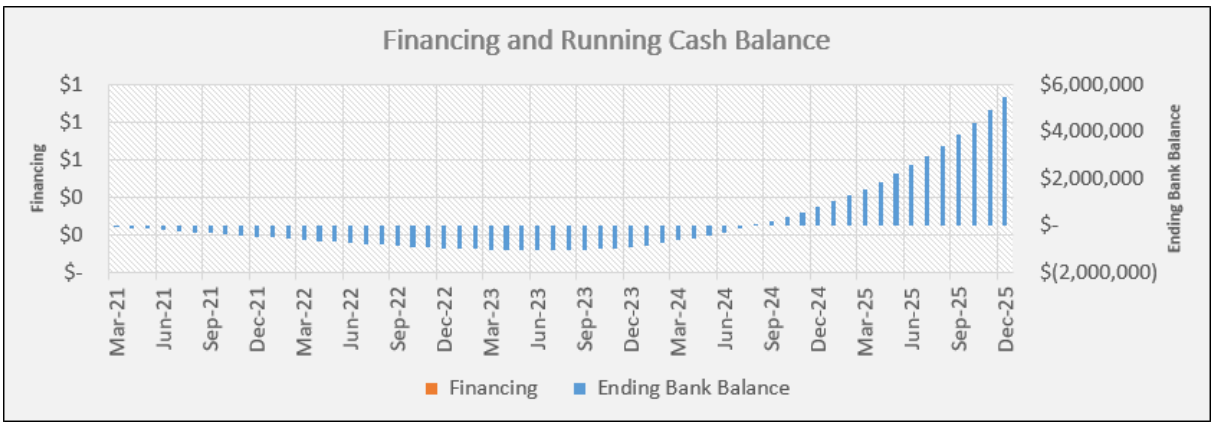
From our forecast of our annual revenue, cash balance, annual subscriber growth, and CAC payback, we will discuss whether these results project a healthy start-up.

- Annual Revenue / EBITDA / Gross Margins



From our projected annual revenue / EBITDA / gross margins chart, we see that there will not be any positive net earnings over the first two years. However, as mentioned in previously, the revenue increases rapidly year by year, at which the EBITDA becomes increases as well from $474,653 in the third year to $2,207,837 in the fourth year to $5,671,318 in the fifth year. Gross margin grows slightly as our company develops. It displays the effectiveness of our company's revenue generation in consideration of cost. This chart will show the investors a promising company growth given our estimation assumptions.

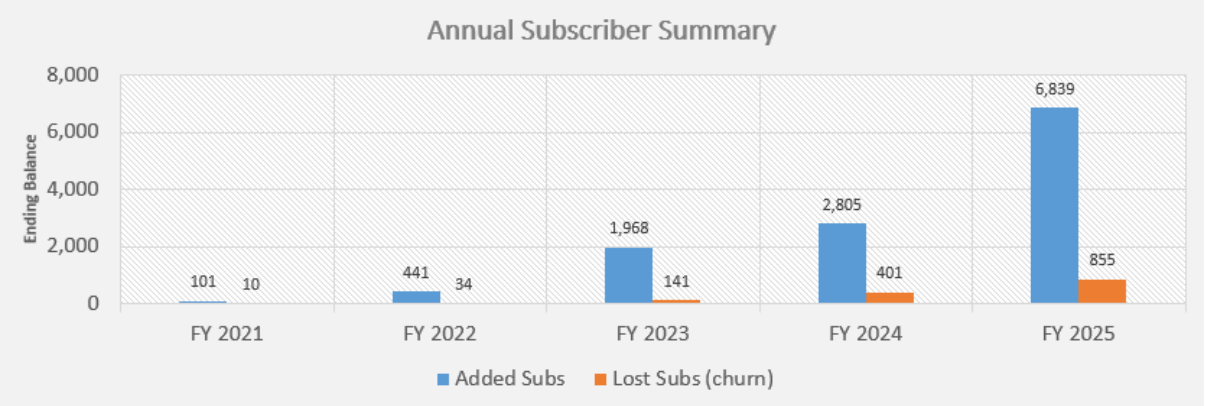
- Cash Balance



Our cash balance starts negative and will show slight decrease until the third quarter of 2023. The cash balance will become positive in September 2024 and show a rapid growth in the next five quarters. This is expected since we anticipate a small but growing subscriber base in the first two years while our expense slightly increases. Once we have a substantial number of subscribers, because our expenses only increase slightly, it is expected to see a fast growth of our cash balance. The balance is sensitive to the size of the subscriber base since our revenue will determine the duration where our company will see a deficit and it will likely change the projected expenses as well.

