

**Understanding Incubation and Entrepreneurship**  
**Prof. Chakravathi**  
**Department of Engineering Design**  
**Indian Institute of Technology, Bombay**

**Module - 01**  
**Lecture - 01**  
**Introduction to Entrepreneurship**

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Welcome to the course Understanding Incubation and Entrepreneurship. This course will help you build an entrepreneur's mindset and take you through various stages of how to convert an idea or a solution into a business.

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## Learning through discussion on **Projects and Presentations**

Encouraging **students**  
to become **Entrepreneurs**

All the lectures are recorded from our live classes at IIT Hyderabad and we also have included their project discussions and presentations to help you learn from their experience.

The main idea behind this course understanding incubation and entrepreneurship is to encourage you to become entrepreneurs and not graduate with degrees.

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### **What is covered?**

Introduction of  
pre-incubators and  
Incubators

Experts Consultants and  
Mentors

**12 Exciting  
Modules**

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- Module 1** Introduction to Entrepreneurship
- Module 2** The Entrepreneur on their journey & lessons
- Module 3** Team Building
- Module 4** Customer Discovery - Solar Oven Case Study
- Module 5** Bio-Med Innovation & Entrepreneurship
- Module 6** New Age Entrepreneurship

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- Module 7** Business Model Canvas
- Module 8** Technology Led Entrepreneurship by SINE
- Module 9** IITH Entrepreneurship in Academia
- Module 10** Proof of Concept/Minimum Viable Product
- Module 11** Start-up Projects by Students - 1
- Module 12** Start-up Projects by Students - 2

Well, we have you covered; we have twelve exciting modules for you wherein we have brought in pre incubators and incubators from across the country and also expert mentors and consultants for various discussions and deliberations thereon.

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“Being an **Entrepreneur** is not going to be easy. **Fear of failure** should not stop you from starting up.”

All of you should know that becoming an entrepreneur is not an easy job there is always the fear to fail, but that should not stop you from starting up.

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What **Entrepreneurship** Entails?

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## **1. Who?**

Entrepreneurs are people who spot opportunities where others see confusion.

Let us quickly dwell upon what entrepreneurship entails. Entrepreneurs are people who spot opportunities where others see confusion, they break new grounds to solve problems and bring economic prosperity to the country.

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## **2. How?**

Entrepreneurs break new grounds to solve problems and bring economic prosperity to the country.

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### 3. What?

Entrepreneurs are leaders and have good grasp on all aspects of business from planning, execution, finance and product ideas.

They are leaders and have a good grasp on all aspects of business from planning, execution, finance, and of course, excellent product ideas. Let me share a story with all of you of how to start small. It is very interesting that Bhavish and Ankit are students who started Ola, started very small.

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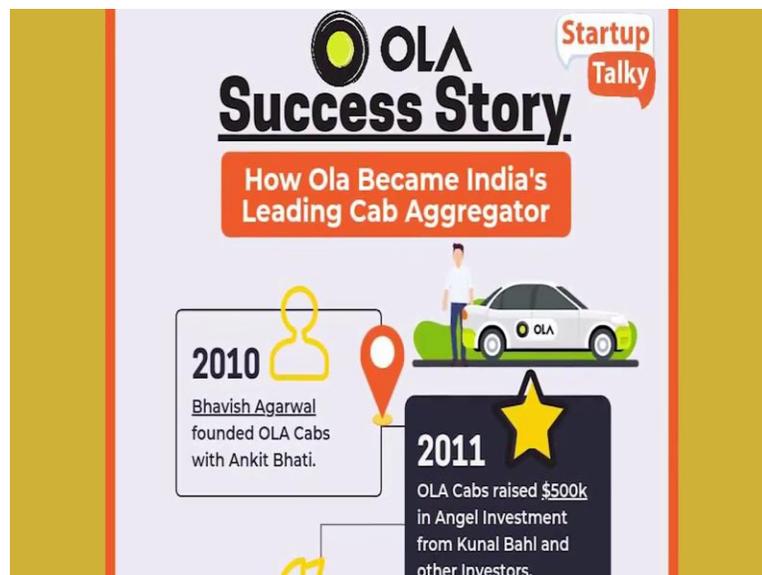
**olatrip.com**

offered holiday packages  
and weekend trips

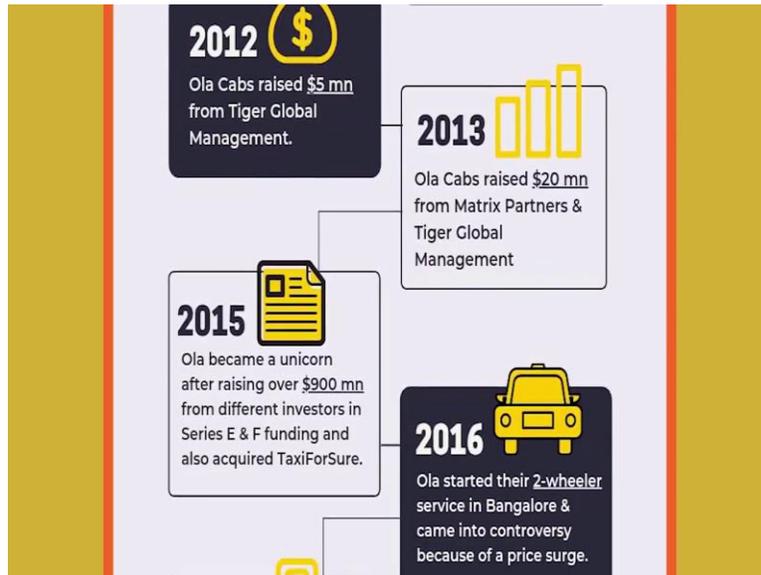
They actually started with a company called Ola trip, this company actually helped tourists to you know navigate through various tourist destinations and help them you know booking and other resources.

It is interesting that Bhavish while traveling to one of these locations had a severe problem with the taxi service. The driver actually left him in the middle because he was negotiating while he was on his travel and left him in the middle and then you know went away, this one idea triggered the whole new company which was Ola.

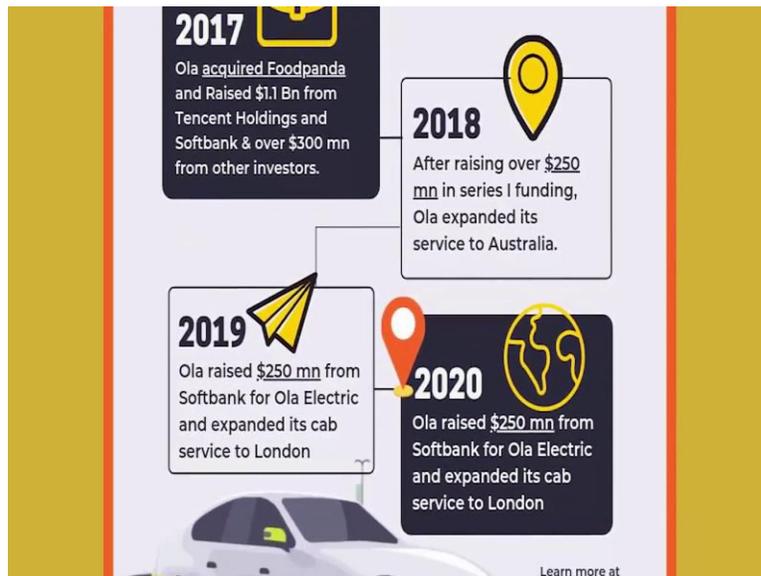
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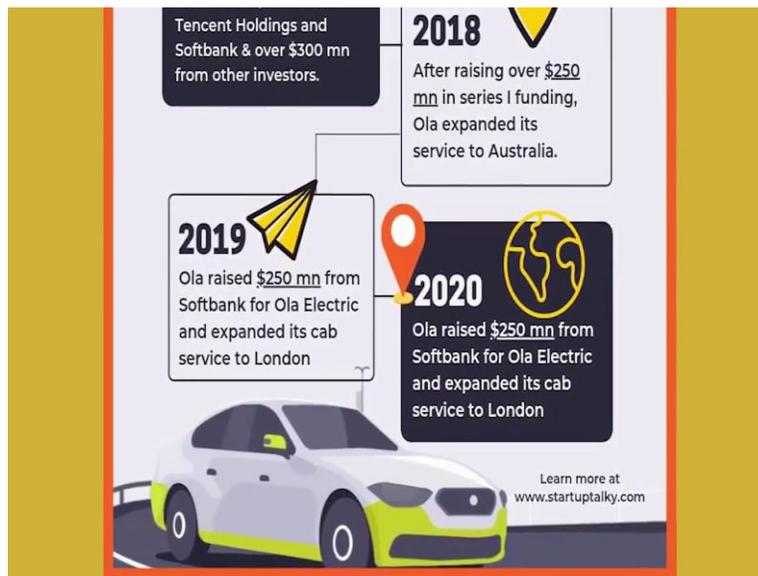
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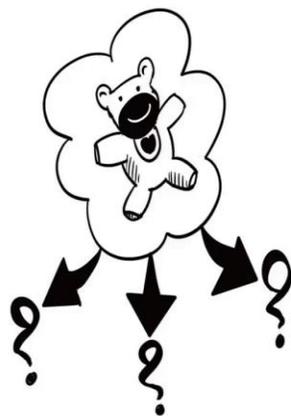
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### Learnings

Customer discovery is the key feature one should follow for any startup

From the Ola story, we have learned that customer discovery is the most important feature in any startup and you saw how Bhavish could trigger the change from being an Ola trip to a taxi-hailing service.

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We are starting our lecture today with evidence-based entrepreneurship. You all can guess how evidence is very important for a startup because you need to know whether your idea is good or not and this is what our Gopalakrishnan Deshpande center for innovation and entrepreneurship has been doing over the years with phenomenal success stories.

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Let me now introduce you to the team from the GDC who are very very passionate about entrepreneurship and who will take us through this journey of how to find out whether our idea will work or not.

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**GDC Team**

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**R. Raghuttama  
Rao**

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## R. Raghuttama Rao

**Chief Executive Officer**, GopalaKrishnan Deshpande Centre for Innovation And Entrepreneurship (GDC)

**Chief Mentor of ICRA**, a credit rating and analytical firm in South Asia and a subsidiary of Moody's.



We have two members from our GDC today we have mister Raghuttama Rao who is the chief executive officer of the Gopalakrishnan Deshpande center for innovation and entrepreneurship. Prior to this, he was the chief mentor of ICRA, a credit rating and analytical firm in South Asia and a subsidiary of Moody's.

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## R. Raghuttama Rao

Raghu's last executive role was as **MD & CEO of IMACS**, a management consulting business which founded as a subsidiary of ICRA, with an operating footprint in over 20 countries.



Raghu's last executive role was as MD and CEO of IMACS a management consulting business which he founded as a subsidiary of ICRA with an operating footprint in over 20 countries.

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## R. Raghuttama Rao

Raghu has post graduate diploma in Management from **IIM Ahmedabad** and has done his Bachelor of Technology in Mechanical Engineering from **IIT Madras**.



Raghu has a postgraduate diploma in management from IIM Ahmedabad and a bachelor of technology in mechanical engineering from IIT Madras. So, it is no wonder that we have alumni working back in the IIT Madras and we can expect a lot of interesting insights and directions for our entrepreneurship course from Raghu.

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**Anand K. V.**



Let me now introduce you to our second speaker mister K. V. Anand.

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## **Anand K. V.**

**Chief Learning Officer**, Gopalakrishnan Deshpande Centre for Innovation And Entrepreneurship (GDC)

Anand has deep understanding of innovation and entrepreneurship, the startup ecosystem in India, and training & coaching methods.



K. V. as we fondly call him has a deep understanding of the innovation and entrepreneurship activities as well as a very deep understanding of the startup ecosystem in the country.

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## Anand K. V.

He was a **Senior Business Leader** in pay television, cable, broadband and e-commerce industries.

He was a member of a founding team and has served as the **Chief Service Officer** of Tata Sky Ltd.



In his earlier avatar, he was a senior business leader in pay television, cable broadband, and e-commerce industries. He was a member of the founding team and has served as a chief service officer of Tata Sky.

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## Anand K. V.

He also coaches and mentors Change Makers, Social Entrepreneurs and Fellows of Leadership Programme for aspiring young Women Leaders.

Anand is a **Cost and Management Accountant** by education (CMA), a Professional Certified Coach, **Interest Inventory professional** and an **NLP practitioner**.



K. V also coaches and mentors change makers, social entrepreneurs and fellows of leadership programs for aspiring young women leaders. K. V is a cost and management accountant by

education, a professional certified coach, interest inventory professional, and an NLP practitioner. No wonder K. V can bring in his rich experience for startups to scale up too.

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Session 1  
Introduction to **GDC** and  
**Evidence** based  
Entrepreneurship

Let me now take you to our first lecture on evidence-based entrepreneurship by the GDC team. Thank you professor Chakravathi you know you will get a flavor of what is this concept called evidence-based entrepreneurship and I can assure you that it is going to be novel.

It is usually not as exciting to sit through a lecture as going through a boot camp because our program is actually a boot camp for about we have a 4-week boot camp we have an 8-week boot camp and both are highly transformational programs. And if at any time, so let me make this an unabashed unadulterated pitch for that.

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# 200 Startups by GDC



Because now that we have done 200 startups and the evidence and outcome is simply overwhelming. All 100 percent of them have been transformed in their own worlds. So, this program is exciting in that sense and today we will actually share with you what this program is about.

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**Dr. Gururaj  
Deshpande**

**Mrs. Jaishree  
Deshpande**

**Mr. Kris  
Gopalakrishnan**



So, as you say this is something called evidence-based entrepreneurship, this is not a term that you will hear very often you know we were set up by 3 illustrious alumnus at IIT Madras Desh Deshpande his wife Jaishree, and Kris Gopalakrishnan.

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Launched **January 2012**  
Commenced operations on  
**August 2017**



And we are about 5 years old today you know as an entity, but as an organization working, we are about 4 years old.

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**S**cience  
**T**echnology  
**E**ngineering  
**M**athematics



And our mandate is actually to work with STEM colleges across India. So, the objective of Deshpande center is to identify such ideas which basically are in the science labs, agnostic to discipline, or domain, but they are science-based and fund them to a level where their results start becoming obvious to people and then the market commercial funding of some kind takes it over and lose.

