

Apparel Industry Definitions: Copying, Knocking-off, Counterfeiting

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Dissertation submitted to the faculty of the Virginia Polytechnic Institute and State
University in partial fulfillment of the requirements for the degree of

Doctor of Philosophy
in
Apparel, Housing, and Resource Management

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September 26, 2014
Blacksburg, VA

Keywords: Apparel Industry Definitions, Product Development,
Copying, Knocking-off, Counterfeiting

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ABSTRACT

Ideas for ways to use textiles and other materials as body coverings, or as a form of apparel decoration, as well as protection, continued to evolve throughout history. More complex ideas and outcomes developed with the advent of weaving, and rectangular shapes were draped in folds, tied, or wrapped around the body. An accepted practice in the apparel industry is seeking inspiration for ideas from a variety of people, places, and things. This practice of seeking inspiration from the environment leads to the question of whether copying is inherent within the apparel industry. History of costume research and study indicate that it is generally accepted that people wear differing apparel for each season of the year, with some repeat, or copying, in the same season in subsequent years. The terms counterfeiting, knocking-off, and copying are often used interchangeably, but further exploration of the terms show they are not the same. Counterfeiting has become, and remains a hot topic in the apparel industry, particularly in product development. Some designers have begun to challenge and demand their work be protected in some manner such as copyrights, trademarks, or patents. Questions and concerns abound among product developers.

This study was exploratory in nature, seeking a definition, and identifying a specific point in the product development process, when a certain activity (i.e., copying) is more likely to be performed. Therefore, qualitative methods were used to achieve the objectives of the research.

This research took a cross-sectional approach within a qualitative design study when selecting the participants. The cross-sections for the participants of this study were those participants in positions of direct influence on apparel product development. Analyzing the perceptions of the participants from the cross-sections in detail, inferences were made about the industry definition and method of copying, time of occurrence, and those most likely involved in decision making. The instrument for the study was an online survey with open-ended questions and fixed-response questions.

Of the 20 participants, 11 accessed the survey with 10 choosing to participate. While some degree of similarity was observed in several of the definitions of copying, such as taking existing products to create new products, there was distinction when participants used phrases such as copying “without changing anything” to “copying the idea and concept.” Participants’ definition of knocking-off can be summarized as a copy with variation in price point. Participants noted that the process of counterfeiting was an unauthorized or illegal copy of a product and often included copying labels or logos. Key reasons for copying products were reported as following trends and speed to market.

Acknowledgements /Dedication

I wish to acknowledge the work of my committee members for the work, time, suggestions, and encouragement received along the way. The support provided by Dr. Julia Beamish. AHRM department head has been remarkable.

I have been encouraged by previous department heads, Dr. Marjorie J.T. Norton, and Dr. LuAnn R. Gaskill in my education endeavors, and many thanks are due them. Other faculty in the department and especially those in apparel have at times offered encouragement just exactly when needed the most. How does one know without the experience?

Staff in the AHRM Department have ‘had my back’ daily. Each has offered her own unique help, words of encouragement, and ‘get on with it Peggy!’ when I needed to hear someone else was pulling for me. Janet Wimmer, Dianna Givens, Elizabeth Long, and Jessica Brillhart – you are indeed one of the best cheer teams I could ever have!

Advisor, Chairperson, Hand-holder, She-Who-Has-The-Tissues – woman of many titles, Dr. Doris H. Kincade, this would not have been completed without you. I do not have enough words to thank you. You have taught me so many things, from pagination to research methods, thank you.

This work is dedicated to my family, husband Joe Quesenberry, daughter Emily Jo, and granddaughter, Lavannah Sage, and Joey who gave me words to use when so needed. My sister Patsy sat on my shoulder prodding me on, my other two sisters would have prodded as well had they known. My mom and dad – I owe them so much, this is little to offer. And most of all, I dedicate this to my Lord and Saviour, Jesus Christ, who makes all things possible.

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Chapter 1

Introduction

The large and diverse apparel industry has evolved into one of, if not the most, complex fields within the business and manufacturing world arena. Beginning with humankind's idea to create a product from plant and animal materials to adorn his/her body, the product development portion of the industry continues with creation of man-made, synthetic fibers and new uses for existing materials. Hand-drawn images on skins and textile materials evolved with experimentation of color and dyeing applications, and eventually print fabrics were created to complement solid colors.

Throughout history, ideas for ways to use these materials and textiles as body coverings, or as a form of apparel for decorative purposes, as well as protection, continued to evolve. Different size and shapes of materials and fabrics are thought to have been used for creating elaborate clothing up until the late Medieval Period in history (MacDonald, 2002). These shapes evolved into more complex ideas and outcomes with use of rectangular-like shapes with the advent of weaving, and were draped in folds, tied, or wrapped around the body.

Draping the textile, or fabric, around the human form evolved into shaping that material into a definition of the body (Tortora & Eubank, 2005). Means of keeping those fabric drapes hanging or laying in a certain way evolved with sewing and creating fasteners (Bigelow, 1979). As definition of the body required more planning and detail, garment patterns evolved to fit each individual. Cutting fabrics into shapes in order to create a garment is thought to have evolved in the late 14th and early 15th century

(MacDonald, 2002). These shapes were planned and created for one individual body size and shape, essentially the original made-to-measure.

From these ideas and processes, and the ongoing ingenuity of humankind, apparel products continued changing as needs and desires were manifest. These ideas for apparel products once completed are now often referred to as styles or designs, and those accepted for an extended period of time are classics or classic styles (Kincade & Gibson, 2010). In addition, styles are routinely changing and evolving as well as being radically revised. Over time, previous styles, including historic garments, provide inspiration for new styles.

Background of the Problem

An idea, as defined by the Merriam-Webster dictionary (2013) may be described several ways, the first portion being as a noun and “a thought, plan, or suggestion about what to do” (<http://www.merriam-webster.com/>, para. 1). The second portion of the definition expands that an idea exists as an “an entity (as a thought, concept, sensation, or image) actually or potentially present to consciousness.” Idea creation for apparel is generally accepted as an early step in the apparel design process, and subsequently the initiation of the product development process.

An accepted practice in the apparel industry is seeking inspiration for the idea from a variety of people, places, and things. For example, haute couture designs, shown at exclusive fashion shows, are immediately copied and very similar garments might be in some stores within a twenty-four hour period (e.g., FAST Fashion from ZARA, H&M, and Forever 21). To this end, many apparel patternmaking textbooks, (e.g., *Patternmaking for the Apparel Industry*, *Patternmaking Made Easy*, *Principles of Flat*

Pattern Design), and popular sewing magazines, *Threads*, *Sew Stylish*, and *Sew News*, provide illustrated instructions for a number of techniques to make copies of existing designs, including those created as a result of someone else's idea and work.

Copying practices in the apparel industry. This practice of seeking inspiration from the environment leads one to question if copying is inherent within the apparel industry (LaBat & Sokolowski, 1999). History of costume research and study indicate that it is generally accepted that people wear differing apparel for each season of the year, with some repeat, or copying, in the same season in subsequent years. In other words, what is fashionable this winter is influenced by or potentially copied from what was worn and popular in the previous winter. In addition, apparel research studies have traced a pattern of cyclic fashion styles and designs over time (Kincade & Gibson, 2010). The apparel fashion cycles themselves may be an influence on or have an effect on when and how apparel products are reintroduced into the seasonal mixes in the following years.

To remain competitive in a competitive global economy, textile and apparel manufacturers have been confronted with the "need to provide a continuous stream of product and service improvements at a competitive cost and with a shorter time to market. As a result of management strategies (e.g., Just-In-Time; Supply Chain Management) to improve and create lean, agile manufacturing, companies have had to accelerate and improve the accuracy of new product development," (Wang & Kilduff, 1999, p. 83). This pressure to send a continual supply of new products to the market place is a force that may have increased the need for copying to shorten the design and product development time.

In the extreme case of copying, when someone tries to duplicate the product style and its associate brand image and labels, the copying practice becomes counterfeiting (Stone, 1999). Career opportunities are being created as a result of apparel product ideas, and then are being lost when existing products are partially or completely copied or counterfeited, during someone else's design processes. Because copying has become such a large part of the industry, a number of larger companies and design houses are hiring legal representatives to help protect their interests by identifying, collecting evidence, and prosecuting when circumstances present themselves. Larger companies often have teams of legal assistants monitoring company websites and catalogs of competitors, in addition to internet resale sites such as eBay[®]. For example, bridal designers Vera Wang and Anna Sui have teams regularly monitoring competitors as well as a large number of copy-cat knock-off businesses and websites that continually appear.

Economic impact of copying. When examining the economic impact of forms of copying, especially the illegal practice of counterfeiting, the size of the problem is financially large. The United States Department of Homeland Security seized \$155 million worth of counterfeit apparel and related merchandise in 2006, an 83 percent rise on the previous year ("Counterfeiting clothing," 2008). A partial list included: 77 containers of Nike Air Jordan[®] shoes; counterfeit designer products that resembled Prada[®] and Reebok[®] merchandise; a container of Abercrombie & Fitch[®] clothing; and 42,900 articles of sporting goods and apparel. Containers are the trailer of goods normally seen pulled by trucks; they are also used as shipping containers that can travel via large ships, rail and trucks from overseas manufacturers to retail distribution centers. In 2009, European Union (EU) authorities reported seizure of 118 million articles of

counterfeit goods (“China behind,” 2010). The largest category of products was Clothing Articles at 27 percent. The EU determined that 64 percent of the seized goods originated from China. Also in 2009, the World Customs Organization (WCO) estimated, based on its seizures, that the trade in copies, fakes, or counterfeit goods, was currently worth about \$512 billion, or approximately 7 percent of the world’s trade. Compare this to the estimate in 1984 of \$5.5 billion. This amount of change is approximately a 20 percent annual increase. “Other estimates put the size of the knockoff economy at 10 percent or more of the world’s trade” according to Phillips (2005, p. 34).

In 2010, reports by the United States Customs and Border Protection Agency show fake, or counterfeit, shoes accounted for 24 percent of all seizures of counterfeit goods, with 94 percent of the counterfeit shoes originating from China (“Counterfeit sporting goods,” 2011). In addition, the 4,338 seizures of counterfeit athletic and sports apparel were worth \$18.7 million. Seventy-five percent of the clothing in these seizures came from China. Exercise equipment accounted for the 10th most seized item, with 594 counterfeit equipment seizures. In 2011, over 60,000 counterfeit clothing and apparel items featuring college athletic teams were seized by the Collegiate Licensing Company (Dosh, 2012). The value of the counterfeit goods was worth over \$1 million. In addition, the company reported that approximately 5,000 pieces of counterfeit goods, such as shirts and hats, are seized each year outside the stadium where the Bowl Champion Series (BCS) championship game is played. To put this in perspective, revenue from licensed collegiate athletics generates \$4.3 billion per year for colleges and universities.

Counterfeiting, and related practices (e.g., copying, piracy) are not limited to the United States. The Russian Interior Ministry stated that up to 60 percent of Microsoft

products used in Russia are pirated copies (Collisson, 2003-2004). In addition, their report included additional counterfeit goods information. Thirty-seven percent of all clothing sales were counterfeit clothing, and counterfeit cosmetics accounted for between 15 and 30 percent of the total market. The Ministry stated that most counterfeits are imported into Russia, with minimal production of fake goods occurring within.

Solutions and their problems. This theft has dire consequences not only for the economic stability and growth of an industry or a country but also for the financial stability of a company (Mariano, 2002). Considering the problems of copying, especially counterfeiting, if an idea has potential value to others, it may be appropriate to seek a means of protecting that product of intellectual thought. Therein begins the notion of intellectual property (IP). As defined in the *Fairchild Dictionary of Fashion* (2003), IP is

“Designs, inventions, literary works, and other creations that have been patented, copyrighted, or trademarked. Use by unauthorized persons is illegal.”

(Calasibetta, p.277)

The most well-known means for taking steps in the United States to protect an IP is via the U.S. Patent and Trademark Office (USPTO). A patent for an innovative product or invention (i.e., the IP) is the grant of a property right to the inventor issued by the USPTO. The right conferred by the patent grant is “the right to exclude others from making, using, offering for sale, or selling the invention in the US.” A type of limited patent may also be granted for those seeking to import an invention into the US for a limited time. It is important to those buying and selling abroad to understand patents are territorial in that specific patent protection must be applied for in each country where protection is sought. The USPTO Inventors Assistance Center (IAC) provides patent

information and services to the public and may be found via the organization website <http://www.patenthelp.gov.com>.

Problem Statement and Purpose

Copying is inherent in the process of fashion adoption. This results in similarity of product, takes consumer choices, takes jobs, reduces profit for companies, reduces taxes for governments, and increases costs for monitoring the problem. Counterfeit products are usually destroyed or damaged beyond use thus a waste of valuable resources. To seek solutions to this problem, information about how, why, where, and when the copying, knocking-off and counterfeiting occurs in the industry needs to be known. This information is not currently available.

Information about industry practices related to copying are needed to provide direction and support for solutions to the losses caused by copying. The purpose of this research is to explore industry personnel's perceptions of the apparel industry practice of copying, which may include design idea, style knock-off, pattern rub-off, and product counterfeiting, and the impact of these activities on company activities related to product development, employee training and product monitoring. Because of the exploratory nature of the study, qualitative interview methods were used.

Research Objectives

To address this problem and to fulfill the purpose of the research, the objectives of this study are:

1. To create an apparel industry definition of copying, including knocking-off and counterfeiting of all or portions of a style

2. To identify reasons company employees use to determine the need for copying other garment(s) during the product development process
3. To identify at what point during apparel product development processes copying parts of or a majority of a garment begin.
4. To identify when a company creates completely original designs, with no copying.
5. To identify what companies do to educate, train, and inform employees about copying, knocking-off, and counterfeiting
6. To determine how the company evaluates their product for knock-off or counterfeit potential
7. To determine what company procedures or guidelines are used to protect the company's own product from copying, knocking-off or counterfeiting after they are released.

Significance of the Study

In a global, competitive marketplace, apparel product developers have a primary objective to create, to design products, and to provide consumers with product(s) that will be selected for purchase and wear from the many alternatives available (May-Plumlee & Little, 2006). The concept that possibly all apparel items have been created or designed by copying has potential as a working theory. If this concept is so, in practice, that could be a contributing issue to counterfeiting or brand imitation of apparel products. Levitt (1966) supported a theory that “the majority of so-called new products” (p.63) were in actuality somewhat creative imitations, some with only minor modifications, often only labeling, but others had more extensive modifications. Levitt also wrote those imitated products did not lead to different consumption patterns, and his theory was supported

somewhat by Gatignon and Robertson's similar study in 1991 (as cited in Levitt, 1966). Although Levitt's (1966) research focused on the use of a limited number of four convenience product categories (i.e., shampoos, cold remedies, deodorants, and mouthwashes) and not apparel or textile related products, the idea of copying to create new products was validated.

Counterfeiting of consumer products. Loken, Ross, and Hinkle (1986) conducted a similar study to that conducted by Levitt (1966), and findings led to a belief of consumers being more easily deceived when both the copy and original appeared to be made by the same company. This deception and confusion about products is not a minor issue; it becomes an element in court decisions concerning trademark and related issues. Foxman, Muehling, and Berger (1990) reported support for those findings when similarity is believed to create confusion for consumers.

In 2001, d'Astous and Gargouri shared research "using four different products; two convenience, often-purchased products (bread and shampoo) and two luxury, fashion goods (polo T-shirt and sunglasses)" (p.157). Well-known products with good reputations were selected: D'Italiano[®] bread, Head and Shoulders[®] shampoo, Ralph Lauren[®] polo T-shirt, and Ray Ban[®] sunglasses. Additionally a number of brand imitators were purchased and pre-tested to define a good and a poor imitation for each original product selected. Results of 160 useable questionnaires, which included high-quality photographs of each of three products being compared, indicated positive relationships between the goodness of imitation, and consumer evaluation of brand imitators was not found.

Shampoo and sunglass imitations were found to be more acceptable to consumers when made or presented as counterfeit goods; bread imitations were very positively

received by consumers. Acceptance by consumers of the Ralph Lauren[®] polo T-shirt varied according to what type of store the study subject thought he/she would be making the purchase. When the store was thought to be a higher price point, more prestige was attached to the branded shirt. Although with the perception of making the purchase at a higher quality outlet store, both real and imitators were acceptable to consumers for the purchase of either shirt.

Counterfeiting of apparel products. Versions of the practice of copying for apparel products are described in a range of textbooks and academic journals. This practice is described not only in product development textbooks and research articles (e.g., Armstrong, 2009; MacDonald, 2002), but also in those books and articles related to buying, merchandising, and textiles design (e.g., Dickerson, 1999; Dickson & Coles, 1998; Fiore & Kimle, 1997; Kincade, Regan, & Gibson, 2007). This practice of copying both style features and patterns is commonly taught in academic product development and production classes. One may also find detailed instructions and descriptions in popular sewing related magazines and publications.

The nature of apparel products is that once the items have been produced and disseminated to retailers for sale to consumers, the products purchased could potentially end up anywhere in the world. However, the route from new design products is not always that circuitous. It is likely high or haute couture fashions are quickly sketched or photographs are sneaked out of the runway shows. Industry personnel desire to hasten the new, exciting styles into the hands of those who are versed in interpreting and creating copies.

