
Subject: New Business - Feasibility Study
Posted by [Sulaco](#) on Mon, 05 Mar 2012 16:38:54 GMT
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Hi, my name is David (UK) and this is my first posts here. Hi all.

I currently have my own printing business (general paper printing, not 3D) and I am looking to mix my hobby and my business by perhaps doing some 3D design and model making/printing and hopefully creating an online shop, and if it takes off, I hope to buy my own machine or use Shapeways extensively.

I want to design custom vehicles and figures in a range of scales. Think Matchbox/Corgi cars. I aim to design them using 3DS MAX, and then through Shapeways, to create a few prototypes to see if I can produce them at the right quality in order to sell them, but as I am new to 3D printing and this is at the idea stage, I wanted to run the idea by the experts here, if I may?

Assuming I have the 3D designs for what I require, say 50 designs, of various sizes from cars, trucks, people (Matchbox/Corgi toy car size) roughly how much would it cost me to output here, say for the following:

Car - around 50mm x 40mm x 10mm
Trucks - around 80x50x20

I want to look at prices for colour (as if they were painted at a reasonable quality) and also the prices for single colour, but I wanted the material to be of a good enough and heavy, fairly tough type, as its to compete with metal/resin figures, so a plastic type, like ABS would not suffice.

So, my main question is, roughly, and very roughly is fine at this stage, what would it cost ME to produce those 2 above types of model via Shapeways, in single colour and full colour, in a suitable material, and also if I had the machine myself (and which one would be most suitable for me)?

I hope to be able to sell the figures and make a suitable mark-up which would enable me to make a business out of my hobby. If it takes off, I will invest in my own machine(s), and as I have about £20,000 to £30,000 to invest in the equipment that would hopefully allow me to make a living from doing something I love.

Sorry for the long question, but any helpful replies would be much appreciated.

Thanks

David

Subject: Re: New Business - Feasibility Study
Posted by [aeron203](#) on Mon, 05 Mar 2012 18:04:33 GMT
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The color material is rough and brittle. It might work for a small, stocky figurine, such as for board games, but it wouldn't take much of a beating without breaking. It is basically plaster infused with glue. At a cost of around \$30 each, with lower quality, it would be very difficult to sell these. If they were smaller and unique, or somehow customizable you might be able to make this work. If you have only 50 designs, and they are classic models, there are too many other solutions already on the market. Even if you don't count all the labor of making your 3D models, for thirty grand you could probably make a deal with someone to die cast them in China (lead-based painting labor sold separately), or you could make them yourself with low temperature alloys using a technique like spin casting. Either way, the first step is to create the models, and you can sell them on Shapeways immediately in a variety of materials long before you have enough information, materials, or equipment to do it any other way.

Subject: Re: New Business - Feasibility Study
Posted by [Sulaco](#) on Mon, 05 Mar 2012 19:55:26 GMT
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Cheers for the reply, looks like colour is out of the question then. When I say 50 designs, that is at least 50+ designs in several scales, so casting is out of the question really for what I want to do, as I would have hundreds of casts.

So if we are back to one colour and in a suitable material; a bit more hard wearing to compete with hard resin/metal, what kind of prices are we looking at for the above 2 figures?

And if I had my own £15-20K machine, how much would it be to produce them, and roughly what kind of rate could I knock them out?

Thanks for taking the time to read/answer.

Dave

Subject: Re: New Business - Feasibility Study
Posted by [stonysmith](#) on Mon, 05 Mar 2012 20:48:06 GMT
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Car - around 50mm x 40mm x 10mm:

<http://www.stonysmith.com/wired/VolumeEstimator.asp?l=50&w=40&h=10&t=1>

Trucks - around 80x50x20:

<http://www.stonysmith.com/wired/VolumeEstimator.asp?l=80&w=50&h=20&t=1>

You need to adjust the thickness based upon whether you hollow the models out or not. If you design in FUD, you can go as low as 0.3mm.

For automobiles (taller passenger compartment than the rest of the vehicle), you could probably estimate 1/3 to 1/2 that price, but this should give you a starting point.

