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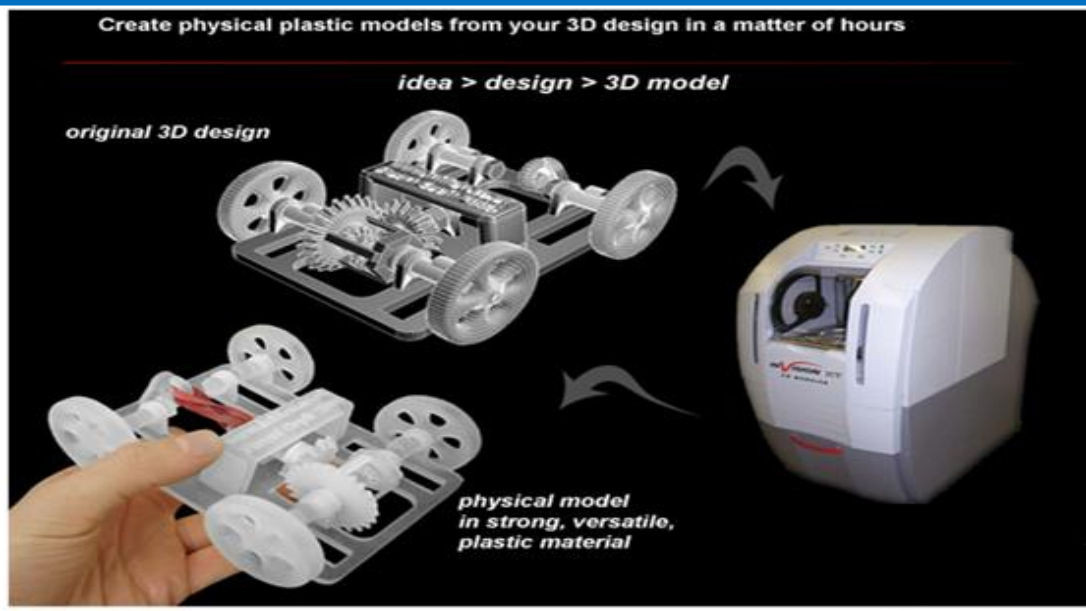
Prof. Gregory Yovanof

AIT70E: STRATEGIC MARKETING

OF SERVICES & PRODUCTS

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MARKETING PLAN: PROTOTYPING OFFICE AUTOMATION



MAHER AL-HESEN

malh@ait.edu.gr

ABED AL-RAHMAN YOUSEF

ayou@ait.edu.gr

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PART 1: EXECUTIVE SUMMARY

The Rapid Prototyping (RP) industry is made up of a series of technologies comprising automated processes that can quickly fabricate any given three-dimensional object for the purpose of testing the form, fit, and function of a design. As a layer-based additive manufacturing method, RP gives a designer the power to build almost any conceivable geometry.

We tried in our study by producing a market strategy for one of the innovative products in the field of prototyping, 3d printer is one of the recent solutions in the field of prototyping, which will be according to many predictions the dominant player in this domain.

3D printers also are different in terms of the price and depending on the features, and the quality of service, speed, and the size it can produce, there is also printers for the home-use, but in our case, we are targeting the businesses by a commercial products, and in the beginning, due to our strategy and the current situation of the market, we are having one product at this time, and targeting the high income companies to dominate at least one market segment, our product's price will be 9500 \$ for the customers, and we get this product from the supplier for 8000 \$, as our target are the high income businesses and the individuals and professionals who can afford this price, this can be affordable to this segment for now.

When the market become more mature, then the prices will go down, at that time, we supposed to be in the market. Surviving in this situation in our case depends actually on the services that we also provide to the general market, by providing them with prototypes on demand.

Although it seems difficult to commercialize this product as startup, but according to the analysis of the market, 3d printer will have a good chance to present itself and create its market share within a relatively short time. We will get into other countries in Europe once we get the reputation and fame here in Greece, and after getting a portion of the market share.

We will also use all possible advertisements tools and media in order to arrive to our target, but in the begging actually it's not very important for now, as we are focusing on a specific segment, that can afford our product, but the main use of promotion and advertising will be for the service that we provide to businesses and individuals.

