

4-28-2016

# The Role of Marketing Activities in Commercializing Technological Innovation

Jacob Jackson

*The College at Brockport*, [jakejaxon1994@gmail.com](mailto:jakejaxon1994@gmail.com)

Follow this and additional works at: <http://digitalcommons.brockport.edu/honors>



Part of the [Technology and Innovation Commons](#)

---

## Repository Citation

Jackson, Jacob, "The Role of Marketing Activities in Commercializing Technological Innovation" (2016). *Senior Honors Theses*. 121.  
<http://digitalcommons.brockport.edu/honors/121>

This Honors Thesis is brought to you for free and open access by the Master's Theses and Honors Projects at Digital Commons @Brockport. It has been accepted for inclusion in Senior Honors Theses by an authorized administrator of Digital Commons @Brockport. For more information, please contact [kmyers@brockport.edu](mailto:kmyers@brockport.edu).

**The Role of Marketing Activities in Commercializing  
Technological Innovation**

A Senior Honors Thesis

Submitted in Partial Fulfillment of the Requirements  
For Graduation in the Honors College

By: Jacob Jackson  
Marketing/Business Management Major

The College at Brockport  
April 28, 2016

Thesis Director: Dr. Lerong He, Associate Professor of Management,  
School of Business Administration & Economics

## Table of Contents

<b>I. Introduction</b> .....	3
<b>II. Digital Marketing</b> .....	7
<b>1) Social Media</b> .....	8
<b>2) Mobile Marketing</b> .....	11
<b>3) Content Marketing</b> .....	13
<b>III. The 4 P's</b> .....	16
<b>1) Price</b> .....	17
<b>2) Product</b> .....	18
<b>3) Promotion</b> .....	20
<b>4) Place</b> .....	23
<b>IV. Positioning</b> .....	25
<b>V. Conclusion</b> .....	27

## I. Introduction

Technology is an essential part of our lives today and few can imagine living without it. Throughout the years we have all developed and grew as technology became more and more advanced. Technology is what allowed everyone to be where they are today, and will determine where they will be tomorrow. As time goes on, we make continuous changes in the technology around us in order to contribute to society in a more beneficial manner. These changes in technology that are intended to enhance the quality of our lives are known as technological innovations. Innovation will never end, due to the fact that individuals around the world are constantly gaining a better understanding of the world around them, along with a larger range of technology to work with. Ralph Waldo Emerson, a leader of the transcendentalist movement, exemplifies the meaning of innovation in a more realistic manner in his statement:

If a man can write a better book, preach a better sermon, or make a better mousetrap than his neighbor, though he builds his house in the woods, the world will make a beaten path to his door.<sup>1</sup>

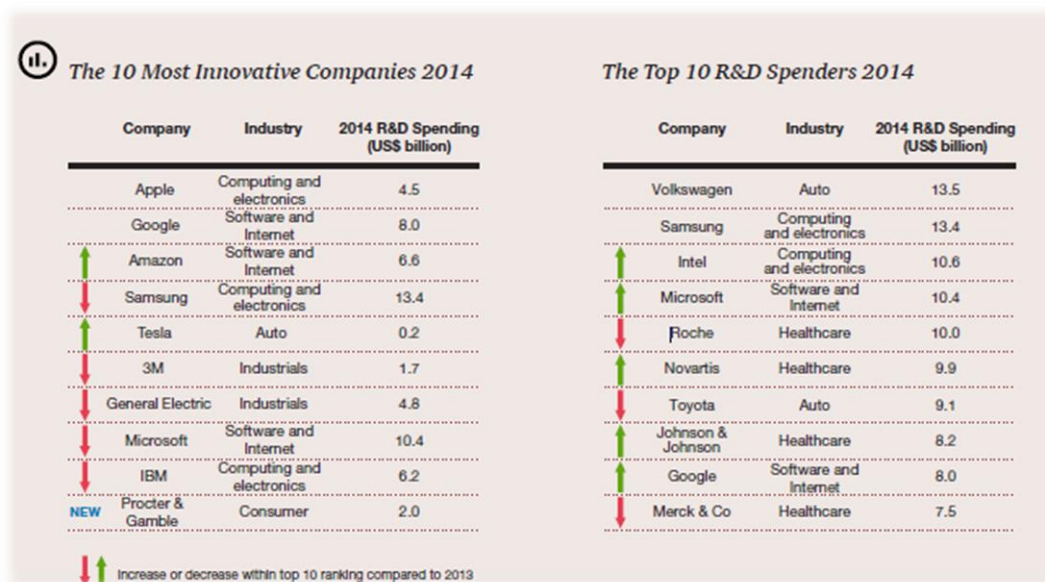
Technological innovation is the actual process of these advances that lead from one invention to a more advanced, useful invention, but how exactly are these advances distributed throughout the public? Emerson's statement says that "the world will make a beaten path to his door" if it truly is a "better" invention, however we currently live in a world where individuals are not willing to go that extra mile to try and find out information about these technological innovations themselves. With today's markets, it is necessary to advertise and share these new technological innovations to the public in order for them to truly see their value. This is where

---

<sup>1</sup> Cooper, Thomas, and Tom Kelleher. "Better Mousetrap? Of Emerson, Ethics, and Post Millennium Persuasion." (n.d.): n. pag. 2001. Web.

commercialization comes in. The process of commercializing these technological innovations is vital to how successful these innovations are altogether (Cooper, Thomas, and Tom Kelleher). Many believe that this success comes primarily by the amount of money spent in R&D, but that is not always the case. Technological industries have contributed 50% of total R&D spending over the past decade, but the industry as a whole actually reduced their spending on R&D in 2014, and had even more success. How is this possible? It became clear that the relationship between financial performance and R&D spending isn't as strong as many expect. Improving how these companies spend delivers a greater impact. Many may believe that this is due to the fact that it takes time for investments in R&D to show their effectiveness, but that is not necessarily the case. According to the chart below, there is little overlap between the top 10 most innovative companies and the top 10 R&D spenders.<sup>2</sup> What is interesting is that this is the 5<sup>th</sup> year in a row where there was little overlap between the two. This supports the fact that there is a stronger importance in how your money is spent, rather than the total amount.

