



**CASE STUDY 1** 

PROFILING TECHNOLOGICAL CHANGE IN INDUSTRY

### PRESTIGE CLOTHING TFG

t first glance on entering the Prestige Clothing TFG factory in Epping, Cape Town you get a sense of a traditional clothing manufacturing company. However, beyond the rows of machinists you get a glimpse of a different world emerging – a world of automated cutting machines, automated stitching machines, and increased digitalisation. It is these technological advances that have contributed to the success of this operation.

The Epping factory forms part of a growing network of The Foschini Group's (TFG's) local manufacturing arm, and is an example of what is possible when there is vision and a commitment from both government and retailers to rebuild South Africa's manufacturing capacity. The commitment from retailers came about through the decision by TFG to bring production in-house and reduce reliance on off-shore suppliers from countries such as China, Bangladesh and elsewhere. This was motivated by TFG's decision to adopt a rapid response model, which cut down on the time from concept design to presenting sample to the retailer and then production of orders to a matter of weeks instead of up to three months.

As a result, TFG bought Prestige Clothing in 2012 which was already focused on bringing about efficient results in quick turn-around time with products to its trading clients. Prestige was started by Graham Choice (now MD of the TFG Merchandise Supply Chain) in 1989. Unlike many other companies in the sector, Prestige survived the opening of the economy and the influx of cheap imports from the East.

#### SHOWCASING TECHNOLOGICAL CHANGE

Companies adopt new technologies and digitise for different reasons. These may be innovation and staying ahead of competitors, cost reductions, reducing production times, enhancing customer support, or even as a means to resuscitate a company at risk. This series of case studies explores the success that companies have experienced in adopting new technologies and digitising their operations. Companies have made these changes over time and in all the case studies have had positive outcomes. The companies have grown, improved employment, and increased skills levels.

These case studies form part of work TIPS has undertaken with the Department of Trade, Industry and Competition (the dtic) and in partnership with the World Economic Forum to showcase the benefits and importance of technological change by South African companies. This case study profiles Prestige Clothing TFG, which has adopted a rapid response model that cuts down on the time from design concept to delivery. Other case studies are: Hi-Alloy Castings; Imraan Textile Mills; Jendamark Automation; and ModeTech Services. Copies are available at Technological Change and Innovation System Observatory.

# TECHNOLOGICAL CHANGE AND INNOVATION SYSTEM OBSERVATORY

The aim of the Technological Change and Innovation System Observatory project is to support the Department of Trade, Industry and Competition (the dtic) and industry sectors to develop an integrated, strategic response to discontinuous technological change and disruptive innovation. It aims to equip public and private organisations to become more sensitive to global technological shifts, and the changing demands placed on the innovation system, the manufacturing sector and its stakeholders.

### TRADE & INDUSTRIAL POLICY STRATEGIES

TIPS supports policy development through research and dialogue. Its areas of focus are trade and inclusive industrial policy, and sustainable development.

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Despite the decimation of the sector, Choice was driven to ensure the revival of the clothing manufacturing sector. He increasingly became influenced by the work being done in the early 2000s by Justin Barnes, chairman of B&M Analysts and executive director at Toyota Wessels Institute for Manufacturing Studies, based in Durban, who was promoting the idea of "clustering" and how to reduce production time through World Class Manufacturing (WCM) standards. Sean Kirby, Head of Manufacturing, Prestige Clothing and TFG Merchandise Supply Chain explains that the notion of clustering and the adoption of lean manufacturing and WCM principles has been an important part of Prestige's journey, and one of the reasons why it survived when other clothing manufacturers did not. Kirby adds that "what differentiated Prestige was that it did not try competing directly on price alone. Prestige's competitive edge was "speed to market" and this enabled it to get products quicker to market than other international suppliers.

TFG bought into the principle of localisation and the rapid response model by investing in building its own local manufacturing capacity. Such an approach allows TFG to respond within a matter of days to changing demand from customers and as well as changing fashion trends. This, the company believes, will attract customers and reduce markdowns and wastage as well as the ramping up the supply of a popular garment and tapering down production of a less popular item within days.