They have been very successful, they started in 2000 or 2001. 10 years later the US government, in fact, Desh was the advisor to president Obama, he was the co-advisor of innovation to the then-president, and they wanted to step up innovation in the US.

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**President Obama** honors early career scientists and engineers from **National Science Foundation (NSF)**



And along with the national science foundation Dr. Deshpande worked and came up with a program. In fact, the national science foundation-funded that program helped started with people from Berkeley and Stanford, which now runs as, which was running in Stanford as The Lean LaunchPad it was an academic program in Stanford University.

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So, professor Steve blank and a couple of other people they came together this started this program called I corp or Innovation corp this happens less than 10 years back. The program took off and the national science foundation has scaled it across the US.

It has become so successful in universities in the US that now any federal funding whether that goes through NIH that is National institute of health or National department of energy, Department of Defense, NSF itself, and many others they all have to do this program called I corps which is a 7-week program.

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**Entrepreneur** | Faculty  
Scholars  
Students



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## **Research** | **Lab to Market** to create impact at scale



And that is how GDC was set up to see do not become another incubator, but to see how can you improve the impact of RND by helping faculty scholars and students think like entrepreneurs, become entrepreneurial and through take their research to market to a study.

So, how do we do it? We move research from lab to market to create impact at scale, no point doing something which is small you know that is not what we want to do. Can you create impact at scale? Can you create can you help solve blindness? There are more than 2 crore people who are blind in India.

Can you help solve diabetes? Their we are fast becoming the diabetes capital of this country. Can you help people who do not have limbs? The number of ah handicapped people physically is one of the largest in India, you know, unfortunately. So, there are many ah many areas you know where India can be helped and by science and it is not happening.

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## GDC's vision is for India

To be able to solve her society's problems by applying the full capabilities of the **scientific and technological knowledge** of Indian academic institutions through world class **innovation and entrepreneurship**



And therefore, what ideas are that GDC wants to really help with are those that have IP, that have science at their base and those that can go to solve difficult problems that is what GDC does right.

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Improve the **odds of success** of startups emanating from research labs.

Build **entrepreneurial thinking** in campuses by working with STEM colleges and incubators across India.



The second line is very important startups have a very very high failure rate everyone knows that it is a difficult game. In fact, we will talk about it in more detail, our job is to say how can we reduce that also failure right that is what we are trying to do and we are trying to build

entrepreneurial thinking in campuses and we do this by working with STEM colleges and incubators

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**Incubate**  
8 weeks program



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**60% go ahead** with their startups  
**35-40%** people **hesitate** to go ahead  
**10-15% stop** their journey

So, we are not an incubator people who go through our incubate program right which is a which is not we are not an incubator, but which will go through that incubate program of 8 weeks. At the end of it, roughly 2/3rd 60 percent people say I think we should go ahead with our startup about

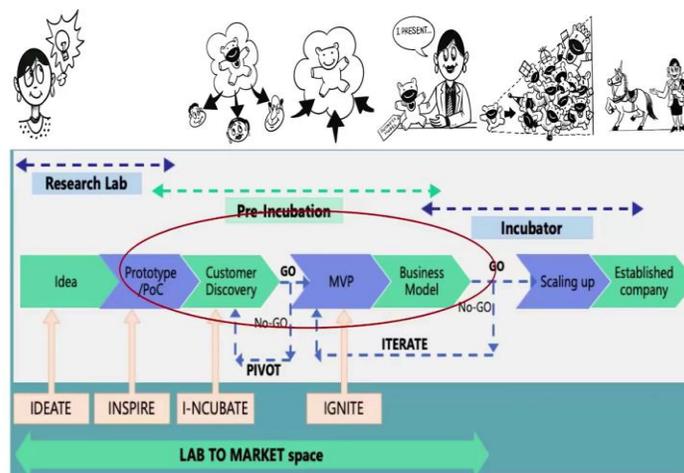
35 percent to 40 percent people are not so sure, they hesitate to go ahead. And some of them actually stop about 10 to 15 percent stop. To us all 3 are success..

This is not a motivation statement I say this, the design of our program is to help entrepreneurs because this is what you will hear in the rest of the morning session.

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“Startups fail not because of bad **ideas**.  
Startups fail because they fail to get **customers**”

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Startups fail not because of bad ideas startups fail because they fail to get customers, that is what happens.

So, this is a busy slide I won't take you through it, but short to tell you that what it says is on the left-hand side is the research lab where you have an idea you build a prototype, and then usually you scale it up go to an incubator you miss everything in this red ellipse out here.

You do something sometimes, but you build you try to start scaling up because your idea is very good, your prototype works, your prototype is very promising and usually, you would have raised some money or some grant or some VC or said you've seen money. But we think that is the reason why startups fail and there are many other intermediate steps which is what evidence-based entrepreneurship forces you to look for.

It looks, it looks at what is called a phase called customer discovery we do this so, the incubate program as you can see here and we make the team go and meet a 100 customers, go and meet a 100 customers out there. Usually, they have met nobody they have met their uncle or their friend's father's friend or mother's friend, and whatever it is who usually encourage them 'beta acha hai ye' [it is a good design] they want to encourage you, but that is not the hard market feedback.

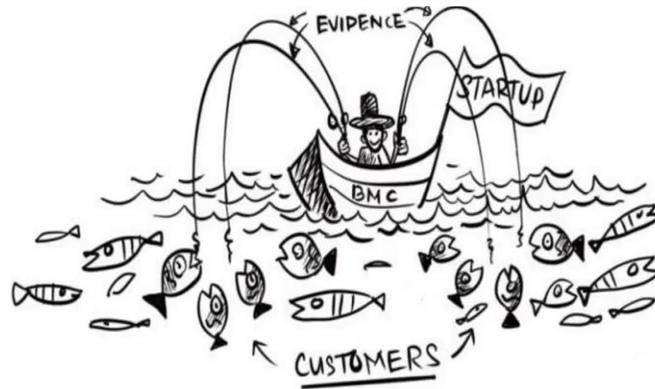
You need to go and meet real customers to see if they are real problems that you can solve and that is what a hardnosed customer discovery program helps you do. Only if that tells you unambiguously to go ahead. Do you then build your minimum viable product, do you then build you know a pilot plant or what have whatever your domain is, do you do clinical studies if you are a medical product, do you see regulatory approval depending on the domain that you work in or and then do you seek to scale up with a business model a partner and so on and then, of course, you raise more money and more ahead.

So, this whole process of evidence-based entrepreneurship is a series of ah experiments that is what we use and I think K. V. Anand will tell you that, you do that and you then look for evidence, and what is an evidence is what goes to the heart of you know telling informing you whether your startup is a better place to succeed than not.

So, that is really what GDC does it is a difficult set of programs that we administer we have we do not apologize for that. Startup is for people with a stout heart and willing to give it all and therefore,

we promise nothing less than that. But those who go through with us are transformed for the better and usually even if their idea does not work out as I told you that is a success because they now know how to fish right.

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Even if they did not get the fish during the program they know how to catch the fish and that is what actually helps them for life with that right. So, our whole idea is how can STEM research be better channeled to solve problems in real life.

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**“Ideas are simple.  
Building a business is difficult”**

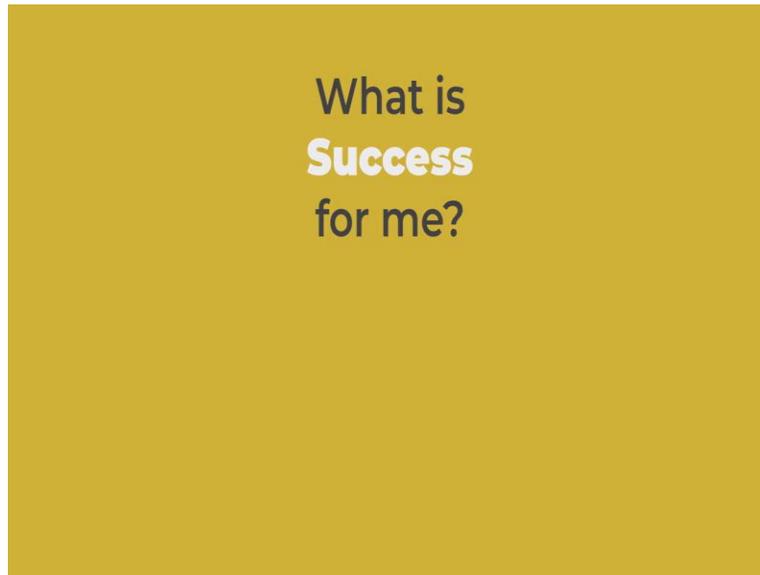
**Startups should be able to  
deliver the product along with  
making money.**

Ideas are simple, building a business is difficult, you know that sums it up. Ideas are simple you can sit and generate ideas you know I can solve diabetes, I can solve blindness, I can go to mars, I can build the cheapest satellite to do this that, I can go underwater, I can do so many things, Ideas!

But when you want to make a business out of it which means that business should make money it should deliver a product or a service and make money at the end of it, enough to keep everybody happy, then you have success.

So, I promise to people that I will come back and ask to you I will not wait for an answer here, but think about it when you have started yourself and you know what is successful? Is it raising money, is it building the product, is it getting a few customers, is it getting a co-founder? All of them are important, but it is useful to understand when you embark on building a startup becoming an entrepreneur and devoting some part of your career and life and savings and all of that.

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You should ask this question of yourself, what is success for me? And that is not a trivial question because that will guide you all the way this is a difficult task. At the idea, stage 99.8 or 99.9 or even higher startups will fail that is the failure rate at that stage.

And the job of evidence-based entrepreneurship is to slowly chisel that number and bring it down before you sink in serious time, serious money and you know other resources into it that should have come down by very very I will never become 0 ever, but it should come down to a much more manageable number.

So, therefore, think about as an entrepreneur what is success, because as I said and that answer does not have to be the same for everybody you know you will know whether your startup will run for 6 months or will it run for 6 years or will it run for 16 years.

Entrepreneurship is about bringing to the table all kinds of resources intellectual physical fiscal financial what have you and to solve the problem and take it ahead that is really what entrepreneurship is about or being entrepreneur is about. Let me hand it over to K. V. So, this evidence-based entrepreneurship and then we read these two words lean startup that is really what I am going to talk about.

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Session 2  
The **Startup** Story

So, let us build a startup story. So, we think about different things when you begin somebody thinks about money, somebody thinks about solving a problem or a fulfilling a need, somebody thinks about customers, somebody thinks about you know how do you connect with a customer. So, you know you may start with something in mind, but all of us begin with this in mind.

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## 1. The Dream



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This is the dream for every startup right you want to be a unicorn how many of you do not want to be a unicorn ok, but it's a big dream right you want to be a winner, you want to be a winner all the way you want to be like the most successful businesses in the world you know whether it is Apple whether it is Google or in India, whether it is a Flipkart or it is an Ola, Oyo rooms so, Byju's now.

So, there are many many examples that all of us are very familiar with who have made it really big. I understood that all of you are in this program because you want to know about entrepreneurship or 25 percent of you have already tried your hands with entrepreneurship you have either built companies or you have worked with startups you have built and moved on.

So, clearly, all of us are do we do have a dream about building a unicorn or a very successful startup that is how we start. So, with this what do we do next, what is the next thing that we think about what we do?

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<b>Idea</b>	<b>Resources</b>
	<b>Impact</b>
	<b>Consumers</b>
	<b>Timing</b>

Do you have an idea you have thought about the resources that you need to think about the impact you can create you also think about consumers and you think about timing ok?

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So, typically what does a startup do they begin with the dream and they think that they are building an empire, will start small and we will become big, all of us have this vision of becoming a fortune 500 or even a fortune hundred company that is the big vision that we have.

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## 2. Disruptive Idea



And then typically what we do is this. So, you have an idea and you also believe that the idea is disruptive, but you are not so blind that you believe that nobody in the world has ever thought about it.

You also look around you look at the competition you look at what is really going to happen if I bring this idea to the world. So, you tend to you think you should study you know what is already happening and not just believe that nobody has thought about what you have thought about. Because most tech startups at least, not just tech startups, In fact, most startups they begin with this belief that their idea is novel is disruptive, and if it is not disruptive what are you building.

If you are not really disrupting can you think of building a unicorn or building another Byju's or another Flipkart? Were they, not disruptive ideas. What is the most disruptive idea that comes to your mind can you give me an example anyone?

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## 2. Disruptive Idea



Student: I mean maybe going to space, taking customer, what Space x is doing right now.

Yes, fantastic Space x is disruptive ok. So, disruptive is not really you know that only Space x can be disruptive if you are disrupting the ecosystem in which the business is operating that is also disruptive.

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What did Uber do did they just come up with the technology or did they do you think they did something really disruptive? They disrupted the entire ecosystem where taxi operators have been operating, the workflow, the ecosystem everything changed. How did you get a cab before Uber? They disrupted the ecosystem, they brought a new workflow for the customer and you know the taxi drivers everybody benefited from this new ecosystem and what the company did with technology.

They call themselves a technology company, but what they did was truly beneficial for so, many people. So, they had they have created impact, they have made it useful for customers, they have thought about customers they have disrupted, they have done everything.

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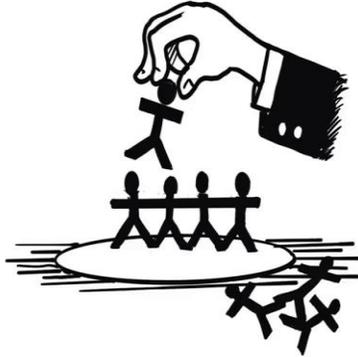


So, all of us at least a typical story starts like this, the founder has a dream, the founder then thinks that I need to start small, but I am going to go big one day I am going to you know be that unicorn and then they believe that the idea that they have is disruptive.

They have conviction and there is nothing wrong. Only if you have conviction about what you are building you will be able to build it successfully. So, this passion, this conviction that I am doing something that nobody has thought about and I am disruptive is good. So, that is how a typical startup starts.

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### 3. Team Building



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#### Team

- Marketing
- Sales
- Finance
- Management
- Raising Funds
- Human Resources
- Technology

And then what do we do and most of us then think about ok I have an idea it is disruptive, I need a team. I know how to code, I know I need somebody who can market it, I need somebody who can sell it, I need somebody who can manage the money raise money and manage the money, I need somebody to you know have relationships with the external world, I need somebody to head technology.

So, you need a solid founding team, you may give yourselves all these titles, but you need equal amount of passion and commitment from all the co-founders isn't it. So, we think about that.

