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About Us

_____My name is Lukas Pires, I am a student at the New York City College of Technology studying the Business and Technology of Fashion. I provide information on how the quality control process and merchandising will be handled for Tundra Outerwear Apparel. Under quality control I focus on how the products will be developed how employees will overlook the production of the apparel in order to provide a quality product. In merchandising, I explain where the product will be sold. Also I explain how the product will be displayed in stores and the standards that the company expect from these stores to present the items to consumers.

My name is Tiara James-Ottley and I am a student studying the Business and Technology of Fashion at the New York City College of Technology. I was in charge of researching the change in the market, how it started to where it is today. Our brand, Tundra Outerwear Apparel is focused on providing our consumers with quality goods for moderate price points. Our goal is to help push the market in the right direction.

My name is Siara Brown. I am also a student who is majoring in Business and Technology of fashion in New York City college of Technology. I was obligated to determine the cost to produce apparel. I explain the true costs to making apparel and the process of how apparel is made and what the costs consists of. This brand focuses on giving our consumers high quality apparel while having them at a reasonable price point.

My name is Mosché Carrington and I am also a student at New York City College of Technology, majoring in the Business and Technology of Fashion. I provide information on the different types of fabrics that our brand may plan on using in the future. I assess the benefits of each fabric and how useful it would be for the customers we target. Everyone apart of Tundra Outerwear deeply care about the comfortability of our customers, which is why we put so much thought into the fabrics. Each fabric that I mention will possibly be apart of our Fall/Winter 2019 Collection.

My name is Kayla Shepherd, I'm currently a Business and Technology of Fashion major at New York City College of Technology. I was responsible for establishing the construction of the garments as well as providing written specifications and visuals to assist. While determining the construction specifications I kept in mind the materials used, filling, color choices, season and size range to maintain the aesthetic and function of the garments.

Letter to the Reader

Tundra Outerwear Apparel is an outerwear company developed in 2018 in New York

City by five students. Our mission is to provide consumers with high quality, lightweight jackets
and coats for a moderate price. We pride ourselves on providing warmth and versatility using top
of the line products for consumers that live in major cities. In this book you will learn about how
the process is handled in quality control, where we will be selling our products and how it is
merchandised, why we have decided to create these products due to the change in market, the
construction specifications on how products will fit, which fabrics will be used, and the cost of
producing these products. After reading this book we hope you understand why we are in the
market, why we choose to develop our product in a certain way, and why we are selling our
product for a moderate price.

Quality Control Process

Our system for quality control will be a detailed oriented and rigorous process. Although our company is priced at a moderate price point, we want to make sure to have quality assurance so that our consumers purchase the finest quality product in a cost efficient manner for the company. We aspire to be like brands such as Arc'teryx and The North Face, where we are able supply our consumers with the same quality product but with a better price point. Under our

quality assurance we are making sure that there is maximum defect prevention starting from the fabrics down to the final product.

Starting with fabrics, our jackets and coats use premium fabrics which provide versatility, wind protection while using lightweight materials. Our fabric of choice would be a 100% polyester ripstop. Ripstop

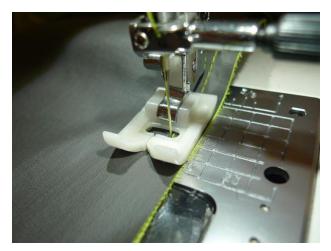


Figure 1. An image of ripstop fabric being sewn.

fabric was developed back in WWII as a replacement for silk in the production of parachutes, the fabric is known for its thick threads that makes it resistant to ripping or tearing (MoodFabrics, 2018). The fabric is also fire and water resistant which is beneficial to our consumers as they expect our product to last long and hold up against intense weathers.

Second, we have considered taking a more ethical route and use synthetic insulation rather than any type of goose or duck down. With synthetic insulation, consumers will be able to get a similar type of warmth and insulation as jackets that are developed with goose and duck down. The type of synthetic insulation the company will be supplied from will be PrimaLoft.

PrimaLoft is a synthetic insulation company that originally developed to serve the needs of the U.S. Army (PrimaLoft, 2017). Their synthetic insulation technology uses basic polyester fills that come in three different categories Gold, Silver and Black (Denali, 2018). The company will be using the

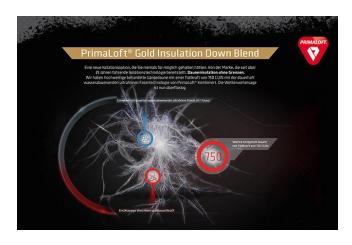


Figure 2. A close up of PrimaLoft synthetic down

PrimaLoft Gold series which is their benchmark in performance for outerwear uses as it is water resistant, breathable, and packable (PrimaLoft, 2017).