With the full support of TFG, Prestige began to expand its in-house production capacity. Prestige initially had two factories, in Caledon and Maitland, but then in 2021 the Epping operation was established through the incorporation of the House of Monatic and the manufacturing assets of TCI Apparel (which used to be part of the Seardel Group¹). The company also acquired TCI Mobeni (KwaZulu-Natal) from the Southern African Clothing and Textile Workers' Union. Prestige has also opened a small facility in Hillbrow, Johannesburg comprising almost entirely of deaf workers, all of whom passed through a formal NQF Level 2 learnership programme to equip them with the necessary skills.

The incorporation of the two operations to form the Epping factory brought with it extensive high-level skills to position the factory to produce high-end formalwear apparel for men and women. While expanding its Epping operation, which led to increasing the workforce from 850 to 1 388, it embarked on an ambitious process of automation and digitisation. This expansion has been funded by TFG, but the company has also benefited from a number of government incentives and support measures driven by the Department of Trade, Industry and Competition and the Industrial Development Corporation. In addition, TFG is an active member of the Retail-Clothing, Textile, Leather and Footwear Master Plan (R-CTFL Master Plan), entrenching its commitment to localisation while the Prestige factories continue their drive for WCM standards through participation in regional clusters such as the Cape Clothing and Textile Cluster as well as the KwaZulu-Natal Clothing and Textiles Cluster. As a result of TFGs localisation strategy, which is dependent on the "quick response model", it has been able to ensure a significant increase in sourcing apparel locally.

<sup>1</sup>In 2013 the Seardel Group announced the full closure of its apparel manufacturing arm, which would have resulted in massive job losses. TCI was established in 2012 by Herman Pillay when he expanded his business operations into the Western Cape after purchasing two manufacturing divisions that were previously closed by the Seardel Group based in Darling and Malmesbury. This resulted in the creation of 350 jobs in those communities. When Seardel announced the decision to shut down its remaining apparel divisions, Pillay was approached by Southern African Clothing and Textile Workers' Union (SACTWU) to assist in preserving jobs in the sector. TCI Apparel was then established, and the acquisition was approved by the Competition Commission in April.

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#### **TECHNOLOGICAL ADVANCES**

Because Prestige Epping is focused on more high-end apparel, it is well suited to the introduction of more automated machinery. This has been complimented by a move towards increased digitalisation which, together with more automated machinery, has improved efficiencies across the board. The following improvements and changes have and are taking place:

Automation of critical processes: Several processes have been automated, such as the introduction of auto-cutting machines and the introduction of two PS-800 machines, which do auto-sticking on sections of a garment that would normally take a long time such as cuffs and the front panel of a shirt. The plan is to continue rolling out these machines to reduce production time and increase productivity. Other automated machines introduced include the automated template machine which gets loaded with the digital patterns and then sent to the auto-cutting machines. Hence, the whole process from the pattern design to the auto-cutters is automated. The company has also introduced an automated scanning machine that scans the packed boxes of garments in nine seconds instead of counting the boxes manually in three minutes.

Digital connectivity and monitoring of major business and production functions: Epping has introduced several digital platforms such as an electronic planning system (Fastreact) which digitises the whole production planning process. Fastreact has digital boards that make the whole production process visibile to everyone in the team. Then there is STYLEman, a process management system which tracks and monitors inventory inbound and outbound. This ensures visibility throughout the whole process. Epping is in the pilot stage of exploring the introduction of a point-of-production monitoring system. The factory (like the Caledon factory) has introduced computer-aided design software which digitises the pattern-making process and grading. The software automates many repetitive tasks and increases the accuracy and efficiency of the pattern-making process, resulting in a higher-quality product.

**Implementing predictive maintenance:** The company is in the process of rolling out Abacus.Al, a predictive maintenance system.

**Improving resilience of supply chains and logistics:** The company recently introduced group radio frequency identification, which is able to manage and monitor the cycle of inventory flow and helps with supply chain and the logistics.

Organisation-wide communications and collaboration tools: The company has moved to all online systems to improve communications and monitoring of processes.

