ENT603-Introduction to Entrepreneurship
Endsem Examination
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Q 1: Business Plan Write up

Ayu Devices Case Study

I am writing my own ideas and business plan for Ayu devices (smart stethoscope) assuming that the work for the device and the company being right today, approx November 2021.

Milestones

The main milestones for the startup in its initial 5 years would be target customer and market discovery, product development (Iterative development and prototyping) and marketing/networking.

Target Customer discovery: The target market overall is pretty straightforward in this case, doctors in hospitals and frontline healthcare workers. But, a lot of surveys must be done among medical professionals to see if they actually require such a product and how much it would improve diagnosing capabilities compared to current standards. Meets with doctors, nurses and other medical researchers would be a good way to go about. Time frame: November 2021-May 2022 (6 months approx)

Product development: There is no company without a product nor does an idea give you billions if it is not implemented. The smart stethoscope must be made suiting the requirements of the doctors providing additional capabilities to help them diagnose patients better. Fast, cheap and iterative designing and prototyping is the way to go about this. Help from Betic and the r medical engineering research facilities, industry experts and a dedicated awesome team is need to pull this off. Time frame: March 2022 (an idea of what is need will be kinda clear by then)-May 2024 (2+ years of iterative development with increasingly better feature integrations)

Marketing: In my opinion, the reason why medical devices from the US and Europe dominate Indian healthcare is mainly due to the fact that there aren't many quality medical equipment manufacturers here and partially because they (medical field practitioners) that costly foreign equipment are better that locally manufactured quality goods. To change this mentality and help gain customers, the startup must leverage the vast alumni network of IITB and the connections from Betic with other medical research facilities, meet lot of doctors, talk to them about the advantages, provide head doctors with free samples to try and give reviews, go to conferences and expos to demonstrate the advantages and at the same time collect reviews for building a better prototype. Articles on newspaper, deals with and advertisements on medical journals and publications also may help boost customer awareness and the demand for device/product. Partnering with medical colleges and promoting use of tech in the new doctors will also help sales grow. Most importantly in the tightly knit medical community word-of-mouth is another wonderful marketing tool, only thing about that is that the product must be great, which it will be. Time frame: October 2023 (start of marketing once beta prototype is ready for reviewing by medical professionals)-Novemeber 2026

Revenue

The main unit to measure revenue in the Ayu devices case can be in-terms of number of devices/ pieces sold or the number of hospitals using the device. We will take number of devices sold for ease of calculations.

The main source of revenue is the sales of the smart stethoscopes. Secondary sources may be subscription costs for the app doing exploratory analysis of the signals from the patients. Licensing the innovation to foreign companies with us/ Ayu holding a patent in India to prevent competition here is also another possible revenue source.

Let us assume the number of devices sold in the initial product development phase till May 2023 is zero. Thus no revenue during this time. After the beta product is ready, initial field testing in hospitals with about 40 doctor and devices will be done. Once this is successful, expansion of sales and marketing to actively sell the product will begin (approx by first quarter of 2024). In the initial 12 months, let's assume 20 devices per month which is a very paltry and conservative estimate. That adds to 240 devices and each device costing 5K rupees, comes to a revenue of 1.2 million, a very small sum, but is ok. In the following 2 years assuming a well executed marketing strategy, we can expect the earning to triple with us expanding across the nation, partnering with hospitals, colleges and journals as discussed in the milestones will definitely increase sales exponentially. Obviously , advent of competitors is bound to come in few years and further research must be done to improve product or expand product line. From 2026, an approx 100% increase in sales you can be expected with more recurring revenue from the app too, making the startup successful!

COST

Main costs involved include

Cost of development of the prototype both iterative and fast prototype building as well as the research to improve the product. (Both app dev and actual product dev costs)

Cost of manufacturing the final products for distribution. (Cost of the materials, chipsets, machines to fabricate the product)

Cost of logistics to ship the product from us to the doctors and medical workers

Salary of engineers and medical researchers on the team/startup

Marketing costs: include ->visits to conferences and expos,->advertisements on medical journals and websites, newspapers, magazines

Overhead costs(office space, lighting, electricity, water, internet etc)

Q 2: Short Answers:

2b)

