Sharpening The Tools Which Built Our World

The Influence and Significance of Design

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Abstract: *The fundamental concept of design is crucial to the existence of our culture. Many designs have the power to impact and influence, promoting interconnectivity of social and cultural spheres. That being said, how can a design achieve such a level of influence? I see three ways in which this could occur: improvement of design functionality, improvement of marketability and consumer perception, and reducing negative environmental impacts. Taking these three factors into consideration when creating a product gives it the ability to better impact society and culture. Investing time and effort creating positive influence allows for a design to become so much more than just a piece of art.*

Every object, place, and event in history can be diluted to some form of design: some underlying strategy that created every cog of our existence. From the natural formulae which sculpted our landscapes, to the technologically advanced systems being created today, everything leads back to that same central idea. I have taken it upon myself to contribute to designing this world. I plan to join the ranks of industrial designers, some of the leading minds in revolutionizing design. The goal of an industrial designer is to tackle a problem with a multi-pronged approach. Through composition, one would hope to create a product whose value transcends its visual beauty{for this usage, I will define 'value' as the effect to which a product creates an impact on cultural or environmental spheres}. I've drawn, painted, and sculpted my whole life. Recently, I took my art to another level through four years in the 'Art Major' curriculum at my high school. I can accurately depict an object through observation. I can draw a new object to serve some purpose. I can create a 3-dimensional representation of that object. But all of this is merely a small step in the grand scheme of design. And this begs the question, how can a design become more than merely a piece of art? The immediate answer is the functionality of the product. Delving deeper, product perception and marketing play important roles in a design's success. Lastly, taking the environmental impact of product development and

production into consideration allows for the safe continuation of processes, thus working towards a healthy cohabitation with nature.

To preface my research and findings, I find it important to note that the visual appearance--the 'art' element to a product--is not mundane. For the sake of this paper I will often look beyond the artistic side of design, but its value should not be understated. A functional product will not sell as well if it is unattractive. Conversely, an attractive design might oversell the product's function. Gaia Rubera's *Design Innovativeness and Product Sales' Evolution*, an article in *Marketing Science*, correlates innovative creation to the object's visual appearance. "Thus, I define design innovativeness as the degree of novelty in a product's external appearance...The external appearance of a product is inherently intertwined with the meaning of a product; by changing a product's design, (companies) also change the product's meaning" (Rubera, 2015). The article uses 'meaning' to represent the visual interpretation of the product, as perceived by the consumer. A strong correlation between appearance and function promotes a positive 'meaning', thus the consumer is more likely to purchase the product. Additionally, one of the most prevalent discussions in design is 'form vs functionality'. A product would ideally be as beautiful and reliable as possible, but this is almost never achieved. For many products, the necessity of one of those aspects overshadows that of the other. Creating that 'perfect product' no longer becomes the goal. I will return to this discussion later on in this paper.

The primary goal in design is to create a functional product. Ideally, a product would not just work, but work better than competing brands. There's much to be said for achieving this

goal. Research is arguably one of the most important tools in improving a product's function. Understanding the consumer and the market can prove invaluable.

A solid example of improved functionality via research is Nike Sportswear. Nike has built a strong reputation by creating some of the greatest innovations in athletic wear. They reached this level of success in the market, simply through creating unparalleled product functionality. Researchers at Nike have developed the most advanced innovation simply by studying the human body. The prospect sounds simple, and it is. Looking at the needs of the consumer allows for better design possibilities. In a filmed presentation, Nike Sports Research Lab Director Matthew Nurse goes into detail on how the company is constantly striving for better designs. His job is to "objectively quantify athletes in motion" to create innovation driven by sport science. At Nike, "everything starts and ends with the athlete", but to build a product catered towards the athlete, they first have to be better understood. Nurse's job is to look at the basics, learning everything possible about the athlete and the environment in which they play. By surveying a series of advanced technologies, he explains how Nike innovates. 3-D motion capture allows for the quantification of movement in a body, while high speed video can document the same precise actions at 30,000 frames per second. Force plates can show directional pressure applied by a foot, while pressure measurement shows how the foot interacts with the surface. 3-D body scanners look inside to show muscles and bones interacting in an action, while physiological measurements track the body's reactions. Through meticulous testing, the scientists can piece together a summation of every force of every muscle in the body, and look at every reaction. In the early stages of creation for a given pair of shoes, the first step is not to work on the design, it's to go back and look at the consumer. Nurse states "you can't design for what you don't