Our main objective for now is finding a way through the service we provide to survive in the next 30-60 days in addition to the products that we sell through our sales staff, distributors, and online marketing, and we are planning to get 40% of the market share as a long-term objective.

PART 2: SITUATION ANALYSIS

PART 2.1: MARKET ANALYSIS

- Greece in a New Investment Era
- There are 875,000 small and very small businesses in Greece, & there are over 12,000 large businesses as well.
- Rapid manufacturing are in the declining stage of their life cycle.
- The trend now is to create new innovative devices that replace the traditional rapid prototyping which costs a lot of money.
- 3D printers sold over the four years (2003–2008) represent 68 percent of the total number of additive systems installed during that period.
- Annual unit sales have grown by more than 26 times—157 units to 4,165—from 1993 to 2008.
- The medical implants communities are now heavy users – there was around 12,000 different parts being manufactured in 2005, by 2009 there was 25,000 different parts being produced due to 3D printing.

PART 2.2: THE COMPANY

PART 2.2.1: VISION STATEMENT

To become a leading provider of 3d printers' solutions, and fulfill our customer needs by providing high quality designs faster with a low cost.

PART 2.2.2: MISSION STATEMENT

To enhance our customers businesses by creating a value and make a Difference, by providing them with the appropriate three-dimensional solutions, efficient and easy to use.

PART 2.2.3: BUSINESS IDEA

- Our company acts as an intermediary for selling 3d printers solutions, and providing services for designing prototypes for companies.
- Rapid prototyping (RP) techniques have about 20 years of history.
- The office and the production process are getting closer, as in this era the human-computer interaction became an important aspect.
- Creating a new space in the market for the 3d printers and eliminating the use of rapid manufacturing and rapid prototyping, at the same time providing more “ease to use” approaches and more friendliness.
- substitute the use of traditional prototyping for some companies who need a fast production of concepts designs



PART 2.2.4: CORPORATE OBJECTIVES

- Our first objective is going to be trying to determine the best funding alternative for the company within the next 30 to 60 days.
- We aim to achieve 75% customer awareness of our brand in our target markets which is for now the construction and architecture companies.
- Studying the existing construction companies in order to provide them with the best and appropriate 3D printing solution.
- We aim to build customer database of at least 1,000 companies within the next 12 months.
- Creating partnership with other companies playing in the same market (experience and recommendations).
- Creating online support via our main website which will provide our customers access to our online support and forums.

PART 2.2.5: SWOT ANALYSIS

From the SWOT analysis, we see that our internal strengths coupled with external opportunities can result in a success launch of the 3d printer. Also we will be able to overcome our internal weaknesses by maintaining the offers, advertising and promotion, which will mainly fund from our sales and services.

STRENGTHS

- New innovative product.
- Speed Time To Market by Compressing design cycles by 3D printing multiple prototypes on demand, right in the office
- Ease of use.
- The rapid prototyping is getting better, cheaper and quicker.
- Reductions in cost and improvements in performance.
- Reduce Development Costs, by cut traditional prototyping and tooling costs, Identify design errors earlier, Reduce travel to production facilities
- 3-D printing ensures that the designs remain inside the company, for greater protection rather than outsourcing a prototype, Better Protection For Your Intellectual Property

WEAKNESSES

- It is not a substitute for actual manufacturing
- The biggest issue of 3D printing is resolution, Less accurate than huge rapid prototyping systems.
- 3D printers are still expensive.
- Current 3D printing materials for investment casting tend to yield sporadically rough surfaces.
- Sometimes encourages informal design methods which may cause more problems to fix.
- Not sufficient in term of speed, cost when producing a large quantities.
- Size limitations

OPPORTUNITIES

- Low competition exists currently in Greece.
- 3-D printing could have countless advantages in countless industries and fields (technical colleges and universities, medical prosthesis and implants customizing, For businesses such as Zazzle that do bespoke printing on items such as T-Shirts, I-Phone holders and Mugs, it's the natural next step in the 3d printing field), it is no longer just a niche business in the manufacturing world.!
- Rapid prototyping is now entering into rapid manufacturing which is more advanced as compared to rapid prototyping machines as it can be used for large products.
- Innovations are doubling every two years, so it has become very accessible for people to develop their ideas and produce a very viable prototype and then find ways to manufacture them which will make new channels for distribution.
- Could convert existing products for new markets
- In the future, 3D printers may be able to produce some parts (even complete products) that one might otherwise purchase at a store.