Figure 1. Making Global Health Care Innovation Work.



<sup>2</sup> Jaruzelski, Barry, Volker Staack, and Brad Goehle. "Making Global Health Care Innovation Work." (2014): n. pag. Web. 11 Oct. 2015.

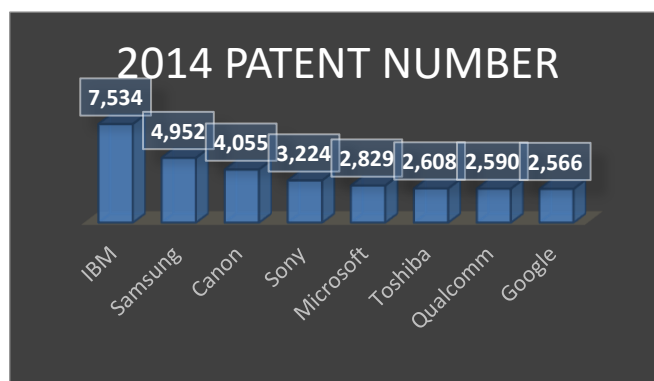
After these expenses are made, it is extremely important to view how these companies spent their money to make sure their audience was educated on what their R&D resulted in. This leads to the further importance of commercialization. With that being said, it is necessary to explore and analyze the multiple ways in which these technological innovations are commercialized to the public in a successful manner.

Commercialization is viewed as one of the most critical stages of the technological innovation process due to the great amount of risks, costs and knowledge required within it. Commercialization leads to the overall awareness and understanding of technological innovations, so the amount of success within this process is crucial for the overall success of the innovation within the market. With that being said, commercialization decisions can influence consumer acceptance of a new technological innovation, or vice-versa. These decisions are made through a variety of unique marketing activities that must be understood fully in order to make sure that these commercialization decisions are the right decisions (Chiesa, Vittorio, and Federico Frattini).

In this thesis I explore the roles of marketing activities within the process of technological innovation. Innovation fuels the economy. Everyone seems to be coming up with new, useful technology, or an original, easier way to get to a specific outcome. In 2014, there were multiple companies that released thousands of patents. As the amount of patents increase, there is a higher chance that the company will be successful with them. The companies that held the most amounts of patents also seemed to be very popular and well-known companies, which support the direct relationship between the number of patents released and overall success. These

numbers and companies can be found in the following chart, which illustrates how much technological innovation is occurring as time goes on.<sup>3</sup>

Figure 2. 2014 Patent Numbers.



Most Patents in 2014." *Fortune These Tech Companies Scored the Most Patents in 2014 Comments*. N.p., 24 Feb. 2015. Web. 11 Oct. 2015.

The number of patents and technological innovations will continue to grow, but the amount of innovations does not have anything to do with the success of them. These technological innovations must address multiple questions to reach success, such as “what is unique about this piece of technology?”, “Why would somebody invest money in this?” and many, many more (Schoonmaker, M., E. Carayannis, and P. Rau). How exactly will individuals around the world hear the answers to these questions? The answers are given through the marketing activities within commercialization. An extremely large number of new technological innovations fail because the innovators and the end-users do not view the product from the same perspective on what the product is actually supposed to do. There is a major difference between the buyer and seller’s thoughts and actions when it comes to new technological innovations. Individuals create these technological innovations for solving a certain problem, but consumers may lack awareness about the actual usage of these innovations (Moreau, Markman, and Lehmann, 2001).

<sup>3</sup> "Most Patents in 2014." *Fortune These Tech Companies Scored the Most Patents in 2014 Comments*. N.p., 24 Feb. 2015. Web. 11 Oct. 2015.

This situation occurred with one of Apple's products known as the Apple Newton. The Apple Newton was one of the first handheld note takers that could store contacts, manage calendars, and even send a fax. What made it even more of a remarkable idea was the fact that it was released in 1993, which was 14 years before Apple released their highly successful iPhones. What exactly made this great idea into a huge failure? It was the lack of commercialization. Apple marketed many features of the Newton, but they focused primarily on the feature of handwriting recognition. Apple pushed this feature that they believed was going to be Newton's "killer feature", but due to the hard push it ended up killing the Newton. When released, consumers purchased the product and wanted to test out the promised handwriting recognition right away, and when they did they were disappointed. The handwriting recognition ended up being devastating and was full of bugs, which ultimately led the product to become a joke. Apple pushed one specific feature that didn't meet all of the consumers' needs made the product a failure (Muñiz and Schau, 2013). This lack of knowledge in proper commercialization resulted in a major loss of money. The purpose of this thesis is to understand the role in which marketing activities hold in terms of properly commercializing technological innovation, so that potential failures such as the Apple Newton can be avoided.

In this thesis, the marketing activities of digital marketing, the 4P's, and positioning will be analyzed, deconstructed, and explained in a real-world technological examples to gain a full understanding of the roles they each hold within the commercialization of technological innovation.

## **II. Digital Marketing**

The first marketing activity that will be discussed is digital marketing. Digital marketing is the marketing of products or services using digital technologies to reach and convert leads into



customers. The key objective of digital marketing is to promote brands, build preference, and increase overall sales through various digital marketing techniques. In terms of technological innovation, digital marketing must be properly executed in order to fully educate the population in an electronic manner, meet their needs before and after their purchase, and increase overall awareness of the product or service. Since there are so many different techniques and strategies involved in this marketing activity, it is necessary to break it down into three of the major techniques of digital marketing to fully analyze and understand its importance in terms of commercializing technological innovation. In this thesis I will focus on the digital marketing techniques of social media, mobile marketing, and content marketing.

