

Design Inspiration Sources Impacting on Successful Apparel Product Development

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<Abstract>

Successful apparel product development is increasingly valued as a key component of survival and sustaining growth. Design development is crucial in product success and failure because it decides what should be developed. The purpose of this study was to explore the design inspiration sources impacting on successful apparel product development. Qualitative research method was employed and in-depth, face-to-face interviews were conducted with 27 individuals who have been developing apparel products in the U.S. fashion industry as designer or merchandiser. Successful apparel product was defined as products that satisfied the company goal in terms of sales and profitability. It was found that the designs of successful products were generated from past successful product, shopping the market, buyer or supplier inputs, fabric, media, or an event. Therefore, the findings of this study made valuable implications about design inspirations of successful apparel products to industry practitioners, especially those engaged in managing apparel product development. At the same time, this study presented researchers and educators in the area of apparel design a baseline for further studies that relate apparel design to product success and failure.

I. Introduction

In today's global textile and apparel world, the traditional roles of manufacturing, sales, and

distribution, innovation, and strategy for competitive success have often been redefined to reflect their design requirements for new-product development.¹⁾ Design development is the early phase of product development. The early phase of product development has been acknowledged as the most crucial in the success of product development because first, the early phase determines what should be developed and secondly, the time and cost of change is exceedingly increased as the product goes into the further development phases. Moreover, idea generation is increasingly being considered a critical activity in the new product development.²⁾³⁾ Despite the growing awareness of the influence of design on product development, surprisingly little has been known about the apparel design development. Most works in the apparel product development area have focused on the demonstration of the process and how to compress time in product development. Therefore, there is a need to study design development, from the designers' points of view who actually create and develop the apparel products in apparel business.

The research question for this study originated from the concept that effective apparel design development is a key to the successful launch of an apparel product.⁴⁾ The specific purpose of this study is to explore how the design inspirations of successful apparel products are generated. Better understanding of the apparel design development, particularly design inspiration sources of successful apparel products will be critical to firm's strategic decision making, and furthermore assist the apparel industry to improve the success rate of new apparel products, as markets become more competitive.

II. Background

Because research related to this study's area of inquiry is quite limited, literature review includes two separate areas: design process in textile and apparel area and design development as a factor of product success in the general marketing and management area.

1. Apparel Design Process

It is Jones' approach, which became the foundation of apparel design process models. Jones' design

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- 1) Wang, X. B., & Kilduff, P. D. F. (1996). Towards global textile/apparel development: Questionnaire survey analysis of design management in British textile enterprise. *Journal of Textile Institute*, 2(2), pp. 144-160.
 - 2) Booz-Allen and Hamilton (1982). *New Product Management for the 1980's*. New York, NY: Booz-Allen and Hamilton Inc.
 - 3) Cooper, R. G. & Kleinschmidt, E. J. (1987). New Products: What separates winners from losers? *Journal of Product Innovation Management*, 4, pp. 169-184.
 - 4) Regan, C.L., Kincade, D.H., & Sheldon, G. (1998). Applicability of the engineering design process theory in the apparel design process. *Clothing and Textiles Research Journal*, 16(1), pp. 36-46.

model had three stages: (1) divergence, the extension of a design boundary, (2) transformation, the stage of creative insight and guesswork, and (3) convergence, the identification of variables and objectives.⁵⁾ The specific stages of Jones' design method were adopted for Orlando's apparel design process model,⁶⁾ which served later as the conceptual framework in Tan, Crown and Capjack's study.⁷⁾ Orlando's model, developed for functional apparel design, included the following stages: (1) request made, (2) design situation explored, (3) problem structure identified, (4) design criteria established, (5) specifications described, (6) prototype developed, and (7) design evaluation.⁸⁾ DeJonge also proposed a design process for functional clothing design based on the work of Jones'. She emphasized the importance of the first step in design when the initial request is made for a design solution.⁹⁾ Watkins design process model included seven design phases of accept, analyze, define, ideate, select, implement, and evaluate to develop the apparel design process.¹⁰⁾ LaBat and Sokolowski examined design processes used in related fields, presented a common structure that links these working methods. Study of the design processes revealed three major stages including (1) problem definition and research, (2) creative exploration, and (3) implementation. They concluded that the orderly process of conducting research and testing of prototypes provided justification for pursuing the best design solution to the problem.¹¹⁾