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Do you also think about employing people at this stage for collaboration/ partnerships? I do not have to do everything myself I can collaborate with somebody else. I do not have all the money to hire 20 people so, let me do what I can do best and collaborate the people who have those skills other skills that I do not have that is how we think about it right we think about building an organization.

Do we think about it now or not building an organization?

Student: In my experience, once the founding team has a core plan ready I think then they will think of expanding it, once a certain sampling or pilot run is done.

Right.

Student: And then expansion, yeah.

Sure. So, that is what we do we think about we have an idea sorry, we have a dream, we have an idea, we think about the impact, we think about money, we think about resources, we are convinced that we have a disruptive idea and then we look at division of labor or getting the right skills to

actually build it. So, you would have already started developing, but now it actually can happen full speed, you can go full speed and you can develop the product because you have the core team.

Student: It is the MVP is what we kind of make and then we try to see whether people are interested in it.

So, you are either developing the prototype or you are developing the MVP or you are developing the product or you are thinking about launching the product that is what you do next, correct?

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#### 4. Business model



Student: We also at this stage, from my experience, we were also working at pitching the idea to get more funding.

So, that is where I am right now would you go and launch your product without a plan? How will you pitch, how will you get money and what do people ask you if you ask them for money? So, there is a business plan, what would be the next thing that we would do logically?

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<b>Validation of business plan</b>	<b>Investor Validation</b>
	<b>Customer Validation</b>

Student: I think the business plan should get validated, should have good validation.

How do you validate a business plan?

Student: You have to run it ah through investors, you have to get their opinions and according to that you keep refining your business plan.

So, the investor's opinion will validate the business plan? You are testing the waters at this stage you know you do not have to necessarily validate your plan with the investors.

Student: Right.

You can also test the waters with the customer's right.

Student: Right.

After, all this where do we spend most of our time the founders and where would the founders like to spend most of their time if they are building something disruptive?

Student: I think the balance sheet [laughter].

Balance sheet Oh my god!

Student: Yeah

No no, they will spend all the time on their product.

[laughter]

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Where do  
**founders** spend  
most of their  
time?

Getting new ideas about their product. Making it more complex, world class and full of features.

This is what they do, you cannot sleep, you get new ideas about your product you, want to make your product the best it is disruptive how can it be simple? It has to be complex, it has to be world-class, it has to have all the features. I need to pack my product with all the features.

And every day I get new ideas about adding a new feature to my product. This is what we love doing this is our comfort zone. Customers are not our comfort zone, market is not our comfort zone, our comfort zone is this and all the co-founders sit and dream about that product that nobody has even imagined.

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## 5. The Launch



And then we launch, the founder says great I have got a plan I have got a product that nobody has built I have got packed I have got it packed with all the features and I have this commitment and passion, the co-founding team is equally committed and let me launch.

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>90% of  
start-ups  
get run over  
by **market**

So, we launch, and then what happens is this. More than 90 percent of the startups the number can vary from 90 percent to 97 percent or 98 percent most startups face this when they go to the market, they get run over by the market. And this is the fate of over 90 percent startups. It is not a small

number the startup success rate is less than 10 percent. Globally we are not talking about only India globally, even now after so many years, the success rate is less than 10 percent why.

Student: Customers.

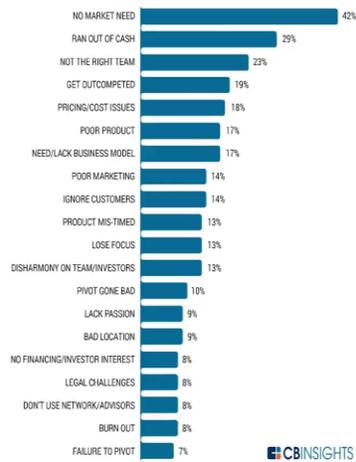
Customers will not accept the change sometimes customers are so, strongly on their own foot that they do not want the change you know.

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Nobody wants to change absolutely we think we are winning, but the market always wins. All of us are aware that it is unpredictable and we can never predict the market, but what also you know we need to think about is the market always wins right.

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**Top 20 reasons startups fail**  
 (based on an analysis of 101 startup Post-Mortems)

CBINSIGHTS

So, this is the fate of most startups and now let us look at the statistics. This is the survey which was done by four thousand tech startups technology-based startups. You are making something that nobody wants or very few people want.

This is the number one reason this data is not different between countries this was done in the US, but this data is very similar in the country as well. So, just about 2 years 3 years ago they did a survey of 1000 startups which started up in India.

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**50%** startups did not survive 6 months  
**90%** startups did not survive a year

Entrepreneurial study conducted by the IBM institute for Business Value based on a survey done in collaboration with Oxford Economics,2017

And 50 percent of them did not survive beyond 6 months and 90 percent of them did not survive even a year. These are people who burned all their resources, they spent time developing a product they took it to the market and, then the market told them sorry we do not need it.

Whether they built sports cars or they built you know something that is common or they made salt that is how you know you look at this data.

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## Why Startups **Fail**?

1. No Market **Need**
2. Ran out of **cash**
3. Not the right **team**
4. Got **outcompeted**

So, the number one reason is this and you look at number two reason and number three reason and even number four reason they are all connected to the number one reason.

If you have hired people and if you have spent a lot of money and you have completely focused on your product, but not focused on what customers need and then you try to take it to the market you see fail to execute sales and marketing, it is not the salesman's fault the fault is in number one the reason number one.

And in India, the data is not very different. If you look at all the efforts that the government and the corporates and everybody is trying to put in to make startups successful, you can understand why it is such a big deal for everybody to spending so, much time and efforts and money to make startups successful and support them. There are grants available there are seed funds available there are angels available everybody is there, but they know that if they invest in 10 startups it is not like all 10 will take off.

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## Why **startups** fail?

Tackling problems that are interesting to solve rather than those that serve a **market need**.

So, that is how the startup world is. This is the truth most people especially the technology startups, the founders stem startups, the founders are in love with what they are creating and they wear blinkers and they don't really even look beyond their noses and they get disappointed.

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## Common mistakes Made by **Startups**

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## 1. **Overestimating** the number of potential **customers.**

So, having said this context let us look at what are the some, what are some common mistakes that startups make. The first thing is we think that a lot of people have the problem one nobody thinks small, even if it is sports cars we do not think 5 sports cars, we think at least 5000 sports cars in year 1 and 50000 sports cars in year 3.

Lot of people have the problem or need and in reality you find that they do not and that is what happens when you lose focus of what you are building. I mean you are only focused on what you are building and without understanding what customers need.

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## 2. **Misjudgement** in ascertaining the **urgency** of need.

The second most common problem is we think that it is urgent. It is a must. These 5000 people cannot live without my sports car for at least even one more day. They are just waiting for me to launch and they are going to grab it and it is a must have for these people, but we find that they do not care. Customers do not care about your product, they care about the solution for their problem. If you can solve it, good.

And we usually talk to people you would have spoken to friends, you would have spoken to your professors, you would have spoken to your parents, relatives would have spoken to a lot of people that you are comfortable talking to.

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### 3. Building a **solution** without talking to the **potential customers**.

Talking to the wrong people.

But you do not talk to the right people who are those right people potential customers you do not talk to them and instead you talk to the wrong people and just go and build a solution. This is a typical startup. If some of you have done it differently, congratulations, you have done something right, but this is what happens to more than 90 percent of the startups they just go and build a solution.

And this is invariably true for every founder, who is building a product that is disruptive or not even disruptive, but building a product making it work is the toughest part, if I do not have a product then I have nothing to sell and what we usually you know forget and we do not talk about the other 99.

So, there are so many other things that one needs to think about and we do not. So, that is really how startups fail. So, these are the most common mistakes that startups make.

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Role of **Lean Startup**

Now, the question is if this has been happening for so many years then why is it not being solved why are we allowing startups to fail at this rate why cannot we just reduce this failure rate at least and that is exactly why lean startup came about. This is evidence based entrepreneurship.

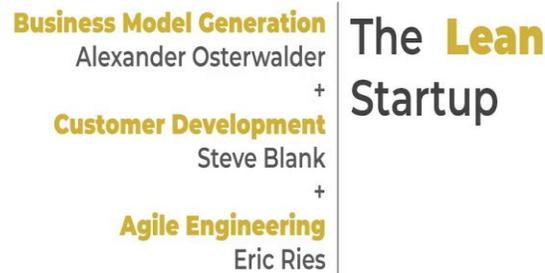
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# The **Lean** Startup

Evidence based Entrepreneurship

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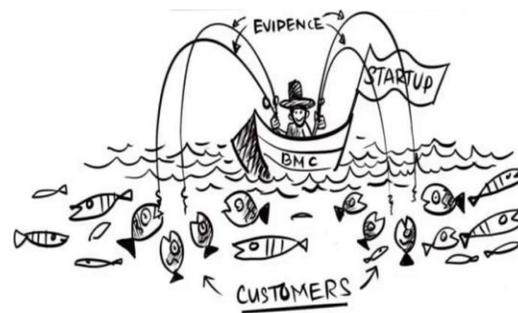
So, lean startup there is a book called Lean Startup written by Eric Ries and that is about agile engineering, MVP development. So, those who are already familiar with MVP will definitely know about Eric Ries because he is the one who developed this you know concept of low fidelity MVP, high fidelity MVP, testing the MVP, iterative process of development, agile engineering. So, that is how it started, but now lean startup does not mean as a methodology just not it is not just dial engineering it is a combination of the three things that you see on screen.

Osterwalder, Alexander Osterwalder is somebody who was doing his PhD and his PhD was about business models and when he was doing that he you know he actually started his own company sorry he went to Steve blank and they joined together. Steve blank was already teaching entrepreneurship at Stanford.

And he had come up with a methodology called customer development they join hands the business model canvas is developed by Osterwalder and then Eric Ries you know he wanted to he wanted to Steve blank to invest in his company he went to him and. So, Steve Blank said I will invest in your company, but with one condition you commence it through your through my customer development and lean Launch Pad or whatever the classes and then you know you tell me whether you still want me to invest.

So, this is how these 3 people came together and they have created something called Lean startup this is a huge moment. I mean movement now and the lean startup methodology is what we refer to as evidence-based entrepreneurship because.

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Need for  
**evidence**  
based  
entrepreneurship

In this methodology every decision you make should be based on evidence and not based on your assumptions or others opinions. Usually we will start up with our assumptions and others opinions

and this completely removes any ambiguity and it says you build your business only based on evidence. Osterwalder developed this business model canvas.

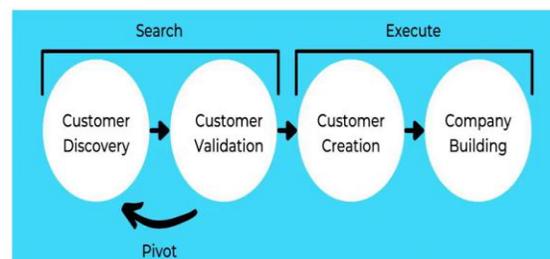
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## 1. Business Model Generation Alexander Osterwalder



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## 2. Customer Development Steve Blank



So, this is a canvas which has 9 boxes, it is a very popular tool. In one page you can see all the 9 things that that are critical for your business and it forces you to think about that. You do not just think about money. So, this tool actually forces startups to think about things that they usually do

not think about. The first rectangle has 2 circles customer discovery and validation and the right you see 2 circles customer creation and company building.

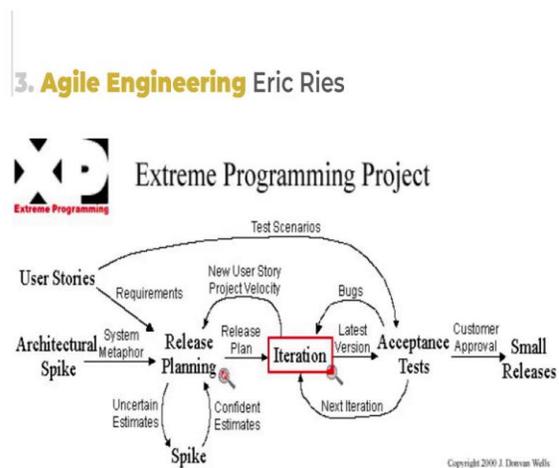
A startup usually spends more time here or startups who spends enough time here on the left hand side has a higher probability of success because they have made assumptions about what customers need and why they need it. They have followed the process of customer discovery and gone and validated them without simply creating the product and trying to sell to customers. Most startups do not spend time on the left side rectangle at all.

They think that they have by building a product that in their minds what customers need and then they go and start selling. This is a huge missing piece in the world of startups and that is really why startups fail.

And then once you have validated all your assumptions about the customers about their needs why they need your product right they will stop buying what they are buying and switch buying switch to buying your product all those answers are here in the left hand side and then you go and start selling at scale and you scale up your company.

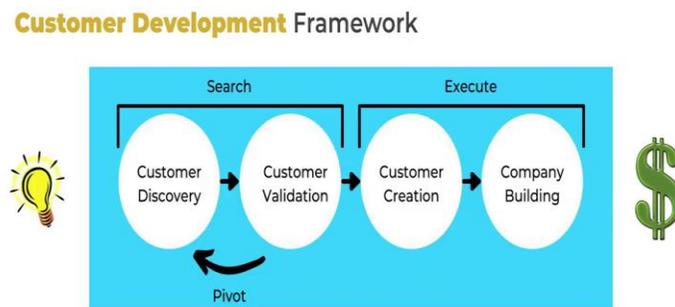
If you do that without doing any work on the left hand side you burn all your resources, startups have limited resources.

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So, this agile engineering is or its the iterative development of product you know gone are those days where you did waterfall engineering because waterfall engineering would take years every cycle would take years, but with agile engineering you do sprints and each print is a, is done by a team. So, these are all very small teams they do not build large teams.

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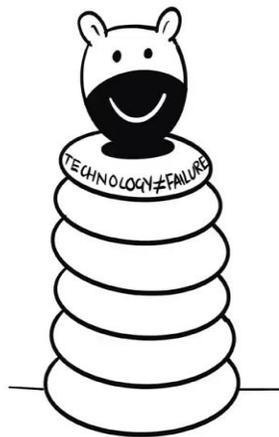


This is the framework which we just spoke about. So, right from the idea stage to the time you start making lots of money. So, this phase the first rectangle or the first two circles on the left side is called the search phase. So, we will explain what is different between a startup and a company or a large company not just a business, but startup and an existing in a corporate.