Once the fabric has arrived to the factory, the quality control process begins by checking fabric perfection. Making sure there are no tears on the fabric, inspectors check every five yards for any flaws and color consistency before it enters production. Once in production the fabric has been 100% inspected and ready for assemble. During the assembly, operators who are in charge of assembling a specific jacket or coat are responsible for quality work as they are checking for any stitching mistakes, insulation seepage, flaws in any of the hardware including zipper, snaps, velcro, and drawstring attachments.

Once the sample garment is developed, inspectors will inspect for any flaws in the construction of the jacket or coat. They will make sure that all components are fully intact and correlates with the garment's quality standards. Along with checking for correct sizing specifications, making sure that two of each sizes are completely measured and correct measurements are followed. Once sizing specifications are met, inspectors will check for

labeling standards. These standards are established by the FTC that require mandatory labeling that affects the company's product development activities (Keiser & Garner, 2012). Their mandatory label requirements consists of four areas: fiber content, manufacturer ID, country of origin, and care (Keiser & Garner, 2012). After the garments have passed full inspection, the garment is ready to go out for full production.

Merchandising

By carefully analyzing the market and how the economy is moving, our merchandising strategy consists of selling our garments both online and through department stores. Since we are a private label, we have given particular retailers the opportunity to carry our products in their retail stores. E-commerce is expected to continue growing in profit for the following years; by opening an website our consumers will have the ability to have an idea of our brand image, learn about the brand and have the ability to purchase product and special releases through the online store.

According to reports, in 2017, retailers stated that approximately 41.6 % of sales growth were from E-commerce alone with Amazon taking a majority of the percentage (Gesenhues, 2017). Amazon, in 2016, had a total value of \$147 billion dollars worth of transactions from the U.S. alone (Gesenhues, 2017). By partnering with Amazon, consumers will have the capability of ordering our products online with fast and efficient delivery. Amazon has an established loyal client base who already

amazon.com

purchase goods from the 32 private label brands that Amazon already carries with 19 being clothing brands (Low, 2017). Having the opportunity to work alongside Amazon, it helps us have a competitive advantage over our competitors while also developing a bigger brand awareness among consumers.

Our brand identity is a company that keeps up with current trends but serves our consumers a quality product that provides a sense of elegance and functionality for a moderate

price. We chose department stores that correlate the most with our brand image.

Since our company makes products for colder climates, we have decided to choose department stores that were nationwide with good sales numbers. Macy's seemed to be a good fit for us to sell our products. Macy's is a nationwide department store which carries many private label brands for a good price.



Figure 4. Macy's flagship store in NYC.

Currently private labels generate about 29% of Macy's revenue (Loeb, 2018). Macy's chairman and CEO, Jeff Gennette wants to increase the number of private label revenue to 40% by acquiring new private labels. We believe this is the perfect opportunity for consumers to gain access to our products without having to purchase online. Working with Macy's, our consumers have the capability to try on our garments and get first hand experience with the product.

Keeping up with the brand identity, while selling at Macy's the product will have its own section

in the men's and women's department. The product has to be maintained neat, color blocked, and appealing to consumers.

Being that Macy's is a nationwide department store with many subsidiaries, the company has also decided to let Bloomingdale's carry the brand as one of its private labels.

Bloomingdale's is a department store that ranges with products they carry from moderate to designer price points. It is a great advantage for the company to have the main department store

and its subsidiary carry the label because we are able to reach different markets with our product. It also gives consumers the opportunity to find our product in a different department store if it ever sells out at the first place they have checked. As for presentation, like Macy's, the brand will have its own section in both men's and women's departments where the product is maintained neat, color blocked, and appealing to consumers.



Figure 5. Bloomingdale's signature 'Big Brown Bag'



Figure 6. Sketches of potential bubble jacket styles.