Block Chain use cases

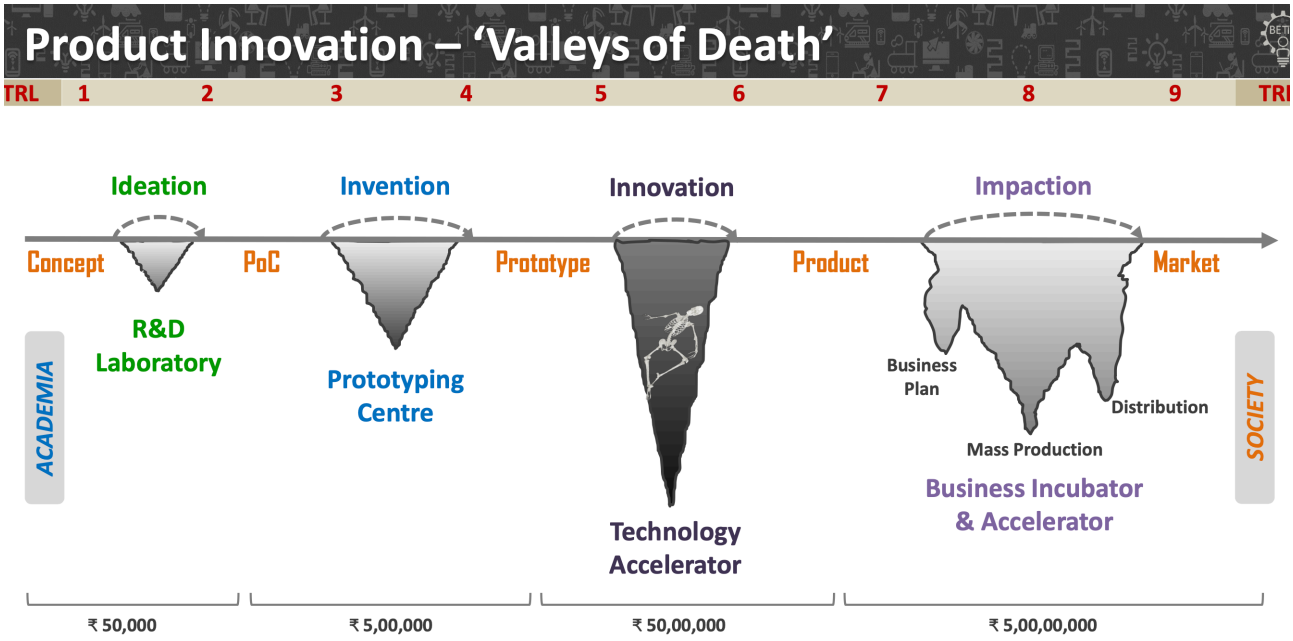
1) Cross-border/ International money transfer

Internal money transfer has always been a hassle with unnecessary fees and taxes being levied on the transaction. Also they are super slow and inefficient taking days to be completed. Blockchain has the ability to offer safe and almost zero fee transactions across the globe almost instantly completing transactions. They are also super safe and tamperproof making it easier to perform audit trails. Current banks have systems to dodge fees, such as moving money from one account to their and depositing it into another account in the recipient country, but they kinda lie on the grey area of the law.

A startup which can offer instant, almost free transactions around the world legally has a billion dollar potential.

2) The real estate market in India is quite prone to cases of fraudsters forging and claiming properties and illegally occupying land etc. A smart contract system of record keeping and tracking to track the ownership of properties based on the blockchain technology is a great way to solve this problem. But such a reform must be done with aid from the government to actually enforce people to use it. Such a change would be huge, kinda like the Aadhaar unique identification system and a multi-billion dollar idea for a startup to offer such solutions. Just by taking a very small cut of the transaction, billions stand to be made as cold hard profits!

2c)



Critical Gap: Translation of research prototypes into marketable products

"Valleys of Death" in the context of Product Innovation and taking a product from Idea to Market are

- Ideation
- Invention
- Innovation
- Impaction (Creating an impact)

INNOVATION: This is the most dangerous "Valley of Death" while Creating your product/startup. Many companies might have an awesome idea to be introduced to the market but, they don't have a plan on how to exactly develop and deploy the product in their target market. They might not know what are the pain points of the target customers and what they need to solve the problem. For instance in the project we worked on, we thought of creating and deploying Amazon Go-like systems in India. It was an awesome idea with futuristic tech and shopping-experience but the cost

to develop it and deploy it as a viable product is just insane. NO store in the country would even think of installing such an expensive system. Our technologically feasible prototype/idea was just not viable to become a product irrespective of the marketing or revenue strategies we devised. An entrepreneur must do a lot of customer discovery by talking with the target customers (for instance we spoke with store managers, store helps and other owners to get a sense of how much the product at hand would be need and how we can tweak it to make it more suitable for the customer's need) and make a product suitable for the customer's need. Looking for other use cases for the product and pivoting the target market is also a good idea if a particular customer segment does span out as expected.