Given the portability of apparel products, and realizing that many never are shown on a public runway, many styles or details or construction methods are open for copying, with the original designer far from the action. If buyers or merchandisers or trend spotters ‘shop’ the world for items of interest to bring back to the home office for inspiration – then what role do they play in the decision making for copying? If a designer decides to copy all or part of one of these items of interest, is it knocking off or counterfeiting? Is this an acceptable practice, if not, at what point does it become wrong? Is it partially wrong? Or is it just totally wrong?

Counterfeiting has become, and remains a hot topic in the apparel industry, particularly in product development. Some designers have begun to challenge and demand their work be protected in some manner such as copyrights, trademarks, or patents. Questions and concerns abound among product developers. Which type of protection, if any, would be the best? Which, if any, is enforceable? How would such a patent or protection be enforced? What are the reasons or benefits in using this method (e.g., patent protection) in the product development process? What protection is being used by companies?

Theoretical Framework

The desire to have something that another person has is a basic emotion to humankind. This desire to copy is an underlying tenant of the conspicuous consumption theory (Keller, 1998). When this theory is applied to the area of fashion, fashion theory emerges with specific models of fashion adoption. This body of study is set forth in this study as a perspective for viewing the practices of copying.

Fashion theory. In Herbert Blumer's report (1969a), he states "to a discerning eye fashion is readily seen to operate in many diverse areas of human group life, especially so in modern times. Accordingly he says fashion is easily observable in the realm of the pure and applied arts such as painting, sculpture, music, drama, architecture, dance, and household decoration" (Blumer, 1969a, p. 275). Most importantly Blumer (1969a) wrote "To limit it to, or to center it in, the field of costume and adornment is to have a very inadequate idea of the scope of its occurrence" (p. 276)

Unique features of a collection of apparel and accessories used in manipulating one's personal appearance are means of creating a style. To be "in style" initiates the process that others attempt to replicate this look, contrived or not. Often when consumers are unable to obtain the in-style items, they seek comparable replacements. One tactic of obtaining a similar product is to purchase items that have a comparable appearance. Other means include knowingly purchasing copied, knock-off or counterfeit items at a more affordable price.

In the 2012 article, "Conceptualizing fashion in everyday lives," Buckley and Clark agree with Breward's fashion definition

"... is a bounded thing, fixed and experienced in space – an amalgamation of seams and textiles, an interface between the body and its environment. It is a practice, a fulcrum for the display of taste and statue, a site for the production and consumption of objects and beliefs: and it is an event, both spectacular and routine, cyclical in its adherence to the natural and commercial seasons, innovative in its bursts of avant-gardis, and sequential in its guise of memories and traditions."

Buckley and Clark (2012) also shared that Craik in her 2003 text, *The Face of Fashion: Cultural studies in Fashion*, described fashion as “a technique of acculturation – a means by which individuals and groups learn to be visually at home with themselves in their culture.”

Fashion adoption theory. The manner in which Blumer (1969b) describes individual adoption of what is fashionable is similar to how more recent researchers describe the fashion adoption cycle. Rouso (2012) defined fashion as the habits, manners, and dress of a period or group, which distinguishes one from another. Basically, fashion or apparel is what people adopt or choose to purchase and wear. These items may be copies or modifications of what other groups are wearing or may be adopted, copied, and modified within a group. This desire to ‘fit- in’ or copy the fashion of a group has also been cited as a reason for consumer purchases of apparel and accessory items that are copies of name brand or designer products (Bloch, Bush, & Campbell 1993; Kim & Karpova, 2010).

The adoption process can occur through a variety of processes. Fashion adoption or trends may trickle-down from the haute couture runways to the mass markets (Kincade & Gibson, 2010). At the same time or at different times for other products, fashion can trickle up (i.e., be copied, and inspired from the youth on streets of fashion-forward cities and other venues; Thiry, 2008; Johnson & Moore, 2001).

Assumption

The information given during interviews with apparel company personnel is reported as accurate and truthful as possible in regard to product development processes in the apparel industry.

Limitations

This study does not attempt to explore the apparel product development and design process of all apparel products.

This study does not attempt to explore and define all ways and means of copying, knocking-off, or counterfeiting garments.

This study is qualitative and seeks to explore knowledge and practices utilized in a limited number of product development operations.

Delimitations

This study focuses on the product development process in the apparel industry.

Participants in the study are known to the researcher and are currently employed in the apparel industry.

Definitions

Apparel industry: The entire clothing production and distribution system, from textile formation to manufacturing of the final product to marketing and consulting (Diamond & Diamond, 1997).

Copying: The process of looking at a product and making a duplication of the product, which may be formed from several methods including rub offs and digitizing (Kincade & Gibson, 2010).

Counterfeiting: Creating a product and selling that product that copies another product especially one with a brand or trademark with the intention to deceive the buyer (McCarthy, 2004).

Design: A specific style and the interpretation of that style by a specific person, especially a designer (Stone, 1998).

Designer: The person who is responsible for or takes the lead in creating the style of a product, and who's name may appear on the product label or product line, especially in haute couture products (Brown & Rice, 2001).

Fashion: The style that is popular at a specific time with a group of consumers (Kincade & Gibson, 2010).

Knock-off: Copying or almost copying a popular and higher priced product to produce another product at a lower price, with the intent to be legal but to produce a similar product to the original product (Brown & Rice, 2001; Stone, 1998).

Product development: The creation of an idea for a product and the progress of that idea through various steps including design, fabrication selection, pattern making, and sample making (Kincade & Gibson, 2010).

Style: The unique appearance of a garment made from a combination of fabrication, silhouette, and overall look of the item (Kincade & Gibson, 2010; Stone, 1998).

Summary

Theft of an idea or of the product emanating from that idea (i.e., the IP), is often challenging to prove, depending upon a number of factors, especially in the apparel industry. The theft of IP is not only vague but also has a number of names, which include and are not limited to copying, knock-offs, rub-offs, near-brands, and, more often, identified as a number of counterfeit types, such as blur, deceptive, and non-deceptive. Many of these copying practices exist in the apparel industry throughout the product development process. Although much is documented about the apparel product

development process, little is documented about how or why these copying practices are part of product development.

Chapter 2

Review of Literature

This chapter first presents examples of previous research related to apparel product design and product development. In order to more fully understand the industry processes, of which there are many, the findings of a representative number of researchers are presented. In addition a review of relevant research focusing on the copying practices of counterfeiting and knock-offing is included. Because consumers are so intimately involved with apparel, it would be incomplete to not include a section of related consumer-based research. However, as the review demonstrates, consumer behaviors and decisions relative to counterfeiting have been widely covered in all facets of apparel design, product development processes and marketing, including the effects of the creation of counterfeit and knock-off products and the choices to purchase those products.

The depth and breadth of the apparel industry and associated manufacturing processes are multiples upon multiples. Because of this complexity, research and project work usually takes one of two directions. A portion or segment of the industry is either studied in depth, with specific limits or boundaries; or studied in a broader view, perhaps of a particular set of processes and not as limited in depth unlike the more focused in depth project. Review of literature for this study focuses on apparel product development research with breadth of scope because activities related to copying, including rub-offs knock-offs, and counterfeiting may be discovered during any stage of product development. This process becomes a sequence of purposeful, conscious and logical

options to create visually the meaning the creator, the designer, wants to express (Wimmer, 1994).

Product Development Research

Various models have been examined and developed for apparel product development. The models have evolved through case studies, practice with classes, and industry observation. These models are reviewed in the following sections for the development of a summary product development model to direct this study.

Industry reflective model. Carroll and Kincade (2007) examined the complete product development process from the perspective of garment development for disabled working women. This research used 3 sample sets. They initially interviewed ten women with a variety of physical disabilities, who were working in jobs that required professional clothing. One woman dropped out of this sample due to personal reasons. The needs and interests in clothing features expressed by the remaining sample of nine, the user group, needs and interests in clothing features were investigated.

A second sample group of six was included as wear testers to ascertain usability of the apparel product for both disabled and non-disabled wearers. In addition, a third sample group of apparel manufacturers were interviewed to provide insight about manufacturability of proposed designs

Carroll and Kincade (2007) used reviews of previous research and content analysis to aid in development of a proposed cyclic product development model. The steps of their proposed framework included the following steps:

1. Needs and preferences,
2. Co-design used to generate sketches from design ideas,

3. Wear-testing by consumer,
4. Industry evaluation and feedback, and
5. Implementation involving mass production and distribution to target consumer.

The model was refined throughout the research process and confirmed, with a focus on steps one through four, with qualitative data collection. In the first step of the model, consumer needs and preferences were collected via interviews from a sample of consumers. This information was supplemented with additional ideas gleaned from previous literature, keeping in mind this initial design research focus was inclusive design for disabled working women. During this step, the designer also reviewed current trend ideas as a part of the style collection information.

During step two, both consumer and designer worked together to create sketches featuring components appropriate for a disabled worker. An effort to identify and use current trends and styles, with minimal or as only needed revisions was important during this process. As the designs were fleshed out, steps were taken in prototypes creation and specifications development. These two pieces of information and examples are important for industry evaluation insofar as considering if mass production is a possibility.

Wear testing by the consumer in the third step is key, for if the design did not function as required, or failed for other reasons, revisions or even a complete re-start might be required. Ideally, the final step would be concluded with “implementation plans and communication with intended target customers” (Carroll & Kincade, 2007, p. 299). This research included evaluation of mass production potential; as step four, then step five was the “inclusion of industry evaluation and feedback in response to consumer product specification” (Carroll & Kincade, 2007, p. 299).

The idea of copying is not directly addressed, but the authors (Carroll & Kincade, 2007) do investigate the use of readymade clothing and pictures of current items, as well as other literature and print materials as inspiration for the inclusive design style. Subjects in the research were also allowed to review these pictures as inspiration and give input. One could thus assume some of this input would or could be based on previous styles preferred, or those seen worn by others. If perchance, an already-produced style was copied, the likelihood of some modifications for the intended target market was possible. Whether these potential modifications were minimal or extensive could lead to some areas of copying existing styles.

By study end (Carroll & Kincade, 2007) the product development model was refined to include the following five steps:

1. Needs and preferences – Design ideas from consumers, literature and current trends,
2. Codesign used to generate sketch from design ideas. Spec sheet and prototype created,
3. Wear-testing by consumer,
4. Review for inclusive design. Option to return to Step 2 and adjust design if necessary,
5. Industry evaluation and feedback. Identification of industry constraints relative to product, and
6. Implementation involving mass production and distribution to target consumer.

Consumer needs model. Lamb and Kallal (1992) sought to develop an integrated framework, essentially an education framework for an apparel design model, in an effort

to equip their students; as well as future designers and product developers with a visual method of seeing apparel product development through a naturalistic lens. The initial focus of their education-based project was to develop a framework for apparel product designers to acknowledge and learn to view all persons, those with special needs as well as anyone else, via a product needs model using the same principles and elements of design.

In the consumer needs model developed by Lamb and Kallal (1992), the target consumer is the core component for the designer. This target consumer, be it a single individual, a group, or a mass product group, have a number of things in common as this model is explored and developed. Initially user(s) are profiled using demographic and psychographic information, as well as physical characteristics, activities, and context of use needs (Lamb & Kallal, 1992).

The consumer needs model with the target customer at the core is surrounded in concentric circles first by culture. On the outer ring three strong areas are each interrelated in a give-take manner as identified as a need: functional, expressive, and aesthetic (FEA model). This model is meant to serve as a framework to guide students and others as they strive to meet the target customer needs and create a useable product.

Within each of these areas, a number of items or steps or considerations that designers are likely to, or should, consider during the design or product development use are listed. Under functional, one finds the following under-girding physical or functional steps to consider throughout the creative process: fit, mobility, comfort, protection, donning/doffing. Some articles of clothing are basic in use by most wearers. For example, socks and underwear as well as other garments to keep us warm or dry could be seen as

basically functional, but not so limited. These garments may also have aesthetically pleasing aspects that appeal to a variety of people, allowing the expressive component to be a part of the functional portion.

Looking at the expressive section, one sees that the importance and influence of apparel on wearer's perception of self, and the image they wish others to have; perhaps using the following personal evaluation tools: values, roles, status, and self-esteem. The aesthetic section covers art elements, design principles, body/garment relationship. Aesthetically, the average individual will try to make apparel choices that will allow themselves to be seen in a positive, attractive light. This area goes hand in hand with the expressive elements, with in each section possibly using a mixture of the tools available to create beautiful or more attractive pieces of apparel; wearers often wish to use their apparel as a part of the arsenal of communication tools at their disposal, and make choices accordingly.

The FEA model is expanded somewhat into a broad set of product development activities, which begin and follow in order, with problem identification, preliminary ideas, design refinement, prototype development, and evaluation, finishing with implementation. Within these broad six steps, a multitude of important steps are not directly mentioned within the model but are explained within the text. However, this model developed with student designers as desired users does not identify if, when or where copying another design idea is or is not acceptable. This model is intended to be attuned to the wearer in the following three aspects: function desired, personal expression, and beauty. "Regardless of target customer or use-situation, definition of user needs and wants must include all three aspects (Lamb & Kallal, 1992, p.46)."

Although direct copying of other styles is not specifically mentioned, key components of this model lend themselves to copying and other practices such as the evaluation of historical, current, and projected styles and how they might be used in specific apparel design products. The expressive section keys on the importance and influence of apparel of the wearer's perception of self. Consumers tend to want or need to 'fit in' with peers, particularly in situations such as the workplace and many social occasions, thus it would seem highly likely that a number of the same or very similar design components would be evident and would be the result of copying.

Consumer driven model. In their 2006 report, *Proactive product development integrating consumer requirements*, May-Plumlee and Little present a model for a consumer focused product development process. The driving force of this research is these authors appear to feel apparel industry professionals need to become more adept at predicting the needs and desires of consumers. Although many techniques and strategies are mentioned and described, the researchers acknowledge the importance of this continued development of innovative processes. The researchers focused on consumer and market research methods as important keys in identifying opportunities for product development and innovation.

May-Plumlee and Little (2006) describe using the Delphi method with a panel of experts for forecasting new products. This expert panel group goes through a process in which an "estimation and evaluation cycle repeats until a consensus about new products is reached" (p.57). Tull and Hawkins (1993) also used the Delphi method with their study as a means of estimating the sales potential of new products which have longer product development cycles.

Researching fashion trends tends to be an on-going process throughout the fashion industry (Burns & Bryant, 1997). It is understood and known by those who are employed in nearly any aspect of the textile and apparel business that review of trade publications, popular literature, and shopping the market are accepted practices. In addition, customers of businesses for forecasting colors, trends, styles, and fabrications are viewed “as essential to development of fashion apparel products...” (57).

Mahjan and Wind, as cited in May-Plumlee and Little (2006), itemize their results from surveying Fortune 500 managers and identified 24 product development methods and models. This list is dominated by the use of focus groups at 68 percent and limited rollout of product at 42 percent, while product life-cycles were included only 8 percent of the time. Although product life cycles are not strongly identified as a product development tool, the researchers found strength in this tool set as used to begin moving some products out of the market place, and replace with more profitable, probably newer products. These product life cycles, as identified by the researchers lead into a consumer driven model of apparel product development process. However, consumer input is linked more directly to the beginning cycle of product development processes in the research model presented.

May-Plumlee and Little (2006) conclude that the “model contributes to theoretical understanding of apparel product development, and how consumer input can be used to facilitate the process and what avenues that input may be acquired” (p. 63). A portion of their model was a modification of a Kurt, Salmon & Associates (1995) model. This model is a broad, though relatively comprehensive, representation of the product development process from suppliers to manufacturing, to retailers and ultimately, the

consumers. Additionally, a modification of the model of Consumer Behavior for Clothing Purchases (CBCP) developed by Engle, Blackwell and Miniard (1995) is included and focuses on post-purchase consumer evaluation, experiences with products, and consumer decision-making. “The no-interval coherently phased product development (NICPPD) model for apparel was used to represent the apparel development process component in the Proactive Product Development Integrating Consumer Requirements (PPDICR) model” (May-Plumlee & Little, 1998, p.60).

The resulting May-Plumlee and Little PPDICR model (2006), “links product development to potential avenues of consumer input and to a list of consumer apparel product evaluative criteria...” (p.62). It is very much a consumer driven product development model. This model acknowledges “product life cycles are used to determine when existing products should be replaced with newer, more profitable products” (May-Plumlee & Little, 2006, p.56). The PPDICR model “allows the practitioner to:

1. Develop better and more salable products for the target consumer,
2. Benchmark and modify strategies for integrating consumer input into the apparel development processes,
3. Build the organizational structure required to effectively utilize available consumer information during the apparel development process,
4. Develop effective strategies for using consumer input to create market responsive product lines, and
5. Strategically plan organizational and procedural changes to facilitate consumer driven apparel development” (p. 63).

The model, primarily because it is consumer driven, is cyclic in format and the main steps of this model are directed toward the practitioner in a set of statements. Although the model provides information about inspiration of ideas to initiate the product development process, no exact mention is made of copying.

Concurrent engineering model. Kincade et al. (2007), reported results of an exploratory research study on the potential for using concurrent engineering practices in the apparel product development processes. In-depth information was collected from three non-competitive apparel firms, which were purposeful selected. Use of varying types of apparel firms provided rich sources of information for this qualitative study as the researchers searched for, and anticipated, new patterns in the data collected. The steps and processes identified for this study represent a very comprehensive listing of apparel product development activities and processes.