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## Essence of the **Lean Startup** Methodology

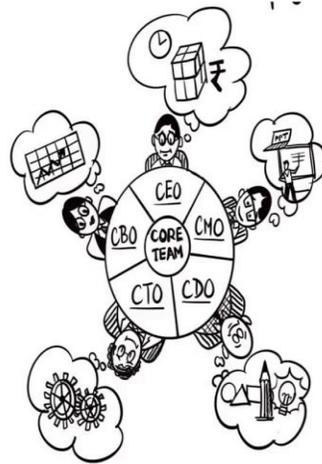
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1. **Technology** is not the reason why startups **fail**.

The essence of lean startup therefore, is this: Technology is not the reason for startups failing in most cases, it is because they built something the market does not need. People think that a startup is a smaller version of a large company and they end up doing what a large company does.

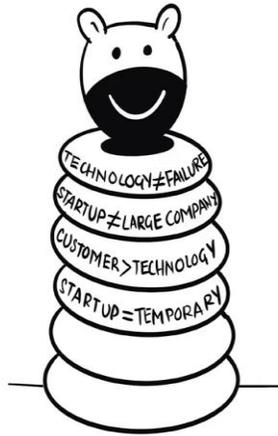
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Functional  
organisation in  
a **large**  
**company**

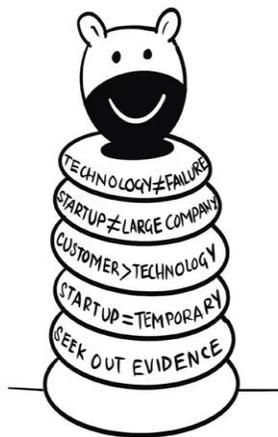
A large company hires people and they get a functional team in place the organization structure will be like you have a CEO, you have a COO, you have a CFO, you have a CTO, you have all the CS and then you have VPS and then you have large teams that is how a corporate or a large company functions, but startups think that they should follow the same structure and they end up putting a functional organization structure too early, when they still do not even know what they are building and when they are going to launch, but a functional organization structure is not the useful structure for a startup; startup even does not have those many people, right. And customers are not interested in your technology or product; they want you to satisfy their needs or they want you to solve their problem.

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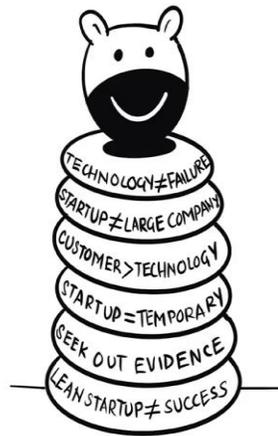
4. A **startup** is a **temporary** organisation.

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5. It is necessary to **step out** to seek **evidence**.

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## 6. Lean startup does not guarantee success.

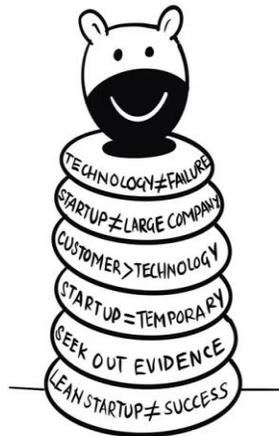
It reduces the odds of failure.

And a startup works very differently. We will see why it is a temporary organization and evidence is not in your office or amongst your friends and family. Evidence is out there and you need to go and seek that evidence. And after all this we do not claim that if you do this, your startup will be successful because a lean startup does not guarantee success, but it reduces the odds of failure.

So, it's de-risking you from building something, spending 2 years or 3 years burning all your money and resources and building something, take something to the market and get disappointed. It de-risks you from that.

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## Essence of **Lean** Startup



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**Startup** vs  
Large  
Company

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<b>Scalable Startup</b>	<b>Large Company</b>
Search for unknown customers	Goal is to execute processes
Learn unknown needs	There is a playbook
Working with guesses	Needs mostly followers
Finding our way around	Known environment

So, this is the essence of lean startup or evidence based startup, these are the fundamental differences between startups and large companies. So, a startup is, startup does not know who its customers are whereas, a large company knows who they are already selling to, but a startup does not know who could be their customers.

So, your customers are unknown in a startup. Therefore, if you do not know the people you also do not know the needs of those people and you are working with guesses, with a lot of assumptions and you are trying to find your way around this is why we call this the search phase.

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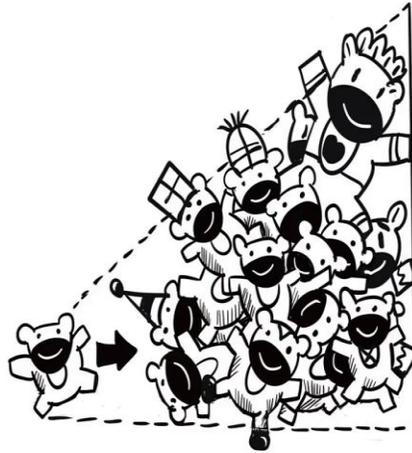
**“Business model is more useful  
for startup than a Business plan”**

Whereas large companies are executing their business plans a business plan is not useful for a startup a business model is useful for a startup. So, if you write a hundred page business plan thinking that your investors will be impressed, again you can you could get disappointed because they do not look at business plan.

They look at how much you know about the customer’s needs and how well have you researched the customers problems and built a solution to solve their problem and then they look at the team that is actually solving the problem, the credibility of the team, the credibility of the customer discovery findings this is what makes an investor invest in you not just because you have a 60000 page business plan ok

So, business plan is not useful business model is what we are searching for we are searching for the right business model.

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A **startup** is a temporary organisation searching for a **scalable** and repeatable **business model**.

Therefore we call this a temporary organization searching for a scalable and repeatable business model. The three fundamental question for any startup or anything that you are thinking innovation.

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### 3 Questions

For any innovation/Startup

Who needs it and why?

Can you deliver that value?

Can you make enough money?



The first question that needs to be answered is who needs it and why. If we do not get an answer to this question and if you go ahead and start building something you could be in one of those 90 percent of the startups that have not been able to make it. Absolute clarity is required when you

get the answer to this question which is supported by evidence. It is not a test where you say you know who needs it and why and your co founder answers it ok all parents needed because of this.

That is not what it means here, what it really means here is can you go and talk to hundreds of potential customers without actually discussing your solution without telling them that you have a solution or a product in mind and listen and only listen about their problems and then come back and do that whatever solution that they are looking for and develop it your chances of success will be higher.

The second question is can you deliver that value it is not about challenging you it is about can you build an organization can you build with the limited resources will you be able to deliver that value we are not asking question can you deliver that product. So, that is what startups again make a mistake they think that they are being asked the question can you deliver that product.

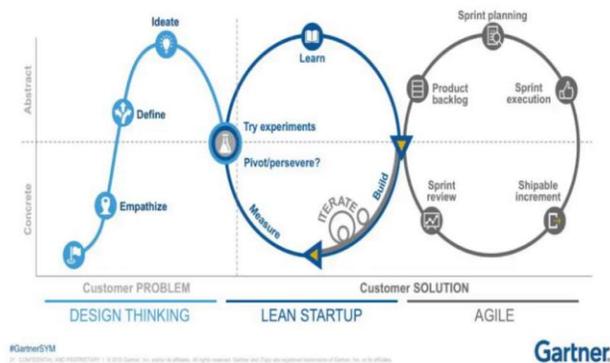
If I replace the question with can you deliver that product your answer will be different and when I say can you deliver that value the answer is different. What is the difference between the product and the value? Is it solving the problem is it fulfilling the need that is valid.

Yeah.

Value not your product. So, here value is not from your point of view it is from the customers point of view. And finally, the last question is can you make enough money? I think one of you spoke about viability yes you need to think about viability early enough because costing a product is not just adding the bill of materials cost there are. So, many other costs that happen and then your business should still be viable unit economics should work that is what we mean here can you make enough money.

These are the three fundamental questions for any startup in this order do not try to answer the third question without answering the first two questions or do not try to order the you know answer the second question without answering the first question.

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And finally, there is a lot of debate that goes on about design thinking and lean startup. Lot of people think that they are opposing a lot of people think that if you do design thinking that is better than doing lean startup because design thinking is really god everything else is slave. But there is no dichotomy there is no you know opposing views between design thinking and lean startup. Gartner has created this they have explained how you begin with design thinking.

Because design thinking requires you to empathize define and ideate right.

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**Validating** the problem at **Customer Problem** definition stage.

But what we do at GDC is that even at that stage of customer problem definition where you are empathizing defining and ideating. We are applying one more layer of validating the problem and then you go to lean startup where you do the do your MVP first cut MVP second MVP, you can have any number of MVPS because it is an iterative process you test it with you know few customers and make sure that the value that they are expecting is getting delivered and you keep iterating.

Yes.

And then we use the agile development to do iterative development. So, this is how you know design thinking and lean startup go hand in hand they work together. So, that is really what evidence based entrepreneurship is all about, it does not work with your opinions or your assumptions and others opinions everything is supported by evidence, what is evidence? When you attend the program you will get much more clarity, but it saves you from building something that nobody wants thank you.

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Session 3

**GDC Incubate Program**

Dinoj Joseph

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## **Dinoj Joseph**

Co-Founder and Director,  
**MedCyor**  
**M.Des.** (2008), IDC, IITB  
Joined **BETIC, IITB**

I am extremely glad to introduce my most favorite student Dinoj Joseph who actually underwent the GDC program and is going to show you the methodology he followed and of course, what he learned in the GDC program and how it transformed his entrepreneurship journey. So, welcome Dinoj let me just quickly introduce you to Dinoj. Dinoj was our 2018 pass out master of design student from the industrial design school here at IIT Bombay.

He then after his you know like graduation one of his projects which he worked on like he wanted to continue that project as an entrepreneurship. He went on and joined the Betik center at IIT Bombay we are going to have the lecture from Betic center in a couple of weeks. And then you know there was no looking back for Dinoj and I do not want to spill the beans here Dinoj you are welcome thank you so much for agreeing to talk to us you know let us hear your story.

So, thank you very much Chaku sir and it was always pleasure being a student of yours and we have actually learned you know the idea of product development and entrepreneurship everything from IDC IIT Bombay. So, here I want to explain you about how my life transformed I would say life here because it is not just entrepreneurship journeys about the transformation what happens from a student to an entrepreneur.

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## **Incubate**

8 weeks program



So, this is what I want to explain through this program and how GDC I incubate program helped a crucial role in transforming. So, as you all know like GDC I incubate is a program which is really focused on entrepreneurship, especially in the part the need identification.

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**GDC** Incubate Program

## **Need Identification**



So, need identification is one of the key element in a in the journey of entrepreneurship, because in IDC we have worked we have learned product development and we have worked on a lot of projects.

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IDC **M.Des.** Project

## **Portable** operation room for conducting surgeries in **remote** areas

So, the project known as project known as a portable operation room for conducting surgeries in remote and low resource settings was my master's project and I had a design in my mind and I have made it during my course. But I was not sure like who is going to be the real customer or the customer identification part was not perfectly done.

But I remember Dinoj you traveled all the way and you did very good user survey for sure you know when you designed your product.

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## What was **lacking**?

1. **Customer Identification** was not done in a **structured** way.
2. Lot of **information** was gathered but there were no **insights**.
3. The project was more driven by the **authors idea** rather than discovering customers.

Yeah, so even if I had conducted a lot of travels and met a lot of people, but they were not in a structured way. So, I was getting a lot of information, but I was not really getting an insight like how I should rearrange to assimilate that and how I should take decision points to refine my product. I was mostly concerned with my idea and there was like more me in that rather than you or you here I mean the user.

Yeah.

And that is what the transformation happened to me and I feel like this should happen to each one of us who is into entrepreneurship or into product development.

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## The Team



Dr. Rupesh Ghyer  
Faculty lead



Mr. Narayan Iyer  
Mentor



Mr. Dinoj Joseph  
EL



Mr. Arun G Krishnan  
Team Member



Mr. Shubham Pallod  
Team Member



Mr. Hariom Saini  
Team Member



Dr. Rose Sweety Dinoj  
Team Member



So, we had a beautiful team from comprising of mentors from various expertise and as I mentioned earlier I was working with Petik at that time and Petik has really helped me to understand the clinical immersion part and we had a 4 member team and we joined I incubate program with this idea what I discussed before.

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## Prosurge

**A Sterile Enclosure** for conducting surgeries



So, the basic idea or the concept was a sterile enclosure for conducting surgical procedure and there were certain assumptions what we had while entering into the program. I thought here I would say I because that is what you know as a designer we generally think.

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## The Assumptions

1. **Rural surgeons** are the **primary** customers.
2. Surgical site **infections** cause mortality in **emergency situations** (disaster, defence and trauma).
3. There is a need of a **quick deployable solution** in such cases.



So, here I thought the rural surgeons are going to love our product are going to use our products. Then again I thought like the surgical infections are majorly causing and this is happening this is leading to a lot of issues. Then for this what I felt is like the solution is going to be only what I have discussed and you know there should be some quickly deployable solution which should cater to all these problems these are the assumptions from which we started.

But the GDC team insisted us to validate each of these hypotheses.

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## Meeting Customers



And that is not just by Google research it was by going and meeting persons in face to face asking them questions having a [FL] with them spending enough amount of time understanding their feelings understanding their you know their personas and really deep diving into their life and to understand what are their concerns that was something very important.

So, we have traveled all across the country and met more than 100 customers and we visited more than ten states we met people like the patients from the poorest of the poorest places in the country to the richest of the richest places in the country. We met ministry level people we met government officials we met college professors we met the hospital cleaning staff we met the doctors we met the nurses and a lot more.

And what we found is like even as in something specific initially our hypothesis for the rural surgeons are going to love our product and that was true they love the product, but the issues like there are other set of issues like financial there are other stakeholders like decision makers. So, we were not at all approaching those people or we are not focusing on those people.

So, it is not just was one customer for a product what we have it is all bunch of stakeholders like decision maker, the one who is going to invest on the product, the one who is going to get benefit

out of the product, one who is going to use the product. And again there is someone who will be always looking to stop our business it can come in all forms.

So, we should be aware about all the you know things what we will found in the ground reality and we should have plan and strategies build up accordingly. So, this was one of the key learning's we got from the methodology what we followed which was mentioned which was taught in the GDC I incubate program.

So, as I told from this solution how we transform this like we got there was an eye opening interview which I will be explaining later.

