

DIGITAL TEXTILE PRINTING IN TODAY'S COMMERCIAL MARKETPLACE

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Introduction

This paper was prepared at the request of the C2C committee for the AATCC conference September 13- 17, 2004 in Greenville, SC. This paper attempts to highlight the key points that are in my power point presentation, sighting visual examples of the benefits and status digital textile printing in today's commercial marketplace.

Change

Today's traditional textile and fashion marketplace is going through creative, technical and product development changes. **Change** *is defined as verb meaning to make different.* Within the dictionary there is no specification as to how to perceive change. This is subjective to the participant or viewer whether it be a single person, collective group, or specific industry.

During the past 16 years of being employed within the textile industry from occupations as a textile artist, print stylist, CAD coordinator, hardware technology sales manager, digital design consultant, and director of operations of a fabric-printing studio, the definition of change within the textile industry, as I see it, is not usually perceived as positive. Most of the time, changes in design development, technological advancements, production parameters, or personnel structures occur because of reactionary causes.

For an effective positive change to occur, it sometimes requires new structure, new learning experiences and effective forms of all communication. (digital, verbal, and written) But most importantly the willingness to embrace it!

Why Digital Textile Printing took so long to be utilized

Since I was at the forefront of using CAD technology for textile design in the 80's, I have had the advantage of bracing myself for a similar experience in the late 90's when trying to educate, evaluate and execute digital printing into the design product development cycle by selling to many manufacturers and suppliers wide format printers and fabric printing services.

During this time, many textile and apparel companies lacked the digital design knowledge along with print and garment production knowledge that is required by a designer if they are to handle the coordination of pattern design, color matching, file preparation, pattern making and the technicalities of operation a wide format printer.

Many in house design departments in all textile related industries were and are structured differently as far as the title and responsibilities of the pseudo-titled “designer.”

Digital textile printing was viewed by most designers (*who didn't use computers*) as a responsibility of the “CAD “ designer. (*Who was a designer using the computer*) The CAD designer did not want to add another design responsibility into the day, therefore making digital textile printing a hard sell to most designers even when upper management saw the cost and time benefits of producing their printed fabric samples prior to cutting screens.

The many variables involved with digital textile printing, if looked at in a positive light, foster communication among different individuals, departments and companies involved in the product development cycle of creating a printed product on fabric. The question **is** whether the individual, team players, managers and/or companies involved are ready to embrace the change of process on how they create samples or production. This change of process in using digital fabric printing has recently occurred within the past 3 years.

Viewpoint of Servicing the Industry

My goal for First2Print™ is to drive the marketplace into using digital printing technology as an integral part of development at the beginning of the product development cycle for all facets of the textile and soft goods industries. Not just at the end to replicate a strike-off of rotary production, but rather at the beginning to aid in the decision making of a viable printed product.

Our printing services focus on digitally printing fabric. We offer an array of synthetic and natural fiber fabrics. Whether it is for sample yardage for sewn products to be “pre-lined” or final yardage for sewn products to be sold at retail. Since the start of the company 3 years ago, there has been a need for such a service for textile companies who are early adopters but do not want the responsibility, costs, or management of digitally printing fabric with a wide format printer in-house. Outsourcing for them is a way for them to reap the benefits of digital textile printing without incurring the technical logistics of digital design development, file management, ink configurations, printer profiles and fabric inventory.

All digital designers at First2print™ joined the company bringing design experience from apparel manufactures, traditional printers, graphics, and fine arts backgrounds. The skill set of the employees make this company a unique fabric service studio in the fact that we understand our client's final product, whether it is a couture dress, man's tie, bed ensemble, or baby carriage. We approach every job as if it were our own creation.



Figure 1. First2print designer working on a project

The Fundamentals of First2Print

The 3 fundamentals of our digital textile printing studio are to evaluate, educate, and execute a job. When receiving a job from a client, we take time to evaluate the details, types of files, prints, sewn samples, fabric, inks, and processes used. This evaluation process has helped us gain insight and understanding of the digital artwork involved along with the printing process needed for different market segments and products.

Traditional textile design sampling of rotary or flatbed printed fabrics requires a designer to “hand off” ideas to a production person who usually just makes it happen. After many years of working for a domestic mill, I can honestly say “thank you to all the engravers and printers who made my designs come to life.”

Digital textile printing requires designers, whether in house or outsourced, to have a better understanding of what they are producing in production because they need to set up parameters in the sampling phase by setting up digital design files to meet their specifications. This has been a major learning curve with many of our clients and remains an issue in traditional rotary printing. Many of the digital designers who come from a graphics background who are now responsible for all-over or engineered print development need to be educated on the fundamentals of rotary print production and simple file set up for digital fabric printing. Their strengths are with the understanding of digital technologies. However, the designers who come from a rational backgrounds of rotary printing might not understand the nuances of digital printing technologies especially the technical issues surrounding file set up, color profiling, and color matching with process color.

Education is a continual process for all parties involved in using digital textile printing technologies. The ever-changing environment of new inks, fabrics, and printers keeps us on our toes with researching and using the approach which is best suited for a specific clients’ needs. Since we service many segments of the industry we are a great breeding ground for innovative ideas pushing the edge of digital printing technologies.



