

AI AVATAR BASED SIZING SOLUTION

USING VIRTUAL FITTING ROOMS



ABSTRACT

The rapid increase of digitization in recent times has led to a rise in the number of e-commerce platforms. While they provide a lot of convenience to the users, a major problem of returns has been observed with these platforms. This is especially evident in clothing and accessories purchases, where

Return Rate is

25%

compared to an average of

5-10%

across all categories

An estimated

30%

of these returns are due to issues related to size and fitting.

This paper proposes an avatar based sizing solution in order to mitigate this problem and reduce the number of returns faced by e-commerce platforms; and elaborates on the preliminary market research conducted for the same.

○ **Two different surveys were conducted, across a total of 108 participants.**

96% of these participants considered themselves as active online shoppers.

When asked about the reason for returning products purchased through e-commerce, approximately **50%** of participants mentioned size and fit as being the reason for returning a product.

In order to understand the acceptance of avatars, the participants were asked if people were ready to use avatars; and a majority of over **64%** participants stated that they believed that people would be willing to accept and try using avatars in order to get a better understanding of the fit of a fashion product, before completing a purchase.

Thus, the survey indicates that customers are willing to adopt **an avatar based solution** in order to get a better fit of the product, which would also **help e-commerce platforms** solve the problem of unnecessary returns and also provide **increased customer loyalty**.

DESCRIPTION

This paper aims to decipher the acceptance level of AI by consumers to get the right fitment for their apparel with numerous brands offering various sizes and fits. The survey also tries to understand the discrepancies usually encountered while choosing the right sizing.

Enabling our AI to understand the need of the end customer to shop precisely without any sizing or fitment issues. The survey also asked them to elaborate on what issues they faced regarding sizing. Around **80%** of the participants agreed that their loyalty was committed to the same brand if right fits were offered. This shows that solving the sizing solution could potentially lead to much higher customer retention. In this paper, people's redundancy or willingness to disclose privacy information to get the right suggestion is also emphasized.






Core Idea of the paper

- To understand an e-commerce fashion purchaser
- To be able to provide them with a sizing solution
- To understand the market and feasibility of AI integration to help them shop or purchase more easily
- To reduce the extra cost incurred by the seller.