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**A Sterile Enclosure** for conducting surgeries



That we got an understanding like it is not just for surgeries what we really need, but there is another huge segment known as burns why because generally for the surgery it is just a half an hour or one hour thing what we are looking at and the cost come for the product compared to the benefit they get and there is a huge difference.

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## The Findings

Some **burn injury** patients need 40 days of treatment

A solution specifically designed for burn injury patients can considerably reduce the **bed and hospital costs**

More than **700,000** people need the treatment

**1,400** facilities available



And generally in lower source setting they are already short of financial things and they are not really you know capable of affording it in a developing country like India. But if you see the burns market actually it is not a one hour thing it is more than you know 40 days treatment what the patients need. So, if a patient can afford a 5000 rupee enclosure they can use it constantly for the coming 40 days which will be more adding more value to their life.

And if you see the current market size there are more than 7 Lakh people who need the treatment and currently thousand four hundred facilities are available. So, that is a kind of market or the scale of market what we really have in front of us.

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Year	Session Name	Topic	Speaker	Key Points	Speaker	Value Proposition	Customer Segments	Channels	Customer Relationships	Revenue Streams
2020	Business Model Hypothesis	Manufacturing of endoscopes and air handling unit			Dhanu Joseph					
2020	Customer Interview	In Person Meeting with Jeff, Dr. CNC Videre	Infection from medical students to patients can happen in academic institutions.	Site in academic institutions there will be a lot of people in the OT and infections can happen from students to patients, some students can be sick also. Its estimated 12.5% more chance of SSI in there in academic institute compared to other hospitals, more of people more cross-infection.	Dhanu Joseph	Value Propositions				VP: Clean room for conducting surgeries
2020	Customer Interview	In Person Meeting with Ajay Joseph, Dr. Tirumangala Medical college	In dermatology, Stevens-Johnson syndrome & toxic epidermal necrolysis are two medical emergencies that can happen for dermatology patients and need to be isolated in a clean space.	In dermatology, Stevens-Johnson syndrome & toxic epidermal necrolysis are two medical emergencies that can happen for dermatology patients and need to be isolated in a clean space, the chance of occurrence is 1-4 per million it happens due to the allergic reaction of drugs, the extra skin sheds, are the bacteria patients infection can easily get through the skin. Gave 2 patients per month, mortality rates 30.3%, SJS 5%.	Dhanu Joseph	Customer Segments				CS: patients admitted in general ward during post operative period (this includes burn patients)
2020	Customer Interview	In Person Meeting with Ajay, Dr. CHRF Jamshedpur	Most of the NGOs's health focus on community health care.	Mainly his team focus on prevention and community health care programs like malaria prevention. Diseases like Malaria, dengue, etc mosquito net is good for isolation. Lack of vital or infectious epidemic isolation units is required. Currently, isolation is not an issue for them, but will be useful for isolation in Gov hospitals/catering to large volume)	Dhanu Joseph	Customer Segments				CS: patients admitted in general ward during post operative period (this includes burn patients), CS: Rural surgeries
2020	Customer Interview	In Person Meeting with Jay, Dr. CHRF Jamshedpur	The government has restrictions over the medical camps.	The government has restrictions over the medical camps as officials they are not collaborating with the government and they don't publish the data in the public domain, going to the field is generally difficult to conduct surgeries but its good if there is a mobile operation room.	Dhanu Joseph	Value Propositions				VP: Manage high volume of patients VP: Accessible in remote areas
2020	Customer Interview	In Person Meeting with Neel, Mr. CHRF Jamshedpur	They strictly follow the procedures in OT and infection and there's no infection.	They don't have laminar flow in OT but follow proper procedures in OT and haven't got any infection as far. They sterilize the instruments properly and fumigate the OT before the procedures they don't have much patient load and have 100% daily during the time of Medical camps, they have large patient volume. They do around 400 surgeries yearly, during medical camps. Even in camps, they follow the procedures but it is difficult to achieve the best OT quality since they convert some rooms into OT if patient volume is large.	Dhanu Joseph	Value Propositions				VP: Clean room for conducting surgeries, VP: Manage high volume of patients
2020	Customer Interview	Phone Call with Ravi, Dr. CHRF Jamshedpur	For medical camps, it will be helpful to have a mobile shift OT which can convert minor OT or normal rooms in OT.	Getting Surgeons from Canada USA etc they will be available for 10 days may they have 3 OT and they make temporary settings with equipment to do minor procedures. They haven't got any big infections so far everything is under permissible limits. But the quality of air and etc is increased the infection rates will come down and patient recovery will be faster.	Dhanu Joseph	Value Propositions				VP: Clean room for conducting surgeries, VP: Containment of infection and body fluids spillage, VP: Portable and quickly deployable
2020	Customer Interview	In Person Meeting with Anur, Dr. LRF Humeika	For Medical camps, a portable cleanroom will be helpful.	Here 5-6 OT in place but uses it only during times of medical camps 700 surgeries annually. In the span of 4 weeks there will be enough doctors and patients with all facilities. Since they have OT they are capable of conducting surgeries but there are other NGOs like this who can do minor procedures. It will be good to have a portable facility for doing it. Cost per surgery is also important.	Dhanu Joseph	Value Propositions	Customer Segments			VP: Accessible in remote areas, CS: Rural surgeries
2020	Customer Interview	In Person Meeting with Anag, Dr. LRF Humeika	Isolation camps need a clean space during it.	For critical care being the patient in the hospital going to the post of patient will be difficult since there can be different types of emergencies, but for an emergency, there can be a unit with equipment to do the procedure. But such cases will be rare once in 3 months etc. There can be issues if something happens to the patient it can be risky for tech surgeons also. In get tech assistance it can be difficult.	Dhanu Joseph	Value Propositions	Customer Segments			VP: Accessible in remote areas, VP: Clean room for conducting surgeries
2020	Customer Interview	In Person Meeting with Anur, Dr. LRF Humeika	Burn patient care is important.	Burn patients are getting a lot but they have to refer to other hospitals since they don't have good facilities. If there are less than 40% they treat or they have to send to higher centers. If there's more clean facility it's becomes easy for them to treat tech patients and patient recovery rate will be faster and mortality rates can be less also.	Dhanu Joseph	Value Propositions	Customer Segments			VP: Clean room for conducting surgeries, CS: patients admitted in general ward during post operative period (this includes burn patients)

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2020	Customer Interview	In Person Meeting with Jay, Dr. Karamjee Hospital	Burn patient care is important.	Burn patients are getting a lot but they have to refer to other hospitals since they don't have good facilities. If there are less than 40% they treat or they have to send to higher centers. If there's more clean facility it's becomes easy for them to treat tech patients and patient recovery rate will be faster and mortality rates can be less also.	Dhanu Joseph	Value Propositions	Customer Segments			VP: Clean room for conducting surgeries, CS: patients admitted in general ward during post operative period (this includes burn patients)
2020	Customer Interview	In Person Meeting with Venu, Mr. Unil works, Hyderabad	For construction sites or for interior designers at site need a clean space work.	For construction sites or for interior designers at the site need a clean space to work. They also need to monitor the work, the main issue is not using a laptop currently they wear masks and gloves but always worried about laptop getting contaminated. When the work progress they need to shift tech setup	Dhanu Joseph	Customer Segments				CS: Drug/food making or packaging units, mobile phone or sensitive equipment requiring units, portable biohazard cabinets, Portable Office units for accidents (in the process of secondary research)
2020	Customer Interview	In Person Meeting with Kanish, Dr. Begumt Medical college	Cost is the most difficult thing in rural surgery.	In rural surgery, life-saving becomes more important in (emergency cases) in clean space is sometimes difficult to establish, generally, rural air is clean but still, it can cause infection. There are multiple factors for infections. Don't have statistics regarding infection. What ever design is there should be cost effective, portable and quickly deployable.	Dhanu Joseph	Value Propositions	Customer Segments			VP: Accessible in remote areas, VP: Clean room for conducting surgeries, CS: Rural surgeries, MS by selling the product at a marginal cost and main revenue will be from the consumables.
2020	Customer Interview	Phone Call with Bouthi Sami, Dr. Aramchal Gov Hospital	For outreach programs getting a clean space for surgeries are difficult.	Infections can easily happen to patients due to which antibiotics to be provided to patients and patient recovery becomes difficult. Cost and the patients are reluctant to come to town hospitals since they have to travel over long distances.	Dhanu Joseph	Value Propositions				VP: Accessible in remote areas, VP: Clean room for conducting surgeries
2020	Customer Interview	In Person Meeting with Anandh, Dr. BARC	Diabetic patients are more prone infections since their immunity is low.	Diabetic patients are more prone infections since their immunity is low (immunocompromised), wound management needs to be done in a clean environment. For diabetic wound management, not all cases are done in a proper environment due to which they are more prone to infections. Not all diabetic foot wounds are infected.	Dhanu Joseph	Value Propositions				VP: Clean room for conducting surgeries
2020	Customer Interview	In Person Meeting with Naveen, Dr. BARC	The infection can happen through the surgical site through air borne contaminants.	Its difficult to find the source of infection but if the patient care kept at clean environment and protocols are followed the infection rates will be less. Wound management is important the infection depends on patient to patient.	Dhanu Joseph	Value Propositions				VP: Clean room for conducting surgeries
2020	Customer Interview	In Person Meeting with Mitha, Dr. BARC	There is no research conducted in rural India to find regarding SSI.	The SSI can be due to various reasons if all procedures are followed SSI will be less, post-surgery also the SSI can happen. Keeping patient in a clean environment just after surgery is also important. Gov Hospitals sometimes have to keep patients in the general ward and patient recovery time increases due to infection.	Dhanu Joseph	Value Propositions				VP: Clean room for conducting surgeries
2020	Customer Interview	In Person Meeting with Kiran, Dr. BARC	SSI data is not available in India.	They are trying to create data by interviewing doctors. There's no doubt whether clean space is needed or not but they are difficult to establish due to patient load, cost, and feasibility.	Dhanu Joseph	Value Propositions				VP: Clean room for conducting surgeries
2020	Customer Interview	In Person Meeting with Harikumar, Dr. Gov. Hospital, Chhattisgarh	Infection rates after surgeries are high.	After consecutive surgeries, infection rates can be high since there's less time to clean the space which is already contaminated. They generally convert a clean room or a good space in OT after fumigation. For surgery they can have cost more than 20000 for fumigating a clean space.	Dhanu Joseph	Value Propositions	Customer Segments			VP: Accessible in remote areas, VP: Portable and quickly deployable, CS: NGOs, CS: patients admitted in general ward during post operative period (this includes burn patients), CS: Rural surgeries
2020	Customer Interview	In Person Meeting with Mahamandir, Dr. Gov. Hospital, Chhattisgarh	Don't have clean space for surgeries during medical.	They don't have clean space for conducting surgeries at remote location (outreach medical camps etc) they clean out space and does surgeries. A portable and quickly deployable solution are required.	Dhanu Joseph	Value Propositions				VP: Clean room for conducting surgeries

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25/1/2020	Customer Interview	In Person Meeting with Mohamad, Dr. Gov. Hospital, Chittagong	Don't have clean space for conducting surgeries during medical camp.	They don't have clean space for conducting surgeries at remote locations/remote medical camps etc they clean site once done surgeries. A portable and quickly deployable solutions are required.	Dina J Joseph	Value Proposition	VP: Clean room for conducting surgeries	
25/1/2020	Customer Interview	In Person Meeting with Nishkar, MD, Devalamal hospital	Infected patient isolation is important	(Nurse) They keep the patient in general ward if the patient doesn't have money to pay for rooms if the patient is having an infectious disease not always they isolate them. They ask the patient to wear the mask.	Dina J Joseph	Value Proposition	VP: Containment of infection and body fluid spillage	
25/1/2020	Customer Interview	In Person Meeting with Kumar, MR., Devalamal hospital	Patient don't have many options and getting a good treatment is expensive.	(patient/Caring from Bihar, here happened while cooking they were referred to RMB from the healthcamp. I have to stay for around a month. Here they didn't get a bed elsewhere was a bed free on the patient had to be on the floor. They are along with other patients and bystanders in hospital this adds on to the air-borne/infection rates.	Dina J Joseph	Value Propositions, Customer Segments	VP: Affordable in remote areas, CS: Patients, CS: patients admitted in general ward during post operative period (this includes hernia patients)	
25/1/2020	Customer Interview	In Person Meeting with Araf, Dr., Devalamal hospital	The expansion of hernia world is expensive because of infrastructure cost, and cost of maintenance	They have 12 bedded hospitals, now planning to expand due to the patient demand. Maintaining patient providing clean environment is difficult and expensive, very few hospitals have the facility. All the hospitals treating for hernia patients should have clean isolation rooms, the isolation rooms are expensive and they don't allow bystanders inside except for pediatric patients. If patients section come family they keep them together. Not all patients can't afford the expense of treatment per day room read in 2K INR and general ward read in 1.5K INR.	Dina J Joseph	Value Propositions, Customer Segments	VP: Affordable in remote areas, VP: Clean room for conducting surgeries, CS: patients admitted in general ward during post operative period (this includes hernia patients)	
25/1/2020	Customer Interview	In Person Meeting with Joshi, MB., Devalamal hospital	Burns patient isolation is expensive and this limits their capability to treat the patient.	They get 30 patients monthly; it's a 12 bedded hospital. They maintain the patients in separate cubicles with individual air and air purification units. Still worried of getting infections since perfect air management is difficult. The isolation burns patient is important since they are prone to air-borne infections. They get patients from all over the state and from other states also. There are very few hospitals which cater specific to burns patients.	Dina J Joseph	Value Proposition	VP: Clean room for conducting surgeries, VP: Manages high volume of patients	
25/1/2020	Customer Interview	In Person Meeting with Deepthi, MB., RMB	There's no isolation for Burns patients.	General ward/beds available, critical patients are taken to ICU, don't have individual/beds for patients. Sometimes more patients come and beds won't be free unless have to lie down on the floor. The patients take around a month to recover from the injury. Reducing such a clean environment. They have a separate dressing room for the patient. If patients are not contained then post infection is hard through skin.	Dina J Joseph	Customer Segments	CS: patients admitted in general ward during post operative period (this includes hernia patients)	
25/1/2020	Customer Interview	In Person Meeting with Praveetha, MB., NNDM	Medical camps are based mainly due to a lack of infrastructure.	Centralized medical camps these types of infrastructure is cater to the post-operative, in such cases mobile OT or portable settings will be useful. For mass sterilization camp etc there's a problem due to lack of infrastructure. Infection cases happens if the air quality is not maintained.	Dina J Joseph	Value Propositions, Channels	VP: Affordable in remote areas, VP: Clean room for conducting surgeries, VP: Containment of infection and body fluid spillage	CH: Advertisements in conferences, surgical expo, medical colleges
25/1/2020	Customer Interview	In Person Meeting with Divyraj, MR., NNDM	LaQhys is the new guideline for labor room quality improvement initiative.	LaQhys is the new program for improving Labor room quality, one of the strategies in reorganizing aligning Labor room and Maternity layout and work flow. So some product align with the program can be fitted in. The effectiveness of labor room is very important and it's a must for C-section type surgeries.	Dina J Joseph	Customer Relationship, Customer Segments, Value Proposition	CR: Maintaining statistics of SSIs in a particular hospital, CS: Rural surgeons, VP: Portable and quickly deployable	CS: patients admitted in general ward during post operative period (this includes hernia patients)
25/1/2020	Customer Interview	In Person Meeting with Deepank, Dr., NNDM	C-Section is major surgery, and it should be designed for dealing with emergencies.	In C-section the surgeons are more convenient to do procedures in a traditional OT were they're trained to do the procedures. The C section OT should cater to dual emergencies, new low care areas, waste disposal etc. For those procedures In India there are protocols, so a different protocol will have to be established if needs to be fit in the existing protocol.	Dina J Joseph	Value Propositions, Customer Segments	VP: Clean room for conducting surgeries, VP: Containment of infection and body fluid spillage, CS: Trauma care wound management	
25/1/2020	Customer Interview	In Person Meeting with Yara, Dr., Gov sec NNDM	Getting Surgical crew is the most difficult thing, even if OT is there.	There is a dearth in rural areas. But there is a lack of medical personnel (doctor/nurse) rural areas to perform surgeries. So even if infrastructure is made available getting DR will be difficult. The place were Surgical team is there with patients and OT is not available such a thing will work. This type of situation happens during Medical camps' war or in disaster. The medical surgical camps are often/established by Gov. holds state responsibility, they prefer good OT to conduct the procedure rather than in makeshift setups. The disaster prediction becoming very accurate compared to previous years. So the conditions will better. If an emergency unit is there few will be brought by Gov. to deal with.	Dina J Joseph	Customer Segments	CS: patients admitted in general ward during post operative period (this includes hernia patients), CS: Rural surgeons	