Use of three data collection instruments including checklists, Q-sorts, and questionnaires with each apparel firm provided an overall view of each ones processes. Apparel firms traditionally use a linear process of apparel product development, but researchers concluded that if some processes could become more concurrent, and simultaneous, the overall processes would be quicker to completion, quicker to market and quicker to the consumer.

For this study, three distinctly different segments of the apparel industry (e.g. men's, women's, and children's) were selected for exploratory studies to show the range of process characteristics similar in each. Subjects at each firm verified a checklist of 67 product development operational statements drawn from related research. Approximately 150 apparel product development activities were sorted and process ordered by the

research subjects into seven (researcher determined) concurrent engineering conceptual areas. Group meetings were utilized as the third data collection method after previous collected information was reviewed. The same researcher was on-site for data collection as a control for data collection consistency.

These researchers were careful to maintain the rigor of the research study. “Content validity of the instruments was verified through the use of literature reviews and industry experts, who also confirmed the wording of instruments (Kincade et al., 2007, p. 637).” A construct consistency chart was used with the pattern matching technique to ensure each firm had similar activities. It was recognized that there were some variations in descriptors and working within each firm; however, the basic steps in product development were confirmed. Although generalizability was thus limited beyond the apparel industry, techniques used helped to ensure subjects’ understanding and findings the apparel industry might find useful (p. 637). Internal validity was verified through triangulation by the use of multiple inputs from the non-competing companies, a recommended technique for qualitative research (Creswell, 1994). External validity depending upon circumstances, sometimes referred to as transferability, of a qualitative study can be enhanced by basing the study on prior knowledge and information, using triangulation (Creswell, 1994; Marshall & Rossman, 1989), as done in this study.

Results indicate that movement of some apparel product development activities was seen by some subjects as placing the product closer to the consumer, thus reducing the time to market. Findings also showed that a number of apparel product development activities could be moved or re-aligned in order to create a more concurrent strategy in

increasing product speed to market. Overall, the steps for product development started with defining the problem or desired result:

1. Problem recognition,
2. Problem definition,
3. Search for alternatives,
4. Evaluate,
5. Make decision,
6. Specify solution, and
7. Communicate solution.

Issues of copying were not directly addressed but steps were identified at the beginning of the product development process that could lead to copying all or parts of products.

Retail based model. A case study analysis of product development (Gaskill, 1992) was designed to describe and define those activities of a specific internationally recognized apparel retailer. The selected company was 100 percent engaged in their own in-house product development of private label items. Although the results of the study might be considered limited because of the single company studied, results form a strong, chronologically defined descriptive Product Development Model.

The developed model focused on activities and steps that take place when creating apparel products from the retail viewpoint. After conducting a pilot study in order to refine define data collection procedures, the researcher was immersed in data collection using a variety of methods, including taped and transcribed interviews, researcher observations, physical observations, and study of related artifacts. Utilizing a variety of data collection methods adds strength to results and model development.

Gaskill (1992) identified “comprehensive trend analysis as being instrumental in generating the concept or collection theme (p. 19).” After this beginning a number of decisions are made, some concurrently. Trend analysis and concept involvement are followed by three decision areas that work simultaneously or concurrently, and likely go back and forth as they are refined. The three are fabrication selection, palette selection and fabric design. Once merged, the outcome of these three decision areas move to silhouette and style directions, which in turn may take one of two routes, either prototype construction and analysis or line presentation to completion of the process.

Recognition of intervening factors, which may have little to significant impacts on the apparel product development model, are named as internal factors, which include defined target market and merchandising process. External intervening factors include domestic markets and foreign markets, and the inclusion of these factors could be seen as places where copying, from external influences, could occur.

Product development defined by Gaskill (1992) follows. “Product development consists of a variety of activities ranging from an initial in-depth trend analysis, progressing to the evolution of the product, and ending with final line selection by the merchandising personnel” (p. 19). Results include acknowledgement of potential limitations or challenges that might arise when organizations separate apparel product development and apparel production, creating less awareness of overall goals in a consistent manner.

Gaskill’s model (1992) is descriptive of a progressive range of decisions and actions, which are acknowledged as having intervening internal and external factors. The activities are as follows:

1. Trend analysis,
2. Concept evolution,
3. Fabrication selection, palette selection, fabric design (performed simultaneously, according to this study),
4. Style, silhouette direction,
5. Prototype construction and analysis, and
6. Line presentation to the internal teams.

The trend analysis step in this model describes activities that involve gathering information and using that information to form a design idea. Although direct copying is not discussed, it is possible. The clearly identified and detailed steps could contribute to educating a would-be copyist with an understanding of more clearly what copying would entail.

Amended retail based model. Wicket, Gaskill and Damhorst (1999) expand and validate the earlier work of Gaskill (1992). This group expanded the original model with a post-adoption phase, including fit and style, materials and garment specifications development, production and pattern making and retail firm development, as well as manufacturer development. This latter model provides a more complete product development picture, applicable to retail companies who intend to develop their own consumer products.

This study as well as the previous Gaskill study (1992), worked from a retail perspective. In the original work, a limited in-depth case study was conducted. In the more recent, a much larger sample was drawn, covering a wider range of specialty stores, including men's, women's and children's apparel. Use of the same type of resources

while increasing the number and scope as the original Gaskill study added consistency and validity to results. Although the Wicket, Gaskill and Damhorst (1999) study is from the retail perspective the following major steps in product development are detailed within the article, in addition to strengthening and confirming steps in the original model.

1. Inspirational search of trends,
2. Trend analysis,
3. Concept development,
4. Fabrication selection,
5. Palette selection,
6. Fabric design,
7. Silhouette /style direction,
8. Prototype construction & analysis,
9. Line presentation,
10. Perfect fit & style,
11. Production pattern making,
12. Retail firm/ Manufacturer development, and
13. Materials/garment specs development.

Textile product design model. Processes applied to clothing design are most closely related to textile product design based on the work of Jones (1981), and supported by LaBat and Sokolowski (1999). It was also found that “industrial design processes are most relevant to textile product design” (LaBat & Sokolowski, 1999). The LaBat and Sokolowski 1999 study analyzed design process steps that represent a variety of models from a number of fields, and applied them to three-dimensional textile product design

framework. Within their research project, these researchers surveyed and analyzed a variety of design related products and processes, including, and not limited to architecture and environmental design, engineering design, industrial product design, and clothing design. Although this study is not focused completely on apparel, it is useful in understanding the Product Specific Model by Pitimaneeyakul, LaBat, and DeLong (2004) discussed in the next section.

Product specific model. A research study by Pitimaneeyakul et al. (2004) began with stating “a well-defined product development process defines milestones, which facilitates the business planning and management systems and allows the organization to identify opportunities for development” (p. 113). This study began with the product development process as defined by Ulrich and Eppinger (1995) in which it was stated the process is defined as “the set of activities beginning with the perception of marketing opportunities and ending the production, sales, and delivery of the product” (p. 3). This is a rather broad summary of a complex product development process, especially relating to apparel and textiles development activities. However, Pitimaneeyakul et al (2004) share Ulrich and Eppinger’s (1995) additional explanation that “a well-defined product development process defines milestones, which facilitates the business planning and management systems and allows the organization to identify opportunities for development” (p. 210).

The threefold objectives of this particular study “were to explore the process used by a knitwear company, compare the process to established product development processes, and to propose a viable process for knit wear development (Pitimaneeyakul, et al., 2004, p. 113).” Providing background of current accepted practices aids in

understanding how the product development processes have been generally conducted. Knitwear development is somewhat driven by sales and marketing bring ideas to designers to create marketable products.

Four primary differences in the apparel product process, purchase, and use, were identified (Pitimaneeyakul et al., 2004). One is the time frame of value, which is relatively short as compared to other products, such as electronics. Second, if there is a delay in apparel production and a line of garments are not delivered promptly, it is likely they will be considered out-of-style by consumers and ready for the mark-down sales rack. Third, in general an article of apparel is a seasonal item, one that decreases in desirability and value during the season. And fourth, the majority of apparel products decrease in value much quicker than other types of goods.

The researchers used seasonal products such as lawn mowers or snow blowers as comparative items because they tend to hold value much longer, over several seasons. Apparel does not usually increase in value, for example as some jewelry does. And fourth, apparel product development processes must be very well coordinated to avoid delays in meeting schedules and delivery dates throughout the entire process. Coordination of idea and design development, production, and marketing must all be closely synchronized.

Apparel product development research summaries were included, with the overall results of each study reported. They believed Watkins in 1988 surmised both cognitive and intuitive approaches as necessary to most successfully use accumulated facts, data, and ideas and put them together in a successful, creative way (Pitimaneeyakul et al., 2004; Watkins, 1995). The Functional, Expressive, Aesthetic (FEA) model of the apparel

design process developed by Lamb and Kallal (1992) was more specific in what and when certain items were included or excluded, depending on the desired end result. Generic product development processes were compared with apparel textiles product development processes by Regan et al. (1998) suggesting that “using a systematic design process is an effective way of controlling apparel product development” (p.114).

The study by Pitimaneeyakul et al (2004) reported they found that a LaBat and Sokolowski study (1999) was a combination of Watkins (1998), Lamb and Kallal (1992), and Regan et al. (1998), including the “engineering design processes of Lewis and Samuel (1989), and Pahl and Beitz (1996)” (p. 114). Based on these previous studies, three stages were proposed by Pitimaneeyakul et al. (2004),

1. Problem definition and research,
2. Creative exploration, and
3. Implementation.

A combination of methods supported by two known experts (e.g., Patton, 1990; Yin, 1984) provided a foundation for planning how this research study was conducted. The study was an in-depth qualitative case study of one knitwear producer (Pitimaneeyakul et al., 2004). A number of resources and tools were utilized including plant visits, examination of design artifacts, interviews (including follow-ups) and observations. A pilot study prior to the actual study aided in refinement of the multiple research instruments. Use of multiple data resources adds strength to research findings when triangulation of those varying sources supports and reinforces results.

The analysis and results led to development of two types of product development processes, one for domestic manufacturing at a company owned facility, and the second

for use of outside contractors and overseas manufacturers (Pitimaneeyakul et al., 2004). A summary of research conclusions revealed the knitwear product development process studied needed to have time and options, should they be needed, for flexibility and changes if required.

Five major steps were identified for the knitwear product development process

1. “marketing research
2. design and pre-costing,
3. presentation to customers,
4. sample making, and
5. production” (Pitimaneeyakul et al., 2004, p.120)

The steps of marketing research and design have potential for copying of previous styles although this issue was not addressed in the study.

Overview of Steps in the Product Development Processes

Regardless of the sample or the perspective of the researchers, the apparel product development process contains three basic phases, with numerous steps and processes not listed. These phases with major associated steps are shown in Table 1. The potential for counterfeiting or some form of copying exists in any of the three phases;

- | | |
|-------------|----------------------------------|
| Phase One | Problem Definition and Research; |
| Phase Two | Creative Exploration; and |
| Phase Three | Implementation |

Table 1. A Review of Design Processes / Product Development

Source	Problem Definition & Research (Phase One)	Creative Exploration (Phase Two)	Implementation (Phase Three)	Major steps
Caldwell.& Workman (1993)	Test concept of customized patterns Idea Generation	Idea Screening Concept Development Concept testing Product development	Business analysis Market testing Commercialization Marketing strategy	9
Carroll (2001)	Needs & preferences generated Design ideas Co-design to generate sketch Create prototype	Create spec sheet Adjust design if necessary. Industry evaluation	Mass production Distribution	9
DeJonge (1984)	Request made Design situation explored Problem structure perceived Specifications described	Design criteria established Prototype development	Design Evaluation Implementation	8
Gaskill (1992)	Trend analysis Sketching Concept evolution Fabrication selection, palette selection, fabric design (performed simultaneously)	Style & silhouette direction Prototype construction Prototype analysis	Line presentation to internal teams.	8
Hanks, Belliston & Edwards (1977)	Recognize & accept problem Analyze problem Define problem	Ideation Selection	Implementation Evaluation	7

Source	Problem Definition & Research (Phase One)	Creative Exploration (Phase Two)	Implementation (Phase Three)	Major steps
Lamb & Kallal (1992)	Problem identification Problem exploration	Preliminary ideas Design Refinement	Analysis Decision Implementation	7
Kincade, Regan, & Gibson (2007)	Problem recognition Problem definition Problem exploration	Search for alternatives Evaluate Make decision	Specify solution Communicate solution	7
LaBat & Sokolowski (1999)	Problem definition and research	Creative exploration Evaluation	Evaluation Implementation	4
May-Plumlee & Little (2006)	Develop better and more salable products for the target consumer. Develop effective strategies for using consumer input to create market responsive product lines.	Benchmark and modify strategies for integrating consumer input Build organizational structure required to utilize available consumer information	Plan organizational and procedural changes to facilitate consumer driven apparel development	5
Stone (1999)	Planning the line Creating the design concept	Production Developing the designs	Distributing the line	5
Wickett, Gaskill & Damhorst (1999)	Inspirational search of trends Trend analysis Concept development Fabrication selection Palette selection Fabric design	Silhouette /style direction Prototype construction & analysis Line presentation Perfect fit & style	Production pattern making Retail firm/ manufacturer development Materials/garment specs development	13

Product Development, Reduced Time to Market, and Management Influences

Reduced time to market, or speed, in product development is a variable facing nearly all companies and manufacturers. Personnel from designers to retailers express a strong interest in understanding how to speed up product development in most industries. Getting new products to marketplace is considered crucial to increased sales, thus increased profits. Customers are often willing to pay more for new innovative products; in response to this desire and capture of sales, manufacturers must speed up product development (Cordero, 1991). In order to “avoid product obsolescence and decreased competitiveness, firms need to manage the product supply process for speed, developing new products quickly to ensure timely introduction during the product life cycle (Cordero, 1991, p. 283).

Upgrading or modifying current products and offering new products is also one way to confound counterfeiters. This researcher found few to no reports from the apparel field about the role of management or leadership related to product development and the apparel marketplace. However, information about the speed of the product development process was found relative to other industries and application may be pertinent to the apparel industry as a number of steps in product development are quite similar across many product fields (Aspelund, 2006). Information about product development in other industries was useful in previous apparel research (e.g., Regan et al., 1998).

In their 1991 research published in the *Journal of Product Innovation Management*, McDonough and Barczak report on findings of their investigation of leadership styles and source of technologies employed in the projects (i.e. internally developed or externally acquired) on speed of development. Data was collected from 30

new product development projects within 12 British companies in this study. The results suggest that leadership style influences speed of new developments, and the source of technologies used appeared to moderate the relationship between leadership style and product development speed (McDonough & Barczak, 1991). Data was collected from 30 new product development projects within 12 British companies in this study.

Rapid product development is a need to keep products at the forefront of a given marketplace or projected consumer. The seasonal and cyclic turns of the apparel industry fit this need for speed, while also maintaining quality standards and specifications. One of the research participants in the McDonough and Barczak study (1991) was quoted as saying that “speed (in new product development) kills the competition” (p. 205). The researchers identified a number of ways speed is a help. Speed includes increased market share because satisfying current customers also aids gaining new customers.

In addition, on the list researchers noted that overhead costs may fall as a result of smaller inventories of finished stock; in a number of examples indicated increased employee satisfaction because operation speed-up created a need for delegating greater responsibility and flexibility to more employees. And, one of the vital reasons was product quality usually improved because as the employees learned to work faster, learned more of the production processes, they learned to work right the first time, reducing significantly costs of time and materials. Previous to the 1991 study, McDonough and Spital in 1984 found “successful rapid development projects were highly visible within the given firm and strongly supported by senior management” (p. 52-53).

A research study by Gupta and Wilemon (1990) focused on interviewing team members, team leaders, and senior managers to obtain their beliefs and ideas about reduced time to market or accelerated new product development. The list these researchers compiled includes the following: strong senior management support of innovation; early involvement of all functional groups; continuous market testing of the product concept (e.g., focus groups); less reliance on set procedural structures and more on strong product champions; and an organizational work-style that supported innovative pursuits.

To meet this collective goal of new products through a profitable process requires manufacturers to recruit and hire individuals with the necessary skills and to supply the needed resources to create a team that works together throughout the product development processes. Utilizing a broad skill set, product development team members bring expertise from design, manufacturing, quality control purchasing, shop floor operators, and others as needed. When the team works together from start to finish, some researchers have found problems are defined and eliminated more quickly (Wang & Kilduff, 1999).

Some researchers in differing areas have used the phrase concurrent engineering because it is considered a “high level concept involving the modeling, planning and controlling of product development with respect to the product’s features, project resources and team membership” (Wang & Kilduff, 1999, p. 84).” Concurrent engineering (CE) has basically been used in performing tasks or steps in a parallel mode rather than a sequential step by step process (Carter & Baker, 1992). Kincade et al. (2007) examined this technique for apparel manufacturing and found it potentially

successful for several apparel product areas. Although the process may be shortened through concurrent engineering, the flow of a product from idea to production in general follows some standard steps.