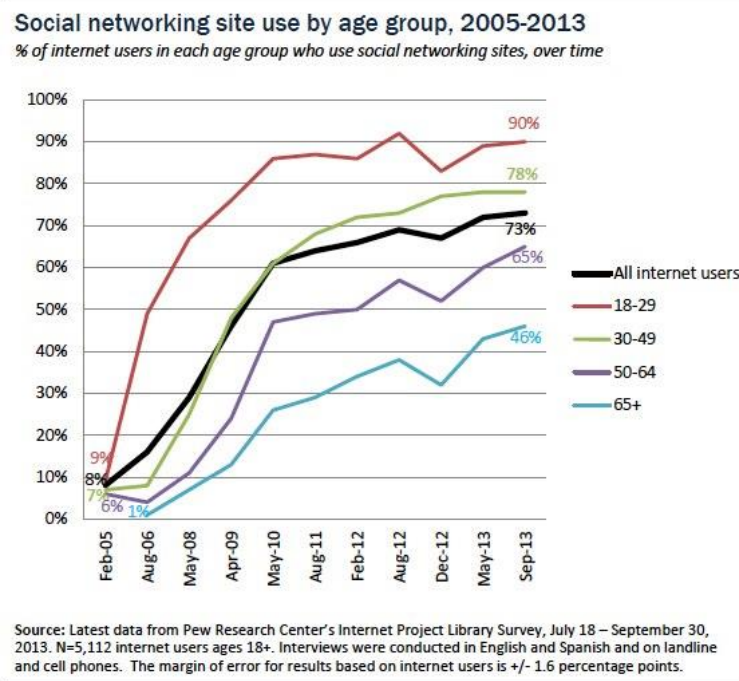
## **1) Social Media**

One of the most important things a marketer can do is listen to their customers. Listening in terms of taking their opinions, ideas, and criticisms and allowing them to alter your business decisions to keep them happy. Historically, marketers have focused on delivering a specific message to a predefined target audience, with the goal of achieving a specific response. Now, thanks to the increasingly interactive nature of the internet and a shift in how individuals are consuming media, all of that is changing. Consumers are talking, just like they always have; only now it is visible online and the chances of having their voices be heard have increased greatly. Through blogs, wikis, online forums, social networks, peer review sites and other online media, marketers have the potential to foster a more productive and meaningful relationship with their customers, to gain powerful perceptions of their products, and allow them to contribute and collaborate with their ultimate consumers in ways that were never possible before. This is all thanks to social media. Social media consists of web-based software and services that allow users to come together online and exchange, discuss, communicate and participate in any form of

social interaction (Ryan 2014). In terms of commercializing technological innovation, it is a way to show the world what your product is, what it can do, and why it should be purchased.

Many marketers believe that social media is new and “in”, but social media has been around since the very beginning. What has changed over recent years is the overall reach and penetration of these social media platforms, their implementation into our everyday lives, and the increase amount of user-generated content. As of September of 2013, 73% of all internet users use at least one social networking site. This number continues to grow and can be seen by age group in the chart below.<sup>4</sup>

Figure 3. Social Networking Site Use by Age Group.



These social changes are extremely important when it comes to commercializing technological innovation. In order to properly commercialize a new product or idea, people need

<sup>4</sup> "Social Networking Fact Sheet." *Pew Research Center Internet Science Tech RSS*. N.p., 27 Dec. 2013. Web. 08 Nov. 2015.

to find out about it. Through the massive reach and potential within social media, marketers are given the opportunity to share their products and ideas, show users what their product can do, and most importantly, how they can make the purchase. (Ryan 2014). Through social media platforms such as Facebook and Twitter, users are constantly faced with advertisements and pop-ups. These advertisements and pop-ups have a small chance of grabbing one's attention, but the true value is what the users actually post and share to their own friends. If an individual trying to promote their new technological innovation can get several users to say, "This is a good idea", the chances of getting more positive feedback and agreement drastically increases compared to the company or innovator themselves claiming they have a good idea. This is where the importance of reliability comes in with social media. Social media users are constantly going throughout their news feeds looking for new, interesting information. When they are on their news feeds they are looking for this information through their online friends because they are the ones they trust the most. With that being said, when one of their friends begins to share their new experience with a new product or innovation, they also share the experience with them. If that experience is a positive one, then your company is on the right path of commercializing your technological innovation.

This positive form of commercialization through social media can be seen through the actions of Sony and their newest product, the PlayStation4. Sony wanted to push the fact that users can interact with one-another through the use of their product, so they implemented a new feature within their product known as the "Share" button. This button allows users to simply push the button after they have accomplished something on the PlayStation4, and it is instantly shared on their social media platforms to show their friends. This was a huge success for Sony because it made this reliable information that much more visible, and allowed their users to help

commercialize their product with just a touch of a button. Sony has sold over 20 million PlayStation4s since launch, which is approximately double of their main competitor, Microsoft's Xbox One.<sup>5</sup> These numbers are not a coincidence – Sony understood the power behind social media and implemented that useful resource within their innovation itself, and it led to overwhelming success.

## 2) Mobile Marketing

We live in a world where people are always an arm's reach away from their mobile phone. Phones are now part of who we are, how we communicate with one another, and how we receive constant information. With that being said, it is extremely important for marketers to find effective ways to make sure their potential consumers are receiving all the information they need about their new technological innovations. As with other forms of digital marketing, mobile marketing has evolved rapidly in a short period of time and has become a very valuable resource for all marketers. According to the Mobile Marketing Association, mobile marketing is a set of practices that enables organizations to communicate and engage with their audience in an interactive and relevant manner through any mobile device or network.<sup>6</sup> If organizations can communicate and engage with their audiences through their mobile devices, they are more likely to be informed on their innovations in an effective manner.