So, being told this I just want to show you the in depth process or you know what we followed. So, whatever interviews we conducted we have to do the mandates are forcing us to you know type everything down, record the videos, record the audio it was very difficult for us in the short span of time.

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25/1/2020	Customer Interview	In Person Meeting with Nishkar, MR., NNDM	They have R&D units in Japan and South Korea so they are the decision-makers for new projects.	Have units which can be deployed/routinely in case of a disaster, they follow a specific protocol (mentioned in the disaster plan in MSJ website). In Japan they have a research center to research and develop new products for disaster management. They have annual conference as well in expo were they showcase new products. In India they don't do surgical camps in a routine basis in Africa and middle east they do surgical medical camps.	Dina J Joseph	Channels, Revenue Streams, Value Propositions, Customer Segments	CH: Advertisements in conferences, surgical expo, medical colleges, RS: by selling the product at a marginal cost and main revenue will be from the consumables, VP: Clean room for conducting surgeries, VP: Portable and quickly deployable, CS: Head of Disaster relief organizations, CS: Trauma care wound management	
25/1/2020	Customer Interview	In Person Meeting with Sijander Ahluwalia, Dr., TB Association of India	TB patients need isolation units especially NDR/XDR TB.	They have 1, 50-700 bedded hospital (exclusively for TB and respiratory medicine). In all hospitals have such isolation units. They have TB centers in most of the states. Who helps in treatment. Min 21 days are required to identify the patient has TB or not.	Dina J Joseph	Value Proposition	VP: Containment of infection and body fluid spillage	
25/1/2020	Customer Interview	In Person Meeting with Nishkar, MR., IFRC	Support innovative projects and it needs to be submitted to the international office directly.	They take care of procurement but generally, it's by international tender. If new health care devices after clinical trials it can be recommended to the redcross. Then they find international tender. For new products can be approached to stock red cross international team with data and certifications.	Dina J Joseph	Value Propositions, Partners	VP: Manages high volume of patients	AP: UNDP, WFP, MSF, Redcross
25/1/2020	Customer Interview	In Person Meeting with Ravi, Red Cross, Delhi HQ	They process everything by international tender.	Red cross India mainly work on blood bank, supply of human resource and community health. They collaborate with other Gov. organization like NDR/In case of disasters. They get relief material from other countries also in case of disaster. For conducting surgeries they have camping tent but not anything exclusive. The IFRC takes care of procurement.	Dina J Joseph	Customer Segments	CS: Head of Disaster relief organizations	
25/1/2020	Customer Interview	In Person Meeting with Kumar, MR., NNDM (Managing school, Agri)	NDA can act as an influencer or recommend a product to there.	The 3 key features they focus are 1. Quality 2. Good accessibility 3. Affordability. They set an insurance organization, for American Bharat Suktam which is recently started. They give money to hospitals for based on the services they provided (Gov.) they don't directly distribute or process anything but act as an influencer. For starting with new healthcare products they recommend to the hospital (they act as an influencer or recommend). They support all healthcare projects improve the quality accessibility and affordable.	Dina J Joseph	Channels, Revenue Streams, Customer Relationship, Value Proposition	CH: Advertisements in conferences, surgical expo, medical colleges, RS: by selling the product at a marginal cost and main revenue will be from the consumables, CS: Head of Disaster relief organizations, CS: patients admitted in general ward during post operative period (this includes hernia patients), Value Proposition (CR: Maintaining statistics of SSIs in a particular hospital, VP: Manages high volume of patients	
25/1/2020	Customer Interview	In Person Meeting with Kumar, MR., IIT Patna (Partnering school, Agri)	They conduct 10-12 surgeries per day.	They carry resources for conducting 10-12 Surgeries per day and have got set for power so whatever units they have should be of less power consumption, the team from AFMC or other field hospitals assist them during a situation of war or disaster.	Dina J Joseph	Channels, Value Propositions, Customer Segments	CH: Advertisements in conferences, surgical expo, medical colleges, CH: Army health care product procurement, VP: Clean room for conducting surgeries, CS: Healthcare material procurement officer of Army	
25/1/2020	Customer Interview	In Person Meeting with Sanku, MR., IIT Patna (Pharmacist)	The surgeries they conduct is using Lead Acetate	Pain surgery there will be 3 people (Surgeon, Circulating nurse and surgeon scrubbers) they done procedures in LA. The main type of surgeries are Amputations (surgeries and shell removal) wound care, the most injuries are amputations were the entire limb will be	Dina J Joseph	Customer Segments	CS: Head of Disaster relief organizations, CS: Healthcare material	

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23/1/2020	Customer Interview	In Person Meeting with Sunit, M., @ Para (Paratrooper school, Agri)	The surgeries they conduct is by using Local Anesthetic, don't use GA.	Para surgery there will be 3 people (Surgeon, Circulating nurse and surgeon scrubbers) they do procedures in I.A. The main type of surgeries are Amputations, leg and chest wounds but also etc. the worst injuries are amputations were the entire body will be wounded and will be infected since there will be soil debris in the wound. Even if the patients are saved after surgery their high risk of patient cross infection in case of multiple cases or frontal bone infections. In case of epidemic wide spread patient isolation becomes very important.	Dhanu Joseph	Customer Segments	CS: Head of Disaster relief organizations, CS: Healthcare material procurement officer of Army	
23/1/2020	Customer Interview	In Person Meeting with Rاجر, M., @ Para (Paratrooper school, Agri)	They have collaborative research programs that support new projects.	Their research programs were they give seed funding for good research projects, they give mentoring in product development and testing. The @Para@the regiment is the only one Para trooping regiment for doctors in the country and which consists of Doctors and medical professionals.	Dhanu Joseph	Customer Segments	CS: Head of Disaster relief organizations	CS: Trauma score wound management
23/1/2020	Customer Interview	In Person Meeting with Yashvir, Dr., @ Para (Paratrooper school, Agri)	They conduct surgeries during disaster aids.	They have done rescue missions during war, abolishing disaster there are around 50 field hospitals which are having OT (Operating room), X-ray, and treatment of Indonesia etc they had involved rescue missions. Other organizations such as Red Cross and MSF were disaster. They will have an approx. requirement of 100-200 unit and if any reasonable 100 units per year.	Dhanu Joseph	Customer Segments	CS: Head of Disaster relief organizations, CS: Healthcare material procurement officer of Army, CS: Trauma score wound management	
23/1/2020	Customer Interview	In Person Meeting with Shivaas, Dr., @ Para (Paratrooper school, Agri)	They strip the current OT including a vehicle OT (welding shop).	Strip everything including Tanks, vehicle operation room etc by parachute then they drop personnel. They will be having enough idea about the terrain and they do this during the night since the day this will be more visible by the enemy troops. Once landed the Para platoon break into smaller platoon to search for personnel and equipment, then they communicate to the paratroopers. Whatever equipment should withstand the landing and they have special packages that absorb shock, they have 20T in their troops.	Dhanu Joseph	Customer Segments	CS: Healthcare material procurement officer of Army	CS: Trauma score wound management
23/1/2020	Customer Interview	In Person Meeting with Haritesh, Dr., @ Para (Paratrooper school, Agri)	Spring life is most important during the time of war.	Medical officer, they do training for maintenance on a routine basis and during time of peace work. The paratroopers 3 responsibilities to protect themselves, to rescue the casualties (frontline war front and fight back if required) or performing any procedure as the war front will be difficult since it will be active attack. They bring the back and after first aid done life-saving surgeries behind the enemy lines were the OT will be established, from there they will be air lifted.	Dhanu Joseph	Customer Segments	CS: Head of Disaster relief organizations	CS: Healthcare material procurement officer of Army, CS: Trauma score wound management
23/1/2020	Customer Interview	In Person Meeting with Anshul, Dr., @ Para (Paratrooper school, Agri)	Army uses 2nd world war vintage OT, with an air control.	They serve as front line of defense they go in to the war field behind enemy lines by Paratroops, the OT, Weapons, Jinks, Generator set, medicines, equipment etc. The existing OT equipment is a poor source etc. weight around 2T. The paratroopers bring with 20-25 Kg weight carried mainly we open communication unit etc. After air dropping everything is assembled and procedures are done. Patient elevating is the main aim of Para trooping doctors at the war front, so they bring the soldiers inside the back in the field hospital. Sterilization is not done in the OT they have. Sterilization is done in one OT they deployed the OT they use along with the instruments and equipment's.	Dhanu Joseph	Customer Segments	CS: Healthcare material procurement officer of Army	CS: Trauma score wound management
23/1/2020	Customer Interview	In Person Meeting with Shrey, M., JNMC Medical college, Thiruvai	Post operative patients are sometimes admitted general ward.	They get with variety of patients at initially diagnosing them takes times till then they will be in ward there's high risk of cross contamination. The burn patients are also kind in ward sometimes. The blood test is not carried out for infectious diseases so there's a risk of getting infection from the patient while cleaning and dressing.	Dhanu Joseph	Customer Segments	CS: patients admitted in general ward during post operative period (this includes burn patients), CS: Trauma score wound management	
23/1/2020	Customer Interview	In Person Meeting with Deepak, Dr., JNMC Medical college, Thiruvai	MIM, XDR TB patients need to be isolated sometimes they are admitted in the general ward among other patients.	In general surgical ward or in normal general ward a clean space isolating the patient to prevent cross contamination and containing the patients is important. TB patients are now sometimes placed in general ward under supervision.	Dhanu Joseph	Customer Segments	CS: patients admitted in general ward during post operative period (this includes burn patients), CS: Surgeons in Primary and Secondary Hospitals	
23/1/2020	Customer Interview	In Person Meeting with Raj, Dr., JNMC Medical college, Thiruvai	Trauma score wound management cross-infection on hopes	They have been emergency management facility (2nd best in India), here at the hospital have adopted DRAM (Disaster Response and Management) protocol. The patients/volunteers are not as great as at other hospitals. They have a minor OT room there (equipment is maintained, but at JNMC there is a need for maintaining patient in a clean environment also avoid cross infection.	Dhanu Joseph	Customer Segments	CS: Trauma score wound management	

But somehow we managed to do that and the results were amazing. So, you can see how much amount of information actually we got among this whatever I have highlighted are like the very good insights which led to the pivoting of the idea itself.