THREATS

- Cost of Technology investment.
- Technology Advances, it may be produced something better superseded the 3D technology.
- Brand & Product Awareness & Recognition.

PART 2.2.6: COMPETITION

By the porter's five forces, we can see that there are low effect, medium and also a high, which at the end makes our business in a risky situation.



PART 2.2.7: INDIRECT COMPETITION

There are many manufacturers and distributors of 3d printing solutions in the world, which may intervene with our business through the internet and the e-commerce

PART 3: MARKET STRATEGY

PART 3.1: CRITICAL SUCCESS FACTORS

- Affordability in the solution, and the material costs, relatively to other rapid prototyping technologies.
- Speed in product development.
- Easy to install and operate in any standard office environment.
- There is no need for a dedicated operator.
- Help the customers design their own idea's and products themselves, & identifying errors early, also better protection for their intellectual property.

PART 3.2: VALUE PROPOSITION

- For organizations wrestling with the high cost of outsourcing its products or designs, which may takes days or weeks and cost over \$400, while using a 3-D printer to make a model takes only hours and cost less than \$5, since you only want to do a short run or prototype, 3d printer is the solution that Cut traditional prototyping and tooling costs, and improve the performance, with a speed time to market

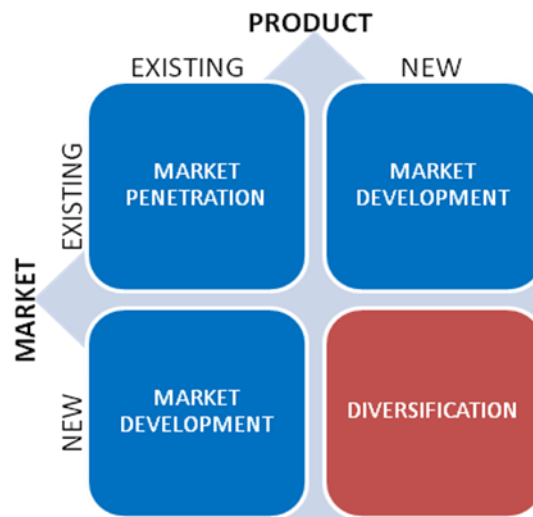
PART 3.3: BUSINESS STRATEGY

We will follow a differentiation focus strategy by providing a unique product, and a high value that will allow us to capture an initially small market segment and will constitute the basis for further expansion.

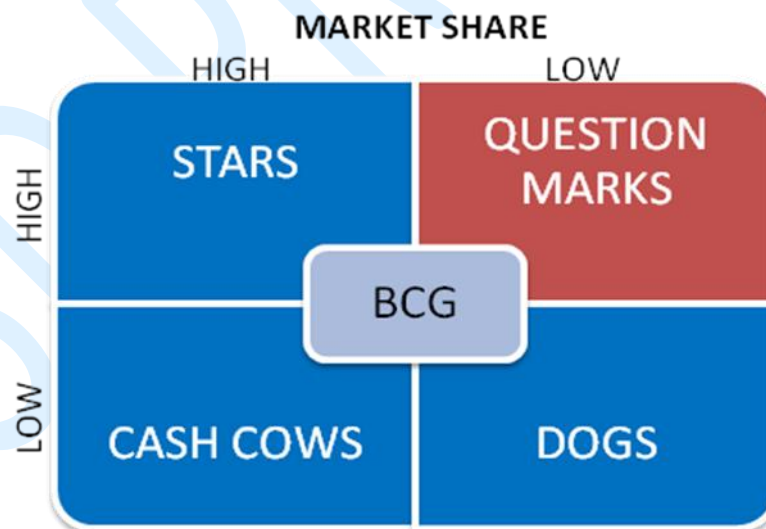
Porter's Generic Strategies

	Competitive Advantage	
Target Scope	Low Cost	Product uniqueness
Broad (Industry Wide)	Cost Leadership Strategy	Differentiation Strategy
Narrow (Market Segment)	Focus Strategy (low cost)	Focus Strategy (differentiation)

Also with reference to the Ansoff's matrix, we are creating a new market space for this product by eliminating the use of the traditional rapid prototyping systems.