2. Design Development as a Success Factor in Product Development

Previous research on idea generation of design development in new product development has addressed issues surrounding the source or the techniques for generating ideas.¹²⁾¹³⁾¹⁴⁾¹⁵⁾

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- 5) Jones, J. C. (1984). A methods of systematic design. In N. Cross (Ed.), *Development in Design Methodology*. New York, NY: John Wiley. pp. 9-32.
 - 6) Orlando, J. Y. (1979). Objectifying apparel design. *Combined Proceedings*. Association of College Professors of Textiles and Clothing, Inc., Eastern, Central, & Western Regional Meetings. pp. 127-132.
 - 7) Tan, Y., Crown, E. M., & Capjack, L. (1998). Design and evaluation of thermal protective flightsuits. Part I: The design process and prototype development. *Clothing and Textiles Research Journal*, 16(1), pp. 47-55.
 - 8) Orlando, J. Y. (1979). V. *op. cit.*, pp. 127-132.
 - 9) DeJonge, J.O. (1984). The design process. In S. Watkins (Ed.), *Clothing the Potable Environment*. Ames, IA: Iowa State University Press. pp. vii-xi.
 - 10) Watkins, S. M. (1988). Using the design process to teach functional apparel design. *Clothing and Textiles Research Journal*, 7(1), pp. 10-14.
 - 11) LaBat, K. L., & Sokolowski, S. L. (1999). A three-stage design process applied to an industry-university textile product design product. *Clothing and Textiles Research Journal*, 17(1), pp. 11-20.
 - 12) Felberg, J. & DeMarco, D. A. (1992). New idea enhancement at Amoco chemical: An early report from a new system. *Journal of Product Innovation Management*, 9, pp. 278-286.
 - 13) McGuiness, N. (1990). New product idea activities in large technology based firms, *The Journal of Product Innovation Management*, 7, pp. 173-185.
 - 14) Pavia, T. M (1991). The early stages of new product development in entrepreneurial high-tech firms. *The Journal of Product Innovation Management*, 8, pp. 18-31.
 - 15) Wagner, C. & Hayashi, A. (1994). A new way to create winning product ideas. *Journal of Product Innovation*

Pavia found that firms relied on informal sources to generate new product ideas and placed heavy reliance on input from their customers. Successful firms tended to develop annual strategic plan and engage in environmental scanning.¹⁶⁾ McGuiness emphasized that search involves a system of social activities within the organization and also distinguishes between planned and unplanned search, structured versus unstructured procedures and top-down versus bottom-up orientation.¹⁷⁾ Wagner and Hayashi proposed a new approach to needs definition and product concept development. It identified a language of design for product development which includes descriptions of the product itself, product features, benefits and themes. Empirical tests showed significantly higher idea generation yields when the language is used.¹⁸⁾ Troy, Szymanski, and Varadarajan found that open-mindedness effects on the number of new product idea generated by the work group. In addition, the relationship between the amount of market information and the number of new product ideas generated was stronger when centralization of market information and specialization of group member's roles are greater. Conventional market research methods did not work well in the instance of many industrial goods and services, and yet, accurate understanding of user need was essential for successful product innovation.¹⁹⁾ Herstatt and Von Hippel reported on a successful field application of a "lead user" method for developing concepts for new products. This method was built around the idea that the richest understanding of needed new products is held by just a few users. It is possible to identify these 'lead users' and then draw them into a process of joint development of new product concepts with manufacturer personnel. The lead user method was found to be much faster than traditional ways of identifying promising new product concepts as well as less costly, and provided better outcomes.²⁰⁾

III. Method

An interpretivist, qualitative research approach was taken to meet the goals outlined for the purpose of this study. Grounded theory guided the research process from sampling through data analysis.