Change in Market

Puffer coats are a staple item that consumers have in their closet to be prepared for the cold weather seasons. Regardless if they're purchased be from H&M, Macy's, or Balenciaga, more often than not, consumers own a puffer jacket or coat in some shape or form. Instead of just being a regular coat, puffer coats are gradually becoming more popular and stylish just as they were in the 90s. The coats come in a variety of styles, colors schemes, and price points depending on what consumers are interested in and can afford. Street style has allowed the puffer coat to continuously get an upgraded look. According to InStyle (2017), Andrea Cheng states, "Besides, here's a moment when fashion trends are in our favor—like how the street style set is giving us new ideas on how to style and dress up the jacket for every day, without frump—so it's time to capitalize." Since the market sees that puffers are in high demand, drastic changes and upgrades have been made in order to profit.

Consumers have become more interested in how fashionable these coats have become since their emergence into the market and have become a trendy piece to own. Though they are one of the most logical winter coats to have, they were not always so glamorous, but rather popular for their comfort and their warmth (Carreon, 2017). Puffers usually come in neutral colors such as black, bone, grey, hunter green, and brown but have since incorporated royal and bright colors into the market. Now, these coats can be found in vibrant colors like mustard yellow, metallics, pink, red, orange and bright cobalt. The puffers have also been updated with new fabrics and lining that were not incorporated in their past production.

If consumers are looking for a puffer that is stylish and warm, they would typically try retailers such as Urban Outfitters, H&M, ASOS, GAP, Uniqlo, and Macy's for a moderate price

point. Recently, puffers have been introduced by high-end retailers such as Balenciaga and



Figure 7. H&M Padded Jacket with Hood

Vetements, both introduced to the runway by designer Demna Gvasalia, Pyer Moss, and 3.1 Phillip Lim and have since been deemed as "cool" (Bobila, 2018). The price point for these branded puffers are more expensive with prices ranging from as low as \$600 to as high as \$3,000 for consumers that can afford them. These branded puffers have become very popular in streetwear and are definitely statement pieces that help elevate an outfit.

Along with having a change in color and price point, puffers have re-emerged into the market in new styles that were not seen in the past. First, they come in a variety of lengths from short, mid-length, to long. Also, some of the puffers are either presented with a hood or without a hood attached to them. Though these are typical features consumers may see on a jacket or coat, newer puffer coats have become oversized, denim, and asymmetrical. For Fall 2018, several



Figure 8. R13, Kate Spade New York, Pyer Moss, 3.1 Phillip Lim and Kim Shui puffer coats seen on the runway during NYFW.

designers introduced their take of the puffer into their runway shows. In an article on fashionista.com (2018), Maria Bobila states, "Kate Spade New York's version has a touch of

romance with ruffles, and then there's Tory Burch, who lined her classic black puffer coat with cozy shearling. Finally,

Phillip Lim created a high-end puffer in a mash-up of plaid, and Kim Shui offered a variety of long ones, too, including a fur-and-floral style modeled by the fashion industry's favorite gold jeweler, Jane Shuai of New Top Jewelry." As the year continues, the style continues to evolve and it interesting to wonder where the puffer market is headed next.

Collaborations also play a major role in the change seen within this market. As these jackets continue to gain popularity within street style, it allows an opportunity for designer brand



Figure 9. Columbia x Opening Ceremony Outdry Extreme Heatzone Parka

and moderate priced brands to collaborate, even if the collaborations seem unpredictable. For example, Columbia and Opening Ceremony collaborate on the Outdry Extreme Heatzone Parka that was being sold for \$995. Columbia is known for selling cold weather coats and jacket that are fairly affordable whereas Opening Ceremony is a retail store that sells a variety of high end goods. Another major

coat. The coat was leopard print and came in a variety of colorways. Supreme is an extremely popular streetwear

brand among fashion influencers and millenials with moderate priced goods that sell out extremely quickly. They are mostly known for their collaborations with high end brands. North Face is an outerwear company that specializes in coats and jackets of all sorts and their prices range from moderate to high. The collaboration between the two brands really bridged a gap in

the fashion industry and the demand was at an all time high. As we continue to grow, Tundra plans to eventually collaborate with other brands in order to gradually



Figure 10. Supreme x North Face Nuptse Puffer Jacket

continue to get our name out to a larger audience and create unique styles.

Construction Specifications

Bubble Jackets have evolved from being a utilitarian, bulky winter necessity to a now trendy, fashionable winter staple due to the changes in it's construction over the years. The first bubble/puffer jacket, the Skyliner, was created and patented in 1939 by Eddie Bauer (Bucci, 2017). When the Skyliner was created there were many components needed to ensure that the jacket was water resistant and provided warmth while remaining lightweight. There were down feathers implemented into the quilts on the jacket helped to provide warmth and wick away moisture without being too heavy (Bucci, 2017). To make sure that the jacket was completely insulated, Bauer added a ribbed collar and cuffs as a finishing touch (Bucci, 2017).

