



CreoPop Marketing Plan



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Table of Contents

1 – Executive Summary	4
2 - Introduction	5
3 – Company and Product Analysis.....	5
4 – Framework	6
5 – Market Definition, Potential and Demand	7
6 – Technology Adoption Lifecycle Curve	8
7 – Competitor Analysis	10
8 – Customer Analysis	11
9 – SWOT Analysis	14
10 – Marketing Objectives and Goals.....	15
11 – Marketing Strategy.....	16
12 – Target Market and Positioning.....	16
13 – Product and Brand Management.....	20
14 – Pricing Management	22
15 – Promotion.....	23
16 – Distribution	26
17 – Customer Sales Plan	27
18 – Financial and Sales Forecast.....	27
19 – Implementation and Control	32
20 – Conclusion	33
References	34
Appendix A – Customer Interview Questions	35



List of Figures

Figure 1 - Framework	6
Figure 2 - Technology Adoption Life Cycle, adapted from [7].....	9
Figure 3 - Market Segmentation	17
Figure 4 - The Bowling Alley Strategy.....	19
Figure 5 - Promotion Mix Pyramid.....	24
Figure 6 - Promotion Budget Distribution	31

List of Tables

Table 1 - Competitor Analysis	11
Table 2 - 3D Pen Market.....	28
Table 3 - Sales Forecast	30
Table 4 - Promotion Budget.....	31
Table 5 - Balanced Score Card	33

1 – Executive Summary

High-tech products are infusing into our daily lives and revolutionizing existing markets at an unprecedented pace. One of the most exciting and promising technologies for the future is 3D printing. Derived from the core idea behind 3D printers, came the 3D pens which are devices that allow users to create manually and freely 3D objects.

CreoPop is a Singapore-based startup company who was successfully crowd funded to manufacture a 3D pen – but only with a few different characteristics. While the ‘standard’ 3D pens available in the market function by extruding melting plastic – creating toxic fumes and having extremely hot parts on the device – CreoPop 3D pen uses a different technology to achieve the same outcome. Its product makes use of a ‘cool ink’ instead of plastic, which is instantly cured by a harmless Ultra-Violet light when it comes out of the pen’s nozzle – hence producing no fumes nor containing any dangerous hot parts.

As same as all its competitors, CreoPop seems to be looking for the perfect market to attack and make its product takeoff. This marketing plan has the objective of shedding a light into this obscure and newborn market, with strategies and tactics aiming to successfully commercialize the product.

The most proper market for CreoPop was identified as the creative toys, summing up US\$1.26 billion a year. Considering our assumptions, the total sales for 3D pens on the last year represented an adoption of only 1.7% in this market, showing a huge margin for growth. The competitors are not numerous, totaling around 18 companies (five to be considered as major competitors). Through a customer interview routine, we have identified the differences between buyers and users, the different buying processes and the value-drivers that may lead to a purchase. We have then proceeded to devise marketing objectives and a SWOT analysis that served as a basis for segmenting the market and positioning the product. The three segments identified under the creative toys market will be approached in a time interval of five years, by way of introducing changes in the product, according to each particular segment characteristics. After understanding and segmenting the market, the 4P’s (product, price, promotion, place) tactics are designed and depicted. Following the 4P’s, we present a simplified cost structure and sales/profit forecast, also with a brief explanation about the promotion budget. Next, we choose the Balanced Score Card technique as a control tool during the implementation of this plan, making sure the company has a thorough understanding of what is happening and what should be adjusted or changed along the way. Lastly, we conclude with some suggestions for the future of the company (after the five-years period), discussing its possibilities and how it could succeed in the longer run.

2 – Introduction

The purpose of this plan is to design a strategy to market the CreoPop 3D pen, by way of analyzing the competitive landscape and market of a newborn class of products – the 3D pens. After gathering and analyzing several pieces of information about the product, market, customers and competition, the team has developed a plan – based on the best marketing practices and concepts – to successfully market this product for the next five years.

3 – Company and Product Analysis

Company Background: CreoPop is a venture-backed subsidiary company of HaxAsia based in Singapore. CreoPop was founded in 2014 by two industry experts, Dmitry Starodubtsev and Andreas Birnik. Dmitry Starodubtsev is the Ubergeek at CreoPop and is a self-proclaimed serial entrepreneur who has a strong track record of backing successful businesses, particularly in the vending machine and 3D photo mapping industries. With a master's degree in engineering and as the owner of several patents, he is one quadrant of the team. Andreas Birnik is responsible for the Marketing at CreoPop and has 17 years of experience in the technology building industry. He is an expert in mobile communications, consumer Internet, cleantech and mobile infrastructure. Birnik has a reputation in the Middle East, Asia and Europe and the US. With degrees from Harvard University, Stockholm School of Economics and Cranfield University, he has both the experience and academics to help CreoPop succeed [1]. CreoPop was mainly financed through crowd funding campaign at Indiegogo and raised approximately US\$186,000. The 3D pen is available on Kickstarter for pre-ordering at US\$119 with three ink cartridges.

Product Description: CreoPop is the world's first 3D pen with cool ink. In contrast to other 3D pens, there are no hot parts, no melting plastic and no unpleasant smell. Instead, CreoPop uses photopolymers that are solidified by using UV light to let users create 3D designs. Since no heating is required, CreoPop is safe in a home environment with children and pets around. According to Andreas Birnik the most innovative feature of CreoPop is the large selection of cool inks available including different colors, elastic ink, magnetic ink, glow-in-the-dark ink, temperature sensitive ink and body paint ink.

The 3D pen uses a stereolithography and light-sensitive ink called photopolymers. While this has previously been used for professional applications within the 3D printing industry, CreoPop is the first application of the technology in a portable consumer device. When using CreoPop, the ink is immediately solidified by UV diodes surrounding the nozzle of the pen. This is in contrast to other 3D pens that typically rely on heating ABS and PLA plastic to temperatures of around 250 degrees Celsius / 480 degrees Fahrenheit. In addition to representing a safety hazard, melting plastic also emits an unpleasant smell,

which is avoided with CreoPop. It is furthermore battery-operated and can be charged using a mini-USB cable connected to a computer or a power adapter. This makes it easy to maneuver the pen, as the user's movement is not restricted by any cord [2]. Changing ink cartridges takes just a couple of seconds, making it possible to quickly create designs using inks of many different colors and properties.

4 – Framework

In order to get an understanding of the obscure market situation that this marketing plan underlies, this chapter tries to integrate the whole picture into an overall framework (figure 1). This framework then serves as the overall layer that can be adduced to understand which of the two markets is currently mentioned, especially when it comes to calculations.

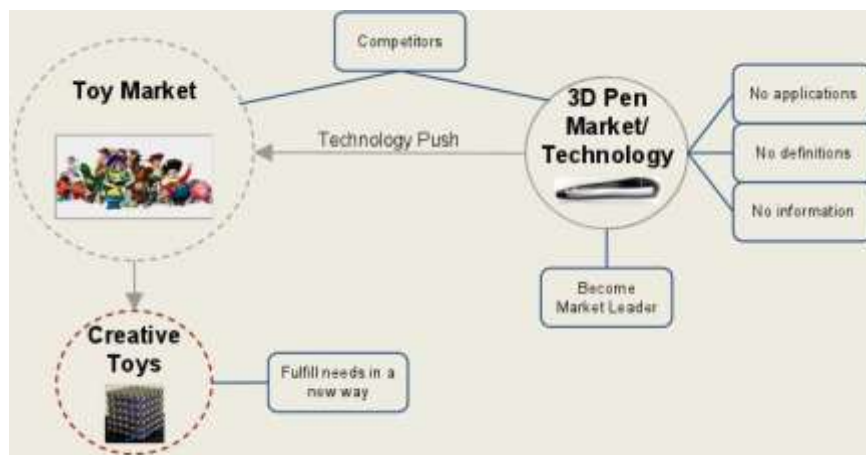


Figure 1 - Framework

Talking about a 3D Pen market today is, strictly speaking, incorrect since the typical structures of a market are not developed yet and so it is more suitable to talk about the 3D pen technology. The non-existence of a market can be explained by the fact that 3D pen companies are uncertain about how their products can be applied to create value at the customer's side. Recently, companies attempted to market their pens in the hobby crafts or hobby arts sector. Furthermore, there are no technical standards defined yet and so far, there is nearly no information about market revenue, market share or market growth published. Nevertheless, this is the 'market' that CreoPop operates in and hence where we want to become the market leader. Due to the abovementioned facts this marketing plan suggests to execute a technology push into the toy market, which is, in comparison to the 3D Pen technology, a well-established market with huge revenue and many competitors. By pushing our 3D pen in this traditional industry, we firstly increase

the number of our competitors and secondly fulfill existing needs in a new way within the market segment of creative toys. By doing so, we are able to skim those customers that have the desire for fun, creativity and technology.

5 – Market Definition, Potential and Demand

Despite the lack of information for the pens, we obtained an approximation of the current **market size** by the following calculation. In 2014, 3Doodler, the very first 3D pen company, sold 130,000 pens [3] and we assume that they held 60% of market share at that point in time. Adding the missing 40% leads to a total amount of sold pens of 217,000. Multiplying this number with the average price of US\$100 for a 3D pen results in a total explored market of US\$21.7 million. The market size of creative toys, which is categorized by Action Figures/Accessories/Role Play, was US\$1.26 billion in 2014 [4].