Management, 11, pp. 146-155.

16) Pavia, T. M. (1991). *V. op. cit.*, pp. 18-31.

17) McGuiness, N. (1990). *V. op. cit.*, pp.173-185.

18) Wagner, C. & Hayashi, A. (1994). *V. op. cit.*, pp. 146-155.

19) Troy, L. C., Szymanski, D., & Varadarajan, R. (2001). Generating new product ideas: An initial investigation of the role of market information and organizational characteristics. *Academy of Marketing Science Journal*, 29(1), pp. 89-101.

20) Herstatt, C. & Von Hippel, E. (1992). From experience: Developing new product concepts via the lead user method: A case study in a "low-tech" field, *Journal of Product Innovation Management*, 9, pp. 213-221.

1. Sample

To identify information rich cases, two purposeful sampling strategies, maximum variation and snowball sampling, were utilized. Information rich cases were defined as individuals who have been actively involved in the development of mass-produced fashion apparel products, which represents the biggest portion of apparel products, in the U.S. apparel and retail industries. Their titles include designers and merchandisers. Customized fashion apparel products as well as functional products were excluded in this study. Twenty-seven individuals were selected as sample for this study. Nineteen were women and eight were men and the age of participants ranged from 25 to 56 years. Participants' employment at their current position ranged from 6 months to 18 years, while their experience in the apparel business ranged from 3 years to 30 years. Table 1 shows the other characteristics of participants.

<Table 1> Participant Characteristic

Demographic Information	Participant (%) N=27
Business	
Apparel Manufacturing	
Brand	12 (44%)
Private Label	11 (41%)
Retailing	<u>4 (15%)</u>
	27 (100%)
Product Specification	
Men	2 (7%)
Women	11 (41%)
Children	3 (11%)
Multiple	<u>11 (41%)</u>
	27 (100%)
Position Level	
President	3 (11%)
Vice-President	10 (37%)
Manager or Director	10 (37%)
Others	<u>4 (15%)</u>
	27 (100%)

2. Data Collection and Analysis

Interviews were conducted in participants' work sites by the researcher. Interviews followed Patton's

interview guideline approach.²¹⁾ A retrospective method was employed, in which each participant was asked to select two of the most successful apparel products in recent three years and to provide detailed information regarding the products. The product success was defined as a commercial success, meaning that the product experienced high enough sales and profitability so that satisfied apparel manufacturers and retailers. Therefore, 54 cases of successful apparel design development were analyzed. Interviews lasted from 40 minutes to 90 minutes.

Data were coded and analyzed. Data analysis was conducted based on the constant comparison method by Glaser and Strauss²²⁾ and as refined by Strauss and Corbin.²³⁾ Each emergent theme was categorized with similar themes and frequencies were calculated. To increase the validity of study, data triangulation was applied across various data sources of interview transcripts, written field notes of observations, and documents provided by participants. The reliability was established through inter-rater reliability.²⁴⁾

IV. Findings

Throughout the whole interview process, numerous design inspiration sources for successful apparel products were discussed and these emergent themes were categorized in six themes: past successful product, shopping the market, buyer or supplier inputs, fabrication, event, and media. Table 2 presents six themes with frequencies and percentages.

1. Past Successful Product

Somewhat surprisingly, participant's responses to asking how they had design inspiration when designing the most successful products reached a consensus easily. Participants responded that twenty-three successful products (42.59%) were developed based on inspirations from the past successful products, suggesting that past successful product served as a significant inspiration source for developing successful apparel product.

21) Patton, M. Q. (1990). *Qualitative Evaluation and Research Methods* (2nd ed.). Newbury Park, CA: Sage Publications.

22) Glaser, B. G., & Strauss, A. S. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: Aldine De Gruyter.

23) Strauss, A., & Corbin, J. (1990). *Basics of Qualitative Research*. Newbury Park, CA: Sage Publications.