And according to the BCG matrix, we are having a low market share, and the growth of this product now in the market is high, so we are now a question marks, and our strategy is to harvest as much of the market as we can, with a high prices then building market share.



Harvest then Build Share

PART 3.4: TARGET MARKET STRATEGY

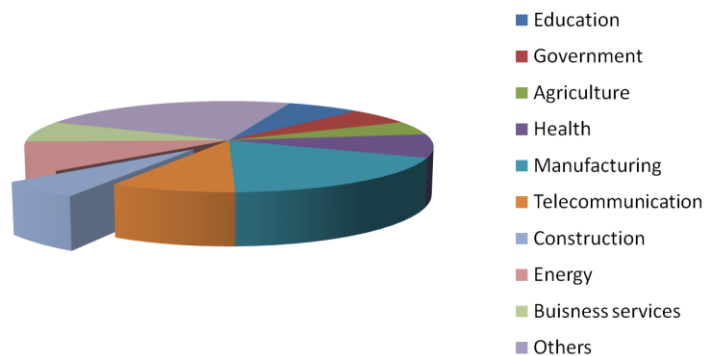
In the beginning our target market is Greece, our strategy of getting into the market by focusing on a specific niches, first we will put our effort in the construction sector, then moving to the other sectors that may in need for our product like the decoration, manufacturing, educational institutions, jewelry shops,

After stabilizing in the Greek market, we are having the intention to spread in Europe afterwards.

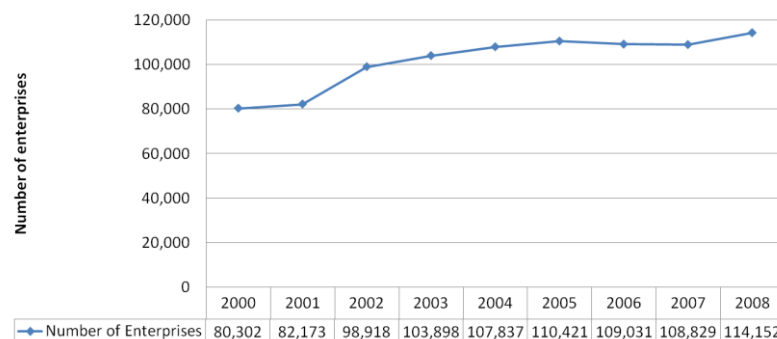
- We will follow the Niche-market strategy, in the beginning our target market are the companies with the high income, along with the individuals and professionals who can afford a high price relatively to be privileged to get our solution.
- There are around 2600 construction companies in Greece.

As our products are for professional usage, we are targeting the companies instead of individuals, which this category can also be included later by producing 3d printers for making prototypes with reasonable prices for individuals.

Companies Categories



Construction Sector Enterprises



PART 4: MARKETING MIX

PART 4.1: PRODUCT MARKETING

The 3d printer is designed and priced for the office use; the companies can create onsite perfect working models directly from the CAD software, made of tough ABS plastic that can be sanded, milled, even painted, and with the use of other materials.

- The product is easy installed, as a friendly device there is no need for complex configuration to be made.
- Occupies a little space which can be fit in a portion of an office.
- The feature of using wide variety materials is in process, but not widely applied.
- The ability to communicate with the machine by the PC easily, without the need for experts or engineers.
- Availability of scanning objects instead of modeling.

