AUSTRALIAN FASHION COUNCIL

Digital Sampling: The Business Case

FINDINGS FROM THE FIRST AFC FASHTECH LAB IN 2022

Executive summary

AFC FashTech Lab is a pilot program run by the Australian Fashion Council (AFC), supported by City of Sydney, that partners fashion brands with technology businesses to trial a new digital sampling workflow to reduce time, cost and textile waste. The pilot program was created to remove the accessibility and cost barriers associated with investment in technology for both small business and enterprises.

The fashion brand participants ranged from emerging designers to enterprise brands and included Cue, Bianca Spender, Matteau, Eupheme, Daniel Avakian, Ramp Tramp Tramp Stamp, West 14th and Palasade.

The technology partners involved in the pilot program were Style Atlas, Bandicoot Imaging, Couture CAD, Ponz Studio, Neuno and Ordre**.** The six month program demonstrated:

50% REDUCTION IN SAMPLING COSTS

SAMPLING TIME DOWN FROM 12 TO 4 WEEKS

TEXTILE WASTE REDUCED BY UP TO 450M

*Assuming the industry average of 3 physical development samples before approving to bulk production.

**Based on sampling a total of 30 styles

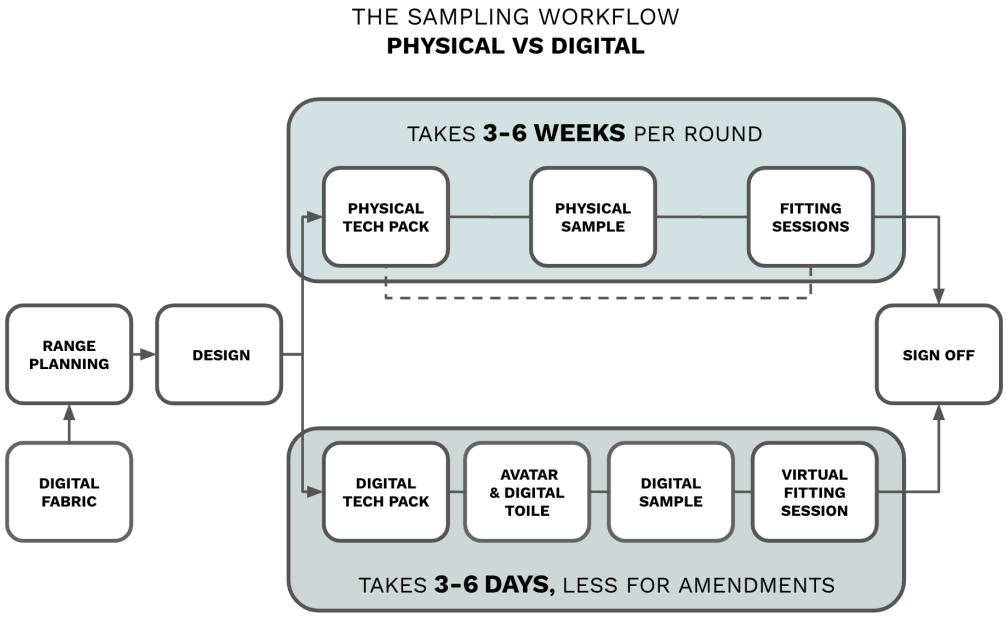
Program highlights:

- Brands prefer a hybrid model where they progress through digital sampling before signing off on one final physical sample
- Realistic digital fabrics allow brands to consider drape and volume
- Digital sampling allows brands to sample and fit multiple sizes at low cost, thereby increasing quality and decreasing returns
- Digital sampling creates the potential for new digital revenue streams
- Digital sampling had limitations for textured fabrics
- Integration of Digital Sampling Workflow with existing systems, and securing workers with the relevant skills are important considerations

The hybrid workflow explained

The Digital Sampling Workflow was designed to follow the traditional industry model of sampling where 2-3 samples are produced before proceeding to bulk production. In practice, each fashion brand in the pilot followed a different approach to sampling. This ranged from sampling offshore, contracting to local pattern makers and seamstresses, or using an in-house sampling team.

This presented an opportunity to demonstrate the flexibility of the Digital Sampling Workflow and introduce the 'hybrid model,' where brands can progress a design through 2-3 rounds of digital samples before producing one physical sample as a final check before starting production. In the future, as brands become more familiar and comfortable with the accuracy of digital sampling, this final physical sample may be removed from the workflow.



Benefits

Reduced sampling timeframes and clothing waste

Cue recognised the potential early for the Digital Sampling Workflow to reduce the number of fit alterations required in-house for their local production, and particularly for their styles manufactured offshore. By reducing the multiple rounds of sampling between Cue and their offshore factories, Cue would be able to process sampling and development back from their head office in a much tighter timeframe.

Matteau reflected on the potential of the Digital Sampling Workflow to eliminate the textile waste from development samples for styles that never make it to production. The ability to make real time digital alterations to samples without waiting for revised fits results in a significant reduction in time to market.

> "We essentially produced our garment digitally - without creating a single sample. You undertake fits and make rounds of changes digitally, then once you are happy with the sample on screen you can make a physical garment, saving rounds of samples." - Matteau

All brands, whether manufacturing on or offshore, noted digital sampling reduced time and the number of physical samples required (as well as courier costs to and from international factories) and all brands confirmed they would still manufacture one final physical sample to do fit and quality control checks.