Additional research by Gold (1987) proposed the theory that speeding up product development can be accomplished by buying, licensing or contracting technology others already have available. In which case, Gold supported his theory by summarizing that if the technology or equipment was available to rent or contract elsewhere, then all that was needed was to adapt to needed specifications for manufacture. Although rental and outsourcing is possible in the apparel industry, keeping as much of the product development and manufacturing in-house, not at numerous contractors, is preferred by some companies.

In order to speed implementation of product development within a given firm, it is necessary to organize product development for speed (Cordero, 1991). Many functions within a firm may be organized into project teams for example, quality control, purchasing, areas of manufacturing, and customer service. Within these teams it is important to keep members communicating and sharing, not working autonomously from each other, and even at different time phases. Team decisions may even be dictated through policy and procedure manuals, possibly putting a damper on team creativity and innovativeness.

Only one study using participants in textiles, and none in apparel, were found that examined speed, management style and product development. Results of McDonough's study tend to support some research results reported by Kelly and Hise (1979) related to role conflict and product managers. Inconsistent behaviors and results were found to

occur more often when product development managers were expected to report to two or more individuals who had some form of discretionary power over their position, as well as sometimes receiving differing directions for goal achievement on the same project. In their 1979 research, Kelly and Hise analyzed 198 useable surveys from managers employed at 97 major companies of a variety of different product types ranging from textiles, foods, and personal care products. Suggestions for improved performance included restricting managers to five different products in development at one time; this was a suggestion from over one-half of those who responded to the survey. Respondents also noted when given opportunities to increase contact, interaction and dialogue with employees (i.e., the team) in other areas related to the product, particularly the marketing research area, often increased the level of knowledge, and understanding of product development goals by employees (Kelly & Hise, 1979).

McDonough (1990) described in his study of project leader selection that internally developed technologies used in a new product was likely to lead to a greater understanding of the technology and uses. The manager or supervisor supplied deadlines and the technical boundaries within the team must work, with regular updates on progress and freedom to seek problem assistance as needed. McDonough (1990) reported better results using this method along with a leadership style that provided team members with freedom to make decisions about technical problems and how to solve them in many instances helped to speed up new product development.

Overall results of this study found leadership style is significantly related to speed of new product development, and technological sources were not significantly related to product development speed (McDonough, 1990). The author's further analysis revealed

that a participatory leadership style as well as delegating decision making to team members whose expertise in specific areas was stronger resulted in quicker, correct decisions, and increased productivity. The importance of speed in product development and the impact of management style can be summarized in the results from McDonough (1990).

Over the past thirty years or so, various studies of better and more effective, speedy product development practices have been considered by a variety of industries. Though few, if any are textile or apparel specific, a number of findings might well be considered for attention in those industries. Product development professionals have formed an organization, Product Development & Management Association (PDMA), to create and disseminate knowledge about managing and improving new product development and related processes. Griffin (1997) brings together an overall view of that organization and a brief historical overview of development practices. A summary of nine key findings are itemized in the article; however the first three listed items seem most relevant to this apparel study. These points are summarized as follows:

1. Better companies have a higher rate of new product development practices by using a number of product development processes simultaneously;
2. New product development change does not stop, but is evolutionary and occurs simultaneously on a number of fronts;
3. Product development processes continue to evolve and become more sophisticated over time.

Forecasting

The apparel industry is constantly changing the exact product being manufactured based on a number of reasons. It is a cyclical business, depending upon numerous factors, ranging from consumer demand for more product diversity at a faster pace to the increased number of imports at a faster rate and a range of prices, in addition to seasonal and cultural desires and needs (Ko & Kincade, 1998).

In order to remain competitive, apparel manufacturers must notice and keep records of changes in their business environment, interpret the changes, and make decisions how these changes will impact their strategies to best meet their target market customer (Ko & Kincade, 1998). Part of this process of updating information and following the market is fashion forecasting.

Researching fashion trends tends to be an on-going process throughout the fashion industry (e.g., Burns & Bryant, 1997, Johnson & Moore, 2001). It is understood and known by those who are employed in nearly any aspect of the textile and apparel business that review of trade publications, popular literature, and shopping the market are accepted practices. In addition, customers of businesses for forecasting colors, trends, styles, and fabrications are viewed “as essential to development of fashion apparel products...” (Burns & Bryant, 1997, p.57).

Fashion forecasting is defined by Rousso (2012) as “the practice of predicting upcoming trends based on past and present style-related information, the interpretation and analysis of the motivation behind a trend, and an explanation of why the prediction is likely to occur” (p. 7). Communication of this information, compiled as trend reports to those in the apparel industry, supposedly enables the products that consumers will want

to purchase. By knowing and following the trends in product development companies will create products that consumers want. The other goal of enticing the consumers to buy new products by targeted forecasting is to increase profits for those involved in developing these products, such as the designers, retailers, manufacturers, and related textiles industries.

In the apparel industry, there are businesses, often called auxiliary businesses, based on documenting and compiling information about trends such as color, style and product manipulation, (e.g., The Doneger Group; WGSN; TOBE Group). This compiled information is highly valued and purchased by a variety of industries, including home goods and interiors, automotive, as well as apparel (Johnson & Moore, 2001). Some companies maintain an in-house trends staff rather than purchasing the same materials as others may do.

Fashion forecasting and trends documentation usually play a strong role in the product development process as an apparel designer or product developer begins the new apparel process. In addition to the trend information, there are usually guidelines within a company as to their selected target market and the direction the new products should go.

In addition to the information from the trend forecast companies, trend information can come from a variety of sources. Designers get their visions and inspirations for the next look and product line from constantly observing what is happening not just around them, but also the broader world view. Ideas come from numerous places, people, history, nature, politics, and the economy, just to name a few. Designers strive for something new by creating change or finding new or better solutions to old problems (Blaich & Blaich, 1993). This observing is part of the fashion forecasting

and idea development process and does involve looking at others work. The question for this research remains, is this inspiration or is this copying and counterfeiting?

Summary of the Apparel Industry Product Development Process

The steps in developing an apparel product have increased such that it is often challenging to know exactly when the development process begins. Defining the product development process has been the focus of numerous studies (e.g., Carroll & Kincade, 2007; Gaskill, 1992; Powell & Cassill, 2006; Pitimaneeyakul et. al., 2004). Product creation or product development for some researchers includes the entire product life cycle from idea to sale and consumer use (e.g., Carroll & Kincade, 2007; Gaskill, 1992). When the consumer ultimately chooses an item from those available, one could consider that the new apparel product cycle, which began as an idea someone had, has ended and a new cycle will begin. Other researchers have examined only the idea of design aspects of product development (e.g., Regan et al., 1998).

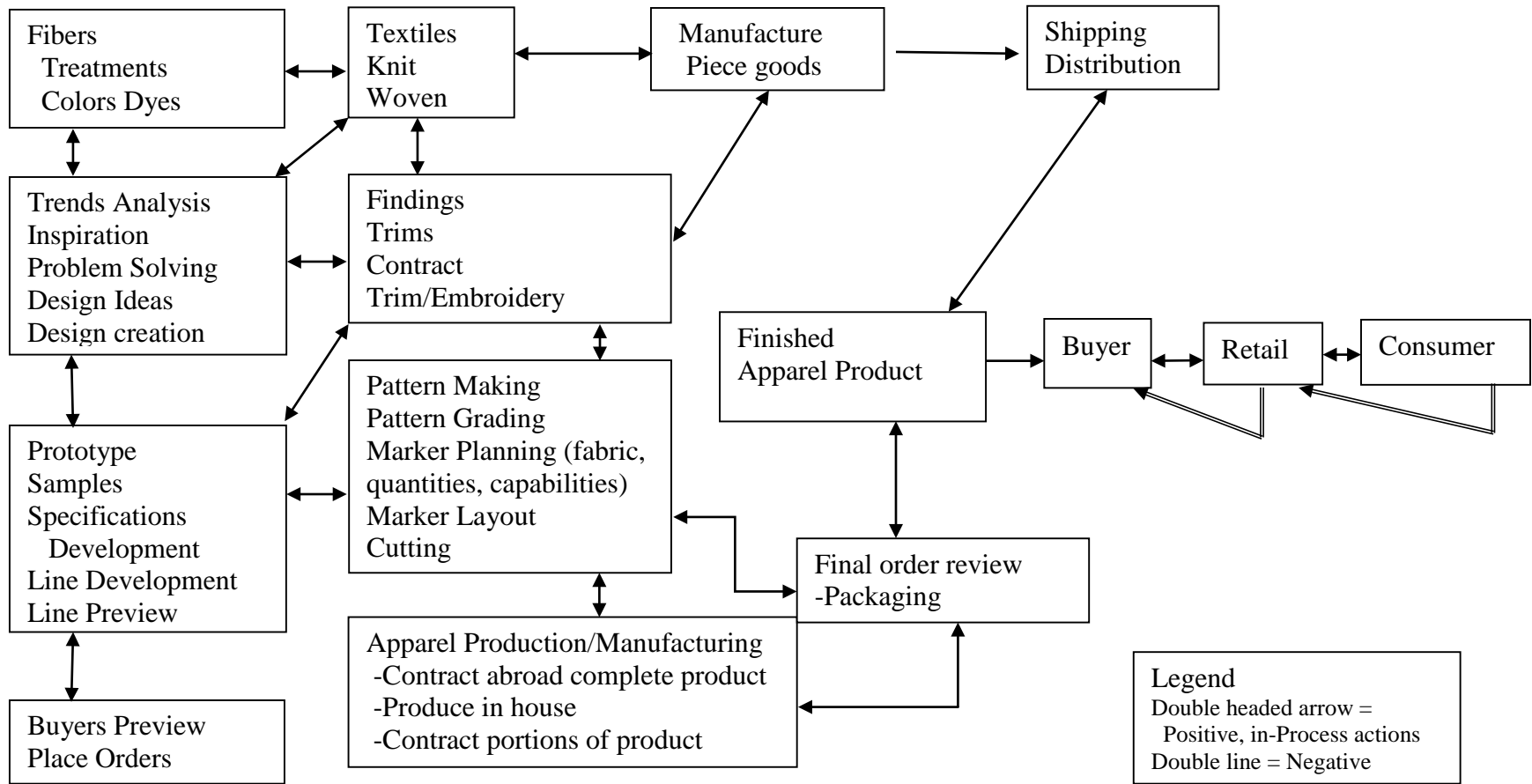
A typical apparel product (e.g., skirt, blouse, pants) may generally be thought to fit into a general manufacturing process. A very basic explanation of the beginning of apparel product development processes is described here. The potential for copying may occur throughout the product development phase when the development team makes use of trend forecasts and other sources for inspiration, and pattern making direction. Identifying and acknowledging these basic steps, especially in the initial design conception stages are important.

Ideas for an apparel product may be generated and presented by an individual or a team using a number of tools ranging from flat images using pencil and paper, or a computer-aided-design (CAD) drawing program, or by draping and manipulating fabrics

on a workroom dress form, referred to as a mannequin in the industry (Kincade & Gibson, 2010). As new product designs are generated and discussed, decisions about colors and types of fabrics are made. Necessary functional and ornamental findings (e.g., thread, closures, and trims) are also discussed by the team, perhaps set aside to use on prototypes. Once decisions are made about the look, colors, fabrication, and style features of the product, a number of broad basic steps are followed. Each of these includes many related steps and decisions.

Flat patterns of the sketches or draped designs are created, usually first in the accepted sample size as prototypes (Kincade & Gibson, 2010). The pattern set is used to either create a pattern layout or mini-marker (one sample size pattern set) or trace onto fabric for cutting. Prototypes are a first run of potential designs for full production. These are checked for sizing, fit, construction analysis, and likely shared with sales personnel for sale-ability. Comments, suggestions, pros and cons of all aspects of the prototypes are discussed and decisions are made as to whether a particular design or even a single garment style will become a part of the planned season line offering. Items from fabric, color range, construction modifications, trims, stitching are decided or modified. Once these decisions are agreed upon, the design is “adopted” into a line or collection.

This broad beginning sequence of idea development, pattern and prototype creation for evaluation does not vary much within the apparel industry except for the actual products category. However, there can be many variables within these initial idea and prototype development stages (see Figure 1.).



-----Phase One----- -----Phase Two----- -----Phase Three-----
 Figure 1. Apparel Product Development Model

Copying, Counterfeiting and Intellectual Properties

Intellectual property. An assumption can be logically made that ideas an individual has are his/hers alone, and may or may not have a real use for anyone other than self. However if the idea has potential value of some sort to others, it may be appropriate to seek means of protecting that product of intellectual thought. Therein begins the notion of taking steps to protect intellectual property.

As defined in the *Fairchild Dictionary of Fashion* (Calasibetta, 2003), intellectual property is

“Designs, inventions, literary works, and other creations that have been patented, copyrighted, or trademarked. Use by unauthorized persons is illegal.” (p. 277).

The most well-known means for taking steps to protect IP is via the United States Patent and Trademark Office (USPTO). A patent for a product, an invention (the IP), is the grant of a property right to the inventor, issued by the USPTO. The right conferred by the patent grant is “the right to exclude others from making, using, offering for sale, or selling the invention in the US.” A type of limited patent may also be granted for those seeking to import an invention into the US for a limited time. It is important to those buying and selling abroad to understand patents are territorial in that specific patent protection must be applied for in each country where protection is sought. The USPTO Inventors Assistance Center (IAC) provides patent information and services to the public and may be found via the organization website <http://www.patenthelp.gov.com>.

Theft of an idea or the product emanating from that idea, or intellectual property, may be challenging to prove, depending upon a number of factors. However, this theft

has dire consequences for the financial stability of a company and broader consequences for the economic stability and growth of an industry or a country (Mariano, 2002). This theft of IP has a number of names in the apparel industry, which include and are not limited to knock-offs, rub-offs, tear-downs, near-brands, and more often a number of counterfeit types, blur, deceptive, and non-deceptive. Several of these practices exist during the product development process.

Intellectual property (IP) laws are in place so inventors, creators of new products have motivation to do just that, create successfully. When products and ideas are protected by law, the company or designers then own the right to make the product and earn money, to profit from their work. The decisions on ownership of the profits is dependent on whether new products were created under the auspices of a company with contractual rights to new employee rights or created independently. Counterfeiting works in opposition to these protection laws and uses someone else's IP for profit. If one accepts the premise of intellectual property, then use of that information without permission is stealing (Phillips, 2005).

The terms, counterfeiting, knock-off, piracy, and copying are often used interchangeably, but further exploration of the terms show they are not the same. In addition there is a range of names, terms and phrases used along with, and instead of the words counterfeiting, knocking-off, and copying. These concepts are covered in the following sections, with examples and description when applicable to apparel.

Counterfeiting. Counterfeiting has many names, a wide range of techniques in the actual process, and descriptions used vary according a wide range of conditions, the product, and intended consumer. Counterfeiting has numerous definitions, some more

descriptive and others more vague; however the central principle remains the same.

Basically, counterfeiting and copying is theft of IP, tangible or intangible, for direct or indirect profit.

Implications and actualization from counterfeiting is that of theft or other crimes. Theft of an idea or a product emanating from an idea may be challenging to prove and depends upon a number of factors. This theft has a number of names, which include and are not limited to copying, rub-offs, knock-offs, near-brands, and more often, counterfeits. Many types of products and items have been copied and produced, then sold as counterfeit items.

Berman (2008) classified counterfeit products into four distinct types. These are listed and briefly described:

1. Knock-off - look-alike, sound-alike; consumer usually is aware they are not purchasing the real name brand item
2. Tear-down - reverse engineering; created by obtaining an original to dismantle and analyze, intended to deceive consumers
3. Ghost shift manufacturing - third shift work; prevalent in outsourced or contract situations (more often in a number of Asian countries) when additional materials are obtained and products manufactured during an extra shift during, and after the contract has ended
4. Seconds - less than perfect but sold as first quality; may occur when outsource contractors do not return all goods marked less than perfect or do not destroy if supposed to do so, then reclaim these goods and sell as firsts.

In 2004, McCarthy was credited with defining counterfeiting activity as “the act of producing or selling a product containing an intentional and calculated reproduction of a genuine trademark, in other words, an intentional copy (4). As reported by Prendergast, Chuen and Phau (2002), McDonald and Roberts (1994); as well as Nia and Zaichowsky (2000), a deceptive counterfeit is as nearly 100 percent exactly like the original from which it was copied.

Related to counterfeiting is design piracy. Outright design piracy was identified earlier by Schmidt in 1983, specifically naming design piracy as “the copying of another manufacturer’s styles or designs” (p. 3). This, almost genuine, product is made to deceive consumers into believing it is the genuine article. However it is often lower quality in terms of performance, reliability or durability. These are items produced with intent to convince consumers they are obtaining the real items. In 2006, Bosworth reported on products identified as super deceptive products, which are copies of those which have been branded. These counterfeit goods appear identical and are impossible to tell from the original.

Further, deceptive counterfeiting as reported by Eisend and Schuchert-Guler (2006) and Chakraborty, Allred, Sukhdial and Bristol (1997) occurs when consumers believe they are buying a particular brand of product, which turns out not to be so. These deceptive counterfeited apparel products usually pose little or no health or safety risk to the public or the buyer and usually have little demonstrable impact on genuine brands according to Nia and Zaichkowsky (2000) as referenced in Eisend and Schuchert-Guler, (2006). Deceptive counterfeiting is defined as when consumers acquire counterfeit articles by not being aware on the underlying intellectual property infringement. Non-

deceptive counterfeiting occurs when the consumer knows full well the illicit nature of the purchased product. When either of the above occurs, it has been noted vendors or sellers use different sales tactics as they assess potential customers (Staake, Thiesse, & Fleisch, 2009).