24) Silverman, D. (1993). *Interpreting Qualitative Methods for Analyzing Talk, Text, Interaction*. London: Sage Publications.

<Table 2> Frequency and Percent Distributions of Design Inspiration Sources

Design Inspiration Sources	Frequency (N=54)	Percentage (%)
Past successful product	23	42.59%
Shopping	11	20.37%
Supplier or buyer inputs	8	14.82%
Fabrication	6	11.11%
Event	4	7.41%
Media	2	3.70%
Total	54	100%

When asked to select the most successful product, participants started conversation with a mention of how long the product has been selling, meaning how long they have been developing the product. Participants explained that product development for the successful product started as usual. They interpreted both their own and their competitors sales records. Selective responses included, “It starts with analyzing what is doing well at that particular price point you were working on.” “We’re reviewing what we’ve done well within terms of repeating, whether this jacket was good or these pants were good.” “Competitors and your own sales. So, we’re doing two things at the same time.”

Once consumer responses on a particular product from retail stores were confirmed, participants repeated or updated the product. Participants explained that sometimes they did not change anything. They said, “It was successful, so just keep doing it. Don’t touch it. No, because it’s successful, I don’t need it.”

In addition, data indicated how the previous successful product was updated to be another successful product. The past successful products were modified while repeating what the participants believed to be the key part such as the idea or color story. Various ways to update or improve past successful products were identified. Changing color or fabric was frequently discussed. Also, several ways of modification of fabric were mentioned.

This is the third year that we have variation for this. It was a year when we were selling really well in the domestic market. Everybody was selling really well hooded sweatshirts with zip front, which is always pretty good item when back to school. We sat and thought, ‘how can we expand upon that?’ ‘Let’s put pants and skirt with it.’ ‘Let’s get great fabric.’ ‘Let’s do in beautiful color.’ ‘Let’s be really careful about how we trim it, what details we put on it.’ So, this was really started from the idea of just great basic sweatshirts we were selling well.

Because it's going to be our fourth season of showing it, I think we have to do slight variation in styling, but still keeping fit, quality, and the value. So, this fall, we were actually talking about making modification in ribbing, something just little bit. The silhouette is basically stayed as same, but maybe updating a little bit. It's a variation maybe 3 by 2 ribbing change. Something's going to change so that they [retailers] think they're seeing the next new thing.

In addition, participants discussed how they updated details of an apparel product that had been very successful in the previous season.

We just updated every season. It's the same kind of idea. Like one season we might do embroidered back pocket on a 5-pocket jean, and the next season we might do another 5-pocket jean, but put taping on the waistband. We always try to evolve the product, so it doesn't look the same form season to season. The idea was the same, similar, but we updated it.

It was also noted that participants usually tried to modify the past successful product several ways and shifted the modifications based on consumer fashion trend.

Based on that [analyzing sales of both you and your competition], we determined where we needed to go forward or. Based on what we analyzed the trend, we thought how we applied to the market we were trying to target, and then adapted that to our needs and our consumers' needs.

Some years, suede is more important, some years, leather is more important. So, you have to move the business like some years shorter jacket, some years longer jacket. You have to look at the shift, the shift of your proportion.

Data also showed why participants updated the past successful product. First, it was because their first customers, retailers wanted: "Because the stores were very interested in that item year after year after year, until sales declined." "Do it again. Let's assume we shipped long sleeves for fall, you might ship shorts sleeves in spring. Change the color, make it more springy. Change the fabric, make it lighter weight." Secondly, it was "Because we [apparel manufacturers] are not quite sure of the longevity of the item. We never know. I mean all of a sudden, everyone can want to go after wool, and we are in cotton."

Therefore, in conclusion, the 23 of 54 successful products participants selected were not innovative products, but evolutionary products that stemmed from the past successful products or existing products.

These evolutionary products had long history and were kept updated or improved to offer greater value in terms of quality and style that fit their target consumers. The following statement made by one retailer implied how one successful product evolved.