Later in the 40's, Bauer then created another down jacket that became adapted by the U.S. Air Force called the B-9 (Bucci, 2017). The jacket came with a matching pair of pants that would allow the consumer to remain warm for up to 3 hours in temperatures as low as -70 fahrenheit. This jacket's construction was so popular, members of the Air Force wore them off duty as civilians and even started requesting the Eddie Bauer company to create more garments that contained down which created a market (Bucci, 2017).

Today, it's possible to find almost every color and style puffer you can imagine but not every brand offers the same quality for men as they do women, and vice versa. Our brand serves both men and women however we do not separate our garments by labeling it "mens" or "womens" because they are constructed to be unisex. All of our puffer jackets unlike the original Skyliner, contain a synthetic insulation instead of down feathers taken from geese. A synthetic

insulation is not only cost effective but it is quite breathable, retains loft and insulation when wet, stays intact if the shell fabric of the jacket tears, and doesn't require harming birds (Wellman, 2017).

Our best selling puffer jacket contains 60g of Primaloft Gold Eco insulation, "PrimaLoft insulation is divided into three categories, black, silver and gold, with the Gold Series being the highest performing" (Olmsted, 2017). Although the jacket provides extreme warmth, it weighs only 11.9 oz, similar to the Patagonia Nano Puff Jacket (Switchback Travel Staff, 2018). "Patagonia's Nano Puff is one of the most popular and recognizable insulated jackets on the market today", (Ellings, 2017) this jacket is most popular for its practical price, aesthetic and function. With knowing that Patagonia's Nano Puff is one of the best on the market, we try to mimic it the best we can in order for it to be wind and water resistant, ultra lightweight, and easy to store. The other jackets that we have available contain the same amounts of Primaloft Gold Eco Insulation and are different variations of our best seller for example: vests, collarless, pullover coats.

Style no. 1 (Reference: Patagonia Nano Puff Hoody)



Material	100% Recycled polyester ripstop shell, lined with DWR (durable water repellent) finished fabrics
Filling	60g PrimaLoft Gold Insulation
Season	Winter
Size Range	XS-2X
Colors	Black, Navy, Olive, Red, Eggshell, Heather Grey
Weight	11.9 oz.

Short lightweight puffer coat, diamond quilted, regular fit, center-front zipper, two zip up hand warming pockets, high neck with attached elastic binding hood, and elastic bound cuffs.

Style no. 2 (Reference: Patagonia Nano Puff Bivy Pullover)



Material	100% Recycled polyester ripstop shell, lined with DWR (durable water repellent) finished fabrics
Filling	60g PrimaLoft Gold Insulation
Season	Winter
Size Range	XS-2X
Colors	Black, Navy, Olive, Red, Eggshell, Heather Grey
Weight	12.5 oz.

Short lightweight pullover puffer coat, diamond quilted, regular fit, kangaroo style hand warmer pocket, zipper closure placed over pocket for extra storage, half center-front zipper, high neck with attached elastic binding hood, and elastic bound cuffs.

Style no. 3 (Reference: Patagonia Nano Puff Vest)



Material	100% Recycled polyester ripstop shell, lined with DWR (durable water repellent) finished fabrics
Filling	60g PrimaLoft Gold Insulation
Season	Fall/Winter
Size Range	XS-2X
Colors	Black, Navy, Olive, Red, Eggshell, Heather Grey
Weight	8.0 oz.

Short lightweight sleeveless puffer vest, diamond quilted, regular fit, high neck, full center-front zipper, two zip-up handwarmer pockets.

Style no. 4 (Reference: Patagonia Nano Puff Jacket)



Material	100% Recycled polyester ripstop shell, lined with DWR (durable water repellent) finished fabrics
Filling	60g PrimaLoft Gold Insulation
Season	Winter
Size Range	XS-2X
Colors	Black, Navy, Olive, Red, Eggshell, Heather Grey
Weight	8.3 oz.

Short lightweight puffer coat, diamond quilted, regular fit, center-front zipper, two zip up hand warming pockets, high neck, and elastic bound cuffs.