Within the last two years there were around 15 companies coming up that are producing 3D pens. Furthermore, crowd funding yielded an amount over US\$100,000 for many companies within the first 24 hours. Those facts serve for the generic depiction of the severe interest in this new technology and can be used as an indicator that the future **market growth** will certainly be positive. To come up with a number we looked at the past market growth of 3D Printers which are a comparable technology, just five years ahead of 3D pens. The annual growth for 3D Printers between 2010 and 2015 was annually 22.4% [5] and assuming that the massive growth rates for 3D pens are still about to come up, we estimate the market growth rates by 25%. By contrast, the segment of creative toys still possesses an annual growth of 10% [4], which displays the customer's interest in creative toys.

The **competitive strength**, as mentioned in the previous chapter, comes from both the 3D pen side and from the toy industry. Numerically, there are three major 3D pen companies. The LIX is the smallest and draws the most precisely, the 3Doodler was the first and so still the market leader and the Polyes Q1 by Future Make is, from a technology standpoint, the closest to our product. The closest and by that most comparable to CreoPop from the toy industry are Color Alive by Crayola and Hasbro's Doh Vinci. On the one side there are competitors with limited capital budget who are totally focused on 3D pens since this is their only product so far and so they are willing to bring out new versions of that. On the other side there are huge companies that indeed have way more capital on hand but they are also more diversified with their products. Given those facts, we estimate the overall aggressiveness level of the market we want to operate in as medium.

Another important aspect in order to evaluate a market is the **stage of the market life cycle**. We classed 3D pens with the first, the introductory stage, for the reason that there are just a few and brand new companies in the market that are all crowd funded. Furthermore, many of these organizations did not even launch their product yet and so the people's awareness of 3D pens is almost non-existent.

Furthermore, the **price sensitivity** plays an important role when evaluating a market and this is done by two factors. The first factor gives an answer to the question if there is a viable functional substitute to a 3D pen out in the market and technically, people could use a hot glue gun to achieve a fairly comparable result. The second factor is the perceived value that a 3D pen gives to its users. Although people probably do not really need a 3D pen they think they need it after using or seeing it for the first time. This is caused by the so-called ‘Wow-Effect’ and this is in accord with the interview we conducted. After showing the image video of CreoPop four out of ten interviewees were positively surprised. All in all, the price sensitivity is relatively low, which means that their buying decision is independent on price changes.

Altogether the **market cost structure** can be evaluated as medium. While Research and Development probably was the highest cost factor due to the technological newness that had to be developed, the design of pens is comparatively plain. As mentioned later in this marketing plan, a tactic is to produce the CreoPop in Asia which keeps the manufacturing costs low and that is what most of the companies currently do. In addition to that, the marketing costs are currently low in the market because every company uses mainly their own website for advertisement.

Lastly, the **market physical structure** has to be assessed. As it will be conducted later in this marketing plan, the market that we push our technology in is definitely decomposable. With regards to seasonality, which is another factor that influences the market physical structure, 70% of all toys are sold before and after Christmas over the year [6] and so this time of the year is enormously important for Start-Ups. Cyclicalities, which means that there are years of high volume followed by years of low volume, is not expected to happen in both 3D pen market and creative toy market. In general, the market underlies some regulatory exposures since plastic gets melted, parts of the pen are heating up and young children play with them.

All in all, the market already boasts an attractive size, the forecasts for its growth are enormous, competition exists but is not too challenging, the market is still at its beginning, the price sensitivity is relatively low, shows a medium market cost structure and an appealing physical structure.

6 – Technology Adoption Lifecycle Curve

The 3D pen industry is extremely new and inexperienced. The first companies started to look for funding roughly two years ago, and the first products were launched and delivered to customers approximately 1.5 years ago. Virtually all the companies in the market are start-ups that initially were looking for crowd-funding opportunities to start their businesses. Moreover, still today some of those companies are relying on crowd funding, either to continue to develop their first products or to remodel and develop new versions/generations.

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Marketing Plan – Winter 2015

The technology adoption life cycle curve is a graph that shows how new technologies are diffused in the market and what kind of customers are willing to try the new technology. It is a ‘bell-shaped’ curve, dividing customers into five distinct groups: innovators, early adopters, early majority, late majority and laggards. Between the second and third group lies the chasm, an imaginary barrier that separates the early market from the mainstream market. The biggest marketing challenge of a high-tech company is to get its products to cross the chasm, thus exploring and profiting from a much safer and bigger market.

The position of a product or technology in the adoption life cycle curve is very important. Depending on the position, a company knows what kind of customers are buying the products and what kind of barriers are yet to be overcome. Also depending on the position, a company can design better promotion and product strategies, always aiming to cross the chasm and explore the mainstream market. In order to establish the position of 3D pens (as a product class) in the technology adoption life cycle curve, one has to possess two sets of information: the total available market (total of current and potential customers) and the total explored market (total of current customers). As explained earlier in this report, the total available market for 3D pens in the creative toys market is US\$1.26 billion and the total explored market is US\$21.7 million. By dividing the former by the latter, one can conclude that the rate of adoption for 3D pens is 1.7%. According to the literature, for adoption rates up to 2.5%, the technology is yet within the boundaries of the innovators (figure 2).

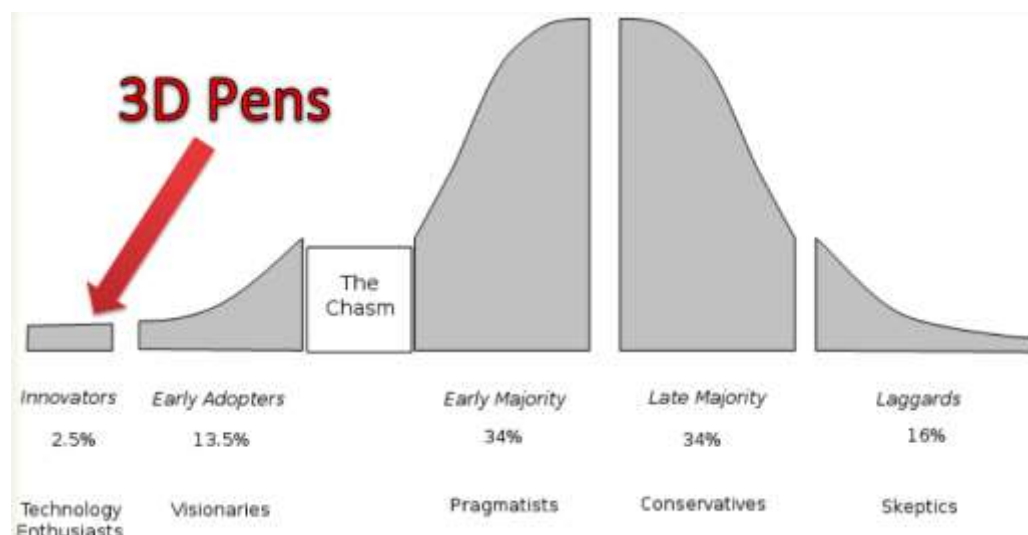


Figure 2 - Technology Adoption Life Cycle, adapted from [7]

7 – Competitor Analysis

There are currently three direct competitors in the 3D pen market, LIX, 3Doodler and Polyes Q1. These three competitors are chosen because they are founded along the same year, fairly new to the 3D pen market and offer products with similar characteristics. Crucially, all these different 3D pens are funded through the crowding campaign at Indiegogo or Kickstarter. All the four companies offer similar products and solutions and are located in similar price range. However, the LIX 3D pen can be used for industrial drawings and building prototypes for its purpose of ink technology which is based on polymer ABS/PLS.

Despite the similarities, these four products compete with each other based on their distinctive attributes.

Since CreoPop competes in the imaginary 3D creative toy segment, it faces competitive threats from long established toy giants as well. The two similar types of pen based creative toys that target young girls and boys of the similar age range as CreoPop are Crayola's Color Alive and Hasbro's DohVinci.

For our analysis we chose the competitive products of LIX 3D Pen, 3Doodler, Polyes Q1, Crayola's Color Alive and Hasbro's DohVinci. The comparison between the products can be seen in table 1. From the table, it is clear that Polyes Q1 is a comparable product to CreoPop because it uses a similar stereolithography cool ink technology and other similar attributes such as odor, size and weight. LIX and 3Doodler are also 3D pens but use heated ABS/PLS that cools and solidifies after a few seconds. These pens can also be used for creative arts and building prototypes for engineering purposes. Finally, the other two creative toy pens are of a similar pen technology but do not use any plastic technique. Instead, they use crayon and clay filaments inside a pen gun.