Marketers are realizing the importance of mobile marketing and they are beginning to invest in this form of digital marketing at a great rate. In 2013, mobile ad spending worldwide reached a total of \$11.4 billion, and is estimated to reach \$24.5 billion by 2016 (Ryan 2014). These numbers are growing because of how successful mobile marketing is in terms of

---

<sup>5</sup> Elise, Abigail. "PS4 vs. Xbox One." *International Business Times*. N.p., 04 Mar. 2015. Web. 08 Nov. 2015.

<sup>6</sup> "MMA | About the Mobile Marketing Association." *Mobile Marketing Association*. N.p. Web. 08 Nov. 2015.

commercializing technological innovation. It is well-known to marketers around the world that “message is king”. In other words, when it comes to marketing one of the most important things that must be communicated to your audience is your overall message. These messages must be sent to audiences in an accessible manner, which is where mobile marketing comes in. As of January of 2014, 90% of American adults own a cell phone, and 60% of these users access the internet.<sup>7</sup> If that doesn’t shout accessibility, I don’t know what would. A study done by Ovum in November 2013 shows that by 2018, application to person (A2P) messaging traffic will reach 2.19 trillion messages. A2P messaging is automated messages from an application or machine rather than an actual person. In mobile marketing terms, this means that marketers must find a way to make sure that when Americans look down at their phones they are also looking at some sort of message about their innovation. Luckily there has been a recent push for smart phones, which allows these marketers to use internet marketing methods for their benefit in terms of mobile marketing too. With the increase in smart phones individuals are now able to use the internet wherever they are, which opens up marketers to get their advertisements on social media platforms, applications on the app store, a multitude of online blogs, and more. The amount of benefits are endless when it comes to mobile marketing. Marketers can use this form of digital marketing to build awareness of their brand, foster conversations with their online communities, gather valuable information, establish loyalty programs, and an overall better way to target their markets in a more efficient manner (Ryan 2014). One company that seemed to take advantage of these benefits within mobile marketing is Amazon.

---

<sup>7</sup> "Mobile Technology Fact Sheet." *Pew Research Center Internet Science Tech RSS*. N.p., 27 Dec. 2013. Web. 08 Nov. 2015.

Amazon generated 82.6 million paid search mobile impressions this past January. This means that their company's name showed up on the screen of a mobile device of over 82 million times. The amount of impressions Amazon received is astonishing, and they are truly taking advantage of the mobile opportunities available in today's age. What is interesting with Amazon's mobile marketing strategy is that they developed predictive purchasing tools in terms of where they place these mobile advertisements. This means that Amazon is strategically placing these multiple ads in areas where they believe potential interested customers would be located at.<sup>8</sup> An example of this is if an individual is searching online on their smart phone for a certain type of car, Amazon might have an advertisement for specific tires that are used for that car, or car accessories that the individual might find interested. With that being said, Amazon is taking advantage of the interests and search habits of mobile users around the world, and doing everything in their control to make sure that these users see the products they have to offer. In terms of commercializing technological innovation, it is extremely important to make sure that these mobile users are informed on the innovation that you are offering. Similarly to the actions Amazon have made, it is necessary to have a large quantity of ads in this important section of digital marketing, and to make sure that these areas in which your ads are placed there is some sort of interest. Mobile marketing allows a large amount of potential individuals to see your technological innovations and be aware of what your company has to offer.

### **3) Content Marketing**

Today we live in a digital world where content is everywhere. Everyone has a story they want to tell and they have different ways of telling it, all simultaneously with one another. The

---

<sup>8</sup> Tode, Chantel. "How Amazon Is Clobbering Walmart in Mobile Paid Search." – *Mobile Marketer*. N.p., 26 Feb. 2014. Web. 08 Nov. 2015.

goal of marketers is to make sure that their stories about their technological innovations is the most interesting, relatable, and heard. Content marketing is the marketing strategy for creating and distributing relevant and valuable information to attract, acquire, and engage a clearly defined and understood target audience. With that being said, it is extremely important to understand the knowledge behind content marketing, and how to properly utilize this form of marketing in a productive manner.

In order to fully understand content marketing, it is necessary to understand the nature of this content as the technological innovation itself. As discussed before, content marketing is information, so as a technological innovation it must share the essential feature of being informative. This informative feature is obtainable if the content holds the characteristics of being interactive, inseparable, and reproductive. Marketing content must be interactive due to the fact that information is not something that is acquired like a product. It is often acquired so that it can be integrated with other past information from other sources or innovations, and is either used to inform individuals on decision-making situations or to help them reach a specific goal. With content being interactive, potential consumers are able to see how their decisions can be affected and how this specific innovation may help them reach a goal. Content must also hold the characteristic of being inseparable. Content marketing is more affiliated to a good (technological innovation) than a service in that it is produced, stored, transported and can exist without being actually consumed. This feature is very unique because content stays with the users forever, while other forms of marketing, such as physical magazine advertisements or billboards, will either deteriorate over time or be lost. The content however within these forms of marketing is what stays with the users. The last feature in which is vital in terms of the content involved in this marketing strategy is that it must be reproductive. Content is not lost when it is given to

others, although its usefulness for specific situations may be affected. Content also doesn't lessen when it is 'consumed'; its sharing and consumption actually causes its increase. This characteristic of content is supported by its overall reproducibility. Once this content is released to consumers, it will constantly be spread between them whether you want it or not (Rowley, p. 534-535). These characteristics are extremely important in terms of the content itself, but it also important to understand content specifically in on a digital setting as well.