Result and Discussion

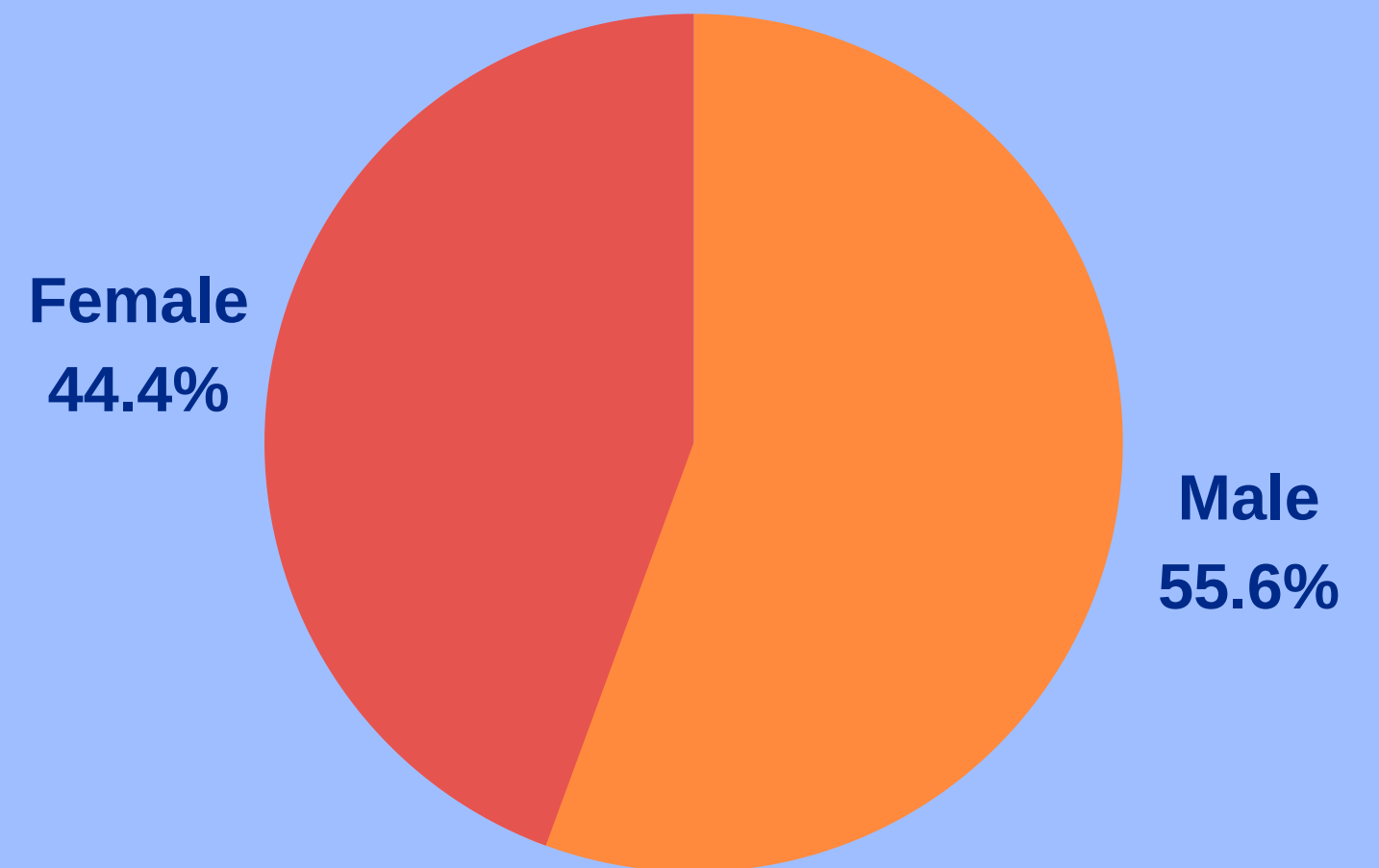
In order to associate with the right set of users asking the right set of questions, we have narrowed down on both demographics as well as shopping preferences of the individuals. The questions asked to the respondents helped us categorize the replies into various segments enabling a more structured analysis. The broad segments upon which the categorization is done are- Demographics, Preferences, Concerns, and Solutions.



1) Demographics

Gender -

With a solid aim to maintain an unbiased opinion in terms of the responses to the set of questions depending upon the style or preferences, our research team has tried reaching out to an equal number of males and females through the survey resulting in **55.6%** of the responses being male and **44.4%** being female. This helped us analyze the responses on an unbiased scale considering the varied preferences of both males and females.