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23/1/2020	Customer Interview	In Person Meeting with Nishu, M., JNMC Medical college, Thiruvai	Infection score common among burn patients.	Gets patients with different types of burns mainly from, fire while cooking, accidents from fire crackers, fire while burning scrap, epilepsy of elderly people falling to fire. Kids mainly get burn from hot water. Initially patients clean and medicine is applied and dressing is done this to be done in every clean environment. After they are either shifted to room or to burn ward there is air controlled and AC is provided if patients don't have money they come to go hospital but generally they take loan or they try to arrange the money from somewhere. At least patients are in the hospital till they are stabilized, in the hospital ward room rent is 12000 and room rent is 18000.	Dhanu Joseph	Value Proposition, Customer Segments	CS: patients admitted in general ward during post operative period (this includes burn patients)	VP: Clean room for conducting surgeries
23/1/2020	Business Model Hypothesis	Trauma score wound management			Dhanu Joseph			
23/1/2020	Customer Interview	In Person Meeting with Prashant, Dr., JNMC Medical college, Thiruvai	For trauma care wound management need sterile space which hospitals doesn't have in case of mass casualty.	If patients comes with deep lacerated wound their good chance of infection. If wounds are infected wounds they have to do it in the minor OT as instance of it need to be investigated. For each case they use separate draping, gloves, for treating patients but even if instruments are sterilized and procedures followed control over the environment is very less. In case of mass casualty most of the hospitals will be in short sterile environment to give quality 1st aid care and for doing microsurgical procedures.	Dhanu Joseph	Customer Segments	CS: patients admitted in general ward during post operative period (this includes burn patients), CS: Surgeons in Primary and Secondary Hospitals	
23/1/2020	Customer Interview	In Person Meeting with Prashant, Dr., JNMC Medical college, Thiruvai	Burn patient isolation is very important.	Currently for plastic surgery they have good OT and infrastructure. For burn patients they had to refer some cases outside since they don't have facility to treat them in Kerala there are 2-3 hospitals having the capabilities treat the burn patients. If the patients can't afford the treatment they have to be in the ward they use mosquito net to contain the patients in the general ward. They always show backward with the patients in ward or at rooms. Chances of infection are high if in the ward, and they don't do any study to identify or to patch the infections. For patients having contagious diseases need an isolation unit, currently they are admitted in the ward if they can't afford rooms or of resources unavailable.	Dhanu Joseph	Customer Segments	CS: Head of Disaster relief organizations, CS: patients admitted in general ward during post operative period (this includes burn patients), CS: Surgeons in Primary and Secondary Hospitals	
24/1/2020	Team Presentation	808 - ProCharge Presentation 01/24/2020		<a href="https://drive.google.com/file/d/1GZNV9NPNuP6iK06e4V3k4Yn4m1Fv/view">https://drive.google.com/file/d/1GZNV9NPNuP6iK06e4V3k4Yn4m1Fv/view</a>	P, Thiruvai			
16/3/2020	Customer Interview	In Person Meeting with Prashant, Varkay, Dr., JNMC Medical college, Thiruvai	Burn patient treatment needs a clean enclosure to keep the patient.	For conducting surgeries they currently have operation rooms and they follow the procedure infections can happen, improving the standard of OT will improve the wellness and recovery of the patient. In normal hospitals, it will be difficult to establish a new form of the surgical procedure since the existing surgical cover is well tested in an existing system. The hospitals have already invested in a system and it will be less likely for them to change in lot a new system. But for wound management currently for the doctors antiseptic management has a pain of getting cross infections to the patients due to which hospital reputation, more burden on medical staff longer hospital stay etc happens. Currently, before taking the patient to OT wound cleaning in case of dehydrated wounds isobutanol increases since they don't have proper isolation units in case of mass casualties normally patients are treated in the ward were the chances of cross-infection is very well possible. For multidrug-resistant TB cases patients, not all hospitals have facility for isolation units. The 3 admitted in the general ward if they can't afford a room or if rooms are unavailable. The current cleanroom facility needs huge investment in infrastructure and maintenance. For Burns, the hospital receives 600 patients annually and 60% has 40% severe burns, infections are common and it results in the slower recovery of patients and some patients even die due to infections. Dressing the patients on maintaining the patients need to be a clean environment. For faster wound healing 'hyperbaric oxygen therapy' is used in which an entire room oxygen concentration is increased currently the hospital in India doesn't have such a	Dhanu Joseph	Customer Segments	CS: patients admitted in general ward during post operative period (this includes burn patients)	

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17/1/2020	Team Presentation	HR - PreSurg Presentation 01/1/2020		The hospital(ZMC) hadnot they demolished the facility due to administrative reasons. If therapeutic clean room have hyperbaric conditions inside this will help in faerward healing and it will help in treating burn patients <a href="https://drive.google.com/drive/u/0/folders/1EgW5WpN5StranSf8AAGz_GdE_E">https://drive.google.com/drive/u/0/folders/1EgW5WpN5StranSf8AAGz_GdE_E</a>	P. Thiruvai			
9/1/2020	Customer Interview	In Person Meeting with Sandharan, Mr., Chief information officer (CIO) per hospital	Conducts eye camps in mobile	They currently have 2 vehicles fitted with Optical OT. It used to conduct eye surgeries in various parts if the district. they don't do other surgical outreach programs. they prefer bringing patients to the hospital.	Dinaj Joseph	Customer Segments		CS: Rural surgeons
9/1/2020	Customer Interview	In Person Meeting with Dna. Dr., ZMC Medical college Thiruv	They now refer most of his patients to other hospitals since they dont have clean space to keep the patients.	The 2nd best facility for treating burn patients, they currently use mosquito net to keep the burn patient in the general ward, so most of the cases are referred to other hospitals. They have reduced no of burn patients and during Dec/18 most of the cases came majorly outside state/camp. After surgery patients prefer rooms pay wards if patients who cant afford they take general ward.	Dinaj Joseph	Customer Segments		CS: patients admitted in general ward during post operative period (this includes burn patients)
9/1/2020	Customer Interview	In Person Meeting with Srividya, Ms., Medical record keeper (PKD per hospital)	They get 50-70 burn patient annually but only treat 4-6 patients since they don't have clean space to keep the patients.	The facility not keeping burn patient in separate op most of feb 2nd degree and 3rd degree patients are sent to other hospitals, this hospital is not only for hospital treating for burn.	Dinaj Joseph	Customer Segments		CS: patients admitted in general ward during post operative period (this includes burn patients)
4/1/2020	Customer Interview	In Person Meeting with Bindya, Ms., Head Nurse (post surgery ward, Pratikad Dist Hospital)	Post operative care patients are brought to the main hospital in general ward due to lack of space.	Postoperative care patients are sometimes admitted to the general ward due to a lack of space. In the surgery ward also a chance of getting infection more than infection getting from OT, they identify SSI if they see any coming from the ward during dressing.Don't have a separate facility for burn patients.	Dinaj Joseph	Customer Segments		CS: patients admitted in general ward during post operative period (this includes burn patients)
4/1/2020	Customer Interview	In Person Meeting with Sampath, Dr., CMC Vellore	Instrument sterilization and safe surgical team practices are more important than air quality.	Prefer to do surgery in hospital than conducting surgery at the site earlier it was an issue but now almost all places have good road connectivity. In the rural places of cross-infection is less and the environment is clean. In SSI a key component is the CMC main hospital, the SSI in CMC is also low and under NABH limits.	Dinaj Joseph	Customer Segments		CS: Surgeons in Primary and Secondary Hospitals
4/1/2020	Customer Interview	In Person Meeting with Poo, Ms., Red Cross	Rural patients are brought to the main hospital for conducting surgery.	Community health dept focuses on prevention mainly. But conducts outreach surgical programs for after the screening, camp bring patients to the hospital. This is more effective than taking the surgical team to the site since, other facilities like a blood bank, instrument sterilization setup, etc to be carried. In south India there is not such a requirement since there is good road connectivity.	Dinaj Joseph	Customer Segments		CS: Rural surgeons, CS: Surgeons in Primary and Secondary Hospitals
9/1/2020	Business Model Hypothesis		patients admitted in general ward during post operative period (this includes burn patients)		Dinaj Joseph			
16/1/2020	Team Presentation	HR - PreSurg Presentation 01/1/2020		<a href="https://drive.google.com/drive/u/0/folders/1fV8YDZ6s_gblwv1Rr4d7Pz3P_d">https://drive.google.com/drive/u/0/folders/1fV8YDZ6s_gblwv1Rr4d7Pz3P_d</a>	P. Thiruvai			
21/1/2020	Customer Interview	In Person Meeting with Poo, Ms., Red Cross	Red cross support volunteer and resource soon	They mainly conduct training programs. Red cross works on disasters. Secord Hospital has mobile ICU in which they conduct minor surgeries they do 1 day activities disaster. Red cross acts like a HR addressess volunteer organization on				

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21/1/2020	Customer Interview	In Person Meeting with Poo, Ms., Red Cross	Red cross support volunteer and resources soon demand of collector, also responsible for conducting training programs related to disaster preparedness.	They mainly conduct training programs. Red cross works on disasters, Secord Hospital has mobile ICU in which they conduct minor surgeries they do 1 day activities during disaster. Red cross acts like a HR addressess supplying organization on request of the district collector. There is blood bank and blood donation vehicle with redcross, they conduct disaster preparedness training for volunteers and other health workers etc. There will be orientation at each state in which there will be disaster but it becomes active during the time of disaster generally a special committee will be appointed under the district collector under which discussions are taken (District collector will be the decision maker).	Dinaj Joseph	Value Propositions, Customer Segments		VP: Clean room for conducting surgeries, CS: Rural surgeons
21/1/2020	Customer Interview	In Person Meeting with Durandha Pd., Mr., Infection control, GK Hospital	Hospitals stick to the guidelines more than trying to experiment and figure out what is the infection rate.	They don't disclose the infection-related statistics, but the informed it in the accepted guidelines since there is being the CSI below the recommendations. It doesn't have an antibiotic policy for the hospital so the antibiotic dosage is doctors' choice.No data or research on how SSI happens in a not done, key try to adhere to guidelines.	Dinaj Joseph	Customer Segments, Value Propositions		CS: Rural surgeons, CS: Surgeons in Primary and Secondary Hospitals, VP: Clean room for conducting surgeries
21/1/2020	Customer Interview	In Person Meeting with Kachap, Beck, Dr., (Civil surgeon), I CMC) GK Hospital	International IECU (Emergency relief units) of each nation could be approached for disaster-related products	The civil surgeon is the decision-maker to see what facility for surgery. He was a provision during the time of the disaster when the earthquake happened he was posted at the Bhajaport to decide which patients to be sent where and to make a record of the people sent to various locations. Since there was an OT or space to conduct surgeries almost all patients were sent to other locations, the biggest issue was no one had proper data of the patients later identifying them became difficult. There was no plan for anyone to face such a huge disaster, but the participation was good. During disaster Decross, red cross, APMC doctors, N2P's & other organizations participated etc other than Emergency response teams of Ireland, Ukraine, UK, Russia, etc had helped during the disaster(They better understand what to do in the disaster, they could approach). District commissioner will be the focal point, here is also rural reservation, since it was under the infection rates were low during the Bhajaport/Camp at P & D (P&D) (in understand disaster preparedness plan) Mr CS (Maha) (P&D) Gank Nagar Lakshmi should be contacted since they had also very well involved in the disaster relief program. In disaster COMED commanding officer military lead IAR commando, Dr. Mehta Additional Director Medical services, Dr. Upen Gandhi Asstt director for medical services. C: @ms.health@gmail.com (The CS/DMA, QEPN etc are decision-makers, QMBC is the procuring department paper. It's a bit difficult from gov offices to get the exact information if they're in service so the reliability of the data needs to be verified).	Dinaj Joseph	Customer Segments		CS: Head of Disaster relief organizations, CS: Rural surgeons, CS: Surgeons in Primary and Secondary Hospitals
21/1/2020	Customer Interview	In Person Meeting with SR Babu, Dr., GK hospital (Bhaj/Blood Bank Incharge, Ret. (CDD) (Bhawanar) GADMC	Aphorotomy surgeries require clean room and the chance of infection is higher than normal delivery	Have done birth control surgeries (infections are not found), Modular/mobile OT should be present in all PHC, upgradation, instrument, gowning, etc are very important. These outreach programs weekly 2-3 cases are referred aphorotomy surgeries are also important and common. Below each PHC 5-6 Sub centers.	Dinaj Joseph	Value Propositions, Customer Segments		VP: Clean room for conducting surgeries, CS: Rural surgeons, CS: Surgeons in Primary and Secondary Hospitals
21/1/2020	Customer Interview	In Person Meeting with Martin, Mr., GK hospital (Bhaj) PH Assistant manager	For rural medical camp and for visiting locations, PH Assistant manager	Conducts outreach programs at rural areas(Bhawanar/18km, Khanda/5km, etc) are extremely rural places. Have functioning infrastructures but difficult to get doctors even by offering 3rd shift duty and medical staff. They conduct surgical medical camp. Catch in the largest district in Asia. Cataract surgeries, Tabacco/vaccination surgeries, dental procedures etc are conducted. Mobile ICU is not ready to conduct these procedures. They had plants establish temporary medical camp during Rann of Kutch festival at white desert also in areas like Leh, etc. In camp, 100-200 patients are checked. For surgeries, auxiliary facilities like a blood bank, instrument equipment, etc are very much essential.	Dinaj Joseph	Value Propositions, Customer Segments		VP: Clean room for conducting surgeries, CS: Rural surgeons, CS: Surgeons in Primary and Secondary Hospitals

So, you can see earlier we had told like the surgeons are going to love the product they love the product they identify the need everything is true, but there is a huge part of finance what should go into it right. Then from this we actually got an idea like there are other markets and what we should what we can cater then here I have highlighted something related to the defense.