understand." The importance of research-based improvement shows through in all spheres of design. A product cannot truly succeed off of looks alone. Testing and research are necessary for the creation of a product that surpasses its predecessors. Producing a brand which stems from meticulous research improves the company's reputation and, over time, results in a more successful product (Nurse, 2013).

Once a product has entered the market, its success is heavily dependent upon consumer perception. There are a few key factors which play into a consumer's impression. Mainly aesthetics and the effects of brand marketing.

The point at which a consumer is first views a product is often the most important moment in determining its success. Designers spend their time making a product which can, in one second, grab the consumer's eye. If the product does not immediately create appeal, than it might be passed by. Alternatively, the same factor may determine the longevity of the product's success. When something this major can occur in a single second, the design had better look fantastic. We can connect this immediate impression directly to external appearance. Once the consumer has become interested, other factors come into play. Connecting back to functionality, the buyer seeks the product which functions best. Additionally, many seek the product which looks the best. Often times the best looking product is not the best functioning. That being said, it is important to look at how these factors interact in the mind of the consumer. Gaia Rubera's *Design Innovativeness and Product Sales' Evolution* goes into detail on some theories of perception in design. Returning to the idea of 'meaning', Rubera speaks on 'symbolic value creation', where consumers are constantly looking for new meaning in products. When a person views a product, visual appeal and functionality intertwine, and a 'meaning' is created. Strong

correlation between those two factors often bodes well for the product. Interestingly enough, sometimes personal ‘meaning’ is drastically outweighed by collective ‘meaning’. Often times people within the same cultural spheres will develop similar preferences for products. If a designer can create ‘meaning’ for a few, that often leads to ‘meaning’ on a cultural level. “According to this theory, the success of a new design does not depend on its beauty, but only on the fit between the design and the cultural norms.” This is not a new idea, the same is true with fashion, where success has to do with collective judgement. Alternatively, judgment of design is heavily reliant upon a set of preexisting ‘rules’ in the consumer’s mind. These ‘rules’ are essentially guidelines by which products are judged. ‘Rules’ can change drastically depending on the context of the design-the situation in which the product serves to function (Rubera, 2015).

Another key component to the perception of a product by a consumer is marketing. The visual look of a ‘boxed’ product can be insignificant or highly relevant. To someone who knows the product and intends to purchase it, the casing will be somewhat useless. But to someone unaware of the product, or choosing between brands, packing can easily change a decision. Ideally, a product should be immediately attractive to the eye, and be as informative as it is protective. Of course, other factors such as price, reputability, and presentation are often more important than packaging. Yet, poorly designed packaging can easily dissuade someone from purchasing the product. The idea of dissuasion is become relevant to smokers across the world. Recently, many nations have adopted ‘plain-packaging laws’ for the sale of cigarettes. The purpose of the laws is to steer people away from smoking through informative packaging. Government enforced wrapping of cigarette packs with unattractive and even repulsive packagings discourages sales of such products. Some cigarette packs now simply feature bland

colored wrappings. Others portray gruesome images of cancerous lungs, destroyed yellow teeth, and children hospitalized from second-hand smoke. Perception is paramount to the success of these laws. On the subconscious level, people are far less likely to purchase packs adorned with revolting images. Whereas on a conscious level the person becomes more understanding of the consequences of smoking and is ideally put off from wanting to smoke. This is an extreme example, and most times nicotine addiction is more powerful than unpleasant packaging. That being said, the laws are a good start; product perception is on its way to creating a market in which fewer consumers are motivated to purchase cigarettes (Bansal-Travers, Hammond, Smith, and Cummings; 2011)(Oliver, 2015).