If there were no counterfeiters, the premise is when the need or desire for one product starts becoming exhausted; there would be increased motivation for product development, an incentive to develop improved products. Thus counterfeiting may slow product development, as well as increase exponentially the cost of IP protection, new products, and loss of potential profits. This slowdown in turn leads to another part of the circle of product development to production to consumer and back to product development and to fewer dollars available to direct towards research and development.

Illegal and/or deceptive practices. Pirated goods and product piracy refer to products that are copies, but produced with the knowledge that the customer will be aware the item is not the brand item, but a fake according to questionnaires administered to convenience samples of consumers (Bamossy & Scammon, 1985; Nia & Zaichkowsky, 2000). One note of importance to a majority of consumers is the goods are usually sold at a fraction of the price of the original. A variation on this theme is sometimes referred to as non-deceptive fakes, and again, the consumer should have indications, such as a much reduced price or a pricing analogy that cues them that these products are not genuine (McDonald & Roberts, 1994; Wee, Tan, & Cheok, 1995).

A knock-off is similar though not identical to the original item (Ha & Lennon, 2006). In 1999, Lai and Zaichkowsky found that imitations and knock-offs were not identical to original products, although they were very similar in name, form, meaning,

substance or intent. Essentially, these items are meant to confuse or trick the consumer by being very close to the original, but not quite identical. By definition these are not counterfeited. Prendergast et al. (2002) describe these imitations as replicas or trademark designs of branded products made by legitimate craftsmen as custom-made copies, though still just outside of the legal selling zone.

Gray area counterfeit goods, reported by Wada (1996), are those produced in factories that been contracted by brand manufacturers, perhaps from the United States, to produce more quantity than actually required to fulfill orders. This extra quantity produced as over-runs, is made with the blatant intent to sell illegally, and not through a (legal) brand distributor in the United States or other approved distribution channels (McDonald & Roberts, 1994). Similarly, gray-area goods is a phrase used to describe goods that are genuine with genuine trademarks and labels, and sold outside of authorized distribution channels worldwide (Ha & Lennon, 2006) While not counterfeit because, they are not copies this practice is illegal and does pirate the design for the benefit of someone besides the original designer.

Industrial espionage related to counterfeiting or piracy of designs was referenced by Schmidt (April 1983) from Prosser, Handbook of the Law of Torts of 1971. It was defined as when “a copyist actually takes wrongful physical possession of another designer’s designs, in which case, both the laws of conversion and those protecting trade secrets provide recourse” (Schmidt, 1993, p. 863).

Eisend and Schuchert-Guler in 2006 used the phrase “near brands or logos” summarizing the legal suit brought against Sears, Roebuck and Company by the original “Jollitops” brand. Sears, Roebuck and Company created a similar product and sold it for

a time as “Jollytops and Jolly-Top.” The suit was settled in favor of the original “Jollitops” brand. Near brands are products that are sold under a brand name that is so similar to the original brand name that the consumer is often deceived when buying the product.

Ghost shifts and bootlegging are two interesting phrases of describing the production of counterfeit and pirated goods reported by Jacobs, Samli and Jedlik, (2001); Phillips (2005); Parloff (2006), and Berman (2008). A production run of outsourced luxury products, which the counterfeiters can often sell at a higher price even if made of lesser quality materials. Because these products are outsourced and made in a factory away from the company that owns the brand, these products are made in the same design as the original, using the same patterns, equipment and are made to identical specifications as the original items

Counterfeits - Consumers and Suppliers

If consumers know, or learn, that purchasing counterfeits and other forms of pirated goods is wrong, one may wonder why they keep doing so. This topic is covered by a broad range of researchers from an increasingly multiplicity of viewpoints and fields of study (e.g., Bian & Veloutsou, 2007; Bloch et al., 1993; Bush, Bloch, & Dawson, 1989; Eisend, & Schuchert-Guler, 2006). It is not the topic of this research project; however, because this topic is relevant, a brief overview is included that addresses this issue.

In 2009, information retrieved from EBSCOhost Business Source Premier reported from 1976 to 2006 the number of counterfeiting publications in varying forms (e.g., academic and practitioner journals, Industry Profiles, Country Reports) alone grew

from zero to well over 2,000 (Staake, Thiesse, & Fleisch, 2009). This increased research interest points to a problem that is gaining ground, rather than being solved.

The International Anti-Counterfeiting Coalition (IACC) in 2008 estimated five to seven percent of world trade is in illegitimate goods, as reported by Cheung and Prendergast (2006), and supported by Norum and Cuno (2011) in their analysis of the demand for counterfeits. Documented value of trade goods in 2010 by the IACC exceeded \$600 billion annually on a worldwide basis (Norum & Cuno, 2011). Norum and Cuno's research (2011) also revealed the problem has grown over 10,000 percent over the past 20 years. These are significant numbers in the amount of goods, dollars and jobs; dollars essentially being stolen from legal owners who could make legitimate product sales.

At one time luxury goods were the most often counterfeited products. This might include the latest Hermes Birkin[®] and Kate Spade[®] products that are often copied and sold at well attended private purse parties (Phillips, 2005; Giroud, 2008; Betts, 2004). Hosts for these parties with a select, invited clientele easily clear \$2,000 to \$4,000 for less than 4 hours work weekly; little wonder some people both buy and sell counterfeits. This type of buying and selling to individuals is a form of non-deceptive counterfeit promotion because the buyer knows the purse is not a real name-brand product.

Fashion counterfeits are seen by some consumers as a substitute for upscale designer brands. Purchases are made for themselves, and often tourists will make purchases for gifts. The 2007 study by Bian and Veloutsou surveyed both British and Chinese consumers who admitted to knowingly purchasing non-deceptive counterfeit products. No correlation was found related to demographics, however in both countries

those surveyed voiced a low opinion on counterfeit products in general, but they perceived the average quality, which was at a lower cost to them, as similar compared to logo products.

In attempts to curtail counterfeits, legitimate manufacturers must either increase the prices of their merchandise or absorb costs for the means they must use regularly. A number of steps taken, at a variety of times, at different levels within the various processes to protect against counterfeiting include, and are not limited to:

1. altering product presentation,
2. product modifications,
3. investment in technology to create special inks used in barcodes,
4. holograms on the package, the label, or within the barcode,
5. hard-to-copy trademarks,
6. heat transfer labels,
7. invisible inks,
8. unique thread, and
9. merchandise-tracking technology.

This list was reported by Bush et al. (1989), and via website www.just-in-style.com in 2008.

An example, in the mid-1980s, of an extreme such measure by Levi Strauss & Company[®], which helped reduce its counterfeiting problems and is an ongoing program, was adding a unique pattern of fibers to the garment labels (Bush, et.al., 1989). However, although the Levi company considered this a major problem, “according to a July 2, 2011 *Wall Street Journal Report*, the intellectual property division of Levi Strauss & Company

denim wear employed at minimum 40 people around the world to monitor counterfeit trade in their products” (Holmes, 2011, p. 2). This employment is a small percentage of all the employees working for Levi Strauss & Company. A number of textile manufacturers have taken further steps with implanting RFID tags during the weaving or knitting processes of piece goods or fabrics (Wong, Hui, & Chan, 2006).

On occasion, consumers have been asked to report suspected counterfeits; the risk of this to legitimate producers is consumers will come to associate a particular brand or company with counterfeiting, which may in turn affect sales and perceptions of quality (Bush, et.al., 1989). Regardless of those who purchase or those who see counterfeit products and their statements that what they do harms no one, this is false. Damages from counterfeiting are measured not only in lost sales and tax dollars, but also in lost jobs for those working in the legitimate, legal businesses and manufacturers. When products are made by underpaid workers, legitimate workers are not paid. In addition to loss of income and profits, counterfeit goods may cause harm. Harmful fake fertilizers, medicines, automobile and aircraft parts put thousands at risk daily (e.g., Bush et al., 1989; Crandall, 1986; Phillips, 2005). “As of late 1988 fourteen airplane crashes and at least two deaths have been attributed to counterfeit aircraft parts” (Bush, et.al., 1989, p.2).

Legal issues for apparel. Apparel, or fashion designs have historically had a vague place within the official Copyright Laws, section 101, as intellectual property (IP). At various times, depending upon circumstances, apparel products, or designs, apparel or fashion products do or do not fit neatly under intellectual property protection laws. For

example, a protective finish or a pattern in printed fabric may be protected by law but the shape of a sleeve or the flare of a skirt may not be protected.

Documented copyright laws may be found as far back in history as 1769, however some references are made in historical works that indicate forms of protection have been used for a longer period of time, though in slightly different ways. An example that is not apparel but shows the importance of copyright work is for a wine amphora, a stopper, dated 27 B.C., and found close to Arles in the south of France. This item is on display in Paris, France the Museum of the Union des Fabricants (Association of Manufacturers). The object, which thus far holds claim to be one of history's first copies or knockoffs. It was created in an effort to pass off less expensive French wine to Roman soldiers who much preferred more expensive Italian wine. An illiterate French wine dealer thought to create a copy of the original amphora to use when he put less expensive wine in original containers, and make more money selling wine that did not have to be shipped from afar. Unfortunately for him, he made very poor copies of the original amphora, and he was captured and hanged (Phillips, 2005).

An early textile example related is a Flemish tapestry that was highly prized in the mid-1500s. Because of its value, Emperor Charles V put in place a law to amputate the right hand of anyone caught who put a false mark of authenticity on tapestries in an effort to fool traders. Not much later, in 1564 leader Charles IX of France introduced the death penalty for illegal copying - counterfeiting. Holding to this law even 102 years later, Carcassonne's counterfeit drapers were sentenced to the pillory (Abalos, 1985; Phillips, 2005).

The fashion sector has been slow in gaining acknowledgement by the legal community in development of “specific tools and treatises to serve its fashion clientele” (Jimenez & Kolsun, 2010, p. xv). Contributing to this delay may be the fragmented characteristics of the overall fashion industry (e.g. fibers, textiles, predictions, design research, business sizes, off-shore manufacturing, customs, and advertising) and the industry’s propensity to work in secrecy while studying others for trends.

Fashion law, at least in the United States, is a relatively new area of interest, partly because of the numerous factors involved (e.g., multiple industry segments, variety of products, multiple raw materials). The first fashion law college course is thought to have been taught at the Fashion Institute of Technology in 2006. Fordham University in 2008 offered the first fashion law school program. However, there seems to be reluctance for those in the legal profession “to use the designation of fashion law, and even fewer to refer to themselves as fashion lawyers” (Jimenez & Kolsun, 2010, p.3).

By the 21st century, approximately 100 bills have been submitted to the US Congress in pursuit of design protection laws and systems for apparel products. However, laws to protect intellectual property in forms such as copyrights, trademarks, and patents have not been attended to on a regular basis through the years. The 1946 Federal Trademark Law, often called the Lanham Act was basically all the United States had in effect until 1976.

Copyrights were officially placed under federal control in the United States as a result of the Copyright Act of 1976, which became effective January 1, 1978 (Keiser & Garner, 2008). “A copyright refers to the set of legal rights granted to authors or owners of a published or unpublished literary, scientific, and artistic works that are fixed in a

tangible from. This includes the right to perform, or display the work and the right to create derivative works (Keiser & Garner, 2008, p.198).

In 1984 the U.S. Congress responded to industry demand for tough legislation by passing the Trademark Counterfeiting Act (Bush et al., 1989). That specific act featured three major provisions. The first provision named counterfeiting as a criminal offense with jail terms stated for individuals and multimillion dollar fines for business offenders. The second provision stated that convicted counterfeiters must pay treble damages, attorney fees and investigator fees in nearly all cases. This was an important provision as previously, the wronged companies had to absorb costs related to prosecuting a counterfeiter. The third provision authorized seizures of counterfeit goods without notice to the probable defendant. This was in the event that a counterfeiter, with notice of possible legal action would be likely to destroy or hide counterfeit evidence or goods.

A significant change in copyright duration was created via the Sonny Bono Copyright Term Extension Act of 1998, which made provision for those items copyrighted on or after the 1978 Act. Some of the more important provisions were to protect the copyrighted item(s) as long as the author (creator) lived, plus 70 years after the author's death. If there were additional authors, the protection is extended the 70 years after the last survivor's death. This extension is recognized by many as a means to facilitate easier protection of the music, movies and theatrical industry products. However, the nature of creativity involved in music, movies and theatrical products is similar to that of apparel product and accessory design, therefore more coverage was also provided for fashion designers.

It can be expensive to protect IP, whether an individual or a business. A case study example of trademark, copyright, and patent costs included in Keiser and Garner's 2008 textbook was derived from a fictitious "W" handbag created by authors Casabone and Tucker (2006) for *Women's Wear Daily (WWD)*. While this is representative of one product group, the steps listed are required for anyone applying for a trademark, copyright, design patent, and/or utility patent. In this fictitious 2006 example, obtaining all three levels of protection could cost at minimum \$2,000 to \$5,000.

Blanket copyright protection is not currently afforded under the United States Copyright Law because it offers only limited protection to design of useful or utilitarian articles (Schmidt, 1983). Apparel has traditionally been considered as such. Apparel, in this situation, has been considered a utilitarian article, particularly items that are used for protection, such as rain gear. In limited instances, specific surface designs or artworks have successfully been copyrighted (Scarves by Vera, Inc., 1959).

Much activity related to copyrighting protection and counterfeit detection and prosecution has occurred recently in the apparel industry as seen by the law suits and legal hires noted in the trade literature. Design Houses and Brand Name companies and designers have begun to file lawsuits against one another.

One argument against approval of a number of apparel related counterfeiting laws is that attempting to enforce them is a nearly impossible task of attempting to police design work. It has also been argued that the already over-burdened court system will get flooded with frivolous lawsuits. However, based on laws that have been in effect in Europe for some time, (Keyder, 2005; Richardson, 2004) those courts have not had an overabundance of lawsuits related to apparel design.

Many types of products and items have been copied, produced, and sold as counterfeit items. Counterfeiting or copying by any name is costly in many ways to product developers, consumers, manufacturers, and the economy. In 2007, the U.S. Chamber of Commerce estimated that “intellectual property theft costs domestic companies between \$200 - \$250 billion a year in lost revenues and has resulted in a loss of 750,000 jobs in the United States” (Olson, Graham, Maltbie, & Epperson, 2007). In addition, counterfeit goods make up an estimated five to seven percent of the total world trade, resulting in lost economic opportunities, domestically and abroad.

Increased use of web-based sales sites has created an expanded marketplace for illegal activity. For example, Matlack and Mullaney (2006) reported among test purchases of 300,000 advertised Dior products and 150,000 Louis Vuitton items offered on eBay® during the first six months of 2006 at least 90 percent were counterfeits. Tiffany, in 2004, randomly purchased 186 items to discover only 5 percent were genuine as advertised (Chao, 2006).

Organizations and associations. Legal momentum has increased worldwide as more individuals, private companies, and governments have little choice but to name the problem and explore ways and means of seeking deterrents. Much of this need first became problematic when the realization that more than apparel was being counterfeited, pirated, or otherwise interfering with personal needs and uses, loss of jobs, and of course, bottom line profits.

Organizations across a number of countries have been created at various times to address counterfeiting issues. A limited number are provided as examples (see Table 2.).

Reviewing this limited list, one gets a sense of the seriousness of the problem, and that many have in the past, and continue seeking ways to address and stop the problem.

Table 2. Examples of Organizations and Associations

Organization	Acronym	Country or Area of Origin	Date Created
Agreement on Trade-Related Aspects of Intellectual Property Rights	TRIPS	G8 countries (WTO)	1994
Anti-Counterfeiting Trade Agreement	ACTA	U.S.	1989
Cariforum Economic Partnership Agreement	CEPA	EU	2004
Coalition against Counterfeiting National Intellectual Property Enforcement Council and Piracy Intellectual Property Enforcement Initiative: Campaign to Protect America	CCPIPEI	U.S. Chamber of Commerce	2007
Fashion Originator's Guild (created under New Deal Policies; FOGA had short life)	FOGA	U.S.	1941
Global Business Leaders Alliance Against Counterfeiting	GBLAAC	Various industries world wide	2004
National Intellectual Property Enforcement Council	NIPEC	U.S.	1996
Patent Law Treaty	PLT	EU and U.S.	2000
Prioritizing Resources and Organization for Intellectual Property Act (White House H.R. 4279 created "IP Czar" position)	Pro-IP	U.S.	2008
Scrivener Regulation	n/a	EU	1995
Security and Prosperity Partnership of North America	SPP	U.S.	2005
Standards to be Employed by Customs for Uniform Rights Enforcement	SECURE	Interpol	2007
Strategy Targeting Organized Piracy	STOP!	U.S.	2004
Substantive Patent Law to replace Patent Law Treaty	SPLT	EU and U.S.	2006 (not enacted)
Tariff Act	n/a	U.S.	1930

Organization	Acronym	Country or Area of Origin	Date Created
The International Anti-Counterfeiting Coalition	IACC	U.S. Home office; Numerous world-wide member organizations, associations, manufacturers	1979
The Lanham Act	n/a	U.S.	1946
The United States Patent and Copyright Office	USPCO	U.S.	1790
Trademark Counterfeiting Act	Sonny Bono Copyright Term Extension Act	U.S.	1984 Update 1998
U.S. Council of International Business partnered with International Chamber of Commerce to launch Business Coalition to Stop Counterfeiting and Piracy	BASCAP	U.S.	2005
U.S. Digital Millennium Copyright Act	DMCA	U.S. (WIPO)	1996
World Intellectual Property Organization	WIPO	World Wide	1967

Chapter 3

Methods

In a global, competitive marketplace, apparel product developers have a primary objective to provide consumers with product(s) that will be selected for purchase from the many alternatives available (May-Plumlee & Little, 2006). Within the context of this creative process, the purpose of this research is to explore industry personnel's perceptions of the apparel industry practice of copying, which may include design idea, style knock-off, pattern rub-off, and product counterfeiting, and how and when these activities become part of the apparel product development process.