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	Interview	with Martin, M., GK hospital Bhuj, PH Asstt manager	camp and for mining locations, during the Gadh festival, etc a mobile portable classroom is required for medical procedures.	extremely rural places, have foundation/infrastructure but difficult to get doctor/even he offering 3 full salary and medical staff. Don't conduct surgical medical camp. Catch in the larger district in Asia. Cancer surgeries, Tabesomyelomeningitis surgeries, dental procedures etc are conducted. Mobile ICU is used mainly to conduct these procedures. They had plants establish temporary medical camp during time of karn festival or while desert also in areas like mining etc. In camps, 100-200patients are checked for surgeries, military facilities like a blood bank, instrument equipment, etc are very much required. Akhanda NADIN Varma 756767610) sites in each medical camp (Monthly 2-acres are there ) which are referred to GK hospital. In GK Or simultaneous (Cholelith O/T) cases are sometimes conducted In single room multiple deliveries are disbursements.	Dhanj Joseph	Value Proposition, Customer Segments	conducting surgeries, CS: Rural surgeons	CS: Surgeons in Primary and Secondary Hospitals
21/2020	Customer Interview	In Person Meeting with Dr. Neerajon Bhadurkar, Dr., GK hospital Bhuj. (Chief medical superintendent, gynecologist)	Maternal health and infant mortality are the most important parameters of the health growth parameters of a nation.	There are villages at a distance of 100-150kms, from the hospital. To reach out to them is a challenge. The parameters to measure IM, Fetal weight, blood sugar, anaemia, etc are the most required items. Most of the patients brought to hospital for delivery they are identified by the health workers by the PH or CMC doctors. Never does surgeries at their location but can have an ambulance requesting for conducting emergency surgeries. During the disaster these facilities were segregated and as per priority they were sent to various hospitals. In Gujarat and nearby places like hospitals in Mumbai etc. There is a severe shortage of hospitals at remote locations since doctor/patient urban setups due to facilities. Cost and accessibility are very much important, especially in rural settings. Give strict guidance to safe surgery practices and WHO guidelines something significant which needs to be followed.	Dhanj Joseph	Value Proposition		VP: Accessible in remote areas, VP: Clean room for conducting surgeries
11/2020	Customer Interview	In Person Meeting with Vinod Yadav, Dr., BSM Hospital	Orthopedic surgeries are highly prone to infections.	Dr. Yadav is an orthopedist in the Trauma Care unit of BSM Hospital. He said orthopedic surgeries are non-elective surgeries. In trauma also, emergency cases in the orthopedic division are very high.	Shubham Paliwal	Customer Segments	CS: Patients	
21/2020	Customer Interview	In Person Meeting with Chayanswar Ran, Dr., Arocl Hospital	Surgical and post-op care units for disaster in a rural area.	Chayanswar, Lead of disaster relief operation at Bhuj area during 2001earthquake) All health facilities infrastructure along with personal are affected. All who had resources to move out of the area went out including medical practitioners. No building was secure enough to treat the patients. The treatment was started in nearby end/region after 8 hours of the disaster, people were randomly arranging things from everywhere (100% illegal after few days 'voting' company had mobile/communication and that was transported to the location to make emergency shelters and all life-saving/preventers were done there. Most of the people were sent to Allahabad and returned after giving first aid. Safe and operation facilities were the most common ones that were found. The most important thing to perform the surgery in a clean environment/for conducting the procedure. CPOD of the district should have the plan for disaster management and a approach, things in the property which is followed, 20th Jan the incident happened and still April the rescue programs were conducted. The earliest ground/warehouse set up was there for 2 years still the hospital was constructed.	Dhanj Joseph	Value Proposition, Customer Segments	VP: Accessible in remote areas, VP: Clean room for conducting surgeries, CS: Head of Disaster relief organizations	VP: Manages high volume of patients
11/2020	Customer Interview	In Person Meeting with Dr. Bhatia, Dr., Nair Hospital	In most surgeries, infections are acquired in post-operative care.	Dr. Bhatia is an Assistant Professor and a general surgeon at Nair hospital. We wanted to know how the Government hospitals in remote areas manage the high load of patients and if they abide by minimum standards set by CDC or WHO. In most BMC hospitals, air quality is monitored thoroughly. Infections are contracted due to the patient's anaesthetic kit or due to the surgeon's error. Surgeries are worried about getting infected due to splashes of contaminated fluids. Surgeons contract TB, and even HIV due to contact with infected fluid.	Shubham Paliwal	Value Proposition, Customer Segments	VP: Clean room for conducting surgeries, VP: Containment of infection and body fluids spillage, VP: Manages high volume of patients, VP: Reduced surgical preparation time in case of consecutive surgeries	VP: Accessible in remote areas, CS: Healthcare material procurement at office of Army, CS: Rural

So, during the course of our work we met the 69 Para regiment in Agra and we spoke to them.

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## The Findings

Indian defence lacks the OTs to conduct surgeries in a safe and sterile way.

Low volume requirement. Not viable for a startup



So, we understood like still they are using the Second World War windage OTs for conducting surgeries and it was like a very sad thing like you know. The Indian defense still not really having enough products for conducting this kind of you know surgeries in a very safe and sterile way.

So, we told them like we have such a solution and will if this going to be any sort of help for you. Then they agreed like this sounds promising and currently we are having discussions and we are going to parallelly develop a product for them, but again there is an issue is that the kind of product volumes what they need is low. So, as a startup you cannot sustain like even if you have got a dream project.

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**“You sometimes have to keep your dream project on the back burner for a project which can generate revenue.”**

But sometimes you have to focus on other projects what will generate revenue for your startup then you can focus on the dream project or you know the project what you really need. So, right now you can assume like we have shelved the operation room project and we are focusing more on burns because both of them has got equal need and the patient is a patient you cannot say like you know only the customer segment is large then only we should treat them it is never like that.

But as a startup there is a different strategy, what I feel like we should do it right now.

In fact.

So.

Dinoj its so nice its music to my ears when I hear all these aspects of business coming in because that is the core right entrepreneurs have to make money and they have.

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To actually you know sell a large number of products to make both ends meet and you know and make the company you know like successful and prosperous that is really really excellent you know how you know you could you know like the change from you know.

In fact, you also rightly said that you are not going to shelf it you may just once you have your main product you may have this as a secondary product that is also enough fabulous way of putting things together very good.

Yeah.

Now, let us see your how you progress from here on to build up your you know like the next product.

Yeah. So, here before going to that I will tell you something like this product the portable operation room I was so, confident like this product is awesome even we had a patent no one in the world has ever done that and. So, I was like so, I was so, over confident like I am going to get the funding for it and I applied for a BIG program and I was not able to get any funding for it because they need identification who is the customer who is who you are going to target that is not clear.

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**“It is impossible to sell a product just on the basis of aesthetics or technology.”**

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## The **Second** Version

Affordable isolation room for  
burns treatment



With just a technology with just a beautiful design it is impossible to get into the market that is a great revelation what I really got. So, with this thing in mind understanding my own failures, even if I believe I failed in a reputed way, but still I failed a failure is a failure we have to accept that. And from this we got our second version of the product which essentially we promoted back in the GDC I incubate program and that was an affordable isolation room for burns treatment.

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## High **Expenses** **Socio-Economic**

**90%** of the burn injuries  
happen in very **economically**  
**poor areas**

**70%** of the burns happen to  
**women and children**

Every hour **16 people** are  
dying due to burn injury.



In burns treatment currently if you see the expenses are so high. If you see the daily room rent that is coming more than 7000 rupees per day which you can imagine like who really can afford that much. And 90 percentage of burns are happening in very low resource settings or 70 percentage of the burns are again happening to women and children.

So, it is more like a socio economic thing rather than just a accident or an injury. And if you want to understand the real number of burnt patient in every hour 16 people are dying due to burn injury. So, that is the kind of statistics we have.

Yeah.

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Pictures showing condition of current hospitals for burns treatment

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**Gold standard** for burns treatment is to treat patients in **isolation rooms**.

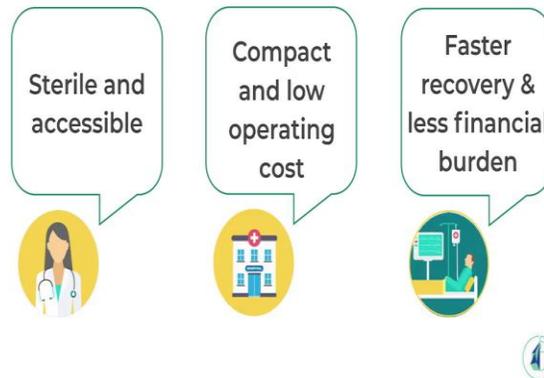


And the pictures you see these images we actually the situations in the current hospitals are somewhat similar. And then we went and did the user search to understand what is the real gold standard for treating in burns and we came to know like it is all about treating them in a perfect isolation room with following proper protocol, but most of the times we are unable to do it because of the shear expense. Then we again did a one more GDC program personally because I really learned what they taught me.

And this is not a onetime link that is what I want to say each time you are going to launch a project each time you are going to think about a product before sketching the product you should do the need identification part that is very important.

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## Need Identification



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## No Assumptions

Always ask the customer,  
**“Are you willing to buy the product?”**  
And if yes,  
**“For how much?”**

And need identification is not just the secondary research it is the raw data what you should get from right from the mouth of the customer that is very important. Do not assume we should not assume the assumptions are just assumptions it will lead you nowhere.

You should have solid concrete evidence and always you should ask the customer like are you willing to buy the product. Do not ask them like does the product look good, you should always ask are you willing to buy the product and if for how much. That is some very important questions

you should answer because once you have a startup once you have your own funding then you have to feed your own bills right. Now, in that case these questions become very important.

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## Who are the **stakeholders?**

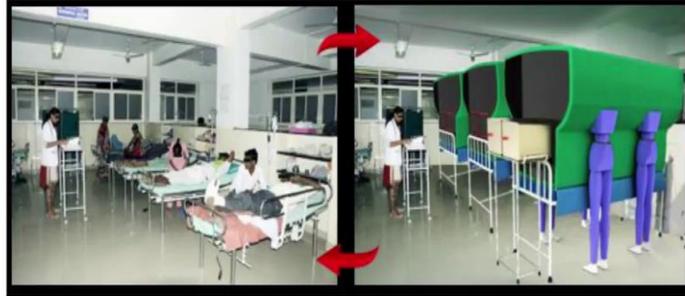
**Doctor**  
**Hospital**  
**Patients**

And it is very important to understand who are the stakeholders in the customer for example, for my product doctor is going to use the product majorly they are going to be the decision maker whether this product is a go or no go. But the hospital is going to be the buyer or they are going to invest on the product. Then for hospitals they will be looking for something like a compact unit.

So, that they can accommodate more number of patients where they can generate more revenue for the patients it is all about faster recovery with less financial burden its always less financial burden than recovery I would say yeah. So, we have to cater to all these stakeholders or else our product is going to fade.

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A **quickly deployable** unit which can convert any **hospital bed** to an **isolation room**.



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A **quickly deployable** unit which can convert any **hospital bed** to an **isolation room**.

Then what we are planning to make is something which can convert just a hospital bed onto an isolation group. So, what you see in the image is a computer generated image which shows the concept what we are looking at. And we again have the ip protection and everything.

So, for each customer stakeholder each stakeholder who we have addressed we should have a unique value proposition for them that is very important, it has to be really unique it should never be generic and it has to be quantified.

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## Value Proposition

<b>Doctor</b>	<b>Hospital management</b>	<b>Patients</b>
<ul style="list-style-type: none"><li>• Improved doctor reputation</li><li>• Treat higher percentage burns (&gt;30%)</li></ul>	<ul style="list-style-type: none"><li>• Twice number of patients can be treated in the same space</li><li>• 80% reduction in operation cost</li><li>• Treatment can be made available at secondary centres</li></ul>	<ul style="list-style-type: none"><li>• Reduced mortality and morbidity</li><li>• 5-10 days less hospital stay</li><li>• Gets treatment near to their home</li><li>• Ensures patient privacy</li></ul>

That is equally important we cannot say like it is going to improve if it is going to improve them at what percentage, if they can treat more number of patient then how many number of patients they can treat in a day compared to the existing system. Such quantification is again very important again we conducted earlier we conducted 101 interview now we conducted more than 140 interviews.

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Interviewed more than **140**

**Customers in 10 states**

**90 Doctors**

**18 Patients**

**9 organisations**

and others

So, that is a kind of hard work and effort we should put in to make our design a reality or to make our products you know hit the market and its equally important to have the positive feedbacks as well as the negative feedbacks, because often the negative feedbacks will really help us to refine the product and to develop into something better.

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## Competitive Landscape

Product	Bed Cradle	Permanent clean room	Temporary clean room	Proposed product
Parameter				
Air quality	✗	✓	✓	✓
Accessibility	✗	✓	✓	✓
Infection control	✗	✓	✓	✓
Less floor space	✓	✗	✗	✓
Portability	✓	✗	✗	✓
Price (₹)	4,000	1,00,000-3,00,000	3,00,000-7,00,000	1,30,000

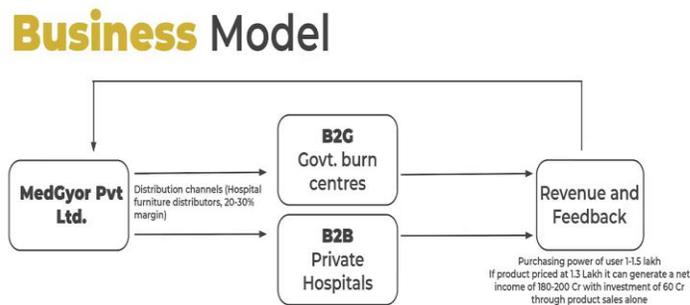
Then we should always look for the competitive products, what are the things which are good in the competitive product and what are the drawbacks in the competitive product. No product in the world can be perfect, even the product what we are designing, but we should find a market gap

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such that the pursuit benefits are better or more than the risks of what is associated with the product or the difficulties of what is associated with the product and its very important accordingly you have to position the product and it is something very critical as a startup.

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You should have a robust business model and even if it is partially clear you should start building the business model you should start identifying the customers at a very early stage. And always

what are your potential, what are your capabilities, what are your weaknesses this is very important.

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**Revenue Model**

- Product sales & upscaling
- Consumable sales
- Subscription model
- Sales of spare parts
- AMC

**~ Unit Selling price**

INR 1,30,000 (Cost 30,000)

- 1<sup>st</sup> year - 100 units
- 2<sup>nd</sup> year - 1,000 units
- 3<sup>rd</sup> year - 4,000 units
- 4<sup>th</sup> year - 6,000 units
- 5<sup>th</sup> year - 8,000 units

And most importantly how much is the minimum number of units you have to sell just for you to sustain, if you cannot meet that number then you are dead the company is no more. It is impossible. And never push everything all the products to some NGOs or to some government sectors because generally the government selling to the government or government comes secondary more important you should initially focus on the areas where there is money for us to sustain.

So, this is some of my personal observations or my personal learning's from the interviews you see may I be applicable for everyone or it may not be applicable for everyone.

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## Road Map



Then it is important to have a long term vision because if you are doing a product development right now in 2001 you may be selling the doing the clinical trials in 2023 or in 24 and 25 you will be selling the products. So, our products need to be futuristic you need to understand what all materials, what all manufacturing process which our kind of expertise in the domain are going to be there at that time and what is the potential market changes and all those.

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## The Team



**Dr. Rose Sweety**  
MBBS, DCH  
(Co-founder)  
(2+ Years)



**Dinoj Joseph**  
B.Tech, M Des (IIT B)  
Director (Co-founder)  
(5+years, UAE & India)



**Hariom Saini**  
B.Tech, M.Tech (IIT B)  
Electrical engineering  
(4+Years, USA & India)



**Arnold**  
B.Tech  
Product Engineering



**Gee Varghese**  
B-Tech, M-Tech, MBA  
Business development

And again the team can change, but the passion remains the same. So, that is what I want to explain from my experience and I hope this will be helpful. Thank you. So, that is perfect Dinoj I think you know you really summed it up very nicely all the advantages of evidence based entrepreneurship and what is very heartening to learn from you is also the iterative process on your own when you went back with I think the GDC program it was so well you know ingrained in your mind that you know used it again extensively and you know came up with this success story.

We wish you really really all the best and any support from all of us we are all there and you know wish you all the best and you know like I am sure you would your product will really really do well with this type of evidence thank you so much Dinoj and we look forward to be in touch with you.

Yeah, thank you sir, thank you very much and thank you GDC team for, you know, giving me such an experience and transforming me from a student to an entrepreneur. Thank you very much.

Yeah.