Without content, your online presence and advertisements mean nothing. No matter what size your organization is, content marketing is important. One of the biggest reasons for digital marketers to focus on content comes down to Google. When you're in control of the digital category of your brand, you gain a great amount of online presence and brand awareness. This is where search engine optimization (SEO) comes in. Search engine optimization is the process of strategies, techniques, and tactics used to increase the overall amount of online visitors you obtain on your website. In terms of how Google is set up, the more amount of online visitors you have, the higher your website is listed when you search that topic on Google. With that being said, we all understand that when you are searching something on Google you are more likely to choose one of the top choices once searched, so the importance of focusing on SEO is great in terms of content marketing (Ryan 2014).

Currently, Coca-Cola is one of the most well-known companies for their content marketing. Coca-Cola puts content at the core throughout their content 2020 advertising strategy mission:



All advertisers need a lot more content so that they can keep the engagement with consumers fresh and relevant, because of the 24/7 connectivity. If you're going to be successful around the world, you have to have fat and fertile ideas at the core.<sup>9</sup>

Coca-Cola realizes that there always needs to be content within marketing. Potential customers will get bored hearing the same thing over and over again, so they want something new and fresh. Coca-Cola constantly does this in different forms of content marketing, ranging from putting peoples' names on their bottles to promote their "share a coke" campaign, to having their classic polar bear commercials promoting their brand during every super bowl. The key to success is to keep the consumers guessing on what will happen next. If they constantly are on their toes looking to see what's next, they will be focusing on your brand instead of your competitors', just as what Coca-Cola has done in the soft drink industry core.

### III. The 4 P's

The next marketing activity that will be discussed consists of the 4 P's. Marketing is simplistically defined as putting the right product/innovation in the right place, at the right price, at the right time. Although this might sound easy, it isn't. In terms of technological innovations, it is extremely important to make sure your timing is right to release the advanced product, making sure the right people see it, and doing what you can to make sure people actually see the value within it. If just one of these elements are off, the innovation can fail completely and end up costing the company greatly. These elements are where the marketing mix comes in. The marketing mix is a crucial marketing tool to help understand what the technological innovation

---

<sup>9</sup> Rose, Robert. "Content 2020 Project Brand." *Content Marketing Institute*. N.p., 04 Nov. 2012. Web. 14 Nov. 2015.

can offer and how to plan a successful entrance into the market. The marketing mix is most commonly executed through the 4 P's of marketing: Price, Product, Promotion, and Place.<sup>10</sup>

## 1) Price

Price covers the actual cost the end user is expected to pay for the specific technological innovation. How the innovation is priced will directly affect how it sells. This is linked to the customers' overall perceived value of the technological innovation. If the innovation is priced higher or lower than its perceived value, then it will most likely not sell as well as you hoped. This is why it is imperative to fully understand how a customer sees what you are selling.

If there is a positive customer value, then the innovation may be successfully priced higher than its objective value. Conversely, if the innovation has little value in the eyes of the customers, then it may need to be underpriced in order to sell. In other words, pricing is the ultimate balance between benefits and costs. This is where pricing strategies come in. In terms of technological innovation, three of the most common pricing strategies are penetration pricing, skimming pricing, and premium pricing. Penetration pricing would be when an organization sets a low price when releasing their new technological innovation to increase overall sales and market share, and then eventually increase their price once they have met their goals in terms of overall sales/market share. Skimming pricing would be when an organization releases their technological innovation to the public, and instantly sets a high price to it, and then slowly lowers the price to make the innovation more available to a wider market. Finally, premium pricing would be setting a high cost to their technological innovation to try and show the high

---

<sup>10</sup> Martin. "Understanding the Marketing Mix Concept - 4Ps." *Entrepreneurial Insights*. N.p., 05. Aug. 2014. Web. 22 Nov. 2015.

quality and exclusiveness of their product compared to their competitors.<sup>11</sup> Each pricing strategy is unique in terms of whether they focus more on the overall benefits of the technological innovation, or the costs included within the technological innovation itself.

In order to fully understand the importance of pricing, it is necessary to look at a real-world example that we can all relate to. A perfect example would be Apple's release of their iPhone. Apple released the iPhone on September 5, 2007, for \$599. Apple was attempting the price-skimming method, and initially charged a great amount of money for their product. After only two months, Apple released the price was too high so they lowered it the price to \$399 each, which meant the early adopters paid an extra \$200. In this situation, the price skimming method backfired and caused Apple a lot of trouble due to their huge price decrease too early. When an organization uses a specific pricing strategy, it is extremely important that they properly execute it to prevent any miscommunication or problems with their consumers. Apple eventually gave each of the early adopters \$100 store credit, but they lost quite a large amount of costumers on the way. As we know today, Apple continued to lower their prices and we can get up-to-date iPhone for as little as \$100 now. This example explains the importance that pricing has in terms of overall sales and customer satisfaction, and why it is a major issue in terms of all technological innovations.<sup>12</sup>

## 2) Product

When it comes to technological innovation, product is probably the most important element of the marketing mix. Product accounts for the actual, tangible innovation that the firm is offering. In order to ensure that you create the best possible product, you must make

---

<sup>11</sup> Richards, Leigh. "Different Types of Pricing Strategy." *Small Business*. N.p., n.d. Web. 22 Nov. 2015.

<sup>12</sup> Stiving, Mark. "What You Need to Know About Pricing." *Entrepreneur*. N.p., 06 Aug. 2012. Web. 22 Nov. 2015.

sure you are able to answer a range of questions about your product. To gain a better understanding of these questions, they will be answered using one of Apple's technological products: The iPod Touch.