In order to strengthen my research, I conducted a survey to subtly obtain insight into how an average consumer thinks. The intent and underlying themes were hidden to prevent alteration of answers due to user-expectancy. The questions asked fit into three categories of perception: brand loyalty, form vs. function, and outside influence. 'Brand loyalty' aimed to look at consumer preferences and to what degree those preferences might be broken. 'Form vs. function' looks into how consumers weight each factor against the other. 'Outside influence' studied the effect to which a recommendation from another human might affect a consumer's decision to buy. The questions, results, analysis, and conclusions are as follows:

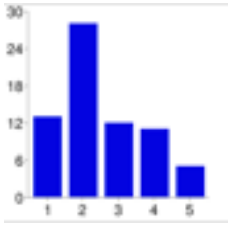
67 answers reported

Brand Loyalty

Suppose you are a life-long lover of Nutella. Hershey's releases their version of a chocolate-hazelnut spread for a cheaper price. How likely are you to buy the new product to try it?

{very unlikely to buy (1 2 3 4 5) very likely to buy}

1: **13** 19.4%
2: **26** 38.8%
3: **12** 17.9%
4: **11** 19.4%
5: **5** 7.5%



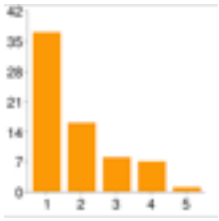
Average: 2.54 (somewhat unlikely to buy)

Analysis: This data set it rather varied. I attribute this to a few different phenomena. Some would be likely to try the new brand simply out of adventurous spirit, while others are taking money into consideration. But overall, there are more votes towards the 'unlikely' side. I attribute this to the idea that 'if it's not broken, don't fix it', wherein people are accustomed to Nutella and don't feel any need to try a new brand, even if it costs less.

Same scenario as the previous question: If the two products are priced equally, how likely are you to buy the new product to try it?

{very unlikely to buy (1 2 3 4 5) very likely to buy}

1: **35** 52.2%
2: **16** 23.9%
3: **8** 11.9%
4: **7** 10.4%
5: **1** 1.5%



Average: 1.85 (very unlikely to buy)

Analysis: The data becomes far more clear once money is taken out of the picture. With no incentive to purchase the new brand (aside from being adventurous), it becomes clear that far fewer people want to purchase it. People are used to enjoying Nutella, with nothing supporting the purchase of the Hershey's brand, far fewer will opt to try it.

Do you prefer using Macs or Windows operating systems? Explain, if you feel that you can put your preference into words.

{(out of 67: 56 showed preference) (Multiple reasons were often given. Only reasons cited by more than one person will be utilized.)}

-Mac: **46** 82.1%

-simple/easy to use (16)
-visually pleasing/better designed-interface/product (15)
-grew up with it/used to it (7)
-user-friendly (5)
-no viruses (5)
-software usage (4)

-more people use it (3)
-Unix based (2)
-faster (2)
-general Apple fan (2)
-streamlined with devices (2)

-Windows: **10** 17.9%
-grew up with/used to it (7)
-cheaper (2)

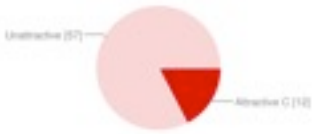
Analysis: The data clearly shows a greater preference towards Macs. Of the few who preferred Windows operating systems, nearly all cited being used to it. Very few provided actual reasoning as to why Windows was preferred. For Mac, many cited simplicity, ease, beauty, and sleek design as the influencing factors.