Research Questions

This study aims to establish an industry definition of copying, or knock offs of styles or designs created by someone else or from another company, and to provide some direction to companies in the apparel industry about how and when to use copying and what can be done to protect products. In an effort to find where this process occurs in the product development process and how and why it is introduced into and controlled in the process, research questions were developed. The following over-arching research questions were formed from the research objectives (see Chapter 1) and are the basis of this exploratory research study. These questions guided the development of the instrumentation, data collection and data analysis:

1. How does the apparel industry define copying, including knock-offs and counterfeiting of all or portions of a style?
2. How do company employees determine the need for copying other garment(s) during the product development process?

3. At what point during apparel product development processes does copying parts of or a majority of a garment begin?
4. When does a company create completely original designs, with no copying?
5. What do companies do to educate, train, and inform employees about copying, knocking-off, and counterfeiting?
6. What do companies do to evaluate their product for copying, knocking-off or counterfeiting potential?
7. What company procedures or guidelines are used to protect the company's own products from copying, knocking-off or counterfeiting after they are released?

Research Design

The study is exploratory in nature, seeking a definition, and identifying a specific point in the product development process, when a certain activity (i.e., copying) is more likely to be performed. Therefore, qualitative methods were used to achieve the objectives of the research. Qualitative research is defined as “any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification...some of the data may be quantified as with census data but the analysis itself is a qualitative one” (Strauss & Corbin, 1990, p. 17). Strauss and Corbin (1992) reiterate that “qualitative research is useful for finding information where little is already known (Carroll, 2001, p. 89).” The lack of literature on this research topic as well as the need to gather in-depth information from industry professionals, who are often busy and concerned with protecting trade secrets, further justifies the study.

Validity and reliability of research design. Using an exploratory research design for this study was the most appropriate approach due to the lack of existing research on the focused topic. Extensive research exists about many aspects of the product development process (e.g., Gaskill, 1992; Kincade et al., 2007; May-Plumlee & Little, 2006); and another extensive research set exists on consumer reactions and influences related to counterfeiting (e.g., d’Astous & Gargouri, 2001; Loken et al., 1986). In contrast, a review of past and current literature pertinent to the apparel industry revealed that no specific information appeared to be available identifying an apparel industry definition of when copying and knocking off of garments is utilized and developed from the industry viewpoint.

According to Babbie (1999) and Carroll (2001), exploratory research is done for three key reasons: (a) to satisfy the understanding of the researcher, (b) to pave the way for a more careful study, and (c) to test methods for that subsequent study. Justification for exploratory research can be applied to this research study in the following three ways: (a) the research idea has developed from personal interest and experiences of the researcher, (b) future research studies to further augment the literature should be possible with the different aspects of the current study, and (c) proposed methods can be refined and adapted for use in subsequent studies. Due to the exploratory nature of the study, qualitative, rather than quantitative research methods are most appropriate. Qualitative research is also useful for finding information where little is already known and for uncovering minute details that might be overlooked in statistical analysis (Strauss & Corbin, 1990).

Participants

This research took a cross-sectional approach within a qualitative design study when selecting the participants. Studies using this process involve taking a cross-section of an identified occurrence or a particular phenomenon at one specific time, with careful analysis (Strauss & Corbin 1990). The cross-sections for the participants of this study were those participants in positions of direct influence on apparel product development. The final participants included in the cross section were individuals in companies with quick turn-around in product offerings in order to meet multiple deadlines within a period of time, as well as the process of creating new products. Quick turn-around in product development coincides with traditional seasonal cycles, as well as the increasing use of “Fast Fashion” for interpreting designer ideas for store products in less than six weeks (e.g., Zara, H&M, Forever 21; Keiser & Garner, 2008). Most apparel companies have extensive pressures on their product development process to bring new and creative fashion to the retail store. Analyzing the perceptions of the participants from the cross-sections in detail, inferences were made about the industry definition and method of copying, time of occurrence, and those most likely involved in decision making.

The participants were purposefully selected. Creswell, (1998) explains that most important in qualitative studies collecting data from informed participants (i.e., phenomenological studies) is that the participants must have experienced the phenomenon being explored (p. 111). In this study participants are those who can relate to the product development process. Those who have experienced the activity, the phenomenon, are those more able to articulate their experiences. These positions are those that most often have influence on creative design for upcoming seasons. These

positions range from product developer, designer, associate designer, technical designer, associate technical designer, merchandiser, and associate merchandiser, to buyer and associate buyer, and in some instances those who work in sales, especially in showroom sales, which involves sales from manufacturers to retailers. These positions titles are those most often associated with duties which may influence upcoming styles as well as having direct input on upcoming seasonal collections.

A number of techniques were used to locate a pool of participants who are employed in relevant positions in the apparel industry. A potential list of participants was created based on personal and departmental contacts within the apparel industries. The list is held in confidence throughout the study and beyond to protect the individuals involved and their proprietary job information. Only aggregate information and unidentified comments were published. The initial query and request for participation was made via email.

In order to obtain relevant information according to the research questions and goals, several position responsibilities were identified and were used to provide a qualitative judgment for the participant array. Those involved within the product development process are those most likely to provide relevant information. The product development process within a company might range from those analyzing trends, merchandisers who travel the world in search of fashion-forward garments, or details or combinations of interest. The designers, individually or as a team, may have their own ideas, or may rely on guidance from others. Potential, but not inclusive, job titles are product development manager, assistant product development manager, forecaster,

showroom manager, and trend analyst. Personnel in retail are included only when their primary job task involves product development.

Participant number. The participant number desired for this study was 20. However, when the final date for the survey participation was reached the participant number was accepted at that level. Although not a large sample number from some quantitative researcher viewpoints, the size is appropriate as stated by recommended research methods and as compared to similar research in the apparel literature. A sample size of 10 participants is acceptable, though a higher number adds strength to results (Creswell, 2013). In previous apparel industry studies, Carroll (2001) began with 10 participants and 1 withdrew; Endo (2000) completed with 20 out of 35 participants; Regan (1997) worked with 34 participants from 3 companies; Scott (2006) completed the study with 5 out of 5 participants; Vass (1995) completed with 38 subjects from 3 companies; Kang (1999), worked with 10 subjects from 10 companies.

Participant validity. Purposeful selection of participants in this study gives strength to information collected from the subjects queried. This is a form of a non-probability judgmental sampling technique where the researcher selects the persons to be sampled based on experience, knowledge and professional judgment (Zikmund, 1994; Scott, 2006). This type of sampling is often used with a limited or small number of individuals possessing a specific realm of information or experience. The sample goal for this research was employees in the apparel industry, holding positions specifically related to the apparel product development processes.

Although potential weaknesses may be present in the use of judgmental sampling, as with most research methods, the best means of avoiding sample error is in selection of

those most experienced and knowledgeable in the topic of study. For this study, there was no randomization in selecting this study sample, and there is minimal probability that members of the general population would be able to provide the required insight into the research problem. Realizing that failure to take into account all of the numerous experimental errors and biases, this sample group was selected with care based on a number of criteria. A criterion for study participants includes and is not limited to the following (see Table 3).

Information for the Criteria for Sample Selection was derived from the website www.onetonline.org after searching for apparel manufacturing. The website, O*NET OnLine has replaced the Dictionary of Occupational Titles (D-O-T). Previously, D-O-T was a tool used to match job seekers to positions from 1938 to the late 1990s, and was a publication of the United States Department of Labor. A similar listing of jobs was used by Roth (2010) in her study of working women and apparel choices. In addition, Kang (1999) used D-O-T listings and length of job experience in the apparel industry as important features in her sample collection.

Creating and using these criteria was a valuable tool in subject identification and data results. This helped avoid potential bias in selection of suitable subjects, avoiding those more likely to give the researcher or the subjects' perceived desired results. The researcher acknowledges the unofficial fashion centers of the United States are New York, Atlanta, Dallas, Chicago, and Los Angeles, which is supported in literature (Kincade & Gibson, 2010), and attempts were made to identify potential subjects from each area.

Table 3. Criteria for Sample Selection

Company Type	NAICS Subsector 315 – Apparel Manufacturing
Company Product Type	May range from Hosiery to Neckwear; including Accessories; Apparel Findings and Trims
Occupation Titles may include	Designer: Associate, Assistant, Technical Product Developer Merchandiser: Associate, Assistant Buyer, Associate Buyer Sales Production Management
Core Tasks	-Confer with sales and management executives or with clients to discuss design ideas -Identify target markets for designs, looking at factors such as age, gender, and socioeconomic status -Examine sample garments, modifying designs to achieve desired effects -Attend fashion shows, review visual and print media to gather information about trends and consumer preferences -Adapt other designers' ideas for the mass market (www.onetonline.org/link/summary/27-1022.00)
Length of time in Industry	2 plus years of continuous experience with at least one promotion

Instrumentation

The instrument for the study was an online survey with open-ended questions and fixed-response questions. The fixed-response questions included graphs or diagrams to guide respondents' answers. Each research question had a main section in the survey with multiple survey questions for each research question (see Appendix C - Questionnaire). Section 1 of the survey corresponds to research question 1 and so forth for the subsequent questions.

Validity of the instrument. Validity of a survey or other data collection instrument asks the question, are these the right questions and are they important for the outcomes of qualitative and quantitative studies (Strauss & Corbin, 1990). The question format follows the format of Kang (1999) and Scott (2006) who collected data from apparel industry employees. In addition the content of the survey questions is based on apparel literature, including theoretical and research studies of the product development model (e.g., Gaskill, 1992; Kincade et al., 2007; LaBat, & Sokolowski, 1999), and on the steps and stages of the product development model presented in summary of the product development literature in Chapter 2.

Pilot test. The survey, both format and questions were also pilot tested with industry experts. The researcher examined two issues when conducting the pilot test: (a) validation to ensure that the wording makes sense, the correct terms for the industry are used, and the questions are a fit to the research questions, and (b) a check that the format of the survey was understandable and workable through the online format for industry personnel who would receive the link by email. In addition to observing the actual

answers to the questions, feedback from the pilot test participants was solicited by the researcher through email and from write-in comments within the questionnaire.

Two groups of pilot test participants were asked to participate. One group had experience with academic procedures and could provide feedback about the efficacy of the survey instrument format. The other group had industry experience and could provide feedback about wording and actual responses to the questionnaire. In total 15 people were asked to participate and provided feedback. As a result of the feedback, the wording of one question was revised, additional responses were added to several of the questions and some refinement was made in the format of the questionnaire.

Reliability of the instrument. The reliability of an instrument is a measure that it is consistent over time, or that when used over and over with a series of respondents that they will view it the same. Reliability is a repeatable issue and continues to be important even in qualitative research (Strauss & Corbin, 1990). Using a structured instrument with each person getting the same directions with the same questions, not random questions, is an important way to maintain reliability. This is a structured protocol (Creswell 1994) the structured protocol is the same kind of instrument used by Endo (2000), Kang (1999), Regan (1997), and Scott (2006), with effective results in apparel industry research.

Reliability was also enhanced with the use of multiple participants in the pilot study and a comparison of their feedback. In addition, a few questions (e.g., question in block 1 – definitions) ask for similar information but requested in separate ways. The pilot test showed that similar information was gathered but the detail in one question was more extensive than in the general definition question. Both were useful to meeting the objectives of the study.

Data Collection Contact or Method

Initial contact with the sample was initiated via an email to 20 participants. In the email, the participants were told about the study and asked for their participation. The email included a link to an online survey. Qualtrics® through VT Survey was used for creating and distributing the survey. The survey contained an opening statement that advises the participants of the Institutional Review Board (IRB) information and their IRB protection and rights. A question at the end of this page requested their acknowledgement of this step. The IRB information was included with the survey as the first page, and information in the opening query assured the participants of confidentiality of their responses. Participants were also told of the importance of the study and the researcher's role as a graduate student.

A closing date of the survey was included in the email with the survey-link. A reminder email with the link was sent to participants three days after the first survey-link email with a reminder of the closing date. When the closing date passed, data collection was stopped.

Validity of data collection. Qualitative interviews and surveys are valid means of gathering in-depth information about the nature of the problem and the factual evidence relating to that problem (Rubin & Rubin, 1995). Qualitative interviews have been used in the apparel field to gather data from company personnel (e.g., Jones, 1999; Lamb & Kallal, 1993; Kang, 1999; Regan et al., 1998). The definition for research interviews has been expanded to include not only face to face, but also phone surveys, internet-facilitated questionnaires and surveys (i.e., online surveys) conducted without researcher hands-on, face-to-face assistance and guidance (Dillman, Smyth, & Christian, 2009).

“Prior to the 1960s, a respondent guided by prevailing norms of politeness would be approached by an interviewer, usually a woman who was dressed appropriately to sit as a guest in one’s home and engage in a fairly comfortable conversation.” (Dillman et al., 3). By the late 1960s, area codes made direct dial long distance telephone calls possible, which added another tool for researchers. Moreover, by 1970, about 87 percent of U.S. households had telephone service. At about the same time, random-digit-dialing (RDD) procedures were being developed that made it possible to randomly select households, and once someone answered the phone, an interviewer could ensure that the proper person in the household was interviewed (Dillman et al., p. 5).” By the 1990s it had become a nuisance for many to answer telephone calls in the evenings (the ‘dinner hour’) no matter if it were a solicitor, politician, or for survey research.

The increased use of personal computers, ever more availability, in addition to the internet development, has created a growing preference for email, especially in work organizations, and for many individuals. “Email has also replaced postal mail for many letters, memos, and surveys as they become email attachments” (Dillman et al., p. 4). Further, as uses for the internet have grown, one area that has expanded is social media and other sites, MySpace[®], FaceBook[®], LinkIn[®], Pinterest[®], and Instagram[®] are just a few websites, which contribute to more people maintaining contact, making on-line acquaintances, as well as being more accessible to searches for specifics. For example, it is possible to search FaceBook[®] for those associated with apparel, or a place of employment.

Further, many companies, retailers, and suppliers maintain staff to create business sites for advertising, sales promotion, and customer feedback. As the internet has grown

and spread throughout the world, many companies, including apparel and related goods, sell direct to the customer at home. Recognizing the global world in which we currently reside, shop, and work, it appears reasonable to utilize this latest technology as a tool in this research.

Reliability of data collection. Data collection reliability is a measure of how the researcher in a qualitative study is going to collect and be consistent in the methods of collection. The use of the structure protocol including the survey instrument increases the reliability of data collection as it is the same with everyone who participated in the research study. The method includes the use of a structured instrument so that each participant received the same set of questions, and the researcher had a research protocol that guided how the approach to subject is made and how data was collected. Whatever the researcher says or sends, the researcher must do for everyone. Carroll (2001), Endo (2000), and Kang (1999) all used structured protocols with structured or semi-structured questions to maintain reliability effectively. Using this method means that the study is repeatable and with the structured protocol – all same questions are presented in the same order, which assists the researcher to avoid bias, and reduces built-in bias.

Data Analysis

Data analysis for the study was done holistically. The data analysis did not begin until data collection was closed and the researcher looked only at the responses after the deadline given for receipt. Qualitative methods of data analysis were used for the data and primarily followed the content analysis with constant comparative method. Continual processing for comparing the data to the emerging findings and to the research objectives, including the main terms in the research objectives, are important features of this

qualitative method. The data collection was structured into three main steps: (a) decontextualization, (b) contextualization and (c) recontextualization (Strauss & Corbin, 1990). Beach (1999) included eight steps or a multi-step process within the three main steps. Beach (1999) followed Tesch's (1990) that recommends that the qualitative researcher creates clusters of information, begins to identify topics, reads and processes the information. For decontextualization, the researcher breaks the clusters into pieces. For contextualization, the researcher used a highlighter with separate colors to identify each topic, or writes topics on index cards. Creswell (1994) calls this part of the process coding – reduce to meaningful sections, assigning to categories. The recontextualization is the process to put information back together in a new form in order to answer research questions. For recontextualization, the researcher put all pink passages or topics together and put all yellow together, and through this process themes or larger concepts emerge. Immersion into the data was vital to the successful three step process of qualitative data analysis.

Validity of data analysis. Validity of the data analysis strengthened the research study. Validity was enhanced by using content analysis and triangulation methods. This is a beneficial way to analyze the data so that the content of the data informing the research questions as the new findings emerge. Content analysis through the three step process is an accepted qualitative research method of both organizing and analyzing the data. This method has been used by numerous qualitative researchers including those who have studied activities through sampling employees in the apparel industry (e.g. Endo (2000), Kang (1999), and Scott (2006)).