The first question you must be able to answer is what exactly your potential customers want from the product. In terms of technological innovation, it is necessary to understand what improvements your customers are looking for to satisfy their needs. Apple realized that a change needed to be made from the normal iPods around the world, and this change would lead to an overall satisfaction of their needs. However, this leads to the next question of what features does the product have to have to meet these needs.

Before the iPod Touch, music-listeners around the world had their small rectangular iPods that played music and met that one need. Apple realized that instead of just meeting their music-listening needs, they can also meet other needs with additional features. For starters, Apple allowed their innovation to be extremely more interactive and user-friendly by allowing users to actually use their fingers on a touch screen instead of just using buttons. This feature caused individuals to talk more about the product and increase the overall awareness. Another feature Apple focused on was the use of Apps. Apps allowed users to download specific programs based on their interests. These apps range from games, to calculators, to even television programs. These features are a clear example of how to successfully approach this question of which features to include in the technological innovation.

The next question about the product that must be answered is how will it look, and what will it be called. Apple wanted to make the iPod Touch a jam-packed product with a lot of

features, so they made the product a handheld size so that users can bring them anywhere. In terms of color, Apple thought the safest color choice would be a clean black for the original release of the iPod Touch. Today, Apple has innovated the iPod Touch so many times that you can find one in almost any color you want. In terms of naming your technological innovation, potential customers need to be able to comprehend what the product is, and what makes it special. Apple successfully did this by naming their innovation the iPod Touch. This name allowed individuals to understand how interactive the new product is, and the heavy focus on the touch-screen technology.

Each of these questions help fulfill the product characteristics of the marketing mix. After answering all of these questions, your technological innovation will have a higher chance of reaching success, just as Apple's iPod Touch did. However, it is important to make sure all of your innovative products do not overlap at all. After Apple released their iPhones, their overall sales of iPod Touches were greatly hurt. After innovating the everyday phone so much, Apple released the iPhone which had so many features that it actually offered the same features iPod Touches had, plus more. With this product cannibalistic stance, Apple greatly hurt their iPod Touch product due to their push on innovating a different product.

### **3) Promotion**

Promotion is an extremely important characteristic of the marketing mix because it targets multiple goals for your specific technological innovation. The purpose behind promotion is to inform others about your product and to positively contribute to the overall sales. This characteristic is always serving to reach a specific goal through marketing strategies. These goals can range from informing the public to increasing overall demand to product differentiation to even increasing overall value of the product. What makes this characteristic unique is that

usually these promotions are targeting more than one goal, which usually always leads to a positive effect on the technological innovation being marketed.

Promotion is the process of reaching these specific goals through the communication between the company that sells the product and the potential customers. The overall affect that these companies hope to achieve is to influence the attitude or behavior their potential customers have towards their specific product. This part of the marketing mix is so vast that it can separated into its own unique mix known as the promotion mix. The four main categories involved in promotion consist of advertising, public relations, personal sales, and sales promotion.

**3.1.1. Advertising:** The first category within the promotion mix is advertising. Advertising is a form of communication designed to persuade and educate potential customers to choose your specific product over your competitors' product.<sup>13</sup> Successful advertising involves making your product clearly differentiated and positively known as a leading competitor in your market segment. An example of a company that uses advertising in a successful manner is Nintendo. Nintendo is in the gaming industry, which has been a highly competitive industry for years. Nintendo's major competitors' are Sony and Microsoft, which makes advertising extremely important due to how strong their competitors' brands are. Nintendo has the unique characteristic of age on their competitors' which gives them a major advantage on how they advertise. Sony was created in 1946, Microsoft was created in 1975, and Nintendo was created in 1889. As the oldest of the major companies in the gaming industry, Nintendo runs their many advertisements on tradition. They can connect their customers' childhoods with their current lives and build a relationship that is unbreakable due to all of the memories between them and their customers. Nintendo is now part of family traditions and memories, which allows them to bring everyone

---

<sup>13</sup> Small Business Devopment Corporation. "Marketing - Promotion Strategy." *Marketing*. N.p., n.d. Web. 15 Feb. 2016.

together based on the common interest of their products. With this type of relationship, Nintendo can clearly educate their audience on the innovation of their products since they already hold such as strong connection with their past products.<sup>14</sup>

**3.1.2. Public Relations:** The next category within the promotion mix is public relations. Public relations is marketing communication towards the public, but is turned more to a reputation and image-based focus rather than a product-focus. Many examples of public relations includes companies being seen on press conferences, television interviews, and articles on the company making large donations to charities and good causes. In terms of technological innovation public relations allows potential customers to realize the “heart” of the company that is innovating their products. In other words, potential customers view businesses as individuals, and with good public relation methods they will view the business in a positive manner.

**3.1.3. Personal Sales:** Personal Sales is very unique part of the marketing mix due to how personal the relationship is within this method of promotion. Personal sales are when sales representatives directly contact the customers. When it comes to technological innovation, this would be having employees displaying the product and explaining the new innovated features and designs of the product, and explaining why it is worth the price. This product is believed to be less affective as the other methods of promotion due to the fact that it is on such a personal level, but it is vital to have each type of promotion to make sure your company is diverse and covering as much ground as it can in terms of promoting themselves.

**3.1.4. Sales Promotion:** The last section of the promotion mix is sales promotion. Sales promotion represents marketing strategy as a set of different promotional activities that has the

---

<sup>14</sup> <https://www.nintendo.co.uk/Corporate/Nintendo-History/Nintendo-History-625945.html>

overall goal of pushing customers to make a final purchase. These promotional activities can include discounts, quantity deals (buy two, get one free), prize drawings or even giveaways. Sales promotion can be viewed as that “extra push” to get potential customers questioning the purchase to make the final decision to buy. However, many companies end up overusing this section of the promotion mix that results in an overall impact on their total sales. When a company uses multiple sales promotion methods throughout an average year, many customers will realize this and then not make a purchase until they release some sort of promotion. This can result in unpredictable sales for the future and an overall decrease in value of the actual products being purchased.