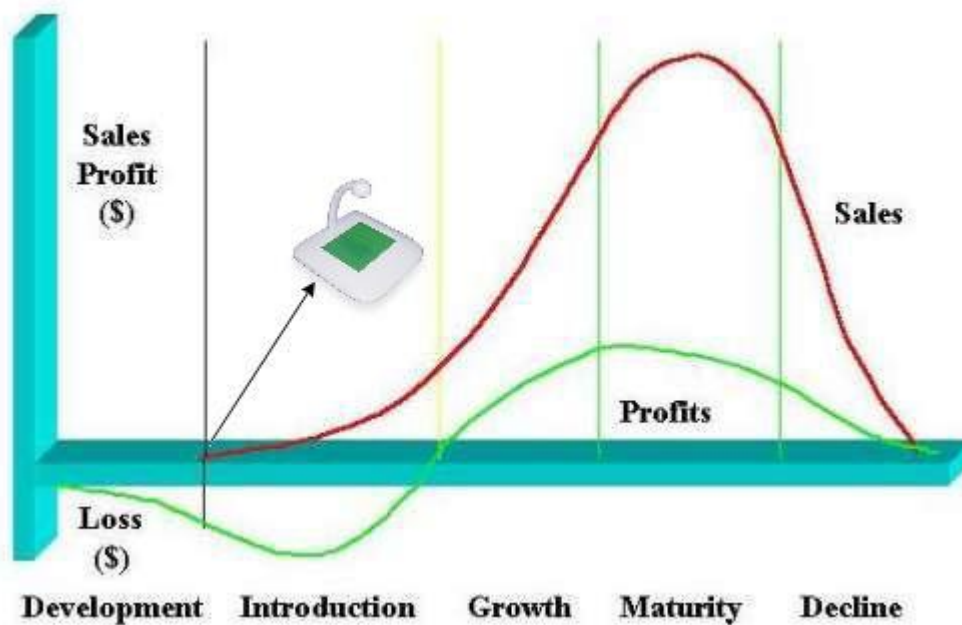


PART 4.2: PRODUCT LIFE CYCLE

This sophisticated technology has existed for more than a decade; however it remains unknown to the majority of consumers. Also with reference to the market situation and upon the existing technologies, we can find that 3d printer is in the introduction stage of the life cycle as shown in the figure below.

Although the 3D Printers are still in the Introduction Phase of the Product Life Cycle, researchers are estimating a significant growth in the demand for this product as it is continuously being reengineered to the level of commercial use by both large-scale manufacturers, and in-home designers.

As its existing in that stage, it will not be profitable due to the R&D expenses which already spent on developing the product. And for sure, in the beginning our strategy will be to differentiate and focus on a niche market, which at the end will give us the ability to expand our operations appropriately.



By 2013, ABI Research anticipates, this market will grow to reach \$782.6 million.

PART 4.3: PRICING

- Because of the different features that can be set in the 3d printers, there are many different models and prices, but in the beginning we will offer one product that can be affordable to a large number of high income companies.
- Due to the inelasticity of demand in the market, most of the companies will not care about the price if the use of it is crucial to them, and in spite of the price the companies with the low income will not buy it, so we chose the skimming strategy by charging a high price, as our product have a substantial competitive advantage.
- When the competition becomes tougher, the price inevitably falls due to increased supply.
- Once other competitors will get into the market and the solutions were produced at a lower unit cost, we will implement other marketing strategies and pricing approaches.
- Provide a discount on the price by 10% for the newly established companies or Entrepreneurs
- Discounts will be offered to Educational institutions.

Price List		
Item	Per Unit Price	Price for customer
3D PRINTER	8000	9500



PART 4.4: PROMOTION

- 1) Discounts will be offered to big companies operating in the market we're targeting (construction companies).
- 2) Commissions also will be offered to our retailers and web distributors.
- 3) Free seminars and workshops which will have a full demonstration about our product (this will include training).

ADVERTISING

- 1) Online Advertising.
- 2) Newspapers and Magazines.
- 3) Internet and Direct emails.
- 4) Workshops for construction companies.
- 5) Seminars and IT events.