Subject: Re: New Business - Feasibility Study
Posted by [aeron203](#) on Mon, 05 Mar 2012 20:51:49 GMT
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I'm happy to help. I wouldn't want you to blow 20 grand on a non-starter. Honestly the output from a printer in that price range is useless in the context of small models. The least expensive printer with decent detail is in the \$50,000+ range, and the plastic is very soft. You can make some very attractive, durable models with stainless steel printing. They will all have the distinctive texture of 3D prints, so hopefully these are from the Mad Max: Road Warrior series. Those would cost maybe \$40-100. You could get them in silver and they would be incredibly gorgeous and detailed, costing \$150-300 depending on scale and thickness. This is not the kind of thing you do at home. A wax printer for casting is over \$100,000 and needs lots of other equipment. The full setup for stainless steel printing is over \$1,000,000!

Shapeways really is offering something very unique here.

Subject: Re: New Business - Feasibility Study
Posted by [Sulaco](#) on Mon, 05 Mar 2012 21:37:43 GMT
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Cheers, thanks for the replies. Yes Shapeways looks like the way to go long term as well as short term for me. Thanks for that link to the calculators too.

I did mean 20 to 30K in pounds so 50K in dollars. I've spent more than that on 2D machines, but

as you say, for the quality I want, I'd probably want a bit better than that.

Looking around the shop here I can see similar models being priced for a reasonable price, which for me would mean adding a markup of at least 1/4 to 1/3 the price of manufacture, so it's still looking like a possibility.

Hopefully the price of the professional machines comes down a bit more, but until then, it's looking like my designs > printed with the help of Shapeways (and help from the community) > selling them here and on my own dedicated site.

Shapeways looks like a fantastic site, that may allow me to make some money back from doing what I love. VERY tempted to give it a go.

Cheers all...

Subject: Re: New Business - Feasibility Study
Posted by [underitall](#) on Mon, 05 Mar 2012 21:50:50 GMT
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Hi David.

I've been very interested in 3D Printing & Shapeways since I first heard of it over a year ago. If I was ever to strike it rich I would invest in a EOS SLS machine, because I like the process and the pieces they can create, and would like to make it as affordable as Shapeways are doing so. Good luck with your future venture, and if you ever do go ahead and need staff, I am interested and from the UK.

Thanks,
Tom.

Subject: Re: New Business - Feasibility Study
Posted by [Sulaco](#) on Mon, 05 Mar 2012 22:14:17 GMT
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Cheers Tom.

Subject: Re: New Business - Feasibility Study

Posted by [Tamert](#) on Mon, 05 Mar 2012 22:45:07 GMT
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Buying a printing machine only makes sense if you can keep it running @ 100% of the time and even then it's dubious. You need someone to run it. You need someone with technical skill to fix it when it breaks (it will break down, more frequently than you expect) and to regularly service it to keep print quality high. Lastly, as technology advances you need to save up the capital to upgrade. And god help you if you need more than one type of printer. I've been down the "own the printer" route. It's not fun and the margins are very small. And there are DOZENS of competitors with yearly budgets 100 times yours. Just do the math on whatever machine you're looking @ purchasing. Figure out how much it's going to cost to have an operator there watching it, amortize out the equipment costs, and consumables costs. Then figure out how much you have to charge per cubic centimeter of printer material to even turn a 6% profit. Your number is 10x that of shapeways or the other big companies that have dozens of these machine. You just can't compete.

The "money" is in the design, not running the machine. Come up with a clever idea or contract with someone to create the design and leverage shapeways/etc. to produce it. Now, you can mark up by 50-100% and still have a product that can be purchased by a consumer.

Subject: Re: New Business - Feasibility Study
Posted by [Sulaco](#) on Tue, 06 Mar 2012 09:34:20 GMT
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Cheers.

Yes, I am doing the maths and working out if it is feasible or not. I have been running several large print machines, some costing more than a 3D printer, for the past 10 years and my main supplier is looking at sourcing me a 3D printer that would be suitable for what my plan is, which I don't really want to go into here as its fairly unique (no, its not rare cars, but along those lines/sizes). I have engineers that come out and fix/service my other machines, and my other half is willing to do some of the running around getting things produced as she will be part-time anyway.

But to me the main area of concern is the proffit margin of which I can't easily work out. Now, I don't need to earn a lot from it, as its not my main job, and is actually a hobby area of mine, so if it ticked over, and barely paid for itself, it wouldn't be a problem, but if it did do well, then it could be something I could look at doing more permanently or even expanding.

For now, though I will carrying on doing the maths the best I can, but at this stage its looking like using the services of Shapeways rather than buying my own machine..

Thanks for the help all.

Dave