#### 4) Place

Place (or distribution) is the element in the 4 P’s that ensures that the product is distributed and made conveniently available for the consumer. Every product is unique and different, which means this characteristic of the marketing mix will always be different in regards to the type of product. Getting the right product to the right place at the exact right time involves specific distribution channels and marketing research.

Many believe that this characteristic of the marketing mix is the least expensive and important, but that is far from true. Although figures vary widely from technological innovation to technological innovation, roughly 1/5<sup>th</sup> of the cost of a product goes towards getting it to the customer.<sup>15</sup> The distribution of technological innovations is extremely important because it leads the consumers to making the final purchase. You can have the ideal product with amazing features at the perfect price, but if your potential consumers never see the product the purchase

---

<sup>15</sup> "Marketing Theory." *Marketing Mix (Price, Place, Promotion, Product) Marketing Mix Business Studies and Business English*. N.p., n.d. Web. 24 Feb. 2016.



will never happen. Due to this, placement has a direct relationship with a company's overall sales.

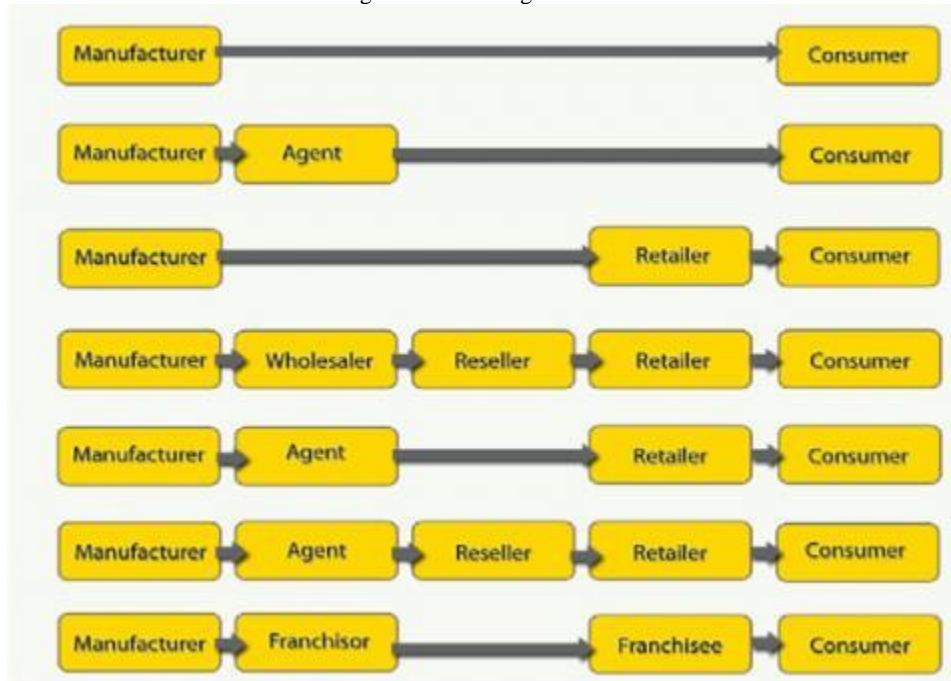
There are many locations and activities included within an organization that affects the overall placement strategy. In terms of locations, the location of your actual business and the location of your target market are vital in terms of how your company plans to sell their products. The closer your organization is to your target market the lower the overall distribution prices will be. The placement of your company to your target market will also affect the overall influence you will have on your potential customers. If your company is extremely close, your company's overall transparency will be very clear to your potential customers. However, this is not necessarily a positive thing. Potential customers could see how well your organization supplies jobs and supports the local businesses around it, but they may also see negative environmental factors your organization may have. Due to these reasons, it is very important to figure out the best placement of your organization in terms of your target market.

In terms of the activities involved in a company's placement strategy, the question of how to reach your target market must be answered. This question is often answered through the use of distribution channels. The following chart lists off multiple distribution channels that companies may use. In some instances, multiple channels may be used in order to maximize the effectiveness of overall distribution. When determining which distribution options are best for your business, you must determine the overall level of customer service required, the most cost-efficient form of distribution, how your competitors distribute their goods, and what is the most convenient way for your potential customers.<sup>16</sup>

---

<sup>16</sup> "Smallbusiness.wa.gov.au." *Marketing*. N.p., n.d. Web. 24 Feb. 2016.

Figure 4. Marketing Channels.



Smallbusiness.wa.gov.au." *Marketing*. N.p., n.d. Web. 24 Feb. 2016.

## IV. Positioning

Positioning is telling your target how to think about you, and why. In other words, positioning focuses on painting a pretty picture of how you want people to think of your product, service or company.<sup>17</sup> However, this picture can be very difficult to paint. There are many different ways to add value to your product or company's reputation, and also many ways to take away that value. These placement strategies range from simple catchphrases to even how you price your product or service.

One specific positioning strategy that is very common is the use of catchphrases. Catchphrases should be simple, easy to remember, and satisfy the audience enough so they won't look to close at the specifics and gain an overall trust and connection with your product or company. Many companies use this method of placement and we as consumers rarely even

<sup>17</sup> Kirkland, Susan. "Marketing Using the 4Ps: Product, Price, Place and Promotion." *Graphics*. N.p., 2009. Web. 24 Feb. 2016.

notice it is happening to us. In terms of companies that focus on technological innovation, Apple can be viewed as a perfect example. During the release of Apple's smartphones and tablets, they constantly pushed the same catchphrase that consumers ended up saying without even knowing it. This phrase was 'There's an app for that'. The internet is full of blog posts and articles with cheesy 'There's an app for that' jokes, and due to how successful the phrase was it likely won't stop. Apple used this phrase to differentiate them and share the flexibility of their products, that there is likely an app for anything that interests you. With that being said, this catchphrase pushed the consumer to believe that their wants and interests will be met with Apple's products, which ultimately led to a positive place for the company as a whole. Consumers now view Apple as a power-house company that releases products that will continuously meet their needs, no matter what they are<sup>18</sup>.