> "The thing for us has been about being about to iterate quicker...It's not so much the pattern making....as our pattern maker can whip up a pattern quickly, it's the alterations, and sampling that takes a long time, digital has really delivered in this regard."- Eupheme

Realism of digital samples allows brands to accurately review drape and volume

The fashion industry has been slow to digitise, with limited access to digital sampling technology and a perceived increase in sampling costs often cited as the main barriers. Another challenge was overcoming a brand's requirement to be able to accurately review the physical properties of fabrics in a sample; including drape, volume and fabric texture. During the pilot program, Matteau worked closely with fabric digitisation specialist Bandicoot Imaging to reproduce digital samples of existing Matteau styles to test the accuracy of the digital fabrics.

> "All of the 3D samples were very realistic, even the more complicated designs. The drape and fall was captured, and with the shirred plunge dress, you could even release the elastic, change the volume - it was amazing! If you compare our eCommerce images with the 3D samples, you could actually see the print more clearly on the 3D sample."- Matteau

Following AFC Fashtech Lab, Bandicoot Imaging has worked to further integrate the tensile properties of fabrics into their digital scans, including density, drape and stretch. This technical data can then be stored into the fabric file and illustrated into the rendered samples. The benefit to digitised fabrics is that once they are scanned in and developed to achieve a realistic visual comparison to the physical fabric, there is infinite digital yardage available to the brand.

Addressing size inclusivity and improved fit to increase quality and reduce returns
In the Digital Sampling Workflow, the dress form and fit model is replaced by a digital version of the human body, called an 'avatar'. Brands can select an avatar from a full range of standard sizes and then customise the avatar based on their brand's specific fit model measurements. The result is a flexible and streamlined process where brands are confident that the final physical sample produced will correctly fit their human fit model.

The opportunity to customise their avatar was welcomed by Ramp Tramp Tramp Stamp (RTTS). RTTS is a genderless brand with a focus on size flexibility. They decided to develop a size 12 avatar to fit their digital samples. When CLo3D (3D Production Creation software) was used to create more representative digital fit models for RTTS, the brand was initially frustrated as the default avatar (based on the ASTM international sizing standard) did not reflect the way bodies "scale" in the real world. RTTS then worked with the tech partners to build custom avatars across a range of sizes outside of the industry accepted sample sizes to fit her digital samples.

> "I don't work with dress forms, I work with real bodies. When you use the software you get this "perfectly formed" size 12 avatar. This defect from the traditional world has been taken across to the software. With the avatars Ponz Studio created, they grow, they've got thighs, breasts, they're not perfectly proportioned as a scaled size 8." - RTTS

The Digital Sampling Workflow allows brands to test multiple sizes of a garment without producing a single physical sample. This is a critical benefit of digital vs traditional workflows, where brands are restricted by the cost and waste of both producing physical samples across multiple sizes and securing fit models across different sizes. The digital workflow gives brands confidence on the fit of their size ranges before producing a full collection, resulting in a better quality and consistent product and reducing costly returns and garment fault rate due to poor fit.

New digital revenue streams

By producing press and salesman samples digitally at the industry average of two samples per style, the total textile waste was reduced by 450 metres (based on sampling 30 styles). This meant that new digital wholesale strategies like those offered by tech partner, Ordre, could be explored to generate wholesale sales from digital samples to replace physical press and salesman samples.

Digital sampling is also an opportunity to leverage new revenue streams by turning samples into Non Fungible Token (NFTs). NFTs present brands with an entirely new 'digital market' where digital samples become tradeable, unique digital assets attached to the blockchain. AFC FashTech Lab tech partner Neuno introduced the brand participants to entry level NFT strategies for the fashion industry, including digital 'twins', where physical garments are sold with a digital garment replica.

Challenges

Limitations for textured fabrics
At present there are some limitations when digitising fabrics with unusual surface textures like fur, leather and shearling. These challenges will improve over time with advancements in scanning technology. For the pilot program, this resulted in more time spent by tech partners Bandicoot and Ponz Studio to improve the rendering in the final digital samples.

Migrating entrenched systems and processes
There are specific challenges for enterprise level brands when considering transitioning to a hybrid Digital Sampling Workflow. Cue identified a hurdle to integrate the Digital Sampling Workflow software into their existing Product Lifecycle Management (PLM) system. The scale of Cue's business and the restructuring required to embed new processes into a fast moving, volume business requires planning and further problem solving.

Skills shortage of FashTech workers
The pilot program touched on the growing skills shortage in the fashion and textile industry. Brands already experiencing difficulty securing local manufacturers could anticipate the challenge of securing skilled FashTech workers - from digital pattern makers to 3D garment designers. There is an urgent industry need to bring more talent into the workforce, through re-training existing workers and creating and promoting new career pathways for students for future FashTech jobs.

> "To make digital sampling viable in the long term, we would need to engage Couture CAD's Tuila and at the same time, we would need to retrain our own existing pattern-makers." - Cue

What's next

AFC FashTech Lab trialled a connected, onshore digital sampling supply chain in Australia. The pilot program proved that by transitioning from physical to digital sampling, brands will see a significant reduction in sampling development time and costs. By eliminating the need for physical development samples, brands will reduce their overall textile waste. AFC FashTech Lab will return in 2023 with a focus on calculating the carbon, water and textile savings from transitioning to digital sampling.

AFC members are able to access special pricing to trial the Digital Sampling Workflow software. **Email the AFC to find out more.**

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