Style no. 5 (Reference: Patagonia Nano Puff Pullover)



<u>Material</u>	100% Recycled polyester ripstop shell, lined with DWR (durable water repellent) finished fabrics
<u>Filling</u>	60g PrimaLoft Gold Insulation
Season	Winter
Size Range	XS-2X
Colors	Black, Navy, Olive, Red, Eggshell, Heather Grey
Weight	8.2 oz.

Short lightweight pullover puffer coat, diamond quilted, regular fit, zipper on upper left chest pocket, half center-front zipper, high neck, and elastic bound cuffs.

Fabrics

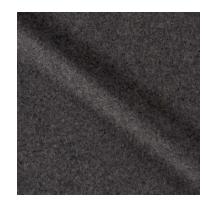
Other than the fabrics that we will be using for our puffer jackets, there are many popular and useful fabrics that are used in the making of these coats. One of them being weather-blocking fleece (Sewing.Lovetoknow, 2017). Fleece is meant to be thick, yet lightweight (MoodFabrics). Places like Mood Fabrics offer fleece made from Polyester (most common), Bamboo and Merino, Sherpa, Bamboo and Cotton, and more. An article on madehow.com states that, "Polyester fleece is a durable fabric that not only holds in warmth but resists moisture and dries quickly... Polyester fleece is extremely warm because of its structure. The pile surface provides space for air pockets between the threads, and this goes for both sides of the fabric. Because it is moisture-resistant, it can keep wearers warm even under extreme weather conditions. In the United States, the fabric was first made popular by Patagonia, a leading manufacturer of outdoor clothing and equipment. The firm marketed polyester fleece jackets to mountain climbers, and ardent customers tested the new material up and down many peaks.

Other outdoor clothing manufacturers followed with their own polyester fleece garment lines. Gradually the fabric crossed over from its niche as a high-tech, high-performance textile into general use." Clearly fleece is versatile but the main purpose of it is to be comfy and warming. (Figure 7. "Heather Gray No Pill Polyester Fleece", MoodFabrics)



Another useful fabric for (bubble) jackets is melton. Melton is a wind and rain resistant

fabric (Craftsy, 2013). This fabric is also used to make wool coats. It is uncommon for bubble coats to be made out of this material, but if one were to make one it would be a good choice because like fleece, it is a warming material. It is also wind and rain resistant. (Figure 8. "Solid Wool Melton Bankers Fabric", Fabric.com)



Of course anyone designing a coat of some sort should take using breathable fabric into consideration. We want our customers to be warm but not hot. As said on collinsdictionary.com (n.d.), "A breathable fabric allows air to pass through it easily, so that clothing made from it does not



become too warm or uncomfortable." Some breathable fabric are linen, cotton, rayon, and silk (Craftsy, 2014). (Figure 9. "Gray Solid Light Weight Linen", MoodFabrics) An article on madehow.com (n.d.) states that wool and linen were important fibers in the New World.

Although the flax was easy for farmers to grow, the manufacturing process to create these fabrics were long. The process was first to cultivate (fertilize flax), then harvest (after about 90 days, pick plants from ground), release fiber from stalk (removes seeds and leaves from plant), and finally spinning (makes the yarn which will be turned into fabric).



Figure 10. "Italian Patriot Blue Pin Check Cotton Shirting", MoodFabrics



Figure 11. "Gray Heathered Rayon Twill", MoodFabrics



Figure 12. "Black and Ivory Bengal Striped Silk Chiffon", MoodFabrics

We also have to keep in mind of the little details like zippers. Zippers vary in length, style, and material (Priory Dry Cleaners, 2017). Our bubble jackets could vary from having traditional vertical zippers in the front, zippers to create a butterfly split, and so on. The most popular brand for zippers is YKK. They produce metal zippers and coil zippers. Of course the metal ones would be used for coats and this is because they're stronger.



Figure 13. "Metal Injection Zipper", YKK

Costs

Puffer coats are a kind of coat that buyers would wear to be both on trend yet warm and comfortable. There are two different kinds of down puffer coats, one made with natural down and the other that is made with synthetic down. The animals used for natural down are goose, ducks and swans (Rutherford, 2017). Bubble coats are cheap yet effective. (Valentine, 2017). These coats are cheap because of the filling used. High end companies that produce winter coats get their filling in horrific ways (Valentine, 2017). Since high end companies do this the most, their coats costs lots of money. Puffer coats can range from \$40 to thousands of dollars

depending on the brand that produced it and the quality of the materials used. Valentine quotes, "You can buy a full-length down coat at any number of discount stores for \$70. A short jacket for \$40, a vest for \$20 or \$30." Bubble coats also come in a variety of lengths and lengths determine price points. The shorter coats that reach about waist length would cost less than the coats that reach knee length or even lower.

