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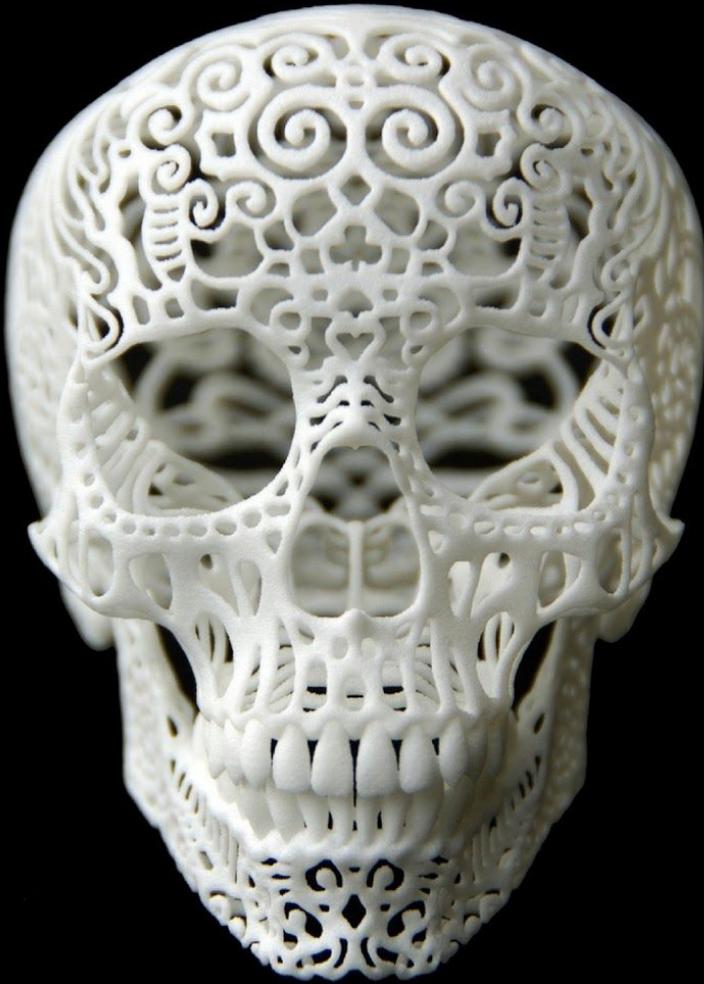
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EveryBody Printing

How Can you Benefit and Make Money 3D
Printing



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Introduction

3D printing is the process where object is created layer by layer adding material, it is also called additive manufacturing

Additive manufacturing help produce complex design parts, it is mostly used in creating prototypes, you can create your idea fast and can touch it, 3D printing is also being used to create spare parts for actual work.

New material is coming up for 3D printing, you can print using metals, gold, silver, even 3D printing food is also available

Doctors are using 3D printing to print body parts, using bio material

Recently in china 10 houses were built using giant 3D printers, and the cost was under \$5000 per house

Nasa has sent 3D printer to space station, so astronauts can print spare parts when they need, if for example if some part of the machine is not working, it is time consuming and costly to send that spare part from earth to space station, instead astronauts can print them on the space station itself.

If astronauts during apollo 13 mission to land on the moon, had 3D printer back then, they would have not failed, they would have landed on the moon.

You can also 3D print your own working robot, there is the project for this <http://inmoov.fr/>

With 3D printing object is created layer by layer while in traditional method an object is carved from a block, which results in lot of waste.

Mass Production issues

Dvd players used to cost around Rs 10,000, but when chinese goods came dvd players used to cost just rs 200-300, walkman used to cost rs 2000, but when chinese walkman came, with all the features it just cost rs 50.

Although chinese goods have bought the price down, but imagine the salary of a person who is making that dvd player or walkman, he is getting less than pennies.

Cost cutting and more cost cutting had moved factories from all over the world to china, workers are made to work like slaves, 12 hours, 17 hours continuous monotones working hours.

Worker conditions there are worse than jail, they are given food 3 times a day, they can only bath once a week, no windows and made to sleep in the factory itself, 10-20 workers stuffed in a small single room, and made to work almost continuously.