Role of the researcher. Related to the validity of data analysis is the issue of the role of the researcher. In qualitative data collection, the researcher is the analysis tool (Creswell, 1994). For this reason a consideration of the background and perceptions of the researcher is presented in this section. The researcher recognizes that her interests, concerns, and knowledge about the industry and the issue of copying brings both a strength of understanding and a weakness of biased opinion. However, the researcher feels that the strengths of her background and level of interest outweigh the weaknesses of bias. The processes outlined in the previous section on data collection validity and in the subsequent section on data collection reliability are posed as measures to control the researcher bias. Because the role of the researcher is a personal issue for research, the following paragraphs are written in first person as suggested by Creswell (1994) to accentuate the researcher's involvement level.

My interest in counterfeiting grew as I taught students in my advanced patternmaking class how to copy or 'knock-off' their favorite pair of jeans. As I read about, and discussed with students, the nature of copying someone else's garment or design, I began to be both concerned and interested in how this practice was viewed in a broader sense, especially of its practice within the industry. One concern was that I was teaching students how to copy, to knock-off another's garment design. I could not personally reconcile that with the university honor code against plagiarism.

Questions came to mind as I considered this practice. If the method is published, does it make it a practice that should be taught? But even if written, published and practiced, I began to consider whether or not copying other's work, and teaching how to do so, was an acceptable practice. All this could lead an individual to believe that

copying work designed or created by another is an acceptable practice. At the same time, most of those teaching try to enforce and support the honor codes of their schools or employer mission or ethical practice statements.

Other questions I considered are why are these practices of counterfeiting, knock-offs, copying, rub-offs, thought necessary? Have we become lazy? Are we losing our sense of creativity? Are designers losing their creativity? Is it a matter of saving time, not re-inventing the proverbial wheel completely with each item? Have all apparel design products been created? If the entire item is not copied, at what point does it become 'original'?

At the same time, I had to acknowledge that creating knock-offs and copying garments were fundamental parts of the world in which I worked. This state of questioning is the root of my research project, which has several branches to explore while seeking a deeper understanding of this process, and the how, when, and who are participants. Through this research I seek to get a clearer perspective of the apparel industry viewpoint.

Reliability of data analysis. To enhance reliability, or the consistency, of the data analysis several qualitative techniques were used starting with a community of experts. These experts with knowledge of product development and other aspects of the apparel industry were peer checkers, who reviewed, and agreed or disagreed with the results or research findings. Discrepancies in the findings or across peer checkers were discussed with the researcher and revised as directed by the experts, the literature and the researcher. Peer checkers and expert evaluators were used throughout the research process, to maintain reliability of the research design by reducing researcher bias, as

recommended by Babbie (1999). Expert peer checkers were used in analysis of the data from respondents' surveys to determine if they see the same topics and recontextualization in the research.

Chapter 4

Findings and Discussion

In a global, competitive marketplace, apparel product developers have a primary objective to provide consumers with product(s) that will be selected for purchase from the many alternatives available (May-Plumlee & Little, 2006). Within the context of this creative process, the purpose of this research was to explore industry personnel's perceptions of the apparel industry practice of copying, and how and when these activities become part of the apparel product development process. Data for this study were collected from industry personnel in product development positions through an online survey.

Overview of Study

The study was exploratory in nature, seeking a definition, and identifying a specific point in the product development process, when a certain activity (i.e., copying) is more likely to be performed. Qualitative methods were used to achieve the objectives of the research. Qualitative research is defined as “any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification...some of the data may be quantified as with census data but the analysis itself is a qualitative one” (Strauss & Corbin, 1990, p. 17). Strauss and Corbin (1990) reiterate that “qualitative research is useful for finding information where little is already known” (Carroll, 2001, p. 89). The lack of literature on this research topic further justified the study.

Initial contact with the sample was made via an email to 20 participants. In the email, the participants were told about the study and asked for their participation. The

email included a link to the online survey created using Qualtrics through VT Survey. The survey contained an opening statement that advised the participants of the Institutional Review Board (IRB) information and their IRB protection and rights. A question at the end of this statement requested their acknowledgement of this step.

The reliability of an instrument is a measure that it is consistent over time, or that when used over and over with a series of respondents that they view it the same. Reliability is a repeatable issue and continues to be important even in qualitative research (Strauss & Corbin, 1990). Using a structured instrument with each person getting the same directions with the same questions, not random questions, was an important way to maintain reliability for this study. This structured protocol and instrument administration was adhered to throughout the pilot test and participant surveys. Pilot test feedback aided in readability, and clarification of question intent.

Reliability of the survey was also enhanced with the use of multiple participants from the apparel industry in the pilot study and a comparison of their feedback. In addition a few questions (e.g., questions in block 1 – definitions) ask for similar information but requested in separate ways. The pilot test showed that similar information was gathered but the detail in one question was more extensive than in the general definition question.

Participants' Profiles

The survey was provided to 20 identified apparel industry potential participants. Of these, 11 accessed the survey with 10 choosing to participate. One participant chose not to participate citing lack of time to clear participation with the Human Resources Office where employed. All ten completed surveys were complete and useable. One other

potential participant indicated in a separate email that she was out of town because of a market show, and a third potential participant indicated that she was not at a computer and could not access the survey on her cell phone. Another potential participant emailed and said she had trouble with the online linkage and was blocked from continuing her responses.

Four survey participants reported 2 to 5 years of experience in the apparel industry. Three had between 6 to 9 years, while the remaining 3 had 10 years or more of apparel industry experience. This provided the data set with participants having a range of experience from the expected two or more years to extensive experience. Position titles of participants ranged from Senior Designer, Sales, and Business Process Analyst. Other position titles reported were Product Developer, Designer, Customer Insight Manager, Visual Merchandising, Wholesale Manager, Technical Designer, and Marketing. Of the titles listed in the survey and obtained from the previous D-O-T listings, and the website O*NET OnLine, only a few were chosen, most participants selected other and wrote in their title. Although the wording varied the titles were all within the realm of product development. The variety of titles is indicative of the variation noted by Gibson and Kincade (2010), as revealing of the apparel industry's uniqueness.

The primary product category reported by six participants was Women's wear. One participant each reported Menswear and Childrenswear as the primary product category. Of the remaining two participants, one selected women's accessories and one selected other and wrote in all listed. The product categories were well representative of the product categories in the industry, as women's wear is generally known as the largest segment of the apparel industry (Kincade & Gibson, 2010).

For the primary product type, four participants selected other and listed (a) tops and bottoms, both knit and woven, with no additional clarification, (b) outfitting, (c) everything, and (d) most of the above. Also reported were dresses and accessories (2 each) and one each for pants and athletic wear. Again, the participants' companies represented the wide variety of products that are produced in the apparel industry.

Definitions of copying, including knocking-off and counterfeiting (RQ1)

The first survey block was Definitions. In this section, participants were asked to define copying, knocking-off, and counterfeiting, separately. In addition, participants were also asked to describe the process of copying, knocking-off, and counterfeiting, separately.

Copying. While some degree of similarity was observed in several of the definitions of copying, such as taking existing products to create new products, there was distinction when participants used phrases such as copying “without changing anything” to “copying the idea and concept.” The definitions of copying responses could be clustered into four basic areas:

- a. The idea of duplicating the product,
- b. The use a similar pocket or design feature, indicating the use of the product for copying only a part,
- c. The use of the product only for research trends, and
- d. The use of elements from a trend.

Overall, these definitions covered the use of the entire product, the use for some parts of the product and the use for inspiration or trends. This definition covers copying among several aspects of the product development process. In addition, one participant gave a

process activity as part of the definition: “Purchasing with the intention of ripping apart and remake with minor to no tweaks,” which pushes copying even into the pattern development aspect of product development. No participants gave input from their final consumers or ideas from their final consumers as part of copying.

Knocking-off. When asked to define knocking-off existing products to create new products, there was some similarity in several of the definitions. This similarity can be summarized as a copy with variation in price point, which Participant 1 described as “The *gist* of the style is the same in the new product, but is a less expensive version.” However, there was distinction when participants used phrases such as “using a piece to inspire a new one” to “creating something similar with the intention to steal sales from the ‘first’ creator.” The points of variance among the definitions of knock-offs can be highlighted into three additional main themes:

- a. Copying part of a garment such as the style of art or art theme; or styling and fabric. Which Participant 6 described as “Creating a product similar to the original, but not substantially similar to the original.”
- b. Using a piece to inspire a new one. Participant 3 described this as “Taking a concept from an existing design, like collar treatment or color combinations, and reworking into something different and new.”
- c. Taking an existing product in the market and duplicating to make your own, which is similar to copying.

Several of the participants cited definitions that indicated that knocking-off was “less severe than copying” (Participant 2).

Counterfeiting. When asked to define counterfeiting of existing products to create new products, the participant responses were more firmly stated than when responding to copying or knocking-off. Basically, participants noted that the process of counterfeiting was an unauthorized or illegal copy of a product and often included copying labels or logos. This is very similar to the textbook type definitions of counterfeiting (McCarthy, 2004). In addition, a theme in the definitions was that counterfeiting was often perpetrated on products of known brands. Fake was a term that was often cited by the participants.

Examples of the responses included the following statements:

- a. Making an unauthorized copy...putting fake labels on it...
- b. Putting a designer logo/brand on a product they did not create,
- c. Making a copied product including labels and hang tags and selling it, ...at a much reduced rate,
- d. A fake replica of an existing product,
- e. ...copy of an existing product including the brand name or logo; illegal, whereas a knock-off may just be a similar product,
- f. Fake. Using a logo/brand name on an item that is not created by or backed by that brand, and
- g. Copying a luxury/high end company exactly, including logos for purpose of confusing the consumer.

In addition, two participants stated “I really don’t have any knowledge of counterfeiting.”

Process of copying, including knocking-off and counterfeiting

The second portion of the first survey block was for participants to describe the process of copying, knocking-off, and counterfeiting. Although some participants gave some process examples in their definitions and a few participants said very similar things in both the definition and the process responses, most participants gave more information and more detail in their process responses, which gave more clarity and depth to the findings.

Copying. The responses for copying had some similarities to the copying definitions in some instances; however, more detail was given by several respondents. For example, one respondent listed four varying processes of copying an existing product.

The most common activities for the process of copying include the following items reported by participants. Acquiring and taking a garment apart to create the pattern, while also examining fabric, stitches and seams was listed by six participants. Taking a photograph was mentioned five times by participants as a means to acquire information about style, color, print, and art work, in addition to sending either or both garments and photographs to factories to copy styles created by others. One participant explained that clients would “bring attributes from existing garments” and ask that they be combined; this participant did not consider this to be specifically copying. One participant reported sending samples to the vendor and have then try to duplicate exact styling, fabrication, fit, and artwork; this was the only participant who mentioned fit as part of copying. Shopping the market for trends was reported by two participants while one participant made a reference to using design elements from another style that fit the trends identified.

Knocking-off. As in the definition responses, participants reported in general that process for knocking-off styles was to create less expensive styles for consumers interested in a certain look, without paying the higher cost. Inspiration from existing styles, such as ‘taking a stripe combination’ or modifying ‘a funny snowman’ from a card, were additional examples of how Participant 5 described how knocking-off could be accomplished using ideas from other apparel styles. Using existing garments, buying or seeing the original was a step that six participants reported as the initial step in knocking-off a product. For the next steps, Participant 10 said “you would sketch up the design and write a package and proceed through the normal process of product development.”

For their customers, participants mentioned knocking-off was used to lower costs, “achieve a higher end look without the higher price tag,” (Participant 9), and make the product available at mass retailers at the lower price, with similar, but not the same logos. In the process response, participants were concerned with the idea step and the retail/customer steps on the Apparel Product Development Model, Phase One (see Figure 1). Concern with the retail/customer steps was also important to previous product development researchers (Carroll, 2001; Gaskill 1992).

Counterfeiting. Responses for the item processes for counterfeiting an existing product were brief. Two participants said they had never heard of counterfeiting and had no knowledge of counterfeiting. This was supported by their responses of how often the practices occurred. Copying and knocking-off were reported by participants (n=6) as being frequent techniques used. Counterfeiting was reported by three participants as rarely being used.

Several participants had negative perceptions about counterfeiting, including made in sweatshops, sold on the street, and had lesser quality and less durability. Participant 7 stated that profits can go towards terrorism and drug use. Participant 6 stated “I would believe most counterfeit items are produced outside the US and are snuck in illegally because they are claiming to be a product they are not.” This supports literature on counterfeiting (“Counterfeit sporting goods, 2011”). Counterfeits were also reported by participants as being cheap products that are manufactured with higher end product labels attached, also that the original labels are cut out of lower quality products and replaced with fake, higher-end labels. This fits the literature description of deceptive counterfeiting (Chakraborty et al., 1997; Eisend & Schuchert-Guler, 2006; Zaichkowsky, 2006).

Reasons for the need for copying other garment/s (RQ2)

Each Participant reported the importance of following trends as the need for copying. The importance of following trends reflects back to what Block, Rush, and Campbell (1993); Kim and Karpova (2010) discuss when reporting on the desire of consumers to want to ‘fit-in’ or copy the fashion of a group. Following trends helps product developers to design and manufacture saleable products.

Six participants (n=6) reported speed to market as another factor in copying styles. This speed to market is supported in the literature (Cordero, 1991; McDonough & Barczak, 1991). With the advent of Fast Fashion, the importance of getting the right product to market at the right time may make or literally break a company. Citing a lack of design personnel, use of customer feedback on repeat of best sellers, use of a trend service, as well as cost control were each reported by three participants. Most participants

responded about copying from products outside of their own products; however, one participant marked core brand image as a need for copying, indicating that the participant was copying previous or current products in the participant's own company. These responses indicate that copying might be both external copying and internal copying. Another Participant stated in 'Other' that it was done to capture new clients.

Points during apparel product development processes for copying (RQ3)

When asked about copying for ideas, participants reported three main interests. These were inspiration, trends analysis, and buyers preview. This is supported in previous Participant responses for copying and knocking-off in which they reported "the customer brought this to me." Participant 1 stated that "clients bring a number of attributes that they like from different products and ask for them to be combined." Referring to Figure 1 Apparel Product Development Model, note that participants have indicated through their responses that the Buyers Preview is taking place, and recommendations are being implemented sooner than shown in Figure 1.

Copying a portion of other's designs was the most frequently chosen type of copying. Within this section, the top three activities chosen were design creation, samples, and line development. Copying at any of these three points is supported by participant responses related to the process of copying. These portions were identified by the participants as color, print, art, trims, and style features.

Top reasons given by participants for copying the entire product were prototype development, specifications, pattern making, pattern grading, and contract production. Each of these is related to creating a style that has a certain fit, size range, and

manufacturability (Pitimaneeyakul et al., 2004). These are not specifically about the design creation of product development.

Complete original designs, with no copying (RQ4)

“Everyone is inspired by something” is a refrain in the responses. Participant 1 responded “in reality, all products are a derivative of another product.” Other participants responded similarly saying as Participant 4 did, “at the very least there is an inspiration picture of motive to create a design.” Participant 4 responded that “almost never does their company create a completely original design.” Participant 5 stated “it is easier to get to a new product if parts of an existing product are copied.” This practice of seeking inspiration from the environment leads one to question if copying is inherent within the apparel industry (Labat & Sokolowski, 1999).

Participants supported keeping in mind the cost of creating products, noted by Participant 6 that it is more cost effective to follow trends rather than trying to develop something completely new and unproven, “Customers like proven sellers.” Copying was also noted as being important rather creating completely new product, because it is important “to stay trend right, to stay relevant in the market, and to be profitable” (Participant 8).

Education, training, and information for employees (RQ5)

Fifteen responses were recorded for the survey item about what companies do to educate, train, and inform employees about copying, knocking-off, and counterfeiting. This number of responses indicated that multiple responses were received from one or more participants. Six out of ten participants indicated “Nothing is done.” Additionally, three participants selected the use of in-house legal, only. And a fourth Participant said

“we run all original artwork created through our legal department.” Considering the severity of the financial ramifications and the size of the counterfeiting problem in the U.S. apparel industry (e.g., Dosh, 2012), training and information reported by participants as provided to employees about copying, knocking-off, and counterfeiting was very limited for most companies as reported by participants. In contrast, Staake, Thiesse, and Fleisch (2009) reported a rapidly growing number of informative articles about counterfeiting.

Of the other types of education or training offered, one Participant each reported receiving informational emails; a requirement of online tutorials; a part of new employee training; and that another company holds training sessions. Additionally there was a response in the “Other” section from one Participant who said “We have a once a year presentation made by our product integrity team.”

Evaluations of company products for knock-off or counterfeit potential (RQ6)

There were 13 responses from nine participants to the survey item seeking information about what their company does to evaluate product for the possibility of others copying, knocking off, or counterfeiting. One participant did not give a response. This question was designed to elicit responses from participants in their words, not those of the researcher. The responses were varied, but three themes emerged. The first theme identified by five participants was a review by the legal department representatives. Next, four participants reported self-monitoring through the internet of their product using Facebook[®], eBay[®], and Craig’s List[®]. One participant reported monitoring through comparison shopping, which traditionally is recognized as market shopping. The phrase

market shopping was used by the participants for both copying for inspiration, and product evaluation of copied products.