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ATTRIBUTES	CREOPOP	LIX 3D pen	3DOODLER	POLYES Q1	CRAYOLA COLOR ALIVE	HASBRO DOH VINCI
Creators	HaxAsia	LIX	WobbleWorks	Future Make	Crayola	Hasbro
Country of Origin	Singapore	UK	Designed in US	US	US	US
Year of Launch	April 2015	2014	2013-2015	April 2015	Feb 2015	2014
Year of Start-Up	2013	July 2013	2010	2014	1900	1923
Crowd funded (Y/N)	Yes	Yes	Yes	Yes	No	No
Amount	\$185,690	Euro 731,690	GBP 1,552,256	\$147,164		
Weight of pen	113 grams	40 grams	50 g (1.8 oz)	50 grams	3.2Oz	816 grams
Type of Plastic Ink	Thermoplastic material	ABS/PLA plastic filament	ABS and PLA plastics	Stereolithography printing technology	N/A	N/A
Connectivity/electricity	Powered by USB port	Powered by USB 3.0 port	Wall powered/ Jetpack	USB port to charge	N/A	N/A
Type of Ink Technology	Ultraviolet light	rapid heating and cooling	rapid heating and cooling	ultraviolet light	N/A	modelling clay compound
Child- Friendly (Y/N)	Yes above 12	No	12 and up	Yes	Yes	Yes
Fume/Odor	Pleasant	Unpleasant	Unpleasant	Pleasant	N/A	N/A
Uses	creative art	Creating prototypes	Creating art	Used as a sketch pen for creating art	Used as a sketch pen for creating art in apps	Used for decorative of certain interior pieces
Patents		Patented mechanism	Patent pending cooling process			
Price	\$119	\$ 139.95 (Euros 85)	Per-order(shipping May 1) \$ 99.99	\$119	\$5.99	\$17.82

Table 1 - Competitor Analysis

8 – Customer Analysis

In order for a company to be successful in this global and extremely competitive market place we face today, it is not enough to know your product's features, your competitor's capabilities and the markets you are targeting. A company has to be customer-oriented, it has to work towards fulfilling customer needs and has to bear in mind those needs in every tactic or strategy it devises.

The first step in creating a customer-oriented culture is, of course, to know your customers, what problems and needs they have, what they expect from a product and what they do not expect. Also vital is to know who starts the buying process and how this process unveils itself. As stated in [8], it is very difficult to be successful at your marketing efforts if the company does not comprehend clearly how its customers perceive the product and how they act throughout the buying process. According to [9], many different businesses lose sales when they do not correctly identify the important actors in the buying process.

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Marketing Plan – Winter 2015

As it will be explained in details later in this report, our target market is the “jewelry making” market within the creative toys market. A basic and simple yet critical distinction to make within this target market is between end-users and buyers. It is very important to understand this difference so the company can develop more efficient promotion and distribution strategies. In the jewelry-making segment, the end-users will be girls starting at 7 years old who like to create their own pieces of jewelry (e.g. bracelets, rings, ear-rings, collars, etc.). The buyers group, however, will be comprised of a very different kind of person, namely the parents (and possibly grand-parents and relatives) of those girls. The buyers, in this particular case, will be adults driven by some very specific needs and values – soon to be defined and discussed. The buying process, as indicated by the results of customer interviews and (also soon to be presented), could take two different paths:

- 1st – the parents (or any other member of the buyers group), unhappy with the values delivered by regular toys or excited by the new values to be delivered by our product, decide to purchase the product after being reached by any form of advertising effort or by word-of-mouth, thus starting the buying process. The end-user would be presented to the product after the buyer has purchased it.
- 2nd – the end-user has contact with the product through any form of advertising or through a friend. Excited about the product, the end-user contacts the buyer and requests the product, thus initiating the buying process. The buyer, realizing the benefits of the new product, decides to purchase it. In this case the end-user would be presented to the product before the purchase is done.

Regardless of the path to be taken or the agent that would start the buying process (either the buyer or the end-user), we have to be prepared to encompass all pre-identified possibilities when designing and implementing our marketing tactics.

Taking into consideration the concepts and suggestions contained in [10-15], we have conducted a series of customer interviews aiming to assess and understand their problems and needs. Ultimately, we were able to gain an in-depth view of our potential customers and also to validate our assumptions regarding market segments, customer profile and value drivers.

The interviews were conducted at a “Michaels” retail store (one of our potential distribution partners, to be explained later in this report), where we have approached and talked to 10 potential customers. The interviews were either audio taped or transcribed to paper (depending on the interviewee’s choice). The results are as follows:

- 80% of the respondents say their children still play with regular toys, not only electronics.
- 40% would like to spend more time playing with their children.
- 30% say better toys would make them spend more time playing with their children.

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Marketing Plan – Winter 2015

- 40% rank creativity as one of the top problems with today`s toys.
- 80% are either unsatisfied or not sure about the level of creativity brought by today`s toys.
- 100% think CreoPop 3D pen would enhance children`s creativity.
- 40% would also buy it for them to create their own objects.
- 100% would be willing to buy CreoPop for their children.
- 90% think the product is suitable for both boys and girls.
- 70% think their daughters would like to make jewelry using CreoPop.
- Regarding the 3D Pen pricing, 50% would pay less than US\$50; 40% would pay less the US\$100; 10% would pay less than US\$150.
- Regarding the Inks pricing, 70% would spend between US\$5 and US\$10 monthly; 30% would spend between US\$10 and US\$15 monthly.

The results of the interviews were regarded as a basis and a starting point for the group to identify and define customer needs, value drivers and the persona that would best represent our target market. The complete interview questions can be checked in the appendix A

The value drivers identified for the 3D pen are as follows:

- 3D mind-to-model realization
 - *Fast and handcrafted*
 - *Homemade*
- Safety
- Exploring and increasing 3D thinking
- The “WOW” effect
 - *Novel and fascinating*
- Exploring and enhancing creativity
- Parents-children relationship

Of course, the first and most obvious value driver is the possibility of generating 3D objects easily and quickly, using manual skills in a domestic environment. Safety is one of the most crucial features of a toy. Parents will not allow their children to manipulate and play with a device unless they are 100% positive it will not pose a risk. Exploring and increasing creativity and 3D thinking is also an important concern of parents. The premise is that children would benefit if exposed and incentivized to take on such challenges when they are young. The “WOW” effect plays a considerable role in every product and is a “must” feature when it comes to high-tech products. Finally, having a toy or device that allows parents to come closer and spend more time with their children would be extremely beneficial from a family perspective.

Analyzing the data derived from the interviews, it is possible to build up the persona of our buyers, a description of a random potential customer that exemplifies the

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Marketing Plan – Winter 2015

discoveries the company made throughout the market research process. In the case of CreoPop, the buyers would be parents that are well educated and tech-oriented, worried about ways to enhance their children's creativity while having fun with toys. Following it is presented the persona for the CreoPop 3D pen:

Marc, a 37 years old engineer is married to Julia, a 36 years old lawyer. Both of them are fascinated by new technologies and are always willing to try new devices and products. A few months ago, they realized that their daughter, a 7 years old girl, is getting bored too easily with her toys and that none of it poses any challenges for the child to develop her creativity and critical thinking. Knowing that she loves to play with make-up and jewelry, they decide to buy a CreoPop 3D pen, so that she can have fun while exercising her 3D thinking skills and while enhancing her creative capacity.

9 – SWOT Analysis

The following analysis of Strengths, Weaknesses, Opportunities and Threats (SWOT) is conducted with reference to the product and the company as well as the market. While the strengths and weaknesses are meant to focus on internal aspects of an organization, the opportunities and threats broaden the scope of the analysis by also taking a look at the external environment.

Except for one of our competitors, Polyes Q1, we are the only 3D pen company whose pen does not heat the ink up in order to make it fluid before it dries again. Due to the fact that CreoPop does not heat up the ink there are also, unlike competitors' products, no hot parts in the pen that could hurt the user's skin. The pen itself, as well as the UV-light that is used to melt the ink, is very modern, stylish and appealing, so CreoPop can differentiate from others with its look. Currently CreoPop shows a lot of drawings of sculptures or famous buildings on their website that were drawn with their pen. As mentioned later in this plan, we suggest that CreoPop could additionally add templates of complex sculptures to the package in order to attain an even stronger differentiation. CreoPop makes it possible to run the pen without having to be attached to the power outlet via cable and ensures total free movement by that. Furthermore, CreoPop comes up with a variety of inks of different characteristics, such as ones that glow in the dark, have an appealing smell or ones that are magnetic. Compared to the competitors, CropPop's drawing lines are relatively thick which fits to the target market segment, as we will see in the next section.

Since these thicker drawing lines prevent from drawing precisely it also represents a weakness of the pen. Another weakness that comes up due to the newness of 3D pens is the necessity of showing the people what to do with such a product. Also, CreoPop is about to release the first version of the 3D pen and so they do not know how customers will like it. The size and weight of the pen is relatively high compared to other

ETM 555 – Technology Marketing – Prof: Dr. Antonie Jetter
Marketing Plan – Winter 2015

pens, which could be inconvenient when doodling with the pen for a longer time. Last but not least, CreoPop is a start-up and cannot draw on any reputation yet. This makes it even more difficult for us to get money from business angels or venture capitals since our financial resources are relatively low anyways.

