

# Foundation history and business strategy report on bioforge

[Business](#), [Company](#)



**ASSIGN  
BUSTER**

The company we selected for our group assignment is known as Bioforge. Previously identified as Forgedimension, Bioforge is a biomedical 3D printing company that was founded by Dr. Dewan A. F. K. Choudhury. Dr. Choudhury has given us a lot of insight regarding the organization. The company started during early 2016 and earned its license in 14th December, 2016. The venture started with only three people, however, currently seven people are working together. The headquarters (the main lab) is situated in sector #4, Uttara, Dhaka. Although it is now known as Bioforge, it had nothing to do with Biology at first. The initial plan was to create 3D models of still life objects, famous architectural masterpieces like the Eiffel Tower, and also figures from famous television or movie franchises like Harry Potter, Game of Thrones and so on.

The venture went quite well during that period, however, eventually he finally saw the bigger picture. He decided to specifically target biomedical 3D printing. The company's mission is to provide inexpensive hardware solutions for healthcare for the disadvantaged and the disabled. As expected, their target market is the disabled people, and the neonatal population. Since it is a B2B venture, the NGOs is expected to act as intermediaries in this case. The new sets of products include prosthetic body parts (mainly limbs and hands), and Neonatal ICU (NICU). Currently, they are at the prototype stage; they have completed a number of iterations of the initial designs, and plan to get to the testing phase very soon with a small group of patients. They do this with the help of fabrication technology, like CNC milling, laser cutting, and 3D printing and so on. As previously mentioned, the aim is to provide inexpensive solutions without

compromising quality, and that is exactly what these forms of technology is helping them to achieve. Normally neonatal incubators cost up to 3, 000, 00 BDT in the market, but the organization is being able to manufacture one that cost around 50, 000 BDT. Similarly, traditional prosthesis usually takes up to 1, 50, 000 BDT, but the company promises to provide that within the range of 5, 000 – 10, 000 BDT. The materials that are being used here are recyclable organic materials, such as Polylactic acid. Hence, modification and utilization by multiple people is possible.

Given the economic state of our country, this is a wonderful initiative. Bangladesh has a significantly low GDP, which indicates the lack of ability for the majority of our population to be able to afford expensive solutions to their biological problems. Furthermore, a high number of babies pass away due to diseases and are not treated properly due to the lack of financing. If provided with cheaper solutions, people will not have to indulge themselves in begging and stop living their lives due to certain inherited misfortunes. This may actually end up helping a lot of people, and by extension, saving a lot of lives.

### **Creation of Bioforge**

During his MBBS course, Dr. Dewan Choudhury has come across numerous patients who shared details of their personal lives to him while he conducted diagnoses. Learning about the socioeconomic status of the individual is a part of the procedure. During his research, he has discovered that a good number of these patients lack the ability to afford proper medical treatments. This point also stands valid in case of people who lose their

babies to certain diseases. The reason (for both cases) is not the negligence regarding one's health, but the inability to finance themselves. This is why the neonatal mortality rate is so high in a relatively poor country like Bangladesh. This is also why a lot of disabled people struggle to lead normal lives. Dr. Choudhury acknowledged these problems long back, but never really found a clear solution until now. It first reached his mind, when he was conducting his business of selling 3D printed figurines (which started as a hobby). He went beyond the traditional ways of thinking and asked himself what if he could 3D print the solutions to their problems. That is when he decided that he will do all he can to make sure people do not have to choose between health and money. He truly believes that the hard work he is inputting will bring positive results.

### **Issues Related to Raising Capital and Cultural Influence**

Of course, there are always challenges. The main challenge is educating the people of Bangladesh about 3D printing and its uses, as it is a fairly new concept here. Furthermore, they are trying out something completely new, so there is always a scope of finding newer challenges on the way.

All of this is possible with the help of self-financing. Dr. Choudhury is also a Physics teacher (both O Levels & A Levels). He teaches in Gulshan and Uttara and has over 200 students. As this is a very safe profession in our country, financing himself has been a rather easy task for him.

### **Business Strategy**

Bioforge's current business strategy is totally based on Business to Business or shortly known as B2B strategy. They are trying to build social awareness

among people and they want to be the key supplier to Non-Government Health Organizations and Hospitals. So that the disabled and disadvantaged people can get prosthesis and similar kind of Biomedical products in a cheap price. Also, through their website if someone wants to order some biomedical products that will be fully customized according to the need of the customer. So, with that they will follow partially B2C strategy as well.

### **Marketing Plan**

Bioforge doesn't have any physical store or anything and their whole business is based on Business to Business Strategy. They try to build business to business relationships mainly based on Direct Marketing. Also, they do not believe in strict commercialization and profit making. Rather they are trying to solve a social problem and working for the betterment of the lives of people. For getting B2B partners the whole team usually visits the partnering NGO or Hospital, they pitch their ideas and try to get feedback from the NGO or Hospital authority. If the NGO's like their plan then they go into partnership with them.

### **Critical Success Factors**

As Bioforge is in prototyping stage they have several factors that can essentially drive them to success. Currently to go on to the mass market and have huge production line they will need investors and other partners to succeed. Also, the main thing that they are planning to do which is sending their built NICU to several hospitals to check if their system is working properly. Also, they want to work in the rural areas of Bangladesh. On the other hand, they also want to expand to other countries as well.

**Reliability Engineering:** Bioforge has one 3D printing engineer and one 3D printing designer. They both are professional and very good at making prosthetics and designing other health products.

**Cost Reduction:** The main factor for Bioforge to succeed is that they are reducing the cost of the health or biomedical 3D printing. They use fabrication technology like laser cutting, 3D printing, CNC milling and microcontrollers. They are also developing a incubator that would cost only 50, 000 BDT. On the other hand, a neonatal incubator costs around 300, 000 BDT in the market produced by someone else or imported. Also, they have developed prosthesis for 5000-10000 Taka whereas the original price of these in the market are around 1. 5 Lakhs. So cheaper price and lower cost will both benefit the poor people of Bangladesh and Bioforge with a small margin and high sales will be able to sustain in the market.

**Voice of Customer:** Another thing is that they have the capability to customize any biomedical products according to the need of any disabled individual. Because they design with 3D printers and customizations is possible over there. So, they will have no problem doing that. Because of this customer will love Bioforge products as they will be made only to suit them the very best.

### **Ongoing Challenges**

The ongoing challenges that they are facing are many. The main challenges they are facing are following:

- **Customer Knowledge:** The main factor that is challenging for Bioforge is to people to know about it. Very few people only know about them. Because of that they will have to do major promotional works to let people know of their existence. But the problem is promotional activities will cost a lot for them as they are on startup stage. Because of that they are only focusing on Online promotion through website and Facebook Page.
- **Funding:** To take the business to the very best level which is the mass market they will need a lot of funding and they will also need investors to take them to the next step of production
- **Human Resource:** The whole company is a group of seven people who looks after the different sectors. If they want to produce mass or want to go to industrial level it will be hard for them.

### **Business Model Canvas**

Business Model Canvas of Bioforge

### **Conclusion**

The reason we chose this company to work on because we found the initiative that is made by the founder very unique. On the other hand, it is also stating an obvious problem in our country in a rather innovative way. The successful mass implementation of this company will change many lives and will give the light of hope to many people who were numb because of disability and disadvantage. This business literally establishes a good example of the statement that 'business is not about only making profit' rather sometimes business sometimes can change people's lives as well.