Conclusion: Establishing brand loyalty among consumers is an incredibly powerful tool. The Nutella questions showed that with incentive (lower price) only a few were particularly willing to try a new brand. Without such incentive almost everyone stuck with Nutella. Applying this concept to a prevalent application, the 'Windows vs Apple' question tested consumer bias on the topic of computers. Very few referenced the actual hardware/software behind the computer systems. Rather, many cited Apple as their choice due to simplicity, beauty, and design. Apple is one of the best examples of brand loyalty, where patronage came, not through creating the best computers, but through simplistic designs and user-friendly systems.

Form vs. Function

You have a choice between a beautiful car with a reputation of having internal issues, and an unattractive car with a fantastic all-around reputation. Which do you chose?

-attractive but unreliable: **12** 17.9%
-unattractive but reliable: **57** 82.1%

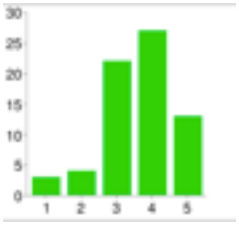


-Analysis: There isn't much to extract from this data beyond the immediate percentages. Some would prefer to drive a more beautiful car, even if it comes at the price of unreliability. Whereas others do not care to drive a beautiful vehicle, and opted for reliability instead. About four times as many people chose functionality over form. This is not immediately indicative of the fact that functionality trumps form, but with this situation it appears to be true.

You are accustomed to buying a specific brand of shoes. They are consistently comfortable. You go to purchase another pair, but find a more attractive shoe

from a brand you don't recognize. You like the feel of the shoe, but are unsure of it's reliability. How likely are you to purchase the new brand of shoe?

{very unlikely (1 2 3 4 5) very likely}



1: **3** 4.5%
2: **4** 6%
3: **22** 32.8%
4: **25** 37.3%
5: **13** 19.4%
Average: 3.61 (somewhat likely)

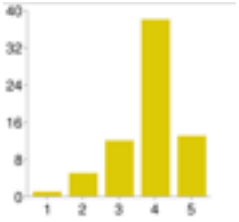
Analysis: This question aimed to put aesthetic beauty up against unreliability, essentially form vs function once again. The data shows that with shoes, form, or aesthetics are more important than functionality-not falling apart. Some were more cautious and chose 'unlikely to purchase', while some showed confidence in choosing 'very likely'. The average was 'somewhat likely' showing preference in looks over reliability.

Conclusion: The issue of 'form vs. function' in invaluable to the success of a product. I attempted to gain insight into which one is holds greater value in the eyes of the consumer. With the car question I found that far more people opted for reliability (function) over beauty (form). With the shoe question, I found that more opted for beauty over the risk of unreliability. As these results pointed in opposite directions, I find it fair to say that there is no definitive answer as to which aspect is more important in a design. With an expensive purchase (such as a car), it would be fair to want a product that is reliable. Whereas with a cheaper purchase (such as shoes), the risk of unreliability is undermined by the inexpensive price, thus beauty becomes more prevalent.

Outside Influence

Suppose you are considering buying a new piece of technology. Your friend tells you that they have used the device and approve of it. How likely is their faith in the product to effect your decision to buy one (without any experience using the device)?

{very unlikely to effect decision (1 2 3 4 5) very likely to effect decision}



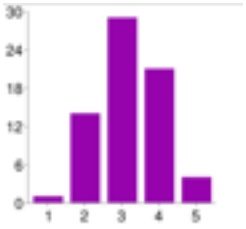
1: **1** 1.5%
2: **5** 7.5%
3: **12** 17.9%
4: **36** 53.7%
5: **13** 19.4%
Average: 3.82 (somewhat likely to effect

decision)

Analysis: This data centers heavily around the ‘likely’ side of the graph. The massive amount of votes for ‘4’ is indicative of the fact that people are likely to trust the advise of a friend. The reason this majority is not at ‘5’ is likely due to hesitation from not having hands on experience.