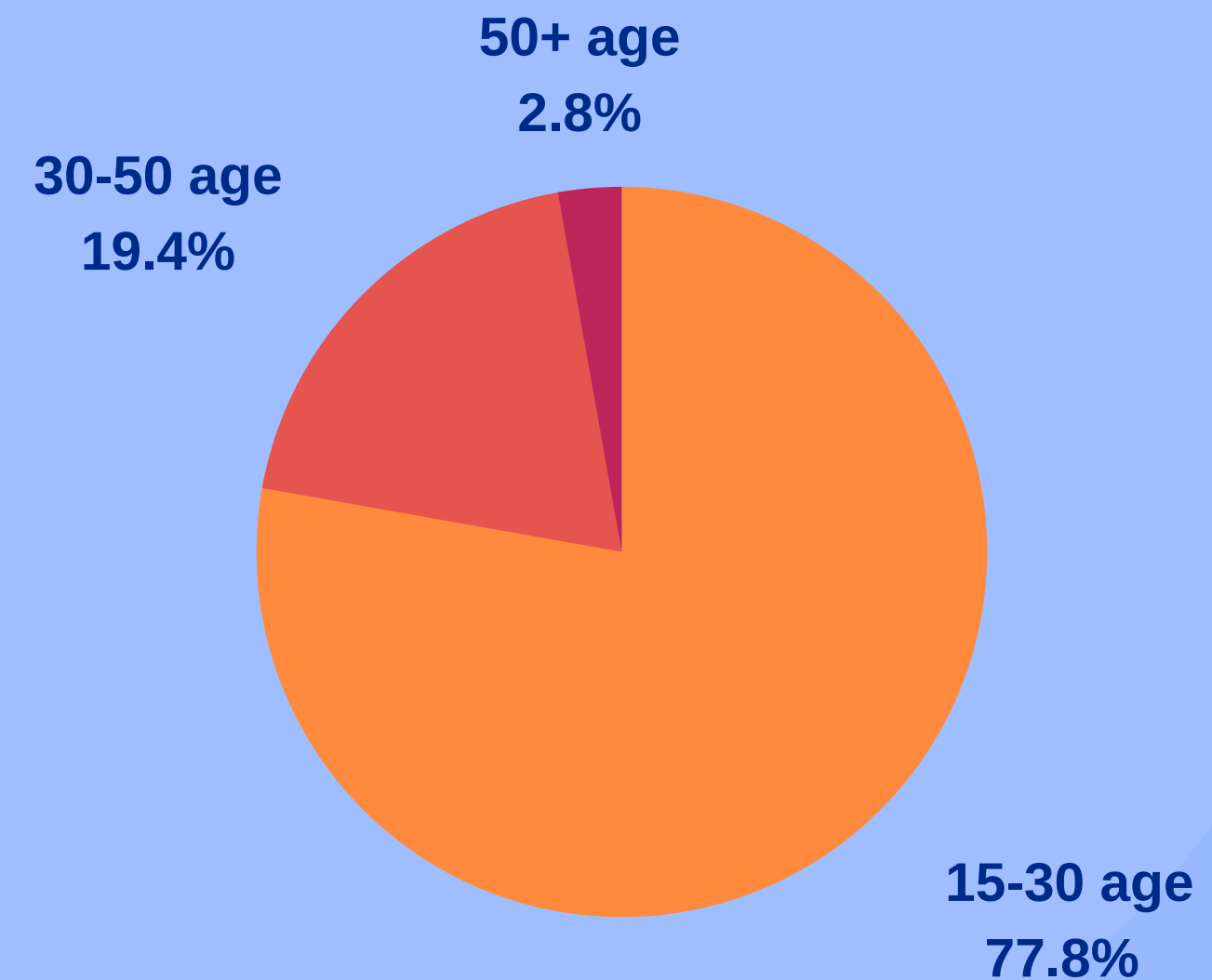
Gender split of the participants

Online Shopping or Conventional Shopping -

Since the idea of the entire research is to back our hypothesis regarding the behavior of e-commerce shoppers, the next aspect of the sample focused on the online shoppers. With the motive of providing a feasible solution, through AI enabled technologies, to enable the right fit and sizing, online and e-commerce shoppers have a priority compared to conventional shoppers. **96%** percent of the respondents we reached out to mentioned that they shop online thereby providing a broad sample base for our analysis.

Age of the participants -

With approximately 98% of Gen Z owning mobile phones and 61% preferring to shop online, GenZ forms the most important consumer base when it comes to online or e-commerce shopping. Targeting this huge part of the pie would not only help us identify the mass preference of the shoppers but also helps us narrow down on the analysis of the survey owing to their prominent presence in the online shopping arena. Likewise in the market scenario, **78%** of the respondents belonged to the GenZ category with their age varying between **15-30** years.