The framework at the beginning showed that 3D pen companies today are unsure about where to place their product. Due to the abovementioned characteristic of CreoPop's current ink the positioning within the creative toy market for girl's jewelry seems to be very promising. In addition to that, a fast adoption by girls for crafting jewelry is expected. Besides the fact that the 21st century is coined by technology, which gives the opportunity of a great acceptance of technologies, girls today are more emancipated and by that more interested in technological toys. Furthermore, the creative toy market grows by 10% while the 3D pen market is even expected to grow by 25%. The ink that CreoPop currently uses can only be used with an original CreoPop pen and so the customers are bound to the company.

Since customers might perceive this bondage as unpleasant they could decide to buy another's company's pen, which would definitely be a threat for CreoPop. As stated in the market definition, there are currently three competitors from the 3D pen market.

They are all at the very beginning of their being and it is unclear which company will overtake the market leader position in the next years. Furthermore, the market entry barriers are comparatively low which involves the danger of fast growing new competitors. The competitive analysis showed that CreoPop is currently one of the two highest priced pens in the market and very often the price is the exclusion criterion for many customers. Also, the competitors were firstly able to raise more money in the past, which makes it easy for them to come up with a second and more advanced version of their pens in the future, and secondly, two of the competitors filed patents for their technology. Last but not least, it is still unsure if the market will even adopt the technology.

10 – Marketing Objectives and Goals

Guided by our vision, below described, we want to achieve our defined market goals and objectives.

We provide people the opportunity to develop and encourage their creativity by using a high-technology 3D pen that is able to manifest everything that comes into people's minds with the use of eco-friendly and safe cold ink.

Within the next five years we want to occupy 30% to 40% of the 3D pen market, which is planned to be achieved by entering the second segment after two years and the third segment after four years. Furthermore, we want to achieve a market share of 2.65 % of the creative toy market, which is, in order to accomplish this goal, chosen as our target

market. Within this target market we approach the girl's jewelry segment as our beachhead at first, and from there on, entering the second and third segment by adjusting 'The Whole Product'. Last but not least, CreoPop's goal for the long-term is to become the technology leader as well as the service leader within the 3D pen market.

11 – Marketing Strategy

A clearly defined marketing strategy is the fundament for every company to communicate the aimed direction to every employee. This is necessary to keep the organization on the right track when working towards its objectives and goals. CreoPop's marketing strategy is as follows:

We offer the customers a unique, new and safe technology pen that allows three-dimensional drawing within seconds. Our customers are able to draw any three dimensional object that comes into their minds. To reach as many customers as possible we initially target the creative toy market and the segments girl's jewelry, action figures and precision items. We are going to choose major retail stores, like Michaels and ToysRus as our distribution channel as well as for customer support services.

In a further step, after exploring the creative toy market and raising customer and industry awareness, to enter also non-toy markets like architects or artists, our goal is to establish a partnership with an already well-established manufacturer of electronic pens, like Logitech or Crayola.

12 – Target Market and Positioning

The segmentation of the total available market (TAM) down to the target market is fundamental for an organization which brings a new product to the market in order to place it in the right market. Right in this case does not necessarily mean most profitable, but in addition to that also most suitable in terms of customer's needs. In figure 3 the needs are shown in the dashed boxes, which are, of course, different for every segment on every level, whereas the red crosses indicate segments that are crossed out. The chosen segmentation for CreoPop is partially based on the classification provided in [4].



Figure 3 - Market Segmentation

On the **geographical** dimension we decided to publish our 3D pen on the North American market, which is the most profitable one, and besides that also the most attractive one for technology companies.

The next segmentation level is the **environment** in which a product like CreoPop could be used. One conceivable possibility is to use the pen in a professional environment, which is defined as the product being part of a work or production process that in the end leads to a monetary benefit for the user. In our perception, the current efficiency, which is the central need in this environment, of CreoPop is not sufficient to fulfill that need. We also decided against the teaching institutions environment because the time to use our 3D pen as a learning utensil is not there yet and so the profitability of that market is too low. In addition to that, the distribution and the buying process are totally different as well as the buyer's motivation to buy a pen.

The domestic environment splits further into the third classification dimension, **usage purpose**, which answers the question how CreoPop can be used. Different from the abovementioned source we do not define hobby crafts and hobby artists as a subcategory of the toy industry but rather each as independent segments. While the overarching need of the toy segment is fun, hobby crafts could use CreoPop for example to fill a whole in the grasp of their screwdriver and so satisfy their need of fixing. Hobby artists, however, feel the urge of design and their usage of CreoPop would be the creation of an individual and stylish fitment. The decision on this level to choose the usage as toy

ETM 555 – Technology Marketing – Prof: Dr. Antonie Jetter
Marketing Plan – Winter 2015

is solely based on profit. As the source shows, arts and crafts represent a sum of nearly US\$1 billion which is, compared to the remaining US\$21 billion, not attractive enough. Within the toy segment we see four sub-segments to which a 3D pen could be **applied**.

Hence, in the education segment, which stands for the playful imparting of knowledge, CreoPop would fulfill the role of an educational toy. Additionally, the pen could be applied in the entertainment segment fulfilling the need of excitement, whereas the three dimensional thinking is challenged when it is applied as a construction toy.

Lastly, CreoPop promotes the creativity when applied to the creative segment. The reasons why the creative segment was chosen on this dimension level come from the conducted interviews (see Appendix A). 40% of the interviewees rank creativity as one of the main problems in today's toys, 80% are unsatisfied about the level of creativity that is brought by today's toys and every interviewed person thinks that CreoPop would enhance children's creativity. Since the creative segment is the segment that leads to the final market segments we define this as our target market, which has a size of US\$1.26 billion.

The last segmentation of the creative toys finally leads to the three target **market segments**. In order to generate a base for the bowling alley a last cross out is needed for the identification of the beachhead. Precision items, which are mainly thought to be drawn up by adults, fulfill the need of curiosity, whereas figures are meant to be made by boys to satisfy their play instinct. The usage of CreoPop to create jewelry will target girls and their need of a stylish appearance. 70% of the interviewees were convinced that their daughter would make jewelry with such a pen and 90% stated that CreoPop is suitable for both girls and boys. Based on that, we decided to target the jewelry segment as our beachhead with the tactic, which is elaborated in the next section, to capture the other two market segments within the next five years. Since the used source gives no information about the size of each market segment, we decided at this point to split the US\$1.26 billion equally which leads to a market segment size of US\$0.42 billion each.

Bowling Alley and Positioning: The bowling alley is a concept that depicts and describes which segment is chosen first, second, third and so on by an organization in order to tackle it. The first segment is called the beachhead and the transition to the following segments can be done by changes on the so-called whole product. The whole product consists of the physical product itself, the solution, which can be either additional complementary products or services, and the experience in regards to either the brand or the interaction with the company or product. By applying this concept, companies usually plan to overcome the chasm, which has been discussed in a previous section of this plan. Figure 4 shows an adjusted version of the bowling alley including the three different market segments, a short form of the tactic how to enter the next segment, when we plan to enter the next segment as well as the whole product.

ETM 555 – Technology Marketing – Prof: Dr. Antonie Jetter
Marketing Plan – Winter 2015

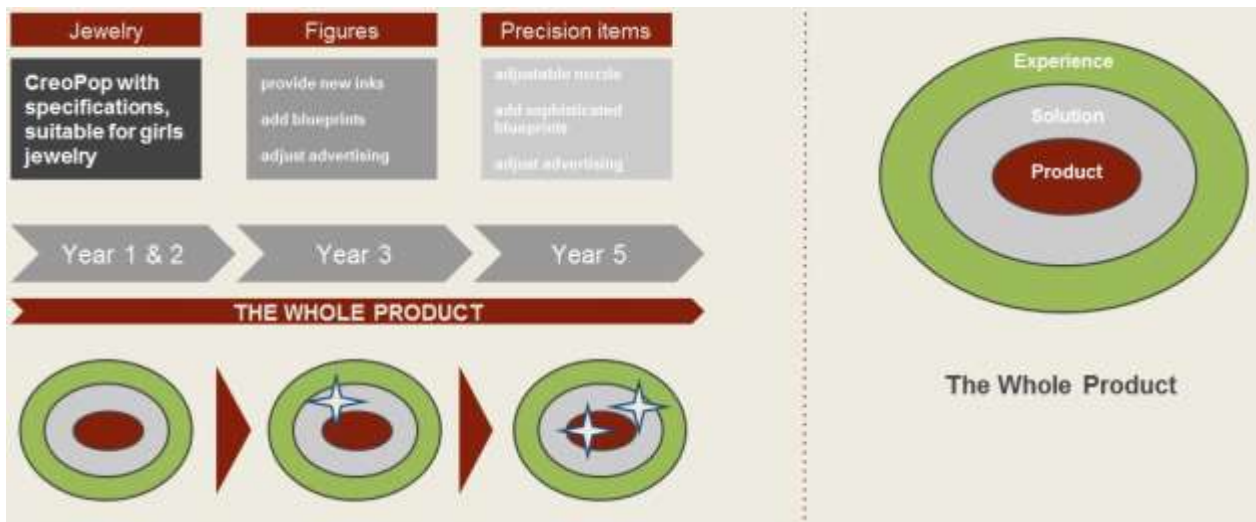


Figure 4 - The Bowling Alley Strategy

In the following we elaborate how CreoPop should place their self in each segment as well as define the tactics, which make the move from one to the next segment possible, more detailed.