Figure 2.
First2print NY location

The clients

Our clients have grasped the benefits of digital textile printing and see the need to change their ways in developing sample products. They are happy to be sampling and short run production printing with a design house that they can trust. The majority of our



client base has been home, apparel, and accessory manufacturers on a reoccurring basis. We work with them on printing fabric for seasonal lines and private label work. We print difficult photographic, textile separated, engineered panel pieces, and solids.

Figure 3. Engineered border design textile printing



Figure 4. Home decorating clients comparing original artwork to digitally printed fabric

It is beneficial for our designers to understand their market, product and price points so they can be innovative in developing their printed fabrics and sewn products in a time efficient manner. The client no longer must guess how the strike off will look in 3 weeks but rather holds it in their hand in 3 to 5 days from when we received a good file.

Cost justification

Once the client is shown their prints on fabric, the importance of digital textile printing becomes evident. They cost justify outsourcing because of the ability to pre-sell the product before investing in screen costs, thus decreasing time in their product development cycle from concept to cloth. This opens up opportunities for more products to be produced and sold. Industry retailers are becoming increasingly demanding with requests for seeing samples faster and faster from manufacturer. “Digital textile printing enables us to show more samples in a shorter time frame than traditional printing, almost guaranteeing us an order because of the options presented.”



Figure 5. Children's wear manufacturer selling digitally printed samples in showroom

The market shift of our clients seems to have demonstrated some reoccurring trends within this decade. For example, home furnishings companies started off being our largest client base, based on the cost justification to manufacture a bed ensemble



requiring the purchase of rotary screens before getting an order. Digital textile printing was easily cost justified as an additional outsourced development cost. However, they are now taking more digital textile printing in-house since their substrates do not change as rapidly and their product development cycle is much longer than the apparel markets.

Figure 6. Home Furnishings advertisement photographed with digitally printed fabric

In addition, many of the leading apparel manufacturers, especially within the children's wear market, have seen the benefits of rapid turn around for printed fabrics when outsourced. The advantages of outsourcing with a company like First2print is that

- There are many fabrics to choose from
- The client does not have to inventory pre-treated fabrics
- We own multiple printers for different printing processes
- We employ a production shift that strictly handles approved yardage orders which allows us to meet strict schedules and fluctuating demands.

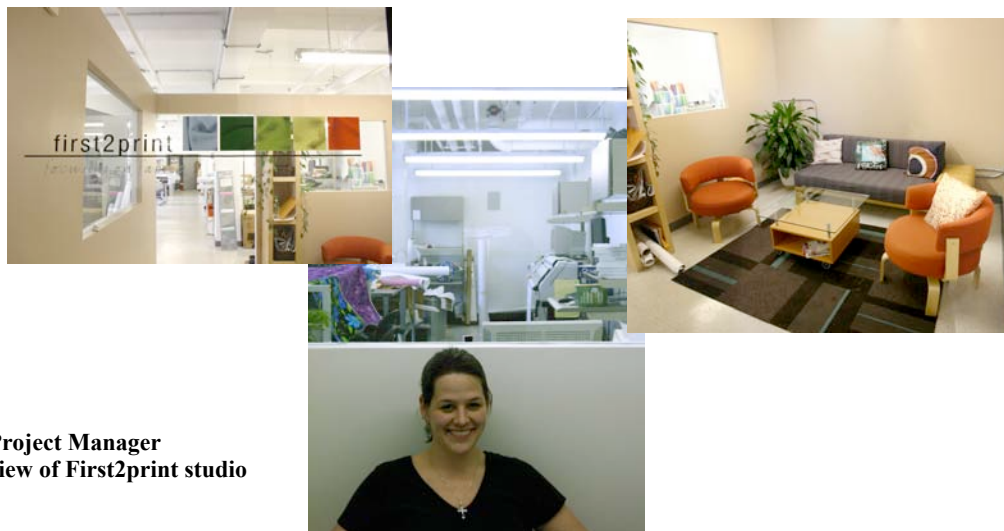


Figure 7. Project Manager with overview of First2print studio

The Parsons Project 2004

During the spring semester of 2004, First2print, Design Works International, Digifab Systems and Dupont Industries sponsored a digital textile printing project for juried junior year students at the Parsons School of Design in NYC. The sponsorship was as follows: seasonal design and color direction was presented by Nancy Fire, the creative director at Design Works International, Nylon tricot and matte Rochelle fabrics were supplied and treated by Digifab systems, Acid inks were donated from Dupont, and all printing and post-processing was done by the team at First2print.

The project was spear headed by professor Maura Jurgrau who coordinated the student s development of trend, color and inspiration, digital textile print creation, garment design and sewn sample execution. The students learned first hand the benefits of designing digitally by breaking the traditional barriers of hand cut and paste boards, creating imagery without traditional boundaries and seeing their designs come to life before their eyes. Digital coordination was smoothly handled via email and verbal instructions between myself and Maura Jurgrau. Final yardage was shipped to students at Parsons where their custom designed samples were sewn for the year-end fashion show.



Figure 8. Parsons student color and trend board



Figure 9. Parsons student textile designs



Figure 10. Parsons student fashion illustrations.



Figure 11. Parsons student sewing his digitally printed fabric

This project along with our business has been a huge success for all parties involved.