2e)

We at CheckItOut, wanted to make the long, boring and inefficient checkout process faster and easier with the help of cutting-edge technology. We decided on making a fast, automatic checkout system and inventory management system using AI, ML and UV sensors for faster checkouts. Our target customers would be hypermarkets and supermarkets in Tier-1 and Tier-2 supermarkets in India.

Our status involved a bay where the consumer/shopper would enter and all the items would be billed instantly. This tech doesn't exist for now (RFID does but it is expensive to tag every item in the store). We wanted to develop this tech and patent it. This IP would give us a strategic advantage to expand the company with very less competition.Since our competitors must offer a better and quicker way to bill items or pay us royalties to use our tech.

Another IP we would patent is our Analytics and Inventory management software. This software provides customer behaviour (spending behaviour analysis) and other interesting insights to improve the sales/revenue of the stores using our product.

2h) Learning about being a better communicator

1) Speaking Simple language: As an entrepreneur, we will meet people from all walks of life and when we speak, we would like to get our message across correctly. All people might not and need not understand industry jargon you might know, and speaking Tharoorian English might alienate people. Speaking clearly with simple language helps people understand better and makes them associate the topic at hand more deeply. We want people to empathise with our cause and understand our mission as an entrepreneur, and this is vital to achieve that.

2) Talking Slowly and Clearly: People may be amazed by our fluency and the grasp of our language skills when we talk super fast. But the human ears have a lousy memory and the normal attention span is about 5-20 seconds. So correctly placed pauses and pace while speaking or presenting can make or break a speech/presentation/pitch.

3) Maintain eye contact with the listeners/audience and always be buzzing with energy: Some the greatest speakers of the past and present were perceived to be the best not because they had the best killer lines and content, but because they had a way with the audience. They looked into the eyes of the listeners and made the connect with the topic being spoken. They were able to use pauses to emphasise points and create buzz with their passion for the matter at hand. As an entrepreneur we want to build our own unicorns someday. But ignorer to achieve such levels, we must have the ability to rally investor and customers for our cause, create buzz among employees with our words. Eye contact is really important to showcase our confidence and commitment.

2i)

I am a CS Sophie and I am super excited by the advent of AI and ML. I wanted to start my own tech startup in my 20s and I thought DSSE and IITB were just the way to start my journey. Thing I learnt from this awesome course:

1)Always keep looking for opportunities: We all think that there are so many problems around us that we can easily leverage and build businesses out of. When a new company comes out I used to always think “Huh! Big deal. If I had seen that before I would be that guy with the big IPO.”. Only when u start searching for an issue or problem that can viably translate into a company you realise just how hard it is. Some of the founders of giant startups and unicorns searched years for their breakthrough, but one must always be on the lookout. I am on the prowl to find my calling and my jackpot. Till then I just gotta keep searching! :)

2)Managing a team: In my school days I used to work on several projects but mostly individual or in two member teams. I used to select the team before hand to ensure best results. But, working with a super diverse group in this course (I even had a teammate pursuing PhD from SJSOM and 35 years older than me!), I learn how to manage a diverse team and get the best results by using their strengths for the teams overall benefit. It was a wonderful experience with a mentor guiding us throughout the way and will be helpful throughout my professional (and hopefully life as an entrepreneur) in the near future.

3)How to Evaluate Ideas: This was crux of the course apart from brainstorming solutions and problems. It taught us the scientific method of evaluating our hypotheses and making further plans based on a feedback loop mechanism. For Customer Discovery, I wet to multiple store ad randomly approached strangers to ask about our idea. It was an interesting experience and I was able to overcome a stupid fear of being embarrassed to do such things. As a future entrepreneur, I was mad at myself for being embarrassed about this, but after the talks I was just happy that I was able to overcome it. Meeting people, improving my communication skills and sketching new plans for my startup was just awesome and taught me a lot (comm skills, analytical skills etc;)