Suppose you go to a store to purchase a product. There are many brands to chose from. A salesperson expresses the fact that a particular brand of this item is their personal favorite. How likely are you to purchase that brand after hearing their recommendation?

{very unlikely (1 2 3 4 5) very likely}



1: **1** 1.5%
2: **14** 20.9%
3: **29** 43.3%
4: **19** 28.4%
5:**4** 6%

Average: 3.16 (somewhat likely)

Analysis: The data from this question proved to be somewhat inconclusive. The majority of people opted for ‘3’ suggesting that there would be no influence from the salesperson’s recommendation. The other numbers, expressing some amount of influence (positive or negative) are fairly balanced. There are slightly more votes towards positive influence. I attribute this to people trusting in the salesperson and allowing it to influence their decision. The only important insight to gain from this is from comparison to the ‘friend influence’ question. I find that the higher average influence arises because the friend is known personally and trusted, whereas the salesperson is a stranger.

Conclusion: Based on of these results, I find that that outside influence does not play a particularly major role in product perception. The results of the friend influence question ranked higher than that of the employee influence question simply due to trust. A company would be able to educate stores and their employees on the product to produce such influence. But the company would be unable to effectively create an influence via a random consumer (the friend), and thus overall, would not be able to effect the decision in a major way.

Functionality and perception are key in so many ways for the creation of a better design. Thus far, I’ve associated good design with success of a financial nature. Better form and function naturally contribute to more sales. This is the ultimate goal of commercial businesses, but should

we define success as a number of products sold? If in the process, a plant producing the product harms the environment, can we still say that the product succeeded? If we design a truck that runs for two times the average lifespan, but provide no improvement in fuel efficiency, has it positively impacted our society? To all of these I answer no. A designer's dream would be to create without conflict. Unfortunately, that is not particularly feasible. Companies often face turbulence when coming in contact with laws, restrictions, copyrights, and patents. Many also find themselves subject to public outcries against poor workers' conditions, salaries, and damage to environments. Many companies strive to earn the greatest possible profit. Often times this means outsourcing jobs to third-world countries. The benefit of such action comes through reduced salaries for workers and fewer restrictions caused by health and environmental codes. Unfortunately, these same reasons contribute to the controversial nature of such actions (Eppinger, 2011).

In 2008, the summer olympics were held in Beijing, China. That area is known for dense concentrations of various consumer-good factories. The sheer toxic output of these producers created an atmosphere unsafe for the elite athletes. Production was stopped short of the games to prevent conflict, but this was nonetheless highly distressing. Many of those factories produced outsourced items. Through outsourcing, jobs are established for people who normally do not have access to steady income. Toxic byproducts are inevitable, and the countries are often powerless to restrict or shut down production. Many of such factories employ hundreds or thousands of people from impoverished areas. Government-forced stoppage of production puts monetary strain of people who were in-affluent to start with. Thus, a paradoxical situation arises. Governments are inevitably forced to chose between environmental damage, or economic

damage, to which they often chose the former. This is an issue as is, but there's another side to the story. Thousands of businesses in the U.S. outsource production to impoverished or third-world nations. There's a mentality that this is wrong, based just on the loss of American jobs. Many people are also aware of the environmental tole outsourcing takes, but choose to ignore it. There's an 'out of sight, out of mind' ethos which is holding back reform. Many feel that it would be a fruitless effort to attempt to change policies of foreign nations, and the issue is, they're right. It's useless to protest these actions from halfway around the world, especially when the issue stems from home. If a company offers thousands of full time jobs to poor nations, we can't blame them for accepting. The blame has to go to the companies who are creating this issue. The only way we can truly fix this issue is if we press businesses to adopt stricter policies on foreign production. Eliminating all negative impacts is a long ways off, but it's key that such action be taken as soon a possible. Environmental damage is often irreparable, we need to think about sustaining a healthy future before it's too late (Heal, 2008).