Jewelry: CreoPop is the linkage between the fulfillment of a girl's desire for stylish, unique and self-made jewelry and their parent's desire for enhanced creativity while playing and the early familiarization with technology for their daughter. Especially the glowing, elastic, aromatic and glittering inks are very suitable for the creation of jewelry. Furthermore, to get the creativity started and to counteract the possible frustration at the beginning, add-ons, such as kits or templates, are added to the product. We target the girls as end-users who initiate the buying process, which is realized by their parents. CreoPop offers a high-quality 3D pen, which is safe, compared to other 3D pens, because of no hot parts and no melting plastic, and finally, it is FUN!

Figures: With a second version of CreoPop we also want to target the boys who on the one hand have a well-marked play instinct that makes them desire for own created figures and on the other hand are technology interested by nature. Especially the glowing, elastic, magnetic and temperature inks are very suitable for the creation of figures. Ideally, boys see their sisters playing with the CreoPop and triggered by that they initiate the buying process for the second version of the pen, which is enforced by their parents who are already aware of the product.

In order to make it from the first to the second segment, CreoPop develops a second version with a different looking ink that is not that much shiny, bubbly and fluffy in order to meet the boys' desires. The ink for boys has to be more straight and non-transparent. Furthermore, the package design is adjusted in order to be appealing for boys. Since this is not a change of the product per se but more a change of a complementary product, this adjustment is a solution change.

Precision Items: In order to get into the third segment, Precision Items, a third version of the CreoPop pen is required, targeting now the adults. Those adults are either parents of children who already possess their version of the pen or those who were never in contact with a product like this before. However, those adults are interested in new technologies, financially well off and are biased to toys. By their, in comparison to children, better marked creativity and skill with new technical products the newer version has to be adjusted to that extent that it can fulfill the adults needs.

CreoPop will develop a new and third version of the pen but now with an in size adjustable nozzle. By that the previous ink that appeared to be clumsy can be overcome and it is able to draw more precisely. In addition to that, CreoPop encloses templates of famous and complex buildings, which ease the access of drawing more huge objects. Since this is a change of the device itself as well as an addition of a complementary product, this adjustment is a product and solution change.

13 – Product and Brand Management

Brand development and management: The tactic for CreoPop`s brand development and management is to create two separate images, company vs products. The advantage of this tactic is that the company would not be completely associated with childish products, this way the company guarantees better prospects for future businesses in different markets, having the possibility to attack the professional market (designers, architects, etc.) and educational market (art schools, conventional schools, etc.). In order to implement this tactic, the first step will be to change the company`s name - e.g. 3D Tech – and keep CreoPop as the product line name. The company brand will be portrayed as tech-oriented, young, dynamic, lean, fast, aiming to create and explore new markets through technological and revolutionary products.

As for the product branding, we should keep the name CreoPop and develop its image based on the following brand positioning statement:

Brand Positioning Statement

- 1- Who? CreoPop
- 2- What? 3D pens
- 3- For Whom? Tech-oriented and well-educated parents
- 4- What need? Increase creativity while their children play
- 5- Competition? Other 3D Pens / other creative toys
- 6- What`s different? Create your 3D objects manually in a fun and completely safe environment.
- 7- So? Playtime becomes a creative and learning process capable of bringing together the whole family.

ETM 555 – Technology Marketing – Prof: Dr. Antonie Jetter
Marketing Plan – Winter 2015

The brand positioning statement creates a guiding light to be followed in all activities regarding the product marketing. It aims to generate a product personality, powerful enough to be perceived by customers even when competitors try to imitate it. Adding to the brand positioning statement, a strong slogan should be created (e.g. ‘Go and create your fun!!’) and intangible assets should come into play, such as the logo and physical characteristics (color and shape, for example).

Product management: CreoPop will manage its products considering different points, namely: the what-to-sell decision; product architecture; IP strategy; competitive advantages. These points are discussed and explained in the following paragraphs.

What to sell decision: CreoPop is providing a ready for use “out-of-the-box” product, which needs only CreoPop cool inks to work.

Why not sell the license or the “proof of license”? CreoPop believes it has the capabilities needed to explore the market.

Why not sell the complete solution? The complete solution would be to create and sell the 3D objects itself. In this case it does not make any sense, given the fact that the possibility of creating your own objects “hands-on” is one of the strongest arguments for buying the product.

Product architecture: CreoPop will launch the first product generation on April 2015. The idea is to gather as much information as possible about this first product, so it would be possible to design a second generation (ameliorated based on the customers inputs about the first generation). The second generation would be designed using a platform architecture, so that we can share the same platform to design and manufacture different versions of the product – slightly different from each other – to reach different segments within the market and later also reaching different markets.

IP Strategy: CreoPop will make use of an array of Intellectual Property tools to assure the positioning of its product and brand. Copyrights and trademarks are to be used in the slogan and logo, patents are to be used for the ‘UV curing’ system and the different types of inks.

Ink as a competitive advantage: a great characteristic of CreoPop`s product is the ink. As the company uses a different kind of material as compared to ordinary 3D pens, users can only utilize the CreoPop pen with CreoPop inks. This fact gives the company a competitive advantage with regards to customer lock-in – provided the inks variety and performance satisfies the customers and the prices are not abusive.

Add-ons as a competitive advantage: CreoPop will also produce and offer add-on materials, such as books and magazines containing ideas on how to use the pen. Furthermore, they will offer creative kits with templates to help in the creation of objects, silver hooks and other types of accessories, like bracelets and necklaces to aid in the creation of jewelry.

This combination of product and supply can be regarded as a tactic to manage the product and the brand. So, every CreoPop pen will be sold in a package that also includes an add-on starter kit consisting of one bracelet, one necklace, five silver hooks and one magazine. In addition to that, CreoPop will offer the different add-ons in retail stores to buy them individually.

14 – Pricing Management

To formulate our pricing strategy, we take into consideration three factors: costs, competition and customers. The final price for the CreoPop 3D pen will be US\$99.00 – a 3D pen + 3 standard ink cartridges. Assuming that we still have margin to lower the final price (the first announced price is US\$119.00) and considering the fact that CreoPop has the advantage of being much safer and harmless when compared to its competition, it is acceptable to think that keeping the prices similar to that of our biggest competitors will bring sales advantages to us. Moreover, the customer interviews have shown that 40% of the customers would be willing to pay up to US\$100.00. As it will be later explained in detail, we will make use of direct sales (online) during the first year, which means having the total profit over the final price. Nonetheless, after the first year, CreoPop will seek to establish successful partnerships with big distributors and stop selling directly to customers, aiming to achieve considerable increases in sales. As stated in [16], the usual markup that is applied to products by big retail stores varies from 14% to 25%. Considering an average markup of 20%, the price CreoPop will be selling its pens to distributors from year 2 on will be US\$79.20. Another vital point is to be aware of the competition movement regarding pricing. Depending on our market share and on how successful our sales efforts are, competitors might adopt a more aggressive pricing strategy – in that case the company would have to review the pricing policy and make adjustments not to lose sales and market share. Monthly reports on competitor's pricing strategy should be produced along with a CreoPop's pricing strategy revision.

As for the inks, the first announced price for a 3-pack (three cartridges of ink) is US\$12.00. Assuming that 3 cartridges of ink would be enough to play for roughly a month (playing around 7 hours a week) and considering again the output of the customer interviews, we should lower the price of the 3-pack to US\$10.00 – 70% of the interviewees would spend up to US\$10.00 monthly on CreoPop supplies. Should we want to take advantage of the fact that we sell not only the pen but also the inks, it is advisable, on this case, to follow strictly what customers say, or else the reputation of the company may be in jeopardy – customers might be extremely unsatisfied if they are not

ETM 555 – Technology Marketing – Prof. Dr. Antonie Jetter
Marketing Plan – Winter 2015

comfortable with the inks pricing, both because they will have to buy it on a constant basis and because they have no other ink supplier to turn to. CreoPop will also be selling its inks directly to customers during the first year, taking advantage of a higher profit margin. However, after the first year, inks will only be sold through distributors – who will apply a markup of 20%, resulting in a price of US\$8.00.

With regards to the add-on products (explained in an earlier section), it could be comprised of an extremely diversified matrix of products. For the sake of simplicity, the price for the an add-on kit will be considered to be the same as that of the inks, US\$10.00 for the first year and US\$8.00 from the second year on (price paid by the distributors).

15 – Promotion

The first step in defining the promotion tactic of CreoPop is to devise its creative strategy, which will serve as a baseline when developing the promotion mix efforts.