- Annual Subscriber Growth

Number of subscriptions is the major factor for the success of our product. It is determined by the number of new subscribers as well as subscriber retention. Below is our forecasted annual subscriber summary from 2021 to 2025:



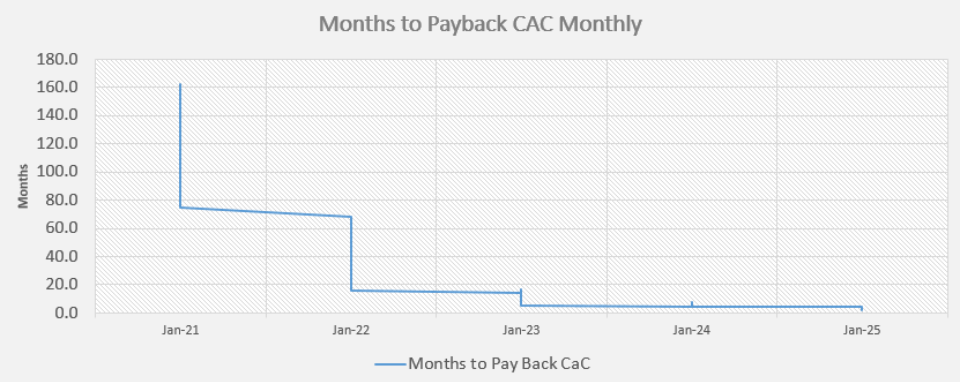
From the graph above, not only do we see a consistent significant growth in added subscribers, but also very little subscriber loss in comparison. We predict to receive two to three times more of net increase in subscribers compared to the previous year from 2021 to 2025. The volume of users also grows significantly starting with 91 net increase in subscribers in year 2021 to 5984 net increase subscribers in year 2025.

Additionally, marketing also plays an important role in user attraction especially during the first two years of launch. During the first two years, marketing will be driving factor to introduce users to the product. This is shown in the dramatic increase in added users between 2022 and 2023, where the number of added users is quadrupled.

From 2023 to 2024, we see the results of 7% added users per month from a starting subscriber count of 2375 and this builds up to a total of 4779 subscribers at the end of the year. From 2024 to 2025, we begin with the high subscriber count from the previous year and it increases exponentially by 8% per month which leads to a great increase in added subscribers at 6839. While the rates in 2024 and 2025 were not as high as the previous three years, the build-up of the existing total subscriber count did not slow down this exponential trend, and we should expect to see this exponential trend continue as our total users is now even higher while our user retention remains in good standing.

- CAC Payback

Our payback customer acquisition cost also shows some good trends:



For the first three years, we see a decreasing trend in the time it takes to get return from the cost of acquiring customers. The payback CAC is 70 months in 2021, 19 months in 2022, and around 6 months in 2023. This is explained by the rapid subscriber growth over the first three years in comparison to the cost needed to acquire customers. With 10% subscriber growth per month in 2021, 13% subscriber growth per month in 2022, and 14% subscriber growth in 2023, we see a large increase of customers. Our marketing and salesman costs show a relatively flat linear increase with roughly a $2000 increase per year for marketing starting at $10 000 and a $4000 increase for salesmen salary starting at $29 000. This exponential growth in customers versus a relatively low linear growth in expenses show that our CAC payback will drastically improve over the years as show in the graph above. From 2023 onwards, we see the CAC payback period to be less than a year which is considered healthy for a SaaS start-up (Campbell, 2017).

A risk to consider is our assumption based on the current market for UEBA and SaaS start-ups can change, and our expenses may differ from our assumptions, particularly in marketing strategies and directions. While volatility is a risk, our market research suggests that if we follow these assumptions then our business will have a promising start.

References

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