Producing a down puffer coat is not as expensive as you'd think. Since puffer coats are very trendy at the moment, you can find them in fast fashion stores like H&M and Forever 21 which are generally made for lower climates. They're also not as durable as the ones made by high end companies like Canada Goose and Moncler and they can also be found in companies that put out good quality items at an affordable price point like The North Face and Patagonia. As we all know, high end companies puffer jackets can be overpriced and many consumers believe that if the jacket costs a certain amount of money, then the quality is overall better than ones sold at fast fashion stores. For example, the brand Everlane broke down how much it cost for them to produce a clothing item and how much retail stores sell them for. The example given shows that their materials cost them \$8.01, hardware cost them \$0.72, labor costs them \$1.32 and transportation costs them \$0.60. The true cost for them to produce this apparel is \$12. They sell the product for \$30 on their website and in other retails stores/sites, their items can be \$60. (Grunberger, 2016).

Our company has chosen to use synthetic insulation for our bubble coats. "The main benefits of synthetic insulation are that it performs well when damp, dries fast and is usually more moderately priced than down." (Rei.com). Synthetic insulation has a better price point for consumers while having a high drying time and can absorb water well. The fabric that can be

used to create a bubble coat is ripstop nylon or polyester. The outer and inner nylon fabrics get quilted together before they are stuffed. This requires a large, factory size machine to blow air and down filling into the pre-quilted sections. (Fixation, 2018). The reason we have chosen to use synthetic insulation is because it is more friendly to the environment and it costs less to produce. "It's made with polyester fibers that are arranged in different sized filaments and intertwined, mimicking down's lofty clusters." (Research, 2017). Polyester is a main fabric that is used to make down coats. It can be used to make the inner and outer linings of the coat and the down like fillings inside the coat.

When making a coat, fabric will be the largest single costs since a coat requires so much of it. The type and quality can affect the overall costs of our coats. We have decided to make our coats out of ripstop nylon fabric, which would costs us about \$7.99 a yard (Mood Fabrics). 2.5 yards is what most producers use so we've purchased three yards of ripstop nylon fabric which would costs \$24 just to make one coat. Next is the synthetic filling, we use Primaloft which is an ultra-fine microfiber blend that is soft, lightweight and water-repellent. Primaloft also has the highest warmth to weight ratio than any other synthetic insulation (Sierratradingpost). Primaloft comes in different categories, Primaloft gold, primaloft silver and primaloft black insulation. Gold insulation has a clo value of 0.92 which can be as warm as a 500 to 550 goose down coat. Clo value is a unit that measures the ability of clothing to provide warmth (Timbrook, 2018). Silver insulation is slightly worse than gold which makes the overall cost of products with this kind of insulation less money. The last kind of primaloft insulation is black. Black insulation has a clo rating of 0.65 which ales the final product come out very affordable to many consumers (Timbrook, 2018). We chose to use primaloft gold insulation in our products being that it is the

warmest synthetic down insulation in the market and high quality and it costs \$11.50 a yard (ripstopbytheroll). Since 60g of this insulation is needed to make one coat, we can get away with purchasing just one. Next item needed to make this coat are the zippers. Zippers can be found in many different supply stores. One zipper can costs about \$3.00 (fabrics.com). We use the poly invisible black zipper which is 20/22" long. Next, we need elastic bands to put around the wrists and waist area. We purchase dritz soft waistband that is 1.5" which costs us \$6.49 (JoannStores). Last material needed are labels. We can get a woven clothing label for \$0.10 (customwovenlabel). Materials alone would costs about \$45.09 to make a coat.

The next highest cost to finish producing our coats is labor. Labor would costs us about \$14 (Celikan, 2016). Our garment is cut and sewn in China with about 800 employees working in a factory. Lastly would be hardware, transportation and duties. The coats would be shipped to our warehouse in New York. That costs us roughly \$5.50 (Celikan, 2016). Hardware costs us \$0.80 (Grunberger, 2016). The costs of labor, transportation and hardwares would cost us \$20.30, making the overall true costs to produce the coats \$65.39.

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