Age wise split of the participants

2) Preferences

Preferred Size -

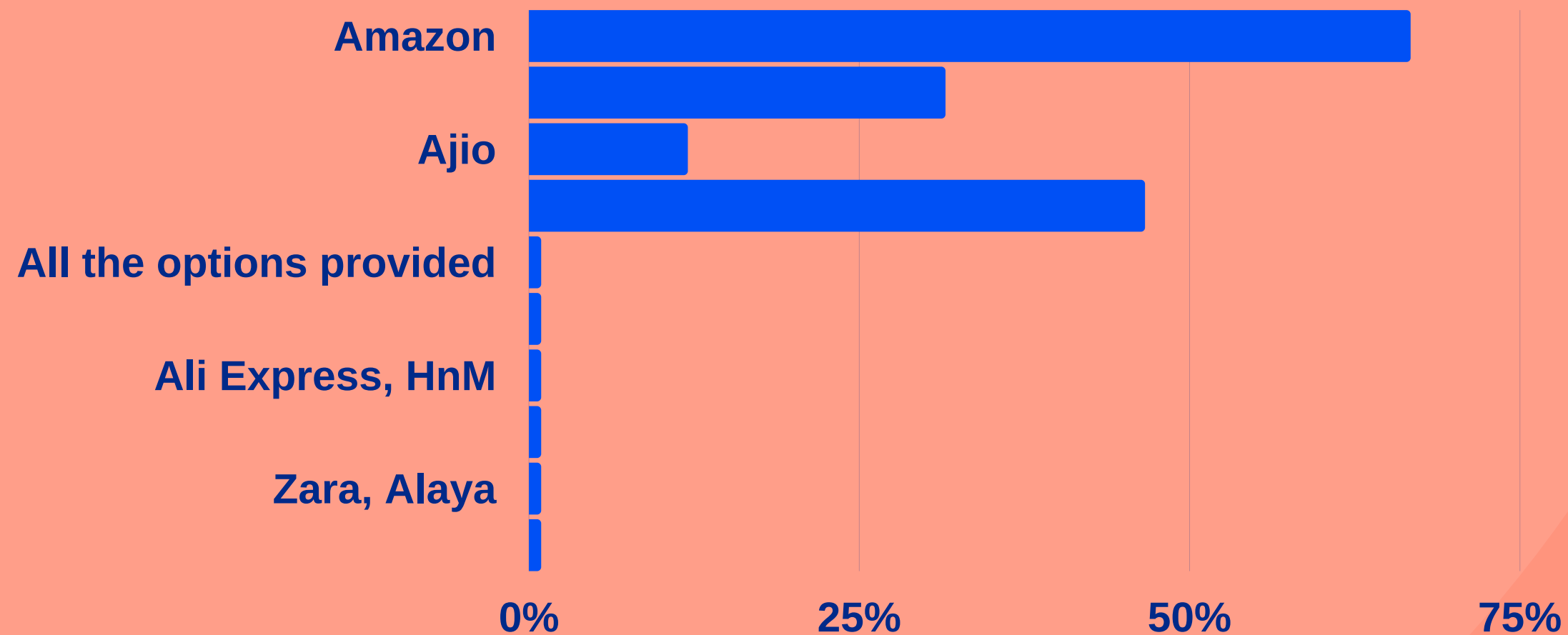
Specifying the demographics of the survey helped us step into the core research of the survey, the accurate fit of online fashion. In order to classify the category of fit, the majority of respondents who came under the survey inquired about the preferred size while purchasing apparel online. The majority of the respondents fit in the category of L&M with a percentage of **28.7%** each, while **22.2%** preferred XL, **9.3%** preferred S, **8.3%** XXL and a minority XS. Categorizing the respondents based on these preferences will assist the analysis of the survey in terms of the accuracy of the fit suggested depending upon the broader preference of the customer. With an almost equal percentage in three of the preferences, the solution suggested can include a potential multidimensional approach and uniformity in terms of the suggestions.

Preferred platform for shopping -

Out of the herculean market in e-commerce, the next point of analysis required the researchers to understand where the majority of the customers shopped online.