Implementing customer relationship management: There are high levels of collaboration between the manufacturer, head-office and the retailer (TFG) to improve responsiveness to market changes and to cut down on lead time from design concept to full production.

The introduction of more automated machinery has been complimented by a move towards increased digitalisation which, together with more automated machinery, has improved efficiencies across the board.

**Shifting from paper and forms to digital solutions:** The company has increasingly moved away from paper to online planning and management systems to increase real-time analytics and improve efficiencies. As part of this, the clock-in system is now based on eye and finger identification.

Quality management systems: The company has adopted Acceptance Quality Limit (AQL) to monitor in-line and end-of-line quality. In addition, pre-production meetings are held to explore and highlight risks in the production process.

**Greening the production process:** The company has introduced several interventions to enable recycling and to ensure energy efficiency. For example, products such as paper, fabric, plastic and metals used in the production process are recycled so that no items go to the landfill anymore. In addition, the newer machines introduced are more energy efficient and the company is exploring the introduction of solar.

## IMPACT ON JOBS, SKILLS AND WORK ORGANISATION

While the company is moving ahead with increased automation and digitisation, this has not affected the company's need for highly skilled machinists. What has changed is the increased focus on digital skills in view of the move both towards more automated machinery as well as increased connectivity. This shift, which will continue in the future as technology evolves, requires Prestige to bring in young employees who are more "tech savy" and are comfortable with working with new technologies. This does not necessarily translate into a more skilled workforce but a workforce that is more agile and able to adapt.

To address the changing needs, the company has upskilled certain workers especially those working on the new machines. The company's strategy has been to take normal operators such as ironers and train them "within a matter of a day" to operate the fully automated machines. Jacque Visser, who is driving innovation change in the factory, explains that the focus was to take workers with little or no skills and upskill them to work on the new machines. Identifying such employees was very much dependent on their attitude, work ethic and problem-solving skills, as "that overrules everything". Some people, he indicated, were not "cut out" to work on the new machines, especially the older workers as the machines have significant speed behind them and require significant hand speed. In addition, he added that the company "did not want to take the older employees away from the sewing machines as they were experienced machinists and had learnt their trade over many years" and were critical to mentor the younger machinists who would only gain their skills within four to five years.

The company is focused on training young machinists to build its pipeline. The company is also aware of the fact that with automation comes the need for a team of software developers and mechatronic engineers who can all talk to each other and who understand the garment industry. Visser explains that "when you buy an automated machine it is essentially a blank machine, and you need people who can design the attachments to suit the specific production process. In addition, you need people who can look after the equipment and the more people you have who can do that, the more you can automate."

Looking at how jobs have changed, Kirby points out that because the new machines are more electronic (with some using blue tooth, for example) there is a greater focus on digital skills. However, at the same time, not all functions have become automated and manual functions are still required.

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Mechanics, for example, now have to work on more automated machinery. However, what automation has done is enable the company to take unskilled workers and upskill them in a short time to become machine operators capable of operating the new machines. Both Kirby and Visser argue that technological advancements such as automation do not mean that more skilled people are required but rather unskilled employees can be trained up very quickly to operate these machines.

To support multi-skilling and cross-skilling, machine operators are encouraged to work across multiple machines, thereby creating higher levels of flexibility. There are numerous examples where general workers have been trained up to work on automated cutting machines. "It is in this area that technology gives you an advantage," says Brett Harris, head of operations for Prestige Epping. He adds that what has helped in the training is the strategic relationships built up with the machine suppliers. Over the years, he explains, the makes of machines have narrowed and this has made it easier to maintain and build strong supplier relationships. Aside from suppliers playing a crucial role in training, other types of training are being embarked on by the company:

- ◆ TFG and Prestige are committed to not only employing youth but to building a skills pipeline. As part of that, the company has implemented a TFG Prestige and Technical and Vocational Education and Training (TVET) machinist programme (NQF Level 2). Currently, there are 120 young people on these learnerships with the aim of developing a pipeline of young machinists who understand the new technologies and able to operate at a faster pace. The company absorbs about 70%-80% of those on learnerships into fulltime employment.
- There is on-going training of supervisors as the company is continually looking to see which employees have the potential to move into new positions. The company indicated that about 35% of supervisors are trainees. They were machinists before and have now been given the opportunity to progress.
- The company provides opportunities for internships. There are currently four people on internships in the factory and they have also accommodated students who need workplace experience.
- A number of mechanics and maintenance people are working towards a trade test which is being developed by the TVET college in Maitland together with Berzac, the machine supplier. The senior mechanic was also recently sent to India for automation training.

