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Hot Start-ups: Anatomizing 3D printing

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The Fantastic Four

Anatomiz3D's founding team consists of a dynamic team in their 20's including, Mr Sohrab Kothari (28), Mr Sagar Shah (28), Mr Samkit Shah (28), and co-founder Ms Firoza Kothari (23).

In 2012, the founders together co-founded another start-up - Sahas Softech - which offers a range of rapid prototyping and 3D printing solutions.

Equipped with profound experience in 3D printing, CAD, CAM and allied services, the team ventured into their brand new start-up this year.

Firoza is a Biotechnology engineer while the rest of them are MBA graduates.

"We were on the look out to start something," says Firoza, "where we can contribute and not just distribute, and with other co-founders already having a broad idea about the operations along with the promise 3D printing holds for the future, we believed that this is a space where we can not only learn and explore, but if we use our strengths well, we could also contribute to this technology and industry."

The team first tried to learn the processes and procedures involved along with its detailed scope in the healthcare segment.

"We assessed our current strengths and abilities to prioritize our target segment. Once we started gaining more in-depth knowledge, we started reviewing our plans and made alterations to our goals as we got a better insight from the customers, medical community, researchers and current market operators," adds Sagar.

World Of 3D Printing

Apart from prosthetics, Anatomiz3D has done a lot of focused work in 3D-printed pre-operative surgical and educational models.

Explains Sohrab, "We take the patient's CT or MRI scan and design a 3D model right out of the patient's anatomy. These 3D-printed models assist doctors in planning their entire surgery before even entering the operation theatre. It helps them understand the exact anatomical relationships by replicating the structural conditions."

This allows selecting the best surgical plan, and medical teams feel more prepared and confident, saves operating time, reduce blood loss and anesthesia time, and aids faster recovery, leading in the reduction of overall operational costs.

The start-up is also exploring sections of 3D-printed custom implants and surgical guides.

"We can design a patient-specific implant based on his or her exact anatomy, and print them directly in titanium 3D printers with custom meshes that can allow bone regrowth -- a procedure that is very difficult to achieve with traditional manufacturing. Surgical guides make the surgical procedure easier for doctors as cuts and drills are pre-planned," comments Samkit.

One of its product categories also includes custom braces and splints for fracture rehabilitation.

Based on a patient's scan, the start-up is able to design a custom fit orthotic, which is not only light weight but also allows air to pass.

"It can be personalized to look however a person needs. So, one can express their individuality while recovering from their trauma. Who said injuries can't be fashionable!" exclaims Firoza.

Anaztomiz3D's team feels that the possibilities with the 3D printing technology are endless.

"There is a hope that we will one day be able to 3D print organs in a lab out of a patient's cells itself, thereby reducing the need for organ donors, and the possibility of organ rejections after transplantation," points Sagar.

New Industry, New Challenges

The 3D bioprinting being a new space in India, the challenges faced by the start-up bore witness to the current market scenario.

The start-up says that it is still an uphill task to convince medical practitioners and patients to try their services.

"The cost has to be borne by the customers without having a cover for insurance on such products, and is a pressing issue even today as not everyone can afford it despite it having a high chance of improving decision-making and planning - whether before, during and after a surgery or the required procedures," observes Samkit.

Since the team was already successfully running their other start-up which already had the required equipments for Anatomiz3D's works, a lot of capital was saved which otherwise would have needed large investments in diverse machines.

Firoza states, "A lot of the funds were obtained from Sahas' internal accruals, and by simultaneously sharing office space and resources, we managed to mitigate investments as and when required."

The start-up did approach venture capitalists at some point.

"With a couple of inputs from them, we are back to the planning and delivery mode where we are investing our time in understanding the nuances, differentiation and review our set of priorities which we feel requires some alteration. Also, with

the amount of momentum we have achieved, we have started receiving offers from interested parties and are trying to find common goals and objectives to be able to optimally penetrate the length and breadth," mentions Samkit.

Laser Focus

The team admits that the start-up is not bound by any revenue targets.

Sohrab validates, "This being an extremely new industry with very few concentrated players, it is of paramount importance for us to educate about all the scope of the work.... We are looking to engage with people from all verticals who are keen to learn the benefits, and at the same time experiment with any new possible ideas."

The West having witnessed a couple of cycles from the dot-com to the internet of things (IoT), their ecosystem is said to have a certain level of maturity, benchmarking, fine-tuning and exit plans churned out, and have had a number of ups and downs to further its ecosystem.

"...but the eco-system in India, despite having a back-up or a benchmark based on the Western system, is yet to evolve as far as entrepreneur engagement, planning, and delivery are taken into consideration," shares Sagar.

Firoza emphasizes that starting up in the healthcare industry requires utmost attention.

"This is not a place where we can compromise on the quality of services we provide. It can result in a life or death situation for a person. Hence, as important as it is to make a flourishing and profitable business, it is also important to keep in mind why we ventured into this industry in the first place. If you provide brilliant quality services with a clean heart and mind, success will follow. It will also bring along with it a wave of respect and appreciation for your work from the industry, and that feeling is beyond replaceable," she concludes.

Milestones

ï‚§ First to handle pediatric cardiology cases in India
ï‚§ Executed partial amputee prosthetic hand case
ï‚§ First in country to provide pre-op models for soft tissue anatomy like cardiovascular, pulmonology & nephrology

Entrepreneurial Mistakes To Avoid

ï‚§ Failing to learn actual scenarios
ï‚§ More strategizing than getting one's feet dirty
ï‚§ Not laying core foundations (values, philosophy)
ï‚§ Pricing
ï‚§ Valuation

How A Prosthetic Hand Is 3D-Printed

ï‚§ Scanning a patient's hand or POP casted model
ï‚§ Modifying the prosthetic based on patient's scan using exact measurements.
ï‚§ 3D printing the parts
ï‚§ Assembling the parts