Fortunately, many companies are already investing in lessening detrimental outputs, while others are even creating products which help to do the same. One such company who takes environment impact into consideration is Tesla Incorporated. For years, Tesla Motors has engineered and created some of the most beautiful, best functioning electric vehicles on the planet. The benefits of using electric over gas are: lower priced fueling and fewer emissions. The relative cost of electricity in comparison to fuel (cost per X amount of miles driven) is significantly lower. Additionally, fuel produces emissions harmful to ecosystems, whereas electric vehicles produce zero emissions. The only downside to the electric alternative is that the vast majority of electric grids are powered by fossil fuels. While the cars themselves produce no

emissions, the factories powering them do. This is an issue Tesla CEO and Product Architect Elon Musk addressed in a recent keynote presentation. Tesla unveiled a new brand of innovative large batteries for home and commercial use on May 1, 2015. Musk began the presentation speaking on the current issue with electricity producers. The solution, he says, is solar energy. The surface area of solar panels required to power the whole United States is comparable to the size of Massachusetts. Since roofs of houses are perfect places for panels to go, this total amount of surface area would be easily achievable. He moves on to show that the surface area of the batteries needed to collect that energy would only be about one one-hundredth of the panel area. He references solar power and electric vehicles, and then unveils the intermediate-the Tesla Powerwall. The 10kWh battery is wall mounted and 'stackable' with other units. It's specifically made for solar usage, and completely eliminates the need for power lines-allowing for a house to go off the grid. In countries or remote locations where there is no grid access, a few solar panels and a Powerwall diminish the need for grid connectivity. Musk later moved on to introduce the 100kWh Powerpack for major uses. With 900 million Powerpacks all electricity usage in the world could be transitioned to renewable sources. And with 2 billion all electricity, transport, and heating needs could be accommodated for. That's a long ways off, but there are approximately 2 billion cars and trucks being used today, and integration over 20+ years is feasible. It's clearly a major leap for one company, but the point is: the technology exists and converting the whole world to renewable sources of electricity is not far off. In my opinion, this is the kind of policy more businesses should adopt. Not only is Tesla taking the environment into consideration, but they're also working to eliminate all pollution from electricity producers (Musk, 2015). So, while

aesthetics and functionality are both essential to the production process (as I've discussed previously), we cannot ignore the environmental impacts of production in a globalized world.

At the start of this process, I knew little about design beyond the aesthetic portion. That's where my interest was peaked. Knowing how to draw a product is very different than knowing how to make it useful. I found that through many means, design functionality could be improved, resulting in a more effective product. I found that perception of both the product, and the marketing is entirely necessary for the success and longevity of a product. And finally, I found that taking environmental impact into consideration, we can continue to create at ever-increasing rates without damaging our planet.

I like to imagine that the world is malleable in the hand of humans. Our species is improving at a rate unimaginable to generations past. We never stop creating, and it has become normal to see new technology or advancements in science every day. Every human is a cog in our existence, and if I can play my part and create something useful to others, I feel I will have succeeded in my time on earth.

Citations:

-A large portion of the information provided in this paper was general knowledge. Many facts and ideas provided came from previously learned knowledge and reasoning of my own accord.

"Design Night: "Faster. Stronger. Tech-ier." With...Dr. Matthew Nurse."*YouTube*. Autodesk, 10 June 2013. Web. 11 Mar. 2015.
-This is a presentation given by Nike Sports Research Lab Director Matthew Nurse. He speaks on the science that goes into producing innovations in sport equipment. He speaks in relation to one quote, "you can't design for something you don't understand". He goes into detail about all

of the means in which human movement can be quantified. Using compiled data and trends he explains how the company can engineer further development. This talk was helpful in writing the ‘improving functionality’ portion of my paper.