Overall, the company encourages on-going learning. Walking around the factory, it became clear that there were a significant number of employees who were being mentored to move into new positions. For example, Harris pointed out ironers who were now becoming pressers; and pressers are becoming module leaders and overseeing two to three lines. He stressed that the company is trying to inculcate a culture of "if you come with a problem, what is the solution". He indicated that, as management, we understand that "the solutions people are coming with is better".

Finally, the move towards automation and digitalisation has not resulted in significant changes to actual jobs. There have been subtle changes to some jobs which require a better understanding of how machines work. Hence, the need for more analytical skills. At the same time, it should be noted that automation has not led to job losses. Instead, the company has mainly focused on retraining and redeploying people to other areas of the factory with an increased focus on multi-skilling.

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## IMPACT OF NEW TECHNOLOGIES ON THE BUSINESS

The introduction of new technologies, and the concept of lean manufacturing (including a focus on a quick response model), has resulted in the following:

**Increased local production and efficiencies:** The company's localisation strategy, which is premised on a quick response model, has resulted in the expansion of local manufacturing capacity and this has increased reliability in the supply chain, due to timely delivery.

Improvements in product design and responsiveness to market changes: The design centre and manufacturing part of the operation interact with the retailer, and then Prestige makes up the sample (from the digital pattern) within two to three days. The sample then goes to the head office, which shows the sample to the retailer and once signed off, manufacturing goes into production. This has drastically reduced lead time and improved the design of garments.

Bringing the design centre closer to the client (retailer): has ensured reduced lead times and markdowns, as there is more responsiveness to changing customer needs. The time taken from the conceptualisation of the garment to the delivery of a sample to the client has been reduced from weeks to 48-72 hours.

The introduction of automation: Automated stitching machines such as the PS-800 have led to improvements in the products produced aside from improved efficiencies.

**Reduction in production time:** The improvement in processes, systems (design process) and increased automation has reduced production time from the time the order has been put in from 120 days to two to three weeks.

**Increase in the bottom line:** Increased efficiencies emerging from the localisation and quick response approach has led to a rise in total revenue for TFG. The increase in the sourcing of apparel locally coupled with the quick response strategy has led to increased stock turnover and a reduction in markdowns.

**Increase in market share:** A combination of all the strategies from localisation, automation, the quick response approach and overall increased efficiencies has led to an improvement in market share.

#### Impact on workers:

- As a result of the company's commitment to putting its human resource strategy at the centre of the change process, there are more opportunities for training and upskilling. Kirby pointed out that "people are realising that they are in control of their careers, and we are focused on promoting from within and developing from within".
- Increased teamwork is leading to greater levels of collaboration between workers. Workers are starting to feel more valued as space is being created for them to take more ownership of what they are doing while management is more open to their input around solving bottlenecks and challenges emerging during the production process.
- With an increased focus on automation and digitalisation, workers are getting more opportunities to be exposed to new technologies and some workers are embracing this change.

### FACTORS WHICH ENABLED OR HINDERED CHANGE

With the full support of the TFG Board, the Prestige Epping management has begun a process of turning the factory into a "clothing manufacturer of the future". This is being driven by TFG's commitment to support localisation underpinned by a "quick response model" coupled with a commitment to lean manufacturing and world-class manufacturing principles.