The product has taken several years to grow, absolutely. And, this [the successful product] is how we build on something because this is a really good product were building. Nothing is ever brand new and huge. Very rarely it happens. Usually, it's a matter of growth and transition.

2. Shopping the Market

The design inspiration sources of eleven successful apparel products were shopping the market. Participants discussed that the successful products they selected were from shopping competitors' or upper level stores. "We paid very close attention to the domestic market place and our competitors." "We did shop the market, we went to the stores all around the country." "Designers did a lot of competitive shopping at the advance stores in Europe." The process how to generate design ideas from shopping the market was similar to what used in past successful products. The products participants shopped were repeated or modified to be accepted by each participant's own consumers.

Probably the best selling pants were for somebody else, and we wanted to try it. That's usually how we get a lot of them. If that company is doing really well with this pants, selling really well, let's try our version. We make a version. We modify, look slightly maybe, fit...

We paid very close attention to what our own domestic market is showing. You see a lot of trends start to show up there. If you know that you had something in domestic market, body or silhouette sold really well, then that means you know what? If it's low-rise pants with flare leg, it's probably going be pretty good body next year. Let's adopt that body for our own use because [retail] customers have proven that consumers like the way that look, feels and wears.

I think this kind of line [the successful product] in fashion every one is looking at the same ideas, and really the best thing you can do is to like and make it right to the your customer. The sort of T-shirt style, I knew that a lot of people are doing in Cotton and I saw in out there, but our women shouldn't want Cotton T-shirt. So, we just made it into very expensive, very luxurious version.

On the other hand, it was also found that the designs of some successful products were inspired when a designer went to the store and found a void. One participant said, “I looked at the store floor and I saw everything, but no colorful synthetic shirts at this price. That’s why I did.”

3. Buyer or Supplier Inputs

The information within the channel of distribution was found to be a good source of design inspirations to develop successful apparel products. Eight successful apparel products were developed based on buyers’ or suppliers’ inputs. Discussions regarding buyers’ inputs included, “We started it [successful product] because there was a need of retailer. They [The retailer] were looking for tailored and updated women’s department and were looking people who do that. That what we did.” Retailer said we need stretch colorful knit. “We [retailers] have 10 suppliers, and none of the suppliers can do that. So, can you guys do something like that?” One participant explained buyer’s role for developing successful product in detail.

Buyer came to us and told. So, we had an opportunity to sell her [buyer’s] presets. We developed different looks based on what we thought the trend for the season was. Buyers presented samples, we took those, made them to fit into her [buyer’s] rack, and designed the group accordingly. Then, we presented and she [buyer] placed order from there.

On the other hand, some participants indicated that the inputs from the suppliers’ side served design inspiration sources for developing successful apparel products. “I didn’t develop. One of our suppliers brought to my attention and it sews up really nice and we shipped to the stores and customer responded. It’s actually from Korea.” “We found a gray stretch fabric. One of our mills in Italy recommended it.”

4. Fabrication

The designs of six successful apparel products participants selected were inspired from fabrication. It was found that if designers found appropriate fabrics, they developed styles from them.

In the case of this successful product, I selected two fabrics. When I looked at many different fabric lines prior to the design the season, I looked at fabrics where they had the stars and stripes pattern. I sampled it, which means I brought it in a small amount and each

of them. I was thinking I'd like to do something. I wasn't sure what. But the fabric came in, I knew what I needed. I had an idea how to make it, and that's where I started the whole idea and concept. In this case was the fabric-generated idea.

On the other hand, some participants explained that improvement on existing fabrications drove the product success. Issues related to improvements in fabrication such as hand, appearance, and wash-ability were discussed.

We were using rayon fabric and rayon was not washable. When you buy \$19.99 dress, you don't want dry cleaning because the dry cleaning costs \$7. So, wash-ability was the key factor for determining the fabric we used for this successful product.

5. Event

Market show, trend forecasting show, and runway show were discussed as inspiration sources when developing four successful products. Following statement described in detail the role of event as an inspiration source of apparel product which resulted in success.

