

## Changing the face of retail: where fashion meets technology

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### Abstract

Prior to the introduction of mobile technologies and the internet, the manual system of going to a brick-and-mortar store to buy clothing was boring and tiresome as customers would spend hours moving from shop to shop trying to find the exact type of outfit they are looking for. The assimilation of technology in fashion designing and online marketing of clothing is marking an incredible venture in the fashion industry. Due to improved security features of online purchasing a lot of people now prefer buying clothing online since it saves time and online shopping provides variety at a click. This paper reviews several ways in which technology is transforming the fashion industry. However this subject has not been researched in detail therefore there is a missing gap in the literature. We hope that this paper will fill the gap in the literature in order to review the role that technology is playing in the fashion industry. Information provided in this paper is beneficial to fashion designers, entrepreneurs in the fashion industry, information technology specialists as well as other researchers interested in a similar area of study.

Keywords: Technology, fashion, virtual fitting room, wearable technology, virtual wardrobe.

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## 1. Introduction

Accelerated technological advancements are transforming the fashion industry. With many customers now buying clothes and accessories online compared to the old fashioned way of going to a brick-and-mortar fashion store to buy clothes. The fashion industry has incorporated technology in all of its business functions from marketing the clothes and accessories right up to delivery stage. Technology has been the leading marketing tool on the web in the fashion industry with the use of virtual fitting rooms, e-catalogs, social media, wearable technology and virtual wardrobes.

## Nomenclature

A	radius of
B	position of
C	further nomenclature continues down the page inside the text box

## 2. Internet and social media

In a bid to motivate and arouse interest to customers, retailers in the fashion industry have shifted from the brick-and-mortar approach of selling to e-commerce. Shatzman (2014) pointed out that the web and social media are being used to stay in touch with online customers allowing customers the freedom to follow their favourite designers, bloggers, boutiques as well as stylists and see fashion recommendations.

Cowan and Boom (2012) mentioned two new fashion websites which are transforming the fashion industry namely I Like What You're Wearing (ilwyw.com) a site that exposes innovative and high quality designer clothing from rising designers and gives customers access to unique pieces through a shopping online magazine. She also mentioned another website Buyosphere.com where you can customize your search to find the exact thing you are looking for without a hustle. She gave an example that even if you cannot find the perfect jeans, it's not a problem all you need to do is ask Buyosphere.com.

Tracking systems are also being used to facilitate online buying. As a way of marketing most fashion retailers offer free shipping of goods bought up to a certain amount. The customer will be able to track the parcel from the time of purchase right up to the time of delivery as the tracking application is linked with GPS showing the exact location where the parcel is.

## 3. Electronic catalogs and mobile marketing

Intner et al. (2003) defined an e-catalog also known as a digital magazine as an [online magazine](#) which is delivered to readers and subscribers in an electronic format. He also explained that most online fashion designers and retailers are making use of such since they are environmentally friendly as the distribution and creation of digital magazines do not require the cutting down of trees contrary to hard copy magazines.

Calderin and Volpintesta (2013) explained that the fashion industry is using technological equipment and software's to create digital magazines with interactive elements such as animations and videos making the content much more interesting for the reader. Distribution costs are reduced when catalogues are distributed and published online. They also stated that information technology software and programming languages such as flash and HTML5 respectively are being used to create pages with a turning effect from PDF files, information popup messages, and auto catalog link creation which can be viewed on the latest mobile and tablet devices.

Intner et al. (2003) also pointed out some of the benefits of having electronic catalogs in the fashion industry as shown in the bullets below:

- Electronic catalogs provide access to extensive product information in one go providing users with the option of customized search,
- Products on sale and offer are displayed in high resolution format,
- Multiple channels can be linked at the click of a button such as sharing with friends on social network sites, print, email, web and retail,
- E-catalogs are portable as your brand goes wherever your mobile device goes,
- Incorporates multimedia such as video and audio making it lively and captivating to the reader.
- Information is kept up to date as fashion retailers and designers can constantly update information such as promotional offers and at a click making it available to viewers.
- Digital catalogs also serve as an extension to the printed catalogs,
- They provide e-commerce capability built directly into the pages allowing readers to purchase while they browse the catalog,
- Provides readers with the ability to zoom in and out products that you find interesting.