"Design and Technology: Social, Moral, Environmental, and Legal Issues."*www.bbc.co.uk*. BBC, n.d. Web.
-This online source provides an in depth look at design. The approach taken is from an unusual standpoint, in that it focuses on the major problems of the industry. This article touches on many subject that I am using for my paper. For this source I only took information on the environment to better improve my ‘environmental impact’ section in the paper.

Lidwell, William, Kritina Holden, and Jill Butler. *Universal Principles of Design*. Berverly, MA: Rockport, 2010. Print.
-This book goes over hundreds of key pieces of information on improving design. The author splits these pieces of knowledge into short but useful passages. The nature of these such passages makes it so that I may not find much quotable material, but knowledge gained from reading will influence my paper. This book proved useful in the ‘functionality’ and ‘perception’ portions of my paper.

Herm, Steffen, and Jana Moller. "Brand Identification by Product Design: The Impact of Evaluation Mode and Familiarity." *Psychology and Marketing*(2014): n. pag. Web.
-This journal highlights a test done on the differentiation of brand name products from copycats. While this test is interesting, it falls outside of the bounds of the topics in my paper. For this reason I did not use data from the tests, but rather used information provided in the preface to the results. This information was useful in the perception portion of my paper.

Bansal-Travers, Maansi, PhD, David Hammond, PhD, Philip Smith, MS, and K. Michael Cummings, PhD. "The Impact of Cigarette Pack Design, Descriptors, and Warning Labels on Risk Perception in the U.S."*American Journal of Preventative Medicine* (2011): n. pag. Web.
-This journal highlights the premise of ‘plain-packaging’ laws which are popping up around the world today. The idea is to force packaging of cigarettes with unappealing and informative wrappings. This article explains a test done to find level of appeal with and without the wrappings on cigarette boxes when presented to smokers. This perfectly exemplifies how perception of a product can influence it’s success and was vital to that respective portion of my paper.

Rubera, Gaia. "Design Innovativeness and Product Sales’ Evolution." *Informs*(2015): n. pag. Web.
-This journal speaks on a series of tests done correlating design of a product with it’s success in sales. While this test proves useful, the preface is loaded with valuable information. Through a series of theories, some key elements of perception and functionality are explained. In the context of these tests, this information fits well with my topics. As explained, it proved useful in the ‘functionality’ and ‘perception’ portions of my paper.

Eppinger, Steve. "The Fundamental Challenge of Product Design." *J PROD INNOV MANAG* (2011): n. pag. Web.
-This short article highlights the key issues with the current design world. It is explained in terms of environmental impact, and succinctly summarizes the ways in which the industry could improve on those faults. The article's length is made up for by it's content, and proved valuable in the 'environmental impact' portion of my paper.

"Elon Musk Debuts the Tesla Powerwall." YouTube. YouTube, 1 May 2015. Web. 3 May 2015.
-This keynote by Tesla Inc. CEO and Product Architect Elon Musk unveils Tesla's new line of batteries. The Powerwall and Powerpack were designed specifically for collection of renewable energy sources (particularly solar). Musk puts the current state of electricity producers into scope and suggests how adoption of Tesla's products and ideas could eventually ease the world off of burning fossil fuels. It's a very interesting introduction to the product line, and worked as a solid example for my 'environmental impact' section.

"Last Week Tonight with John Oliver: Tobacco (HBO)." YouTube. YouTube, 15 Feb. 2015. Web. 4 May 2015.
-This video was a hilarious look at a serious topic. Oliver speaks on the 'plain packaging' laws popping up around the world. The laws demand that cigarette packs be packaged in unappealing covers. Oliver offers up opinion and rant on the topic. This was helpful in crafting my main example for the 'perception-marketability' portion of the paper.

Heal, G. M. When Principles Pay: Corporate Social Responsibility and the Bottom Line. New York: Columbia Business School Pub., 2008. Print.
-This article was very valuable in the creation of the 'environmental impact' section of the paper. The article highlighted some downsides of outsourcing, and was overall key to the section's completion.