

## **Adapting to change - an approach for conducting garment fit trials online**

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Received: 20 May 2021; Revised: 28 July 2021; Accepted: 21 August 2021; Available online: 02 October 2021

### **Abstract:**

- Purpose - Conducting qualitative research involving garment prototype wearer trials, testing the fit of garments pre-production, has been challenging due to Covid 19 personal contact restrictions. This provided an opportunity to develop an approach to fit that could be conducted remotely online.
- Methodology - Using an action research approach (Townsend, 2013), methods are explored for directing an experimental study using online approaches to wearer fit trials. Practical and technical solutions for live wearer fit trials using remote methods for the collection of data and management of participants are considered.
- Findings - This research presents findings into the development of a sequential set of steps for conducting live wearer fit trials online.
- Originality - It establishes a new approach for the development of wearer fit trials restricted by personal contact and travel, whilst expanding opportunities to involve participants from a broader worldwide demographic.

**Keywords:** Online wearer fit trials, Remote garment fittings, Qualitative feedback, self-measurement, participant involvement.

### **1.0 Research Gap addressed:**

Adaptation of live wearer fit trials for online use is presented. These normally involve design teams working together around a model or mannequin. They provide an opportunity to explore garment fit and test construction before going into final production (Hopkins, 2012). During live wearer fit trials garments are handled and manipulated, measurements are gathered, and alterations pinned. There is close personal contact exploring how garments hang and fit on the body. Remote working, due to Covid19, established a need to explore the adaptation of wearer fit trials and develop online methods.

### **2.0 Key Findings:**

Remote live fit trials are conducted successfully when:

- appropriate resources are in place;
- participants are trained in resource usage and data capture;
- the researcher's approach to the data collection process is meticulous.

Remote wearer fit trials open opportunities:

- to expand participant involvement;
- involve participants from broader demographics worldwide;
- gain a better understanding of home/work environments where the live wearer fit trials are taking place, that may impact on the data.
- Gather qualitative feedback on a more regular basis, via methods such as 1:1 online meetings, video diaries, and participant self-recording via film and photography.

### **3.0 Method**

For this exploratory study, live wearer fit trials were conducted using identical jersey skirts with three participants to examine the misalignment of grainlines on garment fit and appearance. An

experimental action research approach (McNiff, 2013) of plan, act/observe, reflect and replan for the next meeting was used to structure the data collection process. Nine wearer trial meetings were conducted over a period of three months (three wearer fit trials meetings per skirt). Each skirt trial used an independent participant who was remote from the researcher throughout the trial. Participants were selected as their waist and hip measurements aligned to the standard body size specifications (Aldrich, 2004) used to create the trial skirt. Participants ages ranged from 38-53. Both the participants and researcher had computers, webcams and internet access, phones with cameras and Bluetooth. Participants were delivered test skirts, camera shutter devices for their phones and tripods. They additionally received garment technical packs, containing technical drawings of the skirts and pattern piece worksheets. The worksheets, with an image and reference number for each pattern piece, supported the focus and note taking when participants recorded observations about specific areas of the skirts. The researcher additionally had recording software to capture the audio visual of each meeting and two duplicate test skirts. One skirt was kept as a control. The second skirt was used as a visual aid, supporting the identification of features discussed in the online live wearer fit trial meetings with each participant.

All participants were given online training in the use of resources, measuring, photographing, and recording data prior to the online live wearer fit trial meetings. During the live fittings the worn skirt was viewed and photographed at a distance. Areas of concern were pin pointed, viewed and photographed close up. Prior to each fitting meeting a series of garment specification measurements were taken from the skirts. Measurement points were recorded on the skirts. Post-fitting, specific measurements were checked and cross-referenced against previous measurement data. This pre and post wearer fitting measurement data, together with the measurements, photographs, recording data, and participant observations gathered during the online live fittings was then used to explore issues with misalignment of grainlines.

In order to gather data systematically it was important to establish the purpose of each meeting with participants. The researcher also required participants' photographs of the garment being worn in advance of each meeting. Eight photographs were therefore taken by the participant moving round and before meetings showing the garment as they moved around from the front at 45-degree angles. This was done using a small handheld shutter device connected via an app to their phone. This device enabled participants to set their phone on a tripod and by simply clicking the handheld shutter device take photos from a distance hands free (Fig 1). During a meeting the researcher was able to view the garment fit and appearance and ask the participant to take further photographs if required.