Only way prices of the product can be decreased more is by cutting on the wages of workers, to bring cost down, workers are forced to work harder and harder and their salaries getting lower and lower.

Big companies like reebok and nike, have moved their factories to china, they are in theory subcontracting, since they don't want to have blame for workers conditions who are making shoes for them. Workers are forced to work for 12+ hours.

There was one case in china a women worker was forced to work for 17 hours every day, in just 2 months, she lost sensation of her thumbs, she was pasting soles to shoes. working long hours in stinky factories takes a toll on human health, imagine whole villages working in those stinky factories making goods, working for 14 hours, having not so nutritious food, sleeping in pathetic conditions, dirty sanitation. And working for pennies for long hours, now when they get around 40, they will start to have health problems and they won't be having enough money to even treat it, entire village down with health problems.

Although big shoe companies had outsourced all their manufacturing work to china and have huge cost cutting benefits, cheap labour advantage, but yet they have not lowered the price of their shoes, they are making profits at the suffering of their workers.

Working conditions are extremely difficult in chemical factories, continous stink and chemicals which are bad for human body, workers are constantly exposed to these inhuman unhealthy conditions.

Though mass production lowers the cost, but take the cost of transport of raw material to the processing factory, then the rent of the factory, wages of workers, plus distribution cost and

delivery cost. So many process and everyone has their cut, and also the products manufactured have to be stored till they are sold, locking the money.

While in 3D printing you don't have store products, you just have them in your computer, you can print them on demand, as per the need.

If everyone has 3D printer at home and can print the things they want, there will be no need to mass produce goods, making the earth more eco friendly, Millions of gallons of diesel is used in shipping products, with 3D printing less shipping.

With mass production unique design is difficult, for every unique design they have to create mold first which is expensive and time consuming to do, while in 3D printing, unique designs are easy, have as much artistic object you want, design it and then just print.

You may say, if 3D printers are available at home, and we don't need factories to mass produce, then where will the workers go. Are they not going to lose their jobs?

Yes they will lose jobs and that will be good for them, change is coming machines are getting used for almost all work, eventually it will be replaced by alternative conditions, human should focus on doing things which are human, leave manual labor to machines, biggest advantage humans have is their brains, they should utilize it for being more creative and productive, government or they shall themselves train them for new skills.

Remember only way products price can be reduced in current traditional sense is making worker work harder and harder and cutting his pay. So instead 3D print

Fascinating works using 3D Printers

3D Printed Guns

Biggest and controversial thing was 3D printing of guns, done by cody wilson, he has created models for guns, which you can download and print your own working gun.

<https://defdist.org/>

Although this is controversial, but it is available, i have seen even machine gun 3D models, you can download them and print your own machine gun.

There are plastics available which have a high melting point, ABS plastic has a high melting point of 200 degree celsius, guns created in plastic are not safe, you can use them to fire one or two shots, but you can 3D print in metals too. If you don't have money to buy high end 3D printers to do metal printing, you can use online 3D printing services, the core parts can be printed in metals and then can be easily assembled

There are several online 3D printing services, iam posting some example websites

<http://www.3Dspectratech.com/>

<http://think3D.in/>

<https://i.materialise.com/>

<https://www.sculpteo.com/en/>

<http://www.shapeways.com/>

<https://www.3Dhubs.com/>

<http://www.3Ding.in/>

<http://www.3Digiprints.com/>

Although there are several websites which offer online 3D printing services, most do not allow you to print guns directly , they have policy against users using their services to make fire arms.

3D Fetus

If you want to check, how your unborn baby looks like, there is a 3D printing service for that too, there is a japanese company which is doing it for you, you can hold in your hand your unborn baby for just \$125, instead of seeing an ultrasound image of it.

The company is japanese called fasotec

<http://www.fasotec.co.jp/>

You can have it to hold it, or put in the showcase.

3D Prints From Children's Drawings

Every child loves to do drawing, you can have your childrens drawing 3D printed. The website for that is

<http://www.crayoncreatures.com/>

If you want your child to be more creative, then have 3D printer at home, it will help him to be more creative.

Wearable Technologies

Designer Jiri Evenhuis and Janne Kyttanen made the needle and thread obsolete by using a software that collects a person's body data to instantly create perfect fitting clothing.