It was starting in probably previous July which is the fall, holiday timing. The person who is the sweater director went to *PITTI FILATI* which is yarn show in Italy. She went to the yarn show twice a year. There she saw a lot of yarns, swatches, and the types of stitches going to be important. Then, in the beginning of the September, she went to Asia with her team and they started putting different sweaters into work, just as a trial to see how they turn out. And then, we went to Europe at the end of September, and we all felt ribs become really important in sweaters as well as knit. That was a really big thing we wanted to push. So, when we came back, then we do overview, then we did a presentation to merchant what we think is going to be important trend and ideas. Ribs were one of them. Then working with designers and merchants, and overseas offices, we really tried to develop ribbed turtleneck in every single program.

6. Media

Participants mentioned two media generated successful apparel products. Media referred off- and on-line materials, including trend reports, fabric report, color information, trade magazines, movie, and a fashion research internet service. One participant said,

We use a network, which is by subscription. That has pictures of runway show, including

trend reports, fabric report, color information...a lot of information we have to understand, what shift is going on in the industry...That's very good. Several pictures captured my attention, and I started to figure out...

V. Discussions and Implications

This study explored how the design inspirations of successful apparel products are generated. Six groups of inspiration sources used to develop successful apparel products were identified: past successful product, shopping the market, buyer or supplier inputs, fabrication, event, and media. Findings present that two most frequently discussed inspiration sources, past successful product and shopping the market, showed that 62.96% of successful apparel products in this study were evolutionary, rather than revolutionary. It was also observed that when developing apparel products which resulted in success, some participants mixed several inspiration sources. For example, one participant stated,

We did a lot of competitive shopping at the advance stores in Europe. We met with trend services and got a lot of information they had to understand, what shift was going on in the industry...then, we began to look around, and do business plan, projecting shift that we think it will line up. Then, some where along the way we finished up the season that we had been, we got to examine the sales results. It's something ended very strong in a season. It tends to start out strongly next season. If something's ended weak, it will be very weak at the beginning of next season. It may peter off.

Compared to the previous research, it was found that participants went through the phases of design process to develop successful products, including transformation, the stage of creative insight and guesswork²⁵⁾, design situation explored²⁶⁾, and creative exploration.²⁷⁾ The finding that successful apparel products were inspired from past successful products (42.59%) or supplier or buyer inputs (14.81%) reveals that the great number of successful products may be started from what consumers (including retail buyers) accepted, supporting the importance of ideas from consumers²⁸⁾²⁹⁾³⁰⁾

25) Jones, J. C. (1984). *V. op. cit.*, pp. 9-32.

26) Orlando, J. Y. (1979). *V. op. cit.*, pp. 127-132.

27) LaBat, K. L., & Sokolowski, S. L. (1999). *V. op. cit.*, pp. 11-20.

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30) Troy, L. C., Szymanski, D., & Varadarajan, R. (2001). *V. op. cit.*, pp. 89-101.

The knowledge gained through this study may be useful to scholars, industry practitioners, and apparel design educators. Because no research attempted to study inspiration sources for apparel design in relation to product success, the emergent themes in this study may be used as a baseline for studies that focus on apparel design and product development. In addition, the relative importance of design inspiration sources leading to apparel product success suggests some important insights for industry practitioners seeking best practices to incorporate into their apparel product development activities. Apparel design educators may incorporate the inculcation of skills, identified in this study as needed for developing successful apparel products, into their programs.

This study has several limitations, however numerous fruitful avenues for further exploration are recommended. First, small sample size should be considered a limitation of this study. Based on the findings of this study, the further study may increase the generalizability with larger sample size. Second, in this study, individual interviews and cross-sectional time dimension took a snapshot of participant's impressions of how the product's result was and what went on during the design development of the product. However, the phenomenon being studied would be better if it is studied as a process, rather than a snapshot. The case study approach could provide more understanding by studying the entire design development in real time, using a longitudinal approach.

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Key words :