Calderin and Volpintesta (2013) emphasized that accelerated technological advancements have opened new arenas in the fashion industry with almost 60% of the population in the world owning a Smartphone the fashion industry has seen the mobile market as a good marketing strategy. They also said a lot of mobile fashion applications are now available on AppStore and Google Play. The digital generation we are in are skipping the need to use a Laptop or desktop computer and going straight to tablets and smartphones.

#### **4. Virtual wardrobe and fitting rooms**

Shatzman (2014) defined a virtual wardrobe as a central place where all your outfits are laid on the cloud. Wray Serna, the Co-founder of Cloth one of the latest virtual wardrobe Company said their Cloth mobile application is designed in such a way that it searches the ideal outfit for you in your physical wardrobe to put on that day based on weather or daily schedules. She also explained that the application is linked to daily schedules in your Smartphone or tablet and it can suggest clothes to put on for a function such as a wedding or based on weather as the application uses Global Positioning System (GPS) to access your location and uses real-time weather data to help you pick your best outfits for current weather conditions.

In his research Shatzman (2014) pointed out that Wray Serna, the Co-founder of Cloth said that, "Seeing your outfits all organized helps you to develop your personal style. It also helps to fill in your wardrobe gaps with new items or to make new outfits out of what you already have." The ultimate goal of such innovative ideas and applications in the fashion industry is to make it easier, faster and more fun for people to get dressed using their phones and share their looks with their friends and be inspired.

Calderin and Volpintesta (2013) explained how the virtual wardrobe or virtual closet works as shown in the following steps:

- Step 1: A specialized fashion consultant comes to your home and takes pictures of every item in your closet including jewellery, shoes and handbags.

- Step 2: The fashion stylists creates an online closet for you where you can view your closet and dress.
- Step 3: The fashion advisers will provide the client with a login password to access their virtual wardrobe. If a client is not satisfied with the suggestion they can email a stylist and get other suggestions instantly.

Rong et al. (2011) defined a virtual fitting room as a real-time interactive platform that is being used in the fashion industry to assist customers in fitting clothes they buy online. He explained that customers only need to key in body measurements and the system creates a 3D model of their body structure and is capable of displaying parts that will be too tight or too loose hence assisting the customer in garment selection.

EON Reality (2015) explained the EON Interactive Mirror which is attracting more customers to online clothing purchase as it provides an exciting retail concept. The software uses youcam camera on your computer with 3D enabled components to transform it into a mirror enabling you to fit garments virtually. They also pointed out that the mirror offers full 360 degree view of virtual 3D clothes, body movements and also provides accessories on top of the mirror image that go along with the chosen outfit hence assisting the customer in style and choice. The mirror provides a full skeleton tracking in real-time for the body and it has a near node tracking for objects 40cm from stand point enabling real-time face tracking.

## 5. Wearable Technology

Information technology is drifting the fashion industry to another dimension of wearable technology with SmartWatch being the wearable technology category that is boosting up as seen by the massive acceptance of the Apple SmartWatch. Bruno (2015) explained that the Apple SmartWatch is an accessory that not only allows you to look fashionable but it has sensors linked with your ipad and iphone. He also explained that one can view messages that have been sent to their phone on their watch without having to look for the phone.

Strange (2015) noted that Kegan Schouwenburg, the CEO of SOLS a company designing a 3D wearable shoe pointed out that for technology to work in fashion it must enhance the value of technology and the overall lifestyle of the individual. He also pointed out that technology is drifting the fashion industry to extremes where in the near future shoes will be a one size fit all. He described SOLS shoe as a 3D printed shoe with integrated sensors that has embedded gyroscopes and sensors to adapt to the foot of the wearer.

## 6. Conclusion

The increased demand of mobile devices in this digital age has shown that technology is an essential asset in the success of the fashion industry. Literature has shown a lot of technological features that are being incorporated in the fashion industry (Cowan and Boom (2012) and Bruno (2015)) and this paper has reviewed several ways in which technology is transforming the fashion industry. However inasmuch as technology is making peoples' lives easier when it comes to online buying the brick-and-mortar stores will still be there for the small population that prefers the traditional way of shopping and others who are not fortunate to own mobile devices due to digital divide. Not much detail have been found in the literature on this topic we hope this paper will be useful in this area under study and will be beneficial to fashion designers, entrepreneurs in the fashion industry, information technology specialists as well as other researchers interested in a similar area of study.

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