Creative Strategy:

- 1 – Objective: to show people how important it is (for their children) to be creative while playing
- 2 – Target: Tech-oriented and well-educated parents; children 7+
- 3 – Buying Decision: Parents
- 4 – Purpose: To buy and use CreoPop 3D pen
- 5 – Promise: To parents: to make their children more creative
To children: to have fun in a different way
- 6 – Support: The CreoPop 3D pen gives you the ability to create, manually and in an instinctive manner, whatever objects/toys you imagine, without the boundaries of classic pen and paper and without the automation and lack of interaction of a computer.
- 7 – Personality: Fun; technological; attractive; safe
- 8 – Timing: Continuous

After having defined the creative strategy, it is necessary to evaluate the advertising and promotion pyramid (figure 5) to set CreoPop`s advertising and promotion mix:

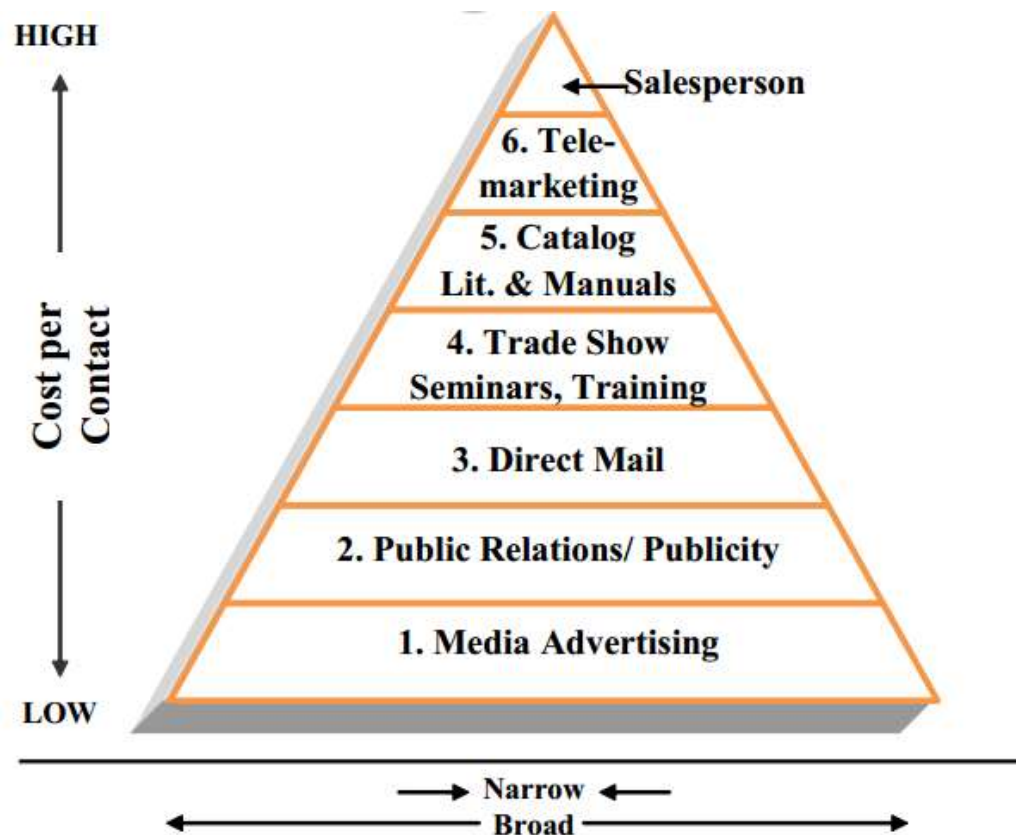


Figure 5 - Promotion Mix Pyramid

Personal Selling: as the product is conceived to be sold and use by the masses, it does not make sense to establish a strong personal selling tactic towards buyers. However, it can be very valuable if some personal approaches are done to establish new distribution and representatives partnerships. Taking into consideration the constraints regarding time and budget in a small company such as CreoPop, executives and top sales staff should be personally involved in key meetings with important distributors/representatives, either to set new partnerships or to maintain existing and successful ones.

Telemarketing: Outbound calls (a company calling customers to present/sell its products would make sense to CreoPop, since the 3D pen is a mass product. Nevertheless, the company is too small to undertake an effective telemarketing campaign, and the effect outbound calls have in customers are, to say the least, questionable nowadays. The creation of the 'Do not call list' is a symbol of how annoying and abusive this kind of advertising tactic can be to the eye of the general public, many times serving more as a hindrance than a help to the company's reputation. Having this in mind, CreoPop should not make use of outbound calls. Inbound calls (a company having a toll-free line to answer to its customers), on the other hand, is a very friendly and powerful way to stay connected to the customers, to solve their problems (technical issues, explaining how to

ETM 555 – Technology Marketing – Prof: Dr. Antonie Jetter
Marketing Plan – Winter 2015

use or where to buy the product, etc.) and hear what they have to say about the company and the products, aiming to take advantage of those insights when developing new products and new services. CreoPop, therefore, should have a toll-free line with trained staff to serve customers in whatever ways they might need.

Catalogs, Literature and Manuals: This will be an important part of CreoPop's promotion mix. Once the 3D pen is a new product (barely known or totally unknown to the general public), white sheets, catalogs and manuals explaining what the product is and what it is capable of are extremely important to communicate with prospective customers. These promotional materials should be printed in such a way as to immediately catch the attention of customers inside our distributors retail stores. In addition to regular catalogs and manuals, it is mandatory – in the case of CreoPop – to create promotional materials with applications suggestions and recommendations, along with its respective blueprints, so that customers can have initial ideas/starting points to use and enjoy the product in its entirety.

Trade shows, Seminars and Training: Trade-shows can be very important to establish a first contact and to be visible to customers and to the press, but are very costly and may not be effective as most companies wish. Moreover, the costs associated with participating in such events can be extremely burdensome and even prohibitive when it comes to start-ups/small companies, as CreoPop. Therefore, CreoPop should choose wisely which trade-shows to participate in. Toyfest, the annual toy trade show held in Las Vegas is a good example of a worthwhile show to participate. With regards to the training aspects, and considering that end-users may take a while to learn how to operate the product satisfactorily, it is important to create workshop sessions in association with key distributors, in order to show to customers how to use and what to use the product for.

Direct Mail: CreoPop will not use regular direct mail advertising efforts. Instead, we will be focusing on internet/online approaches and media advertising.

Public Relations (PR): After a few years in the market, and depending on how successful the company has been, CreoPop should allocate part of the promotion budget to sponsor sports events and charitable causes that are related to the brand personality created in the brand positioning statement. In the first few years, however, the PR efforts will be restricted to press releases concerning its products. Even though the 3D pen is not subject to heavy regulation – such as FDA approval for medicines, for example - it is important to communicate and publicize relevant facts with regards to the technical specifications and the usage of the product. It is necessary to explain how harmless the product and the inks are to the general public, and especially to children. Not only would this serve as a tool to get closer to customers, it could also serve as an advertising tool, once the vast majority of CreoPop's competitors utilize a different kind of technology that can potentially bring serious threats to one's health (toxic fumes, for example) and one's

ETM 555 – Technology Marketing – Prof: Dr. Antonie Jetter
Marketing Plan – Winter 2015

physical integrity (melting plastic coming out of the nozzle and other extremely hot parts in the product). Another initiative concerning public relations is – after launching new versions of the pen and/or inks – to send samples of the products to be tested by accredited and renowned institutions, such as Consumer reports, in order for the general public to be more aware of the existence and the characteristics of CreoPop`s products.

Media Advertising and Internet Plan: This is the most important part of CreoPop`s promotion mix and will take the biggest share of the marketing communications budget. Based on the brand personality created in the brand positioning statement, we will design and deploy ads in the television, radio, newspapers and magazines. With regards to the internet plan, we will use our website, the social media networks (YouTube channel, Twitter, Facebook, Google+, etc.) and mobile devices applications as a primary source of promotion, but also will make use of display ads at toys-related websites, paid search ads in highly visited search engines and mail marketing efforts.

How to reach buyers and users with the promotion tactic: when determining the media vehicles through which CreoPop`s promotion mix will be deployed, a very important aspect to take into account is how to reach, with maximum efficiency, both buyers and users (since it is known that the buying process may unfold through different paths). The media advertising and Internet plan will be designed to reach both tech-oriented and well-educated parents (the buyers) and children 7+ (the buyers). Newspapers ads, for example, will be targeted to parents, while magazines could be targeted at both (in fashion magazines for moms and HQ and other kids-related publications for children). The TV ads can also be targeted at both (prime-time commercial breaks in news channels or famous TV shows targeting parents and commercial breaks in kids-related channels for children).

16 – Distribution

The distribution system will be comprised of powerful and trustworthy distributors. The idea is that the company should not sell the 3D pen directly to customers. Instead, it will establish partnerships with key distributors such as Michaels and ToysRus. The distributors will sell the product in their retail stores and also in their web stores. Given the fact that CreoPop is a small company, adopting such a distribution tactic (to partner with powerful distributors) is essential, because this way the company is able to mitigate costs associated with commercial efforts, which can be extremely high for a mass-market product such as the 3D pen. By outsourcing the sales, the company can use its scarce resources and manpower to focus on other areas, as customer service and new product development, for example. Nevertheless, in order to persuade big retail stores to sell the products, it is advisable to have a prior history of sales as a way to convince the potential distributors that the product has good chances of success.