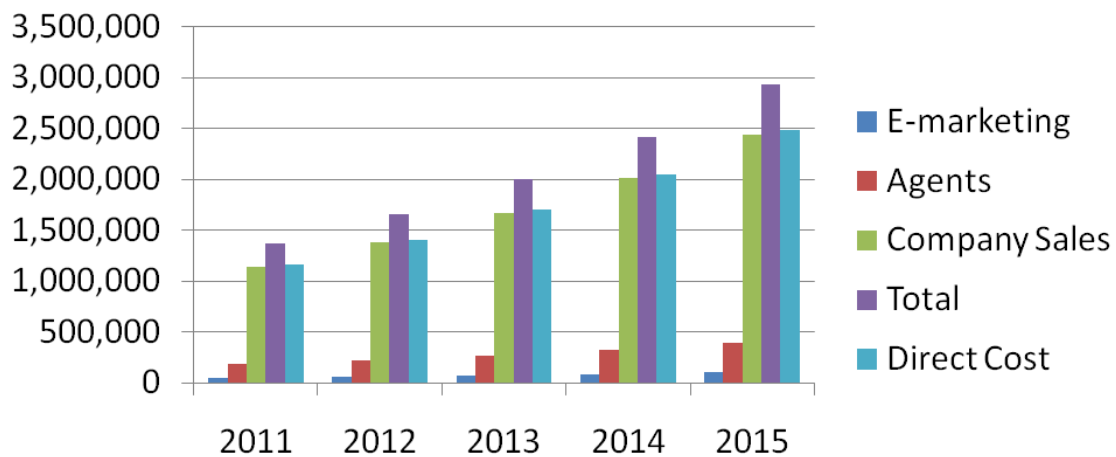
PART 4.5: PLACE

- Currently our main focus will be in Greece as a start point to enter the market, and once we get a reputation we can extend our activities by expanding in other countries in Europe.
- Our channels for distribution will be through our main sales staff, with the aid of our website, and through agents whether they are a physical stores or e-commerce websites, also through the seminars and workshops that are conducted.
- E-marketing (through our main website)
- Agents (physical stores and e-commerce)
- Seminars and workshops

PART 4.6: SALES FORECAST

- We tried to make a forecast depending on the expected sales with reference to the Average unit (Machine) sales growth, which is compounded annually and equal to 21 Percent.

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
E-MARKETING (UNITS)	47500	57,475	69,545	84,149	101,820
AGENTS (UNITS)	180000	217,800	263,538	318,881	385,846
COMPANY SALES (UNITS)	1,140,000	1,379,400	1,669,074	2,019,580	2,443,691
TOTAL SALES	1,367,500	1,654,675	2,002,157	2,422,610	2,931,358
DIRECT COST OF GOODS	1,160,000	1,403,600	1,698,356	2,055,011	2,486,563



PART 4.7: PROJECTED PROFIT AND LOSS

First we calculated the start-up cost which is: 428,000 as following:

Prototyping Office Automation (POA)

START UP FUNDING

DESCRIPTION	COST / €
Company registration fees, start up and legal costs	50,000
Stationary and utilities	14,000
Website Development with 2 years update	20,000
Insurance	20,000
Rent (2000 EURO X 12 months)	24,000
Other Administrative costs	50,000
TOTAL EXPENSES	178,000
START UP ASSETS	
ICT infrastructure and Office equipment	100,000
Service Equipment	150,000
TOTAL ASSETS	250,000
Total	428,000

Then we calculated the annual salaries for each year, considering that there is an increase of 5% for some positions, and regarding the results of the sales.

Position	Year 1 in €	Year 2 in €	Year 3 in €	Year 4 in €	Year 5 in €
CEO	48,000	48,000	48,000	48,000	48,000
Business Development Manager	30,000	31,500	33,075	34,729	36,465
Marketing Manager	24,000	25,200	26,460	27,783	29,172
Sales Manager	24,000	25,200	26,460	27,783	29,172
Financial Manager	30,000	31,500	33,075	34,729	36,465
Operation Manager	36,000	37,800	39,690	41,675	43,758
Engineers X 3	14,400	15,408	16,487	17,641	18,875
Sales Personnel X 3	8,400	8,988	9,617	10,290	11,011
Administrative Assistant	6,000	6,300	6,615	6,946	7,293
Total	220,800	229,896	239,479	249,575	260,212

According to the previous data, with the sales forecast that we got, this is a table showing the projected profit and loss for our business, in the first 5 years.