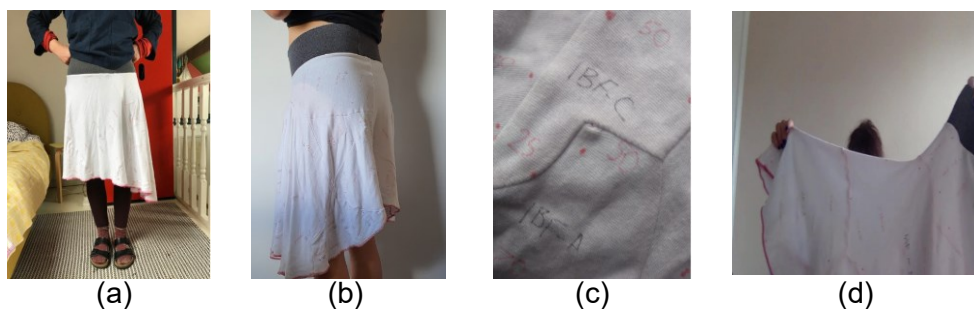


Fig. 1: Sample skirt photographed by participant during wearer trial using tripod and handheld phone shutter device [a) Skirt front at a distance, b) Skirt side at a distance, c) Area of concern close up, d) Area of concern at a distance].

It was soon recognised that there was a need for scrupulous organisation regarding the photos being taken by the participant. Photos were best taken on a phone and sent to the researcher using an agreed description code during the meeting as they were taken. The researcher needed to ensure the photo order was carefully recorded for later reference. It was also useful for the researcher to take a picture of what they saw, on screen, to support them in this

process. The researcher also needed to ensure they took fitting notes of observed and recorded issues. A technical sheet with a drawing of the skirt and pattern sets for a written record sheet was included in the technical package to support the recording of observed issues. Following the meeting the researcher gathered and cross referenced all data from the recording and images taken. Garments were then returned to researcher by the participant for further development in preparation for the next meeting.

#### **4.0 Results & Discussion**

Online live wearer fit trials are found to be reliant, but limited to the recording of observations, with further analysis needed once garments are returned to the company. Working with an additional trained fitter alongside the wearer to pin and adjust garments as required may be of advantage. This approach would be useful in speeding up the process of sampling when working with offshore producers, negating the time absorbing cross-globe delivery of garments between teams for inspection. Online live wearer fit trials could also open up possibilities to explore their adaption and development to gather post sale feedback remotely from customers to inform future designing.

Researchers and participants engaging in online live wearer fit trials need to be prepared to carefully and methodically record and photograph observed issues as they arise. If this is done, online live wearer fit trials can provide a valuable and novel approach for the gathering and recording of qualitative data to inform garment improvement. It also enables engagement of fit model participants globally, broadening the demographic for wearer trials, and giving employees across the globe an opportunity to collaborate on the trials, have dialogue with participants, and access the data.

#### **5.0 Theoretical Background**

Before going into final production garments are created as test toiles or muslins. These are then developed, often offshore, into first sample prototypes. Toiles and prototypes form a key stage in any garment development. Garment prototypes are placed on live fit models and observed by design teams as a cost-effective way to resolve and test garment fit, balance and aesthetic appeal (Aldrich, 2004; Bubonia and Gioello, 2017).

Sophisticated garment 3D simulation software can now be used to support and speed up the garment development and model fit process (Balach et al., 2020; Hall, 2020, Power, 2013). Such software still has its limitations and supports rather than replaces traditional garment model fittings with the technical skill and experience of the design team. The fashion industry is significantly less automated than other manufacture industries (Nayak and Padhye, 2018), it is also recognised as needing to address its environmental impact. The Covid-19 pandemic increased the need for remote and digital approaches within the industry. Moving forward there is a need to think holistically, exploring a package of sustainable approaches, including those that reduce garment and employee travel carbon footprints.

Evans and Allen (2012) have suggested that the shift between digital and traditional environments may enhance creative output when pattern designing. The move towards live streaming and the use of visual methodologies (Rose, 2016) and video-ethnographies, opens up opportunities to challenge conventional approaches to wearer fit trials/fitting sessions. Design teams around the globe now have the opportunity to work together via remote online methods, reviewing specialist requirements, ease, tolerances, fit and appearance with participants in online live wearer fit trials.

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**Author Contribution:**

C.E contributed to idea generation; data collection, analysis.  
S.A. acted as supervisor for methods in the research study.

**Acknowledgement:** n/a

**Conflict of Interest:** n/a

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