ETM 555 – Technology Marketing – Prof: Dr. Antonie Jetter
Marketing Plan – Winter 2015

Therefore, during the first year (2015), CreoPop will sell its products directly to final customers through its website. By doing so, the company can try to gather good arguments to ‘seduce’ big distributors in the future. Moreover, creating and keeping an online sales platform is not very costly, thus CreoPop would not have prohibitive commercial costs in the first year. As for the second and subsequent years – already possessing a good sales history – the company will seek to partner with the distributors aforementioned, and once the partnerships are set, it will stop selling directly to customers. Furthermore, CreoPop should establish relationships to Asian manufacturers in order to lower the production costs as far as possible. With that the beginning of the value chain is overseas, which means that the products, once they are produced, have to be shipped to the target market in the United States. Although the shipment is, of course, a cost factor, the earned savings by producing in Asia instead of producing in the U.S. will compensate those costs and, hence, increase the overall margin.

17 – Customer Sales Plan

In the customer sales plan, we are focusing on communicating with our customers not only before they purchase the product, but after they have the product as well. Since we are in a big competition with various competitors and their existing brands in the market, being strong in customer relations and communications would put us ahead of our competitors. In this plan, we are offering the following benefits to our customers:

- Eleventh ink package for free
- Repairing Service/Mail back service (partnering with ToysRus/Michaels)
- US\$50 gift card for the lucky customers who find the golden ink
- 1 year warranty to service any repairs of CreoPop
- Give ‘How to build 100 easy creative arts with CreoPop’ hardcover book free for frequent ordering of ink/cartridge by buyers/users
- Free annual membership to 3D creative art magazine for buying 24 or more ink packages in year

18 – Financial and Sales Forecast

As discussed in the previous sections, the strategy is to gain terrain and dominate the 3D pen market via exploring and selling in the creative toys market. It is also aforementioned that the market growth for the 3D pen market is roughly 25% per year and that the total explored market in 2014 (our year 0) was roughly US\$21,600.00. Based on this information, it is possible to project the 3D pen market for the next five years (2015 through 2019), as seen in table 2.

3D Pen Market		
<i>Reference year</i>	<i>Calendar year</i>	<i>Market (US\$)</i>
year 0	2014	\$21,600,000.00
year 1	2015	\$27,080,000.00
year 2	2016	\$33,750,000.00
year 3	2017	\$42,180,000.00
year 4	2018	\$52,730,000.00
year 5	2019	\$65,910,000.00
<i>observation: market growth is 25% / year</i>		

Table 2 - 3D Pen Market

Based on the fast-growing 3D pen market and on the advantages CreoPop presents when compared to its competitors, the market-share forecast can be depicted as the following (the market share forecast is done considering the final retail price and considering only the pens):

- Year 1 – 8%
- Year 2 – 15%
- Year 3 – 30%
- Year 4 – 33%
- Year 5 – 40%

Since CreoPop is entering the market in 2015, it cannot expect to compete with the 3Doodler and other earlier competitors in equal terms from the beginning. Also, there is a large amount of other competitors that may launch their first products in 2015 as well. Nevertheless, CreoPop has a superior technology and since it is targeting a customer group that is (*a priori*) not targeted by competitors, it is feasible to gain a substantial market share of 8% in year one. In year two, the marketing strategy is expected to disrupt, since CreoPop would be in the jewelry market segment for one year and the customers see and experience its advantages in terms of creativity and 3D drawing. Thus, sales are expected to increase extraordinarily compared to competitors who are all competing within the same customer group – CreoPop would then hold 15% of market share in year two. In year three, the company is obviously increasing sales further by entering the second segment – via the bowling alley strategy. This should foster sales enough to reach the displayed 30% market share by then. Year four will give

ETM 555 – Technology Marketing – Prof: Dr. Antonie Jetter
Marketing Plan – Winter 2015

CreoPop only a little additional 3% of market share, once the first segment is already being dominated and the additional sales from the second segment need time to further develop. In year five the entering of the third segment together with the progressing sales in segment one and especially segment two will leverage the company to the achieved 40% market share. As for the ink cartridges, it is realistic to predict to sell ten packages of ink per year per pen sold. This would mean revenue of between US\$5 and US\$10 monthly from inks, which is what the customer interviews have shown. With regards to the add-ons, the company is expected to sell one add-on kit for every ten ink cartridges sold – considering the fact that the add-ons can be used indefinitely.

The costs the company has to consider are here summarized in four different types: production costs; promotion costs; distribution and partnership costs; New Product Development (NPD) costs.

The production costs (for pens, inks and add-ons) are considered to be all the manufacturing, outsourcing and investments expenses as well as all the administrative and human resources costs. This type of cost was divided into Unit Pen production costs (US\$60), Unit Ink Production Costs (US\$6) and Unit Add-on Production Costs (US\$6), and logically it varies as the production goes up. The promotion costs are considered to be all costs and expenses associated with the promotion mix pyramid tactics (explained in details earlier in this report). The company allocates a considerable amount of the marketing budget to fund promotion efforts in order to reach more customers each year – the more sales grow, the more budget is allocated to promotion. The distribution and partnership type of cost is related to all activities of shipping, warehousing and exposing the products in our partner's stores. It is known that, for a company to expose its products in an established retail store, it has to pay some fees – again, the more space in the stores CreoPop demand, the more budget the company has to allocate for distribution and partnering fees. Lastly, the NPD type of cost is comprised of all costs associated with research and development and new product development efforts. These are to take place especially in the years three and five. In year three, the second version of the pen is to be launched (to start reaching the second market segment), and in year five the third version of the pen is to be launched (to explore the third market segment). It is important to notice, as it was explained in the pricing section, that during the first year the profit margins would be higher (the company would be practicing direct sales through its website). Starting in the second year, however, the sales would be done only through distributors, enhancing the total sales dramatically but also shrinking the profit margins. The following table – table 3 - summarizes the sales, profit and costs forecast for CreoPop in the first five years of activities:

ETM 555 – Technology Marketing – Prof: Dr. Antonie Jetter
Marketing Plan – Winter 2015

CREOPOP REVENUE AND PROFIT FORECAST						
		2015	2016	2017	2018	2019
Price per Pen		\$99.00	\$79.20	\$79.20	\$79.20	\$79.20
Unit Production Cost - Pen		-\$60	-\$60	-\$60	-\$60	-\$60
Price per Ink		\$10.00	\$8.00	\$8.00	\$8.00	\$8.00
Unit Production Cost - Inks		-\$6	-\$6	-\$6	-\$6	-\$6
Price per Add-on		\$10.00	\$8.00	\$8.00	\$8.00	\$8.00
Unit Production Cost - Add-ons		-\$6	-\$6	-\$6	-\$6	-\$6
COSTS	Production - Pens	-1,299,960.00	-3,046,860.00	-6,093,720.00	-6,807,840.00	-9,521,460.00
	Production - Inks	-1,299,996.00	-3,046,866.00	-6,093,726.00	-6,807,840.00	-9,521,454.00
	Production - Add-ons	-129,999.60	-304,686.60	-609,372.60	-680,784.00	-952,145.40
	Promotion	-500,000.00	-1,000,000.00	-2,000,000.00	-4,000,000.00	-8,000,000.00
	Distribution/Partnership	-200,000.00	-200,000.00	-400,000.00	-400,000.00	-800,000.00
	NPD v1-v2	0.00	0.00	-200,000.00	0.00	0.00
	NPD v2-v3	0.00	0.00	0.00	0.00	-1,000,000.00
SEGMENT 1	Total pens sold	21,666	50,781	101,562	113,464	158,691
	Revenue from Pens	\$2,144,934.00	\$4,021,855.20	\$8,043,710.40	\$8,986,348.80	\$12,568,327.20
	Total Inks Sold	216,666	507,811	1,015,621	1,134,640	1,586,909
	Revenue from Inks	\$2,166,660.00	\$4,062,488.00	\$8,124,968.00	\$9,077,120.00	\$12,695,272.00
	Total Add-ons sold	21,667	50,781	101,562	113,464	158,691
	Revenue from Add-ons	\$216,666.00	\$406,248.80	\$812,496.80	\$907,712.00	\$1,269,527.20
SEGMENT 2	Total pens sold	0	0	25,391	61,096	79,345
	Revenue from Pens	\$0.00	\$0.00	\$2,010,967.20	\$4,838,803.20	\$6,284,124.00
	Total Inks Sold	0	0	253,905	610,960	793,454
	Revenue from Inks	\$0.00	\$0.00	\$2,031,240.00	\$4,887,680.00	\$6,347,632.00
	Total Add-ons sold	0	0	25,391	61,096	79,345
	Revenue from Add-ons	\$0.00	\$0.00	\$203,124.00	\$488,768.00	\$634,763.20
SEGMENT 3	Total pens sold	0	0	0	0	26,448
	Revenue from Pens	\$0.00	\$0.00	\$0.00	\$0.00	\$2,094,681.60
	Total Inks Sold	0	0	0	0	264,485
	Revenue from Inks	\$0.00	\$0.00	\$0.00	\$0.00	\$2,115,880.00
	Total Add-ons sold	0	0	0	0	26,449
	Revenue from Add-ons	\$0.00	\$0.00	\$0.00	\$0.00	\$211,588.00
Total Revenue from Pens		\$2,144,934.00	\$4,021,855.20	\$10,054,677.60	\$13,825,152.00	\$20,947,132.80
Total Revenue from Inks		\$2,166,660.00	\$4,062,488.00	\$10,156,208.00	\$13,964,800.00	\$21,158,784.00
Total Revenue from Add-ons		\$216,666.00	\$406,248.80	\$1,015,620.80	\$1,396,480.00	\$2,115,878.40
TOTAL REVENUE		\$4,528,260.00	\$8,490,592.00	\$21,226,506.40	\$29,186,432.00	\$44,221,795.20
TOTAL COSTS		-\$3,429,955.60	-\$7,598,412.60	-\$15,396,818.60	-\$18,696,464.00	-\$29,795,059.40
TOTAL PROFIT		\$1,098,304.40	\$892,179.40	\$5,829,687.80	\$10,489,968.00	\$14,426,735.80