Kirby points out that support for the recapitalisation programme was provided by both government as well as the TFG Board which invested heavily. Government support came in the form of the dtic and the IDC, which have been "very instrumental in supporting the local revival of the clothing and textile sectors". He explained that both had dedicated sector desks and created various funding platforms to directly finance the recapitalisation. The funding mechanisms included the Clothing Textile Footwear Leather Growth Programme as well as funding through the industrial clusters and the benefits from the R-CTFL Master Plan. Kirby stated that the grant funding was critical for the introduction of new technologies. Prestige also benefitted from the regional cluster intervention; for example, in relation to the sharing of best practice learning and the adoption of world-class manufacturing. The support from the Western Cape cluster operated in parallel to a TFG process which - over three years sought to define and operationalise the quick response model.

Aside from working closely with the IDC and the dtic, TFG is a signatory of the Master Plan, and the group is involved in a number of the task teams. As a signatory of the Master Plan, TFG has committed to increasing its local procurement through Prestige and establishing partnerships with other local manufacturers. As a result of this commitment, TFG's share of imports of apparel has declined significantly. The Master Plan commitments relate to procuring more apparel locally, and clothing manufacturers have agreed to support the production of the local textile industry. In return for buying more local fabric, the manufacturers receive an import rebate which lowers the cost of certain woven fabrics for manufacturers, thereby reducing the overall cost of a garment.

Aside from working closely with the IDC and the Department of Trade, Industry and Competition, TFG is a signatory of the Retail-Clothing, Textile, Leather and Footwear Master Plan, and the group is involved in a number of the task teams.

Aside from the various industrial policy levers, the company's commitment to putting its human resource strategy at the centre of the change process has been crucial. Harris and Kirby stress that at the heart of the Prestige Clothing acquisition and the building up of local manufacturing capacity was adopting a "people centric approach". This approach is about ensuring open and transparent communication, a management team that is visible on the shopfloor the whole time, focusing on growing and developing staff, and getting alignment and buy-in to the change process. SACTWU has been involved and the company has built a sound relationship with the union. Kirby stresses that ultimately the intention is to build a company culture in which Prestige becomes the employer of choice in the clothing manufacturing sector.

Overall, Kirby argues that while there was a strong business case for localisation, the pandemic accelerated the move towards localisation, and the quick response model is an important way to mitigate risks. This model, has ensured that the time from order to delivery has been reduced to a matter of two weeks. At the same time, Prestige is partnering with small manufacturers and assisting to bring them into the TFG supply chain to reignite local capacity. As part of this process, Prestige has been deploying assets to these non-owned suppliers to accelerate their growth and development and introducing them to lean manufacturing. Prestige is focused on playing a developmental role with these suppliers.

One of the challenges hat Prestige Epping has faced is the merging of two different cultures with the incorporation of the House of Monatic and the manufacturing capacity of TCI into one factory. This has led to the building of a workforce of more than I 300 and, according to Harris, it has taken up to two years to merge the cultures and inculcate the Prestige way. Other challenges the Epping management has faced include the impact of COVID-I9 on the broader economy and loadshedding. Loadshedding has a two-pronged impact: it has affected economic growth, which has implications for the number of people walking into stores (people spending less); and second, loadshedding has impacted on the costs of operations. As Kirby points out, "when you have up to six hours of loadshedding the costs associated with keeping operations going cannot always be passed onto the customer".

Finally, other challenges Prestige faces in moving forward include the rising costs of new machinery in view of the current value of the rand; the need to continue training and upskilling people to manage the new machines; and a range of external labour and political factors which impact on growth and the change process. While Prestige has built up a healthy relationship with the union, there are instances when, for example, a taxi strike will impact on employees' ability to get to work. Similarly when there is political unrest.

### **VISION FOR THE FUTURE**

The Prestige Epping team has a vision of continuing to transform the factory into a factory for the 21st Century where the "world will come to learn from us"". The management team points out that the capacity is there and TFG have the resources to ensure this happens. As growth continues, the plan in the next two to five years is to continue rolling out automated machinery such as the PS-800 automated stitching machines. These machines produce the smaller trickier parts of a garment and "producing them through automated machinery ensures a better garment and keeps costs down", Harris explains. At the same time, underpinning all these developments is the continued commitment to TFG's localisation strategy which will increasingly also have to take into account climate change issues.

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