The customers were provided with few of the market giants in the e-commerce industry and upon inquiring, **66.7%** responded with Amazon as their usual preference.

The other platforms preferred by the respondents included **Flipkart, Ajo, Myntra, Nyka** etc.



Preferred online shopping platforms of the participants

Average Monthly Expenditure On Apparels -

To corner on the spending preferences of the individuals and understand their optimum limit of spending on apparel, the average amount of spending per consumer on clothing has been inquired. About **70%** of the customers are willing to spend somewhere between **1000-2500** on clothing per month.

This response was followed by **19%** approx spending between **2500-5000** and **10%** spending between **5000-10000**

With the majority of the customers lying in the bracket of **1000-2500** it's imperative for e-commerce companies to deliver quality products in a similar bracket in order to capture a broader market share.






← BACK

CREATE YOUR TRUE AVATAR

Fill in the following information IN CM KG LB

Gender Age Weight Height

Select your body type


Inverted triangle Hour glass Apple Triangle Rectangle

The following information is mandatory

Chest Waist Hip Inseam Thigh Calf

Add more information for a precise result (+)

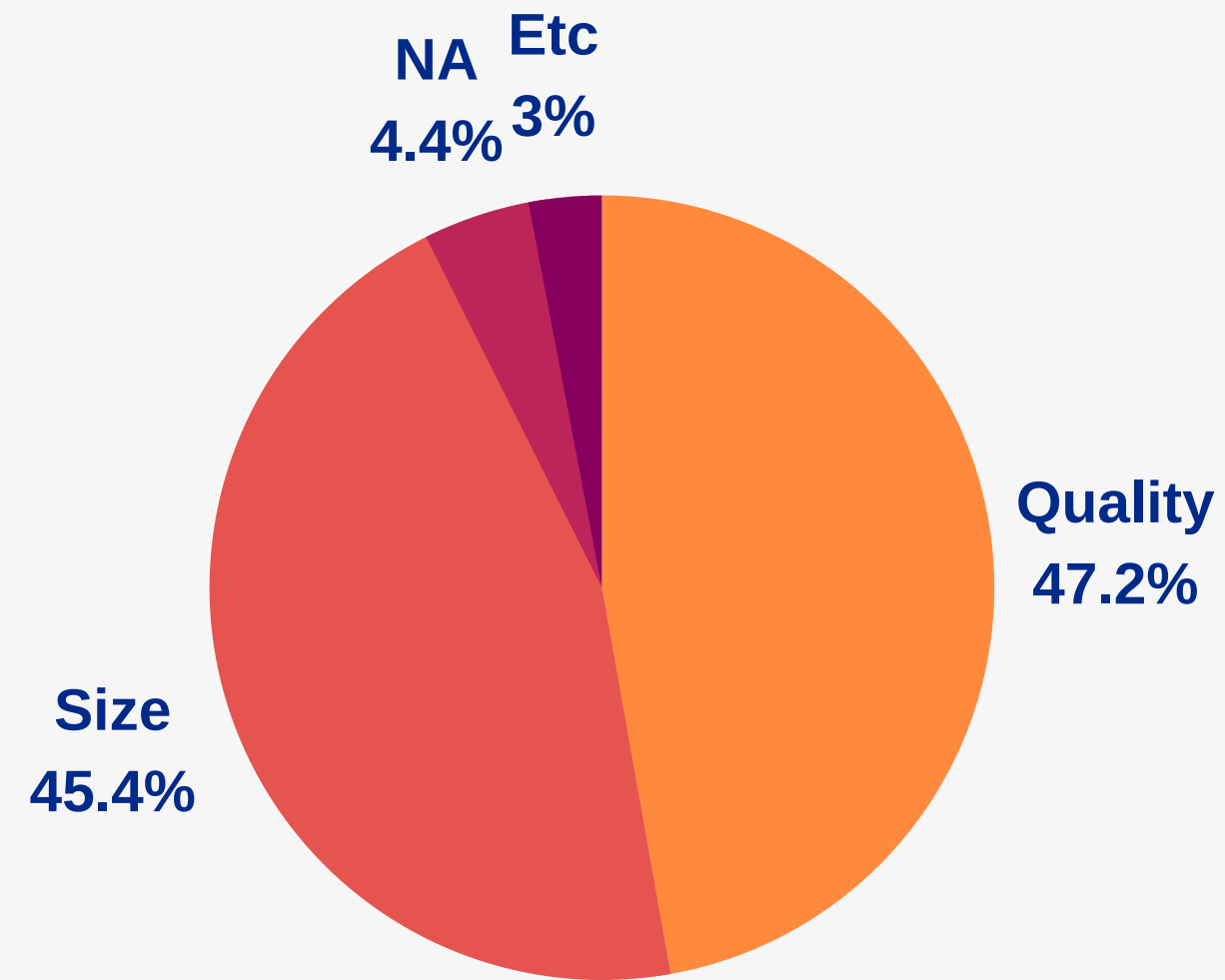
NEXT →



3) Concerns

Reason for return of the product -

To augment the experience of online e-commerce shoppers, the one major factor that was important to consider was to understand the reason for the dissatisfaction of the customer. Worded differently, the major reason for customers returning the product will help understand the area of experience to be improved. To evaluate the hypothesis of size and quality being a major factor leading to content or discontent of the customer, we inquired the reason for the return of their clothing purchased online. Most of the respondents answered dissatisfaction with the size and quality as the main reason for return. This further supports the hypothesis that size and fit play a crucial role in deciding the customer experience.



Participants reason for returning products

Common Sizing Issues Faced -

On inquiring about the size issues experienced by the users, the majority of them faced a problem with the length of the apparel and the fit of the waist. Moreover, a few of them also opined that there was often a difference between the style and fit they ordered online and what they received. Further analysis revealed that most of the consumers preferred refunds rather than exchange. This has a direct effect on the revenue of the companies owing to the loss of customer base and falling revenue.