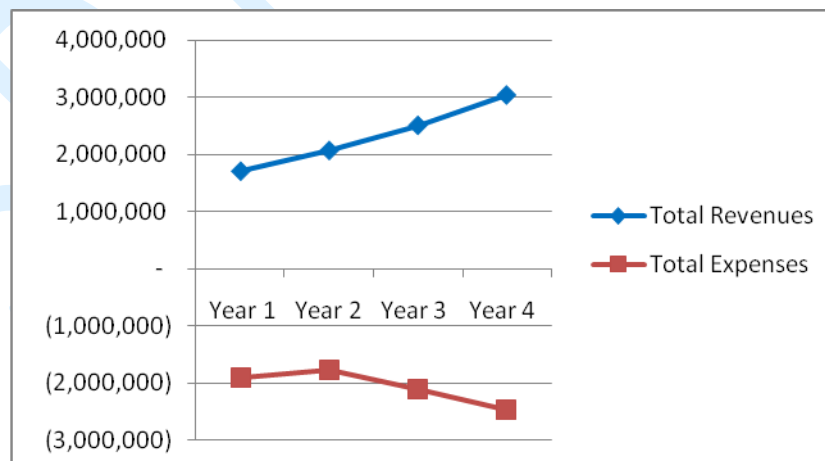
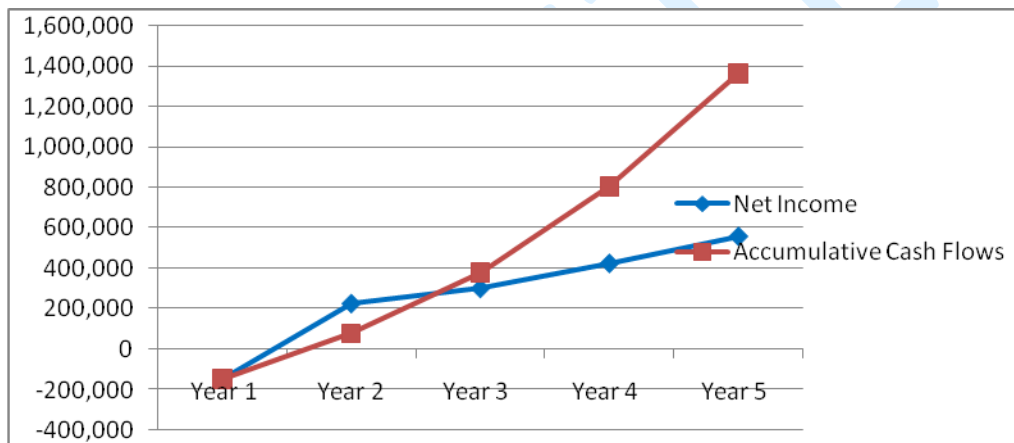
Projected Profit and Loss	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Total Sales	1,367,500	1,654,675	2,002,157	2,422,610	2,931,358
Direct Costs of Goods	1,160,000	1,403,600	1,698,356	2,055,011	2,486,563
GROSS PROFIT (Sales)	207,500	251,075	303,801	367,599	444,795
Gross Margin %	15%	15%	15%	15%	15%
Revenue from service	350,000	423,500	512,435	620,046	750,256
Total Profit	557,500	674,575	816,236	987,645	1,195,051
Expenses					
Payroll	220,800	229,896	239,479	249,575	260,212
Advertising and Marketing	50,000	30,000	50,000	30,000	30,000
Start-up Cost	428,000				
Rent		24,000	24,000	24,000	24,000
Insurance		20,000	20,000	20,000	20,000
Stationary and utilities		3,000	3,450	3,968	4,563
Annual Machines running costs	50,000	60,500	73,205	88,578	107,179
Other General and Administrative Expenses	5,000	5,000	5,000	5,000	5,000