You can check their website

<http://www.ecouterre.com/>

I have seen shoes made from plastic bottles, every plastic can be melted and reused in 3D printers

3D Printed Bikini

There is a store in shapeways, that sell you 3D printed bikini

<http://www.shapeways.com/shops/continuum>

There bikinis are waterproof, so can be used while swimming

3D Printing Coffee cups

Most common use of 3D printers is to print coffee cups, there are lot of 3D cups available on websites for sharing 3D printing models

Check out this one

<http://www.thingiverse.com/thing:10266>

You can download 3D models and print it yourself or you can buy it from the website.

Mobile /iPhone Case

There are lot of customized, iphone and other mobile cases available online, you can 3D print them or order online

3D Printed medical models

Doctors can print body models of patients and understand them better, they can treat them better and also if doctor is going to do surgery, he can practise on that body model first before performing actual surgery.

<http://www.axial3D.com/>

Check out this above website

Toys

Wide variety of 3D printed toys available online, you can print your own face on superhero toys.

<http://funky3Dfaces.com/>

You just need to send them your straight and side photographs and they will 3D print your face.

Children have too many option for toys now, instead of buying toys from china, which are made by chinese workers in inhuman condition and for pennies, you can create your own 3D toys and print, there are toy models available.

How to Get Started with 3D printing

Now you want to jump into this bandwagon and earn some money, relax, it does requires some skill if you are planning to make money from it.

Join as many 3D printing social websites, forums and all the websites related to 3D printing

You can join

<https://makerspace.com/>

<http://www.bld3r.com/>

<https://www.3Dhubs.com/>

<http://www.turbosquid.com/>

<https://www.ponoko.com/>

<http://100kgarages.com/>

<https://i.materialise.com/>

<http://www.kraftwurx.com/>

You can join google group

<https://groups.google.com/forum/#!forum/3Dprintertipstricksreviews>

I found this website to be very cool

<https://pinshape.com/>

You will need good understanding of mechanical engineering, and also should be able to design models, using 3D modelling tools like autocad, blender, solidworks, google sketchup

Autocad is difficult to learn takes time to master and is very expensive, you can start with google sketchup

You can download it from here

<http://www.sketchup.com/>

It is the easiest to learn

You can also learn online without installing software

<https://www.tinkercad.com/>

It is a browser 3D modelling software, it also has tutorials

You can also try

<https://sketchfab.com/>

It is based on WebGL based tool

If you are good in javascript, you can program your 3D print models

Here it is

<https://shapejs.shapeways.com/>

If you are a programmer you can download this tool

<http://www.openscad.org/>

it is a 3D modelling tool for programmers

Although you can download and print models available online for free, it does not require any skills, but if you want to get into money making, you should have good understanding of 3D model tools, to have understanding what is possible, even if you hire someone.

You can make money, by selling your 3D design, or you can make money by printing toys or models and then sell it on ebay.

Buy a 3D printer to know how to use it.

Cheapest 3D printer available is

<http://www.101hero.com/>

It is just \$79, you can buy it and understand how to work with the 3D Printer

Every 3D printer comes with its own software, and also a website to share models,

<https://www.thingiverse.com/>

This above website is for people who have Makerbot 3D printer, users of this 3D printer can share their designs with others

Makerbot is most widely used 3D printer.

10 minutes silence for Adrian bowyer



This guy adrian bowyer had made a 3D printer, which can replicate itself and it is open source, he is a professor of mechanical engineer in university of bath in uk, you can buy reprop printer from ebay and print another reprop printer give it to your friend for free or sell it online.

Respect to this guy, for making his efforts open source so that people like us can benefit.

Good 3D printers to Keep eye on

There are some extra ordinary printers, which are kinda amazing

MakerArm

This is amazing, iron man style printer which can print objects, it is available for preorder \$999 on kickstarter now, i suggest you book it.

You can check this out

<https://www.kickstarter.com/projects/1849283018/makerarm-the-first-robotic-arm-that-makes-anything/>

With MakerArm you can design things iron man style

Carbon M1 Super Fast 3D Printer

This is the most advanced 3D printer available, it prints objects from liquid, you can build prototypes and real parts using it.