Table 3 - Sales Forecast

Analyzing further the promotion costs, the company will allocate the biggest share of its promotion budget (60%) to advertising efforts (both conventional media vehicles and internet). The public relations initiatives would receive the smallest share

ETM 555 – Technology Marketing – Prof: Dr. Antonie Jetter
Marketing Plan – Winter 2015

(5%), followed by tradeshow and telemarketing (10% each). Lastly, efforts towards creating catalogs and informative materials will receive 15% of the total promotion budget. Table 4 and figure 6 demonstrate the values and distribution within CreoPop's promotion budget:

Promotion Vehicle / year	y1	y2	y3	y4	y5	%
Tele Marketing	\$80,000.00	\$100,000.00	\$200,000.00	\$400,000.00	\$800,000.00	10%
Catalogs and Manuals	\$120,000.00	\$150,000.00	\$300,000.00	\$600,000.00	\$1,200,000.00	15%
Tradeshows	\$80,000.00	\$100,000.00	\$200,000.00	\$400,000.00	\$800,000.00	10%
PR	\$40,000.00	\$50,000.00	\$100,000.00	\$200,000.00	\$400,000.00	5%
Media Ad	\$480,000.00	\$600,000.00	\$1,200,000.00	\$2,400,000.00	\$4,800,000.00	60%
TOTAL BUDGET	\$800,000.00	\$1,000,000.00	\$2,000,000.00	\$4,000,000.00	\$8,000,000.00	100%

Table 4 - Promotion Budget

Promotion Budget Distribution - CREOPOP

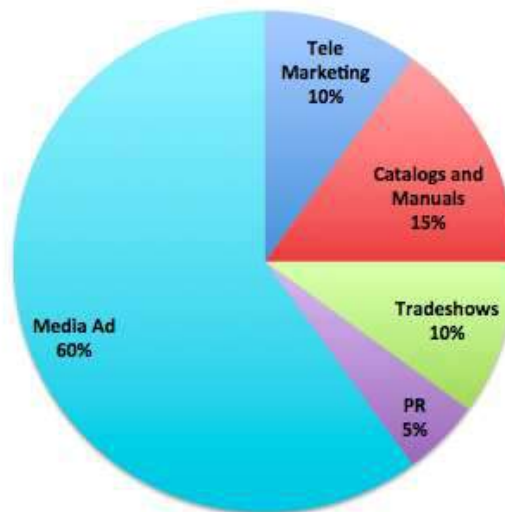


Figure 6 - Promotion Budget Distribution

19 – Implementation and Control

Balanced Scorecard (BSC) is an innovative and unique tool in the following two ways compared to the traditional performance measurement tools:

- It considers the financial indices as well as the non-financial ones in determining the corporate performance level.
- It is not just a performance measurement tool but is also a performance management system.

Balanced Scorecard is a powerful tool for overall performance management of a company. Since CreoPop is a start-up company, the leadership team should weight more the first two perspectives (financial and internal) and as the organization matures the weighting goes down the perspectives (customer and learning and growth). Moreover, focusing on customer satisfaction at early stages when the product is still in pre-launch stage will also not be useful.

However, CreoPop's strategic scorecard should help ensure all lower level employees understand and are aligned to the strategic goals. The scorecard also helps inform investors of what the organizations is trying to do and the scorecard ensure that they are fulfilling the promise. Customers use the strategy scorecard to differentiate this new organization from its competitors.

Since, CreoPop is a technology startup company with a passionate and creative leadership team the focus is majorly on traversing the 3D pen to the customers at the right time and purpose. The Balanced Scorecard for our project purposes considers only the following three perspectives and tries to get answers to the following questions:

1. Financial Perspective - How do we look at shareholders?
2. Internal Business Processes Perspective - What must we excel at?
3. Customer Perspective - How should we appear to our customers?

Table 5 depicts some of the Key Performance Indicators (KPI) for the purpose of this marketing plan and ideally measuring performance management using the BSC is ideal every six to twelve months.

ETM 555 – Technology Marketing – Prof: Dr. Antonie Jetter
Marketing Plan – Winter 2015

	Strategic Priorities	Objectives	Measures	Targets	Initiatives
Financial Perspective	To be strategically strong	F1 Profitability Growth	-Sales Margin	>3%YOY	Sell <u>CreoPop</u> to Seg1,2 & 3
		F2 Sales Revenue %	-Volume Growth	>=35%YOY	Increase number pre-launch sales
Internal Perspectives	Increase the buyer/user value	I1 On specification or on-time order delivery	-Ensure perfect timely orders	99%+	ISO9001 Quality Standards
Customer Perspective	Delight the buyer/user	C1 Delight the targeted customer	-Customer satisfaction rate	90-100%	Customer Satisfaction Survey
	Win-win partner relations	C2 Achieve and retain win-win partner relations	-Share of market segment	10%	Conduct mystery shopping surveys rates (ask questions and collect info as a buyer in stores)
			-Number of buyer/user p.a		Win partnership and dealership (shelf space) contracts with Michaels/Toys R Us

Table 5 - Balanced Score Card

20 – Conclusion

In this document, we have depicted a marketing plan for the startup company CreoPop and its innovative 3D pen. The product, as well as the market, is extremely new and unexplored. The competition is still composed of other startups, which are also trying to identify and understand the marketing possibilities for their products. We have presented marketing tactics aiming to explore the advantages of CreoPop's 3D pen - no melting plastic, no hot parts, no toxic fumes, several different types of inks, etc. The market indicated as the best one to start working on is the "creative toys" market, within the toy market. We have identified, through customer interviews, that girls starting at 7 years old would be the perfect beachhead from which the company could leverage its products and make its business take off. Later on, with minor changes in the product, the company could also embrace two other segments within the creative toys market, namely figures (mostly for boys) and precision items (mostly for adults). After choosing which market to attack, we have designed the 4P's strategy (product, price, promotion and place), which can be summarized as the following: create different brand images for the product and the company; make the final retail price similar as those of the biggest competitors; make use of a diversified matrix of promotion vehicles, but focusing on media ads and on the internet; selling directly on the website for the first year and then establishing a distribution partnership with a well-known retail store. Should the plan be implemented correctly and our assumptions proven to be true, the company would obtain, after a five years period, a market-share of approximately 40% in the total 3D pens market (being the market leader). At this point, CreoPop will surely attract the attention of several bigger players in the toy industry, and so the company will be able to assess the

ETM 555 – Technology Marketing – Prof. Dr. Antonie Jetter
Marketing Plan – Winter 2015

new environment and set its new strategy for the mid and long-term. The possibilities, as we predict, would be to continue on its own - this time aiming for different markets such as the professional (architects, artists, etc.) and educational (art schools and regular schools), license the technology to a bigger company who wishes to further develop the product or even sell the company to a bigger player. Regardless of the choice, a prior and thorough analysis of the market and the competitive landscape will be mandatory.

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Appendix A – Customer Interview Questions

Do you have children? How many?

A:

How old are they?

A:

What kind of toys / games do your children usually play with?

A:

What do you look for in a toy when you buy one for your children?

A:

How often do you play with your children? Or most of the time they play alone?

A:

Why do they play alone?

A:

Would you want to spend more time playing with your children?

A:

What would you say would make you spend more time playing with your children?

A:

Do you see any problems with today`s toys / games?

A:

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Marketing Plan – Winter 2015

Why?

A:

Are you satisfied with the level of creativity those toys / games bring to your children?

A:

Why?

A:

What would you say would enhance your children`s creativity while playing?

A:

What kind of toys would work better for your children`s creativity?

A:

Have you ever gone looking for that kind of toys in the market?

A:

Have you found any?

A:

How much do you spend per year in toys / games?

A:

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Would you say this product would make your children be more creative and learn more while playing?

A:

Would you be willing to give this product to your children?

A:

Would you consider it more as a toy for boys or girls?

A:

Would you think your daughter would create jewelry with that product?

A:

How much would you be willing to spend on it?

Less than 50? Btw 50 and 100? Btw 100 and 150? Btw 150 and 200? More than 200?

A:

How many ink cartridges would you be willing to buy monthly?

3? 6? 9? 12? More than 12?

A:

How much would you be willing to spend on cartridges – 3pack?

Less than 5? Btw 5 and 10? Btw 10 and 15? Btw 15 and 20? More than 20?

A: