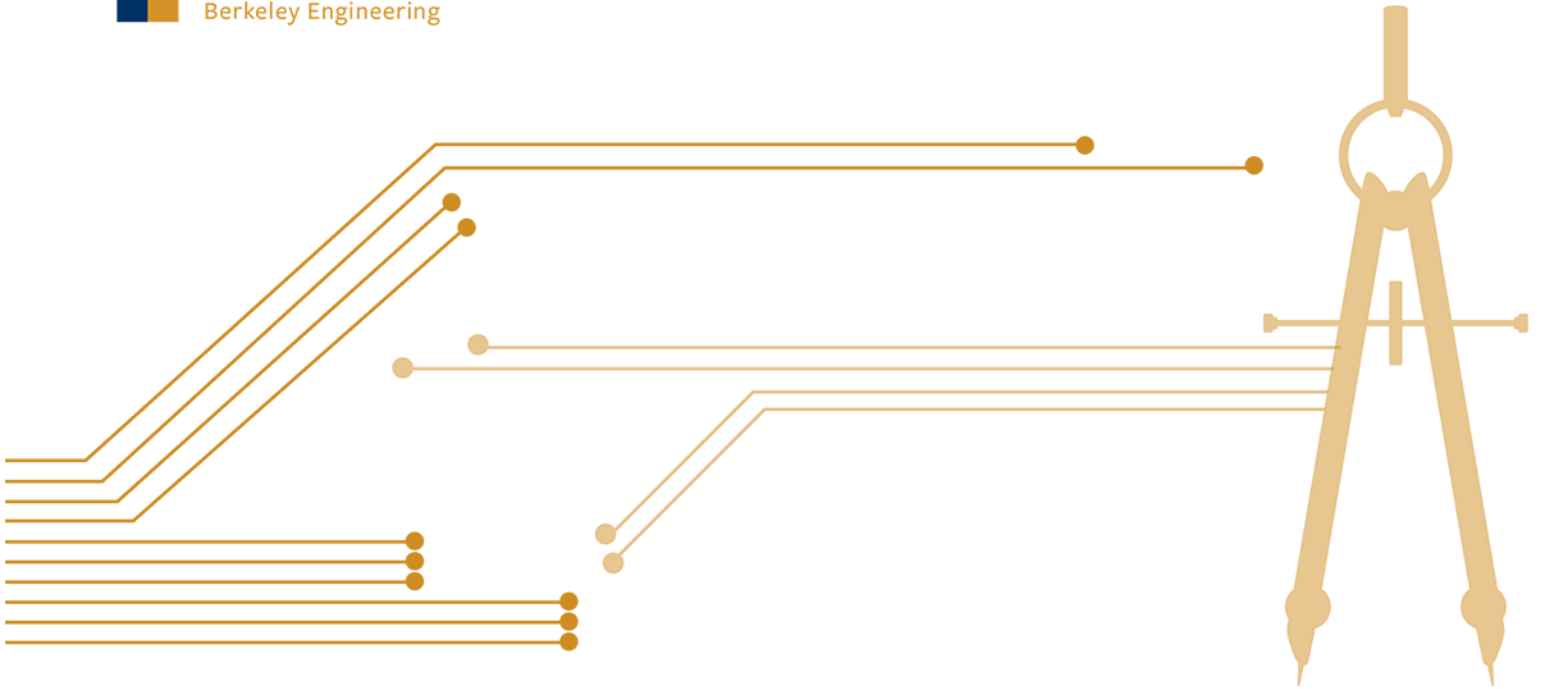




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Online Clothes Shopping

An Industry Landscape Study Focusing on Returns

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Shopping Trend in the New Century

With the booming of e-commerce market in the 21st century, more and more consumers are changing their shopping behavior and prefer to do their usual shopping from the comfort of their homes rather than putting up with the time consuming physical store deal. According to Statista, the revenue of online apparel and accessories is \$60 billion US dollars in 2015, and is projected to be \$86.4 billion US dollars by 2018. (1) This means that the players in the apparel industry must tailor their business models to offer their customers the best value proposition for them to make the purchase.

The challenge is not only to survive, but also to grow in this overcrowded, and thus over-competitive environment. To do so, companies must cut costs and increase sales in a solid e-commerce platform. A major cost-related problem the industry is facing is the high return rate from their online sales. Returns add costs and complexity, and depress customer satisfaction and sales. Nearly 20-30% of apparel orders are being returned by the online consumers. (2) The cost to handle each return order for repackaging, shipping, and restocking varies, ranging from \$3 to \$12 per order. (3)

Retailers are devoting more attention and resources to reverse logistics as they seek to extract as much value as possible from returned goods. The average retailer's reverse logistics costs for consumer goods are equal to an average 8.1% of total sales. (4)

To date, the problem of returns for apparel companies has raised to \$1.4 billion US dollars, which has created huge business opportunities. Several companies have had different approaches to solving this problem, most of them focused in avoiding the return per se. Considering that close to 70% of returns are fit related (5), a crowd of companies is focused in improving the virtual fitting experience for consumers. Other companies are exploring the emerging social side of online shopping, while others are capitalizing from the growing return culture of online consumers.

Retail Reverse Logistics

Reverse logistics has traditionally been placed low in the supply chain hierarchy. Not until recently, apparel businesses have begun to understand that strategic reverse logistics management can have a large impact on overall operations. "Returns have been a black hole—customers are left to their own devices, and companies don't get information proactively about products coming back to their warehouse," says Jonathan Dampier, vice president for Newgistics, a returns solutions provider in Austin, Texas. "For apparel companies, in particular, growing online operations means they have to pay more attention to this process." (6)

A friendly-to-use interface has become of vital importance for potential customers to make the first purchase, and an outstanding customer service (including returns policy) has demonstrated to be effective for previous customers to make another purchase. Nearly 90% of customers will return to shop where they had a positive return experience (7). Also a 357% increase of sales from returns has been reported, where even if returns cost money upfront, they increase profit in the long run from customer loyalty (8).



Figure 1: Percentages on easy returns. (8)



Figure 2: Benefits of easy returns. (8)

Retailers often do not have strong and efficient reverse logistics processes, and don't have the ability to proactively manage returns. The chore often falls on the consumer, who is responsible for packing up the order, shipping it back, and following up with the retailer for status. Retailers are often unable to analyze return data to gauge trends in what merchandise was being sent back, or prepare its warehouse ahead of time for a large volume of returns.

This comes as an opportunity to logistics experts. They make it easier and friendlier for customers to send back a return, and cut costs and complexity for retailers, allowing them to focus on sales. For example, Newgistics' SmartLabel is doing business out of this. Every order placed on their customer's web site comes with a pre-paid, pre-addressed, barcoded SmartLabel. When returning an order, customers add a SmartLabel to their package and drop it off at wherever the postal service retrieves mail. Returns are scanned three times during the cycle: at pickup, at Newgistics' regional facilities, and at the retailer's warehouse.



Figure 3: SmartLabel instructions (9)

"A dynamic bar code links the package to the customer's invoice and provides package visibility early in the returns process, enabling customer service representatives to proactively address customers' exchange or credit needs," says Dampier. This system also provides visibility to keep consumers updated on the status of their return, and exceptions can be managed. Visibility of this data also lets the company analyze returns trends to find poorly performing styles or colors, and forecast demand more effectively. (6)

GENCO, a FedEx company, offers retailers to enhance returns processing to allow consumers to return their purchases to the channel of their choice, enabling a seamless experience. This company is the recognized leader in retail returns management. Over the last three decades, they have helped retailers achieve an average 20% reduction in costs related to returns processing. Through a proprietary software called R-Log, GENCO manages reverse flow of products, information and cash for any product sold. It optimizes inventory levels, cycle time, labor hours and overall return management, defining with the customer the appropriate product disposition method for each product. (10)

Businesses Focused in Improving the Virtual Fitting Experience

Many companies are trying to solve the high return rate problem by providing a better fit. Various technologies are being used in this field, ranging from 3D scanning, augmented reality, virtual reality, and big data. Some companies, for example, generate 3D models of apparel shoppers either from body measurements they input into a computer or from scan booths. Based on the garment size from the system database and the accurate body measurements, the computer gives recommendations or virtual try-ons for the shoppers with the ease of a click of a mouse. Data-based companies, such as TrueFit, collect huge database of shoppers' body sizes, preferences, and purchase histories, and are able to do big-data analysis and give recommendations.

The virtual fitting industry is very crowded and competitive, regarding both its technology and operating models. The table below shows the main competitors and some key features.

	Me-ality	Metail	Bodi.me	TrueFit	Zugara
3D scanning	X		X		
3D models	X	X			
Input measurements			X	X	
Size recommendations	X		X	X	X
Virtual try-on	X	X			X
Big data				X	

Table 1: Features of the market leaders.

3D Scanning Case Study:

Inspired by the inaccuracy in the current virtual fitting technologies, a company called Me-ality tried a 3D scanning approach to the issue. Inside of their hexagonal booths an electronic wand would make rotations around a standing subject, collecting 200,000 body measurements. A partnership with Bloomingdale's led them to having a booth in 70 shopping malls by 2011 (11).

While it seemed that this advancement might have changed clothes shopping forever, it didn't work out that way. As retail consultant Bob Grayson puts it, the scanner serves as an example of "the overreach of technology", as "the leap from the detail that was available from the machines to the choices that were available in the store wasn't a match" (11).

Another problem was that many consumers (especially women shopping for jeans) were simply not all that comfortable with the idea of a machine scanning their bodies, especially in a public place. Sarah Ahmed, creative director of jeans brand DL1961 says that the trouble with 3-D body mapping is that it's a bit too much reality for many consumers: "people don't really want to see [what they look like]" and "they think they look a certain way, but when you see mapping, it's ... physicality" (11).

Bill Adler, CEO of TrueFit, has another argument against 3D scanning: "any time you do a scan you're getting very precise measurements of the body. But we don't walk around in leotards all day." And he continues that size is not really the only factor involved: "fit, style preference, fabric, drape, all of that is really important to best outfit a person... the right piece of clothing is more than just data points on your physical body" (12).

On the other hand, men seem to be OK with having their bodies scanned. It seems to be a draw for them, because as Jamal Motlatgh from Acustom Apparel for men explains, "you walk in and in 10 minutes you've been scanned and you walk out with a bunch of clothing." Originally this business was aimed to young men who liked the new scanning technology, but the average customer is a mid-career executive in his 40s with little time for shopping (11).

Virtual Fitting Interviews:

Primary research was carried out in the form of interviews to get a general feel of what people had to say about their online shopping behavior and their relationship with virtual fitting technologies. The interview was carried out in Westfield San Francisco Centre on March 2016, and 15 women were questioned. The following table displays some of the most significant quotes and the insights they led to.

Quotes	Insights
“I go to the store and try on clothes to know my size, then I shop online”	Most women don't trust fitting charts and virtual fitting technologies. Sometimes they don't know any and are not interested - they would rather try clothes on to be sure.
“Size charts are way too basic”	
“Too much trouble to input measurements”	
“It really depends on body type, it's very personal”	
“Size is not the only thing that matters, cut and texture are very important”	Most women trust what other women have to say about clothes.
“I usually look at the comment area below the clothes”	
“If I don't know my size, I read reviews or post a question on the discussion board”	

Table 2: Quotes and insights from interview.

Business Models Capitalizing on Returns

There's another set of companies that are not trying to solve the fitting problem or optimizing the reverse logistics. Instead, they are capitalizing on the rooted return culture. These companies are actually expecting the customer to make a return, so the price of the garments is higher to cover up the costs of the return. The customer perceives additional value with the style suggestions and the surprise garments. The customer creates a profile and inputs preferences and style. It will suggest garments, and the customer is sent a box with some chosen articles and some surprise articles, depending on the payment plan.

Another problem the industry is facing is that sometimes the consumer actually used the garment before returning it. A business that comes out from this idea is the garment rental company. In this model, the customer decides which garment to rent and sometimes for how long they will keep it. Then they send back the box with the used garment. There are several companies aiming at different market segments, like the ones explained next. The customer receives a box with the rented garment inside for them to use. These companies charge commission fees or a certain percentage of the price of the ordered garments.

Social platforms for apparel shoppers:

Primary research has shown that women generally trust what other women have to say about clothes and usually seek for social acceptance of apparels. Many companies, like Pinterest and Fitbay, are providing social platforms to apparel shoppers for styling and connection. Take Fitbay for example, online consumers could input measurement and body shape information of themselves, and look for trendy bloggers of their similar body size and proportions. Pinterest does not focus on the apparel market, but many women use this platform to share their clothing taste.

Future of the Online Apparel Shopping Market:

To solve the high return rate problem in the online apparel shopping industry, many approaches were considered. The main solutions were grouped into three categories: improving the virtual fitting experience, by capitalizing on returns and by providing the social component to online shopping. The following timeline shows the year of appearance of the major players, as well as a color-coding to indicate their ability to survive in the near future.

Concept	Company	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Present
Virtual Fitting	Meality																
	Metail																
	Bodi.me																
	TrueFit																
	Zugara																
Sales leveraged on return culture	Gwynnie Bee																
	Stitch Fix																
	Fabletics																
	Rent the Runway																
Social	Fitbay																

Diagram 1: Main players in the industry. Green: bright future. Yellow: technological or focus deficit. Red: closed business.

The color code in Diagram 1 is evaluated based on corporate focus to the features discussed in Table 3.

Features	Benefits for End Consumers	Benefits for Customers
Superior technologies with increased fidelity.	Increased trust in technology.	Increased traffic, increase of sales, decrease in returns.
Social features (share with friends buttons, etc)	Ask loved ones for opinion on looks.	Increase in sales. Mouth to mouth promotion.
Big Data	Customized shopping experience, accurate garment suggestions.	Focused mktg and selling strategies Increased sales

Table 3: Features and their benefits.

The phenomena of the returns in the e-commerce apparel industry have created business opportunities that have been capitalized by companies in diverse ways. The market will be shaped by the increasingly demanding consumer will choose some features over others in easy-to-use interfaces and exciting experiences. To thrive in this over competitive environment, in the future the companies' business models should align their value propositions to maximize the number of benefits offered to both customers and end consumers.

Reference:

1. U.S. apparel and accessories e-commerce revenue 2019 | Statistic [Internet]. Statista. 2016 [cited 7 May 2016]. Available from: <http://www.statista.com/statistics/278890/us-apparel-and-accessories-retail-e-commerce-revenue>
2. Briggs B. Web-only retailers turn in the lowest return rate [Internet]. Internetretailer.com. 2016 [cited 7 May 2016]. Available from: <https://www.internetretailer.com/2013/05/09/web-only-retailers-turn-lowest-return-rate>
3. Peters K. Don't underestimate the headache of apparel returns, Gartner tells Amazon [Internet]. Internetretailer.com. 2016 [cited 7 May 2016]. Available from: <https://www.internetretailer.com/2002/11/05/don-t-underestimate-the-headache-of-apparel-returns-gartner-t>
4. Managing Retail Returns: The Good, the Bad, and the Ugly - Inbound Logistics [Internet]. Inboundlogistics.com. 2016 [cited 6 May 2016]. Available from: <http://www.inboundlogistics.com/cms/article/managing-retail-returns-the-good-the-bad-and-the-ugly/>
5. Drapers Etail Report 2012 [Internet]. 2016 [cited 7 May 2016]. Available from: http://k3retail.com/assets/resources/Drapers_Etail_Report_2012.pdf
6. Apparel Logistics & Technology: A Perfect Fit - Inbound Logistics [Internet]. Inboundlogistics.com. 2016 [cited 6 May 2016]. Available from: <http://www.inboundlogistics.com/cms/article/apparel-logistics-and-technology-a-perfect-fit/>
7. Internet Retailer : E-Commerce - An effective returns strategy keeps customers coming back [Internet]. Internetretailer.com. 2016 [cited 6 May 2016]. Available from: <https://www.internetretailer.com/mobile/2016/04/12/effective-returns-strategy-keeps-customers-coming-back>
8. Easy Online Product Returns Improve Profits | TrueShip [Internet]. Trueship.com. 2016 [cited 6 May 2016]. Available from: <http://www.trueship.com/articles/study-finds-that-convenient-online-product-returns-improve-profits-exponentially/>
9. Return Page [Internet]. Fingerhut.com. 2016 [cited 6 May 2016]. Available from: <http://www.fingerhut.com/content.jsp?pageName=Returns>
10. Retail Reverse Logistics [Internet]. Genco.com. 2016 [cited 6 May 2016]. Available from: <http://www.genco.com/Retail/retail-reverse-logistics.php>
11. Could 3-D Body Scanners Help You Find the Perfect Pair of Jeans? [Internet]. AdWeek. 2016 [cited 6 May 2016]. Available from: <http://www.adweek.com/news/technology/could-3-d-body-scanners-help-you-find-perfect-pair-jeans-164427>
12. Forbes Welcome [Internet]. Forbes.com. 2016 [cited 6 May 2016]. Available from: <http://www.forbes.com/sites/lydiadishman/2014/02/28/the-perfect-fit-truefits-big-data-aims-to-solve-a-big-e-commerce-problem/#339895a25148>