<http://carbon3D.com/>

It uses UV light and oxygen to build objects, there technique is secret though, but it's amazing

How to Make Money

Now to the main point, how will you make money in 3D printing, what is in it for you.

Making Your own 3D Printer

If you are high tech guy, knows mechanical and electrical engineering, computer programming and able enough, you can make your own brand of 3D printers, ask for supporters on kickstarter

Printer you design must be unique and better useful, lot of tech guys are already doing it, you will find many new 3D printers projects with supporters

<https://www.kickstarter.com/>

Selling Designs

If you are cad modeler or expert in any modelling tools, you can sell your design on shapeways

Shapeways allows you to host your design, it also has a market place, when someone buys your design, they print and ship it, you get paid for using your design.

<http://www.shapeways.com/>

You can also do that in

<https://i.materialise.com/>

If you are artist and good with any design tool, you can do this with ease, and make money while you sleep.

Selling 3D Printed Products

You can print 3D printed toys, iron man masks, iphone covers and so on, artistic unique products you can print or buy from 3D printing services or printing products on your home desktop 3D printer and then sell it on ebay, amazon.

This thing many people are doing, most popular product getting sold is human skull.

Buying 3D printer & Starting 3D Printing Service

You can buy 3D printer and join a 3D printing service network, some websites do the role of connecting, when some one near your area, wants to 3D print an object, you will get the order and you can print for him, the idea is to connect to the nearest 3D printer available so that it saves time and delivery cost.

This facility is available on
3Dhubs.com
Shapeways.com

There are lot of websites available for that.

What Changes 3D printing will bring to the world

There is a project going on called chemcomputer, they are planning to 3D print drugs, there is some success in that, so soon we will be able to 3D print drugs, even LSD, 5-mo-DMT, cocaine and so on.

3D printing drugs has some success, the benefit of 3D printing drugs, we can regulate content in it according to the patient, for example a person is short of vitamin b12 by 507 mg, we can make pill and have exactly 507 mg of b12 in it, so there is no excess or low

There is already an FDA approved 3D printed drug for epilepsy.

There is a guy from taiwan Calvin Yu-Chian Chen, who is working on drug printer, with drug printer there won't be need to keep stock of drugs, it will be printed as required, hospitals can use it to print drug on demand, suppose a rare snake bites a person, a person comes to hospital but that hospital may not have that antivenom, because those types of snakes are not in their area so they have not kept stock of particular antivenom for it. But with drug printer they can create it on demand.

Currently hospitals and medical shops have to anticipate and keep stocks of drugs required, some drugs get expired because nobody needed it.

There are also project going on called synthetic meat, where you can clone meat parts, without killing animal we will be able eat meat.

With synthetic meat technology, we can make human body parts and test new drugs on it instead of using animals, sometimes animals react differently to human drugs.

There is not enough awareness of 3D printing, and what it can do for you, 3D printers are very cheap now and will continue to get cheaper and better, even layman will be able to use it.

There is technology which can map brain neurons and can determine what you are thinking, this help you design things, now you just have to think about it, and computer will have image of it, currently you got to have ideas and also need to learn tools like autocad to design your idea, but in future you just need to wear helmet and just think about it.

With 3D printers we can design complicated design, it will help to create unique products, no mass production, unique objects, custom unique cars, unique clothes
3D printing buildings, homes is real, there are already 3D printers for it. Bio parts is also real, you can create your own body parts using your stem cells and then 3D print it, bionic ear was created which is more capable than human ear for hearing. Tooth, skin is now getting created by 3D printer it is helping accident victims whose skin or bone got damaged severely.