The third theme reported by three participants was working with the customer (i.e. the buyer). Participant 1 stated that as a contractor, the responsibility to protect the product “falls on their client,” thus taking no responsibility. Two participants reported actually working with their clients to monitor products. One participant worded it as “It hurts their sales if it is available for less than they pay for it wholesale.” Participant 9 said “Speak with customers to see if they are purchasing product similar to ours but from different companies” as a means of protecting their product, as well as potentially growing their market.

Those responsible for monitoring products fell into three areas: legal department (n=4), designers (n=4), and everyone in the company (n=2).

Company procedures to protect product after release (RQ7)

Seven participants reported taking legal action through acquiring a trademark, filing for and obtaining a patent, and also obtaining a copyright. Traditionally apparel has not had legal protection. Blanket copyright protection is not currently afforded under the United States Copyright Law because it offers only limited protection to design of useful or utilitarian articles (Schmidt, 1983). Apparel, in this situation, has been considered a utilitarian article.

Use of technology was reported by one participant. Although a number of textile manufacturers have taken steps with implanting RFID tags during the weaving or knitting processes of piece goods or fabrics (Wong et al., 2005), these participants from apparel companies are not using this technology.

Keeping key or critical operations in-house was reported by four participants, this included control of fabrics and findings, and control of original molds. Lack of knowledge and not knowing if anything was done to protect the company product was reported by four participants.

When monitoring products after release the majority of participants reported monitoring the internet, such as eBay and other online resellers and retailers, and market shopping. The results were very similar to those received for Research Question 6. The same techniques were reported used both before and after product release.

Counterfeiting or copying by any name is costly in many ways to product developers, consumers, manufacturers, and the economy. In 2007, the U.S. Chamber of Commerce estimated that “intellectual property theft costs domestic companies between \$200 - \$250 billion a year in lost revenues and has resulted in a loss of 750,000 jobs in the United States” (Olson et al., 2007). In addition, counterfeit goods make up an estimated five to seven percent of the total world trade, resulting in lost economic opportunities, domestically and abroad. Although product protection is a serious issue, four participants reported their company did nothing actively to monitor products after release.

Chapter 5

Summary, Conclusions, Implications, and Recommendations

Summary

In a global, competitive marketplace, apparel product developers have a primary objective to provide consumers with product(s) that will be selected for purchase from the many alternatives available (May-Plumlee & Little, 2006). The study was exploratory in nature, seeking a definition, and identifying a specific point in the product development process, when a certain activity (i.e., copying) is more likely to be performed. Qualitative methods were used to achieve the objectives of the research. The lack of literature on this research topic further justified the study.

The survey was provided to 20 identified apparel industry potential participants. A structured protocol and instrument administration was adhered to throughout the pilot test and participant surveys. Pilot test feedback aided in readability, and clarification of question intent.

Of the 20 participants, 11 accessed the survey with 10 choosing to participate. All participants reported having two or more years of apparel industry experience. This provided the data set with participants having a range of experience from the expected two or more years to extensive experience. Although the wording varied, the position titles were all within the realm of product development. The variety of titles is indicative of the variation noted by Kincade and Gibson (2010), as revealing of the apparel industry's uniqueness.

The primary product category reported was women's wear. The product categories were well representative of the product categories in the industry, as women's

wear is generally known as the largest segment of the apparel industry (Kincade & Gibson, 2010). The participants' companies represented the wide variety of products types that are produced in the apparel industry.

While some degree of similarity was observed in the several of the definitions of copying, such as taking existing products to create new products, there was distinction when participants used phrases such as copying “without changing anything” to “copying the idea and concept.” Participants' definition of knocking-off can be summarized as a copy with variation in price point, which was described as “The *gist* of the style is the same in the new product, but is a less expensive version.” Participants also mentioned taking the idea as a purpose of knocking-off and included this in their definitions of knocking-off.

When asked to define counterfeit of existing products to create new products, the participant responses were more firmly stated than when responding to copying or knocking-off. Participants noted that the process of counterfeiting was an unauthorized or illegal copy of a product and often included copying labels or logos. Key reasons for copying products were reported as following trends and speed to market.

Regardless of the sample or the perspective of the researchers, the apparel product development process contains three basic phases, with numerous steps and processes not listed (see Table 1). The results show that the potential for some form of copying exists in any of the three phases; Phase One Problem Definition and Research; Phase Two Creative Exploration; and Phase Three Implementation. The most common activities for copying were inspiration, samples, line development. According to the participants, knocking-off occurred more often for pattern making and pattern grading. Participants

overall said “Everyone is inspired by something.” From the results, copying is inherent within the apparel industry.

“Nothing is done” was a common response to what companies do to educate employees, and how companies evaluate their product before release, and what company procedures protect their product after release. For the companies that did take action to evaluate their product, the two main activities were using in-house legal approval and monitoring through the internet. Of the legal actions taken, seven participants reported taking legal action through acquiring a trademark, filing for and obtaining a patent, and also obtaining a copyright. When monitoring products after release, the majority of participants reported monitoring the internet, such as eBay[®] and other online resellers and retailers, and market shopping. The same techniques were reported used both before and after product release.

Conclusions

In general, copying was defined as taking existing products to create new products; however, participants also used phrases such as copying “without changing anything” to “copying the idea and concept.” These phrases are different from the standard definition of copying given in apparel textbooks (e.g., Kincade & Gibson, 2010). Textbook definitions tend to be narrower or more focused on duplication. Participant responses to defining knocking-off were broader than textbook definitions. Knocking-off included taking a specific color, or color combinations, a style line, or using a piece to inspire a new item as well as the more traditional definition of knocking-off a branded or haute couture item to create a less expensive version of that original.

Participant responses related to counterfeiting were neither as detailed, nor showed concern to the level reported in the literature. In addition, employee education and training related to counterfeiting was lacking to very little at all. Counterfeiting is not considered by these product developers as a strong concern or responsibility at this time.

Few participants reported doing completely original work, and most said that copying is inherent in the apparel industry. Copying part or all of a garment was not viewed the same as infringing on a copyright, trademark, or patent. Legal tools and other formal protections were not used by the companies of most participants. In contrast, these tools were viewed important by others. Use of technology in product development protection was limited, while using technology (e.g., internet searches) were used for monitoring other companies' products. Shopping the market, in spite of technology use, has not gone by the wayside.

In Phase One of the process seen in Figure 1, the term, Buyers role, is at the end of this phase. Participants reported that Buyers were participating in product development much earlier in the process than reported in the product development literature. Figure 1 was modified to reflect the findings (see Figure 2, **Bold** = Additional Activity). Buyer suggestions and Contractor reviews were reported taking place by participants much earlier in the product development process than literature had indicated. These changes reflect current industry moves toward Fast Fashion and Concurrent Engineering and the understanding of actual production processes as important to product development; if it can't be cut or sewn, it is a waste of time, material, and money at product development. Trends remain important, but again trend services are not as important as textbook and literature indicate.

Copying activities indicated by participants were found most often in early product development activities (see Figure 2 Phase One section, Box 2; Dashed Line = Activities for Copying). Knocking-off activities were reported by participants as a later activity in the product development process (see Figure 2 Phase Two, Box 3; Dash-Dot Line = Activities for Knocking-off). Activities mentioned for counterfeiting by the participants is also shown in the Figure (see Figure 2, Phase One, Box 1; Phase Two Boxes 1, 2, and 3; Gray shading =Activities for Counterfeiting).

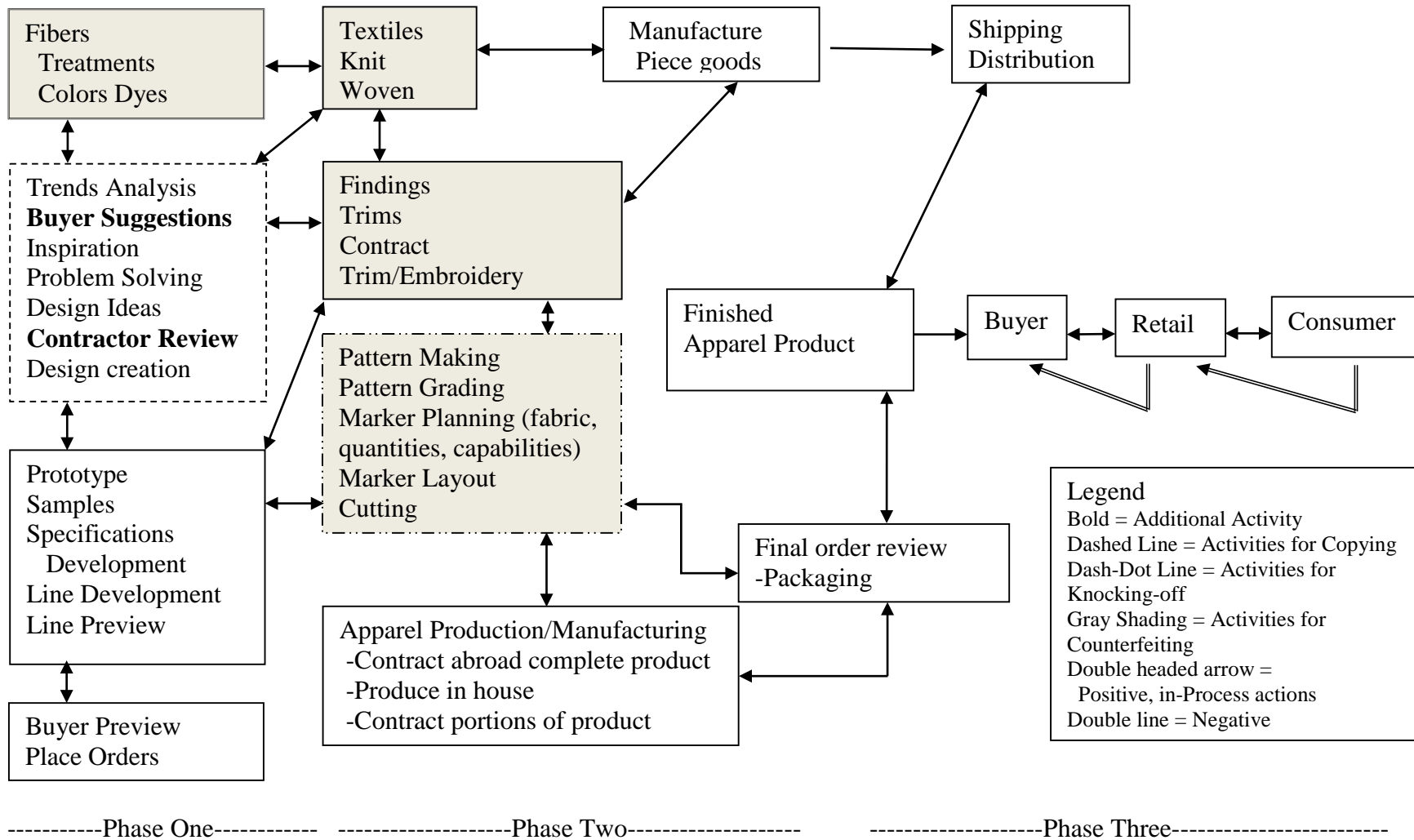


Figure 2. Revised Apparel Product Development Model Showing Activities for Copying, Knocking-Off, and Counterfeiting

Implications

Implications for academia, based on the findings from these participants, indicate that it is important to teach the practices of copying and knocking-off as it is a part of industry duties; students will need to know the methods to work successfully with companies similar to the participants' companies in the industry. Academics need to educate students about these practices, including counterfeiting and the potential for legal repercussions, especially if they work for companies that have limited training as with the participants' companies. There is a need for education in use of technology such as use of RFID in weaving and knitting textiles in product development, and the practices of copying, knocking-off, and counterfeiting.

Implications for industry are the importance of being aware of potential legal issues, importance of educating and training employees. If other companies in the industry are similar to the companies for which the participants work, employees are receiving limited to no information about counterfeiting. As counterfeiting is a world-wide problem, many companies and their employees may benefit from additional education about counterfeiting and ways to protect the product and ways to avoid issues of counterfeiting. Sharing information is needed about due diligence, and the importance of product developers and legal representatives having an on-going working relationship.

Recommendations for Future Research

When planning a future research study, adjustments in the methods including sampling and data collection should be considered. Time should be included for those participants who hesitate to respond without clearance from their human resources department to seek that permission. In addition, when working with personnel in the apparel industry, the researcher should try to schedule interviews or surveys during non-market weeks, when potential

participants might be traveling or would be away from their desks. Also, for future research, a larger purposively selected, sample of participants, with numbers of participants per single product category would likely glean additional in-depth, specific to product information.

A recommendation to use prompts in questionnaires is made, which may elicit a greater response. Those employed have limited time to generate responses without specific prompts. Some areas in the questionnaire with short open-ended questions received limited input from participants. Along the same issue, a pure quantitative study might lose additional information gleaned by open ended qualitative questions and prompts. However, a more personal social media, such as Facebook[®], may glean more information, rather than using the open “other” item. For example, some participants sent personal emails to the researcher after completing the survey with additional in-depth information.

Additional research is needed to provide further information and clarify definitions about copying and knocking-off. Studies with participants representing a broader scope of industry titles, or a study with participants from purposively selected jobs or companies could contribute validity to the findings and add clarity to the conflict among the definitions. In addition, a technique to clarify the differences between copying and knocking-off could be the use of apparel styles in various modes of copying. Participants could be asked directly to compare the processes of copying and knocking-off.

In addition to changes in methods, additional research questions and new research questions arising from the research are suggested. Future studies could compare copying, knocking-off, and counterfeiting in the apparel industry with aftermarket and other copying techniques found in the automotive industry. Investigating reasons for the lack of knowledge on counterfeiting and the lack of concern about counterfeiting are additional topics that can be

investigated in future research. A test of the revised model would be important in establishing validity and reliability of the model.

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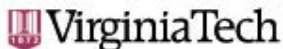
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Appendices

Appendix A

Institutional Review Approval



Office of Research Compliance
Institutional Review Board
North Hall Center, Suite 4120, Virginia Tech
300 Turner Street NW
Blacksburg, Virginia 24061
540/231-4606 Fax 540/231-0969
email irb@ut.edu
website <http://www.irb.ut.edu>

MEMORANDUM

DATE: August 15, 2014
TO: Doris H Kincaid, Peggy Phillips Quesenberry
FROM: Virginia Tech Institutional Review Board (FWA00000572, expires April 25, 2018)
PROTOCOL TITLE: Identifying If or When Copying Takes Place within the Apparel Product Development Process
IRB NUMBER: 14-775

Effective August 15, 2014, the Virginia Tech Institutional Review Board (IRB) Chair, David M Moore, approved the New Application request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report within 5 business days to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at:

<http://www.irb.vt.edu/pages/responsibilities.htm>

(Please review responsibilities before the commencement of your research.)

PROTOCOL INFORMATION:

Approved As: **Exempt, under 45 CFR 46.110 category(ies) 2,4**
Protocol Approval Date: **August 15, 2014**
Protocol Expiration Date: **N/A**
Continuing Review Due Date*: **N/A**

*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:

Per federal regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals/work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

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An equal opportunity, affirmative action institution

Date*	OSP Number	Sponsor	Grant Comparison Conducted?

* Date this proposal number was compared, assessed as not requiring comparison, or comparison information was revised.

If this IRB protocol is to cover any other grant proposals, please contact the IRB office (irbadmin@vt.edu) immediately.

Appendix B

Recruitment Materials

Participant Recruitment Email

DATE XX 2014

Dear Potential Research Participant,

I am conducting research to explore the apparel industry practice of copying, which may include design idea, style knock-off, pattern rub-off, and product counterfeiting, and the impact of these activities on apparel product development, including the design process. You are invited to participate in this study. Study results will be used for a dissertation and publications, and participation is strictly confidential.

There are no compensations for your participation, however, an executive summary of the study will be available upon request. If you would wish to receive a copy of the summary, please indicate in a reply to this email if you wish to receive it via email attachment or as a print copy – please include your mailing address below if this is your preference.

If you are willing to participate, your implied consent is accepted when you access the survey, read the Informed Consent information and make a selection to participate, or not. To do this, please click on the link _____ (or paste into your browser). You may end your participation at any time by exiting your browser. The deadline for survey completion is (DATE XX).

If you have questions, please contact either myself or Dr. Doris Kincade.

Thank you for your time.

Sincerely,

Peggy Phillips Quesenberry
Ph.D. Candidate
(540)231-4331

Dr. Doris H. Kincade
PhD. Chair
(540)231-7637

Participant Follow up Email

DATE XX, 2014

Dear Potential Research Participant,

Just sending a reminder of the request sent three days ago on (DATE XX) regarding a research project about **Identifying If or When Copying Takes Place within the Apparel Product Development Process**. If you have decided to contribute to this research project, thank you. If you have not had opportunity to access the survey, here is the link

_____.

There are deadlines with my data analysis, all surveys must be completed and submitted by (DATE XX).

If you have chosen to not participate, thank you for your consideration.

Sincerely,

Peggy Phillips Quesenberry
Ph.D. Candidate
(540)231-4331

Dr. Doris H. Kincade
PhD. Chair
(540)231-7637