

Reimagining Fashion Production for a Digital Age

Alan Dix, 7th June 2017

Problem

1. **Limited consumer choice** – The nature of high-street logistics means that clothing is provided in a small number of standard sizes. However, people vary in size and shape in far more complex ways. Consumers are forced to either put up with clothes and shoes that they like, but which do not fit well, or only buying the style of clothes that happens to match their body shape. There are secondary effects of this lack of choice on health and well-being. The pre-sized clothes reinforce the messages of advertising that certain body shapes are normal and those that do not fit these stereotypes are aberrant. Furthermore, sports clothing including simple waterproofs, may not be available in larger sizes, discouraging physical activity amongst those who most need it.¹
2. **Off-shoring of employment** – Clothing manufacture is labour intensive and hence has moved to parts of the world where wages are lower. Assuming ethical purchase policies, not least maintaining health and safety standards, there may be positive impacts of this on international development. However, the impact of this on the Welsh and UK manufacturing base has entailed the loss of skilled and semi-skilled jobs, contributing to structural imbalance in the jobs market. Digital industries often create job opportunities for the highly skilled, many of which need to be filled from overseas. For those at the lower end of skills spectrum, opportunities, where they exist, are often in minimum wage service roles.

Reimagining the logistics of manufacturing and supply

Current manufacturing is based on a linear flow, with clothes produced in limited range of sizes at large factories, passed down the supply chain largely based on forecasting of demand. It would be impossible for local shops to stock more than a small range of sizes due both to limited storage and the limited ability to make sales forecasts at fine levels.

However, digital technology allows rich channels of communication up the supply chain, and many organisations already have parallel logistic structures with warehouse picking and direct to consumer delivery. It is no longer necessary to feel bound by the simple linear manufacturing flow, and instead use the additional knowledge made possible by digital technology to deconstruct and redistribute the production line, in the process allowing hitherto impossible levels of mass customisation and personalisation.

¹ See anecdote from Wales walk.

Solution

1. Clothes are still part constructed in parts of the world where production is cheap. However, elements of finishing are left incomplete. For example, for a pair of trousers may have its pockets, zipper and inner seams finished and pressed, but outer seams fully or partially open.
2. As in traditional supply, these are delivered to close-to-market warehouses.
3. High street shops and boutiques still stock a range of limited styles and sizes, but these are seen as being more an extension of the shop window rather than goods to be sold.
4. The consumer selects a style that looks good, but aspects of the fit may not be perfect: hem length, back vs. bust size, waist size, length or torso.
5. Either with a conventional tape measure, or digital measuring tools such as a 3D scanner, the shop assistant creates a detailed personal model of the individual.
6. The order and sizing information is transmitted to a close-to-market micro-factory attached to a warehouse. The closest part-constructed garment is retrieved from the warehouse, and the final finishing is performed producing an individually fitted garment.
7. The day after visiting the shop the consumer receives their personalised garment either directly to home, or possibly in the case of local boutique, to the shop to the collect.
8. In the case of long-lifetime items such as coats or suits, the finishing at stage 6 may leave small amounts of excess fabric so that clothes could be let in or out at a later time.

Impact

1. **Better products for consumers** – Clothes that really fit, left and right shoes in different sizes, leading to greater satisfaction and well-being.
2. **Social sustainability** – Skilled and semi-skilled manufacturing jobs close to market, leading to societal improvement and security.
3. **Environmental sustainability** – Less unsold stock at end of season and greater potential for post-sale adjustment of garments for first or second owner, leading to reduced waste.

In short, smart, socially beneficial and sustainable manufacture.