Another strategy that is often used includes the how the business prices their goods or services. This strategy can be broken into two segments: low-price strategy and high-price strategy. In terms of the low-price strategy, many companies position themselves as the most affordable option for their potential customers by keeping their prices the lowest compared to their competitors. Although this may seem desirable to many consumers, it also has a direct relationship with the overall quality of the product or service. In most cases, when the price decreases so does the overall quality. An example of this strategy in terms of technological innovation would be purchasing laptops. Many companies, such as HP and Toshiba, try to target consumers who need laptops for simple reasons such as using Microsoft Word and Internet Explorer. These simple needs can be met at a lower cost compared to other competitors, so they tend to use the low-price strategy to try and attract more customers within their target market.

---

<sup>18</sup> Gross, Doug. "Apple Trademarks 'There's an App for That'" *CNN*. Cable News Network, 12 Oct. 2010. Web. 24 Feb. 2016.

However, some of their competitors, such as Apple use the high-price strategy due to the constant innovations and added features within their products. Apple's Mac laptops hold the same features that HP and Toshiba supply, but also have more features that are beneficial for consumers who may want more options in terms of design and research software and programs. High-price strategy is when companies price their products or services higher than their competition to create a higher perceived value. Many times companies can simply charge more money due to their brand reputation. However in terms of technological innovation, in most cases companies tend to price their products higher than competitors if there are more features involved within the product.<sup>19</sup>

## V. Conclusion

According to the American Marketing Association, marketing is the activity, set of institutions, and processes for creating, communication, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large.<sup>20</sup> Without these marketing activities, technological innovations around the world would be unrecognized, underappreciated, and hold much less of importance that it does today. In other words, these technological innovations would have less of an impact on our everyday lives. This means that all of these remarkable technological innovations that make our lives easier and more enjoyable would not be as abundant as they are today.

Throughout this thesis there were multiple marketing activities discussed that hold major roles in the commercialization of technological innovation. However, it is very possible that these marketing activities may change over the years, or be used differently depending on the

---

<sup>19</sup> Edmunds, Sam. "Positioning Strategy in Marketing." *Examples of Positioning Strategy in Marketing*. N.p., n.d. Web. 11 Mar. 2016

<sup>20</sup> <https://www.ama.org/AboutAMA/Pages/Definition-of-Marketing.aspx>

user. With this being said, these marketing activities may hold different roles and a different level of importance depending on how these marketing activities are viewed. For example, the 4 P's are often viewed differently, and many believe that there are errors involved within it.

According to research published in the *Harvard Business Review*, a five-year study involving more than 500 managers and customers found that the 4 P's undercuts marketers in specifically the B2B space in three major ways<sup>21</sup>. First, the 4 P's leads marketing and sales teams to focus too much effort on product technology and quality, rather than focusing on other potential important characteristics such as customer service. Next, the 4 P's underemphasizes the importance of building a convincing case to explain the superior value of the solution that is being sold. In other words, this marketing activity lacks educating the customers on why this product/service is needed. Lastly, many marketers believe that the 4 P's distracts businesses from leveraging their advantage as a trusted source of problem solving.

This study was recognized because it is important to realize that marketing methods are viewed differently depending on the marketer. This leads to these marketing activities to hold a different role in commercializing technological innovation. This brings up the question of whether or not there are any specific marketing activities that truly hold a higher level of importance than others in terms of commercializing technological innovation, and whether or not it can be agreed on a universal level. Although these marketing activities discussed may hold different levels of importance depending on the reader, it is obvious that technological innovation is an important part of all of our lives.

---

<sup>21</sup> Ciotti, Gregory. "The New 4Ps of Marketing." *Help Scout Blog*. N.p., n.d. Web. 10 Apr. 2016.

Technological innovation will continue to happen as long as humans remain on this planet. At this point in life, nothing can prevent us from working towards the next big innovation, the next big idea, or the next big invention. The innovative spirit and entrepreneurship has spread world-wide and as time goes on, so do the technological innovations. In order to make sure these technological innovations get the recognition and use they deserve, it is crucially important that these marketing activities are used to properly commercialize our future.

## Bibliography

- Chiesa, Vittorio, and Federico Frattini. Commercializing Technological Innovation: Learning From Failures in High-Tech Markets. *Journal of Product Innovation Management* 28.4 (2011): 437-54. Web.
- Muñiz, Albert M., and Hope J. Schau. "Vigilante Marketing and Consumer-Created." *Journal of Advertising*. N.p., 4 Mar. 2013. Web. 25 Oct. 2015.
- Page, Moreau, Markman, Arthur and Donald R. Lehmann. Categorization Flexibility and Consumers' Responses to Really New Products. *Journal of Consumer Research* Vol. 27, No. 4, pp. 489-498. March. 2001. Web.
- Rowley, Jessica. "Understanding Digital Content Marketing." *Journal of Marketing Management* Vol. 24, No. 5-6, pp. 517-540, 1 Feb. 2010. Web.
- Ryan, Damian. "Understanding Digital Marketing." Kogan Page Ltd., June 2014. Web. 25 Oct. 2015.
- Schoonmaker, M., E. Carayannis, and P. Rau. "The Role of Marketing Activities in the Fuzzy Front End of Innovation: A Study of the Biotech Industry." *The Journal of Technology Transfer* 38.6 (2012): 850-72. Web.