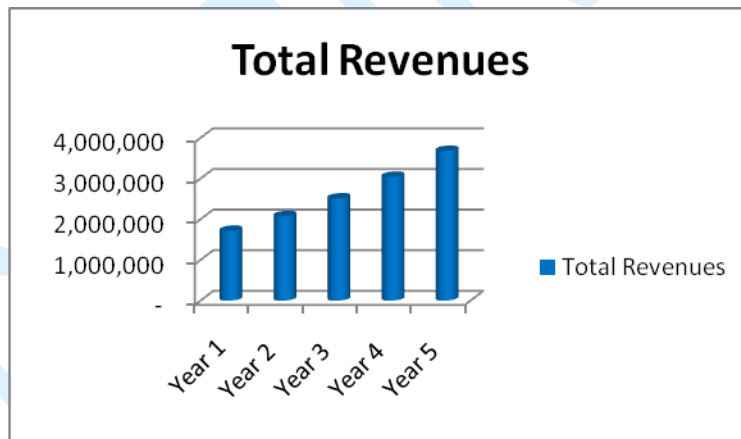
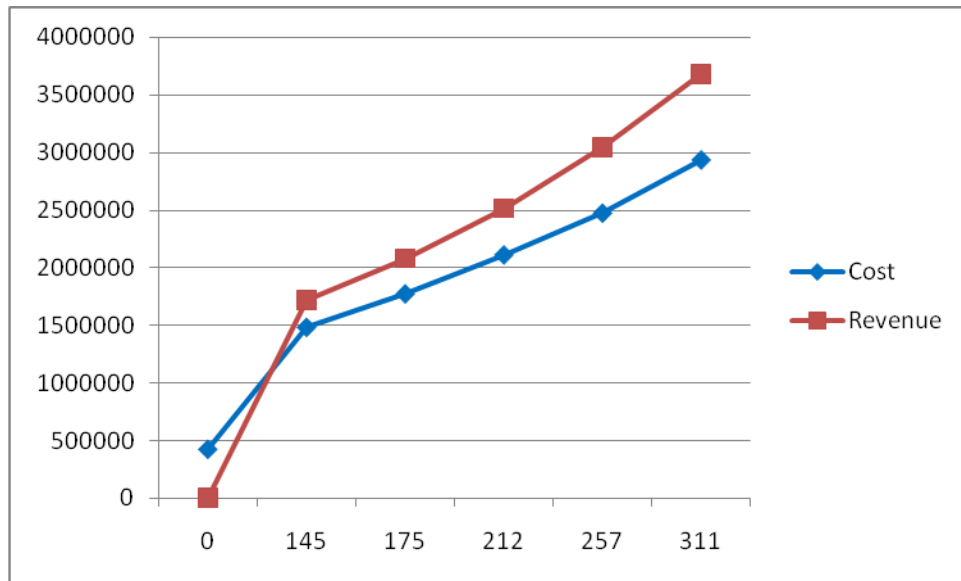
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Total OPEX	753,800	372,396	415,134	421,120	450,954
EBIT	-196,300	302,179	401,102	566,525	744,097
Income Tax	-49,075	75,545	100,276	141,631	186,024
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Net Income	-147,225	226,634	300,827	424,894	558,072
Accumulative Cash Flows	-147,225	79,409	380,236	805,130	1,363,202

PART 4.8: GRAPHS

According to the previous results, we wanted to represent these data, in terms of graphs, to show the break-even analysis, and the revenue with the accumulated cash flows.

Years	Year 1	Year 2	Year 3	Year 4	Year 5	Totals
Total Revenues	1,717,500	2,078,175	2,514,592	3,042,656	3,681,614	13,034,537
Total Expenses	(1,913,800)	(1,775,996)	(2,113,490)	(2,476,131)	(2,937,517)	-11,216,934
Net Income	-147,225	226,634	300,827	424,894	558,072	1,363,202
Accumulative Cash Flows	-147,225	79,409	380,236	805,130	1,363,202	
ROI	-7.69%	12.76%	14.23%	17.16%	19.00%	-12.15%
ROS	-8.57%	10.91%	11.96%	13.96%	15.16%	10.46%





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