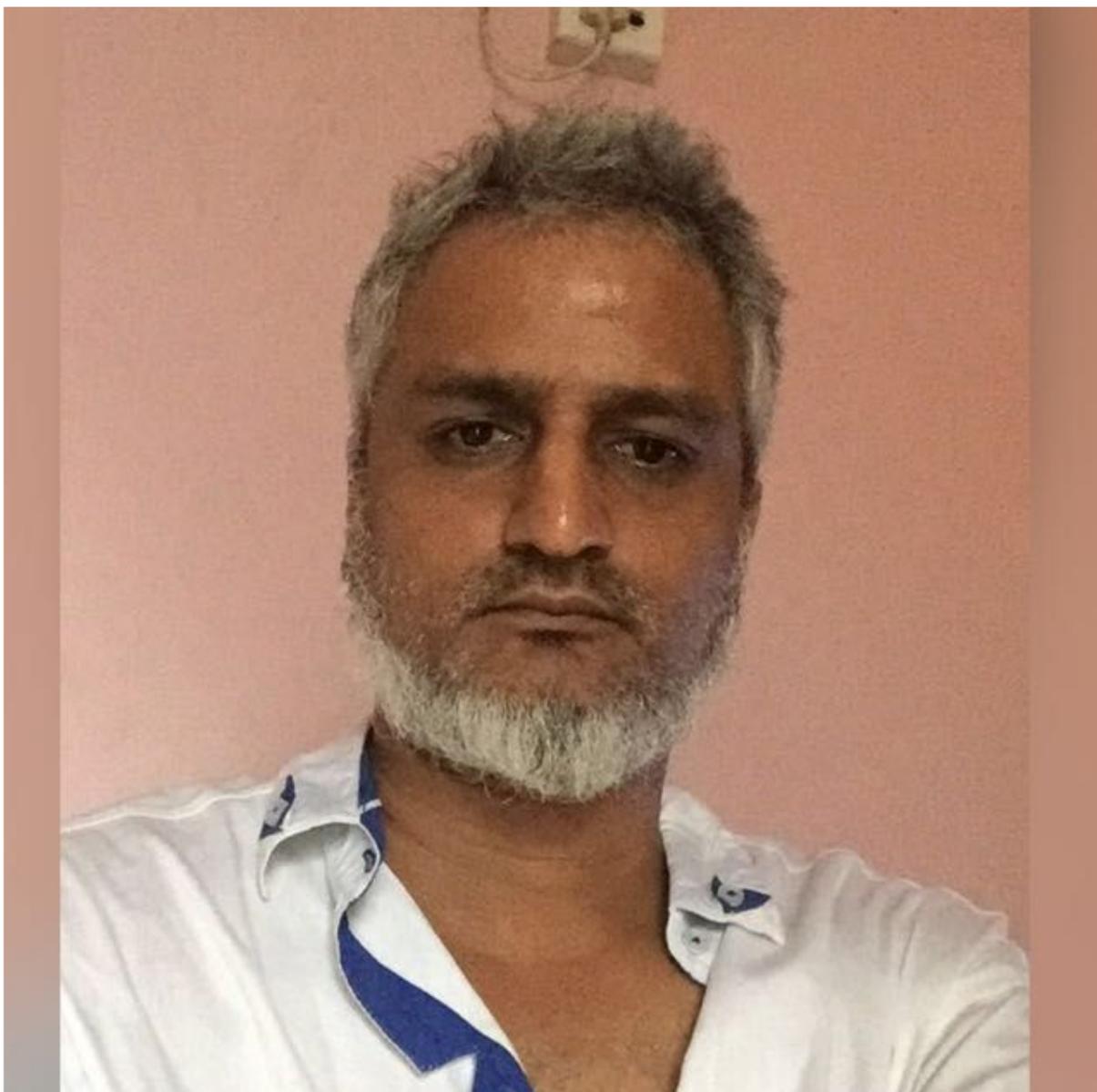
With 3D printing we won't require factories to mass produce and keep stocks of goods, workers working in factories sure will be unemployed, but they will have free time to look into other things.

Current model of mass produce is not eco friendly, first the companies mass produce and then have tricks to sale it, artificial demand is created by clever marketing, person is tricked to buy things which he don't need, since companies have bills to pay every month, they have to sell products every month, they some how to pay their bills, irrespective of customers wants or not, just trick him to buy it.

With 3D printing there won't be any tricks to make you buy things, we will create things only which we need.

People will have peace of mind, since most of the worries people have is because they are focusing on wrong things, buying things which they don't want or don't require, most buying decisions are emotional, which this marketing guys exploit.

About me



I am Amin B Nagpure, author of this book, been trying to write this book since months, finally decided to publish it although lot of information is still to be added, new information will be added to it and published frequently

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