4) Potential for a solution

Loyalty towards a brand if the sizing issue was resolved -

To conclude on the customer's behavior and loyalty towards the brand, the respondents were asked if they would continue purchasing from the same brand if the size and quality issues were resolved. As expected, the majority of the customers responded that they would continue shopping from the same brand if they received the right fit and quality.

Acceptance levels for Virtual Avatars -

While AI can be used to augment the customer experience, the level of acceptance of AI Avatars varies from industry to industry.

On inquiring about the customer's inclination to use Avatars for a better experience, close to **65% of them completely accepted this idea while **32%** were still consider using it.**

This shows high acceptance levels for the Avatars in the retail and e-commerce sectors.

○ With the most relevant set of customers facing dire issues in size and fit and also willing to use Avatars to experience better shopping and an overall better product, it is imperative for the companies to explore the application of Avatars into their website to retain the existing customers and also attract new ones. With Virtual Fitting Rooms supported by Avatars, customers can easily customize and navigate across the catalogue choosing the right fit.

Few renowned companies like Biba, AstraFit , ZeeKit etc have already witnessed the potential in a similar approach and have employed similar virtual rooms onto their website.

Solution

Sizing solutions employed in today's clothing market are usually manual; and can be broadly classified based on the type of garment being purchased - ready-made or custom-made. In the case of custom-made garments, a tailor will manually take note of all the measurements of the buyer, and sew the garments according to these measurements to ensure the perfect fit. While this ensures the best fitting outfits possible, it is also one of the most expensive ways to purchase clothing; thereby putting it out of reach for the majority of buyers.

On the other hand, in the case of ready-made garments, garments are produced in bulk; and in order to adhere to a wide range of customers, they are usually classified as 'Small' (S), 'Medium' (M), 'Large' (L) and so on. This classification is done to ensure that customers of all shapes and sizes can find a variant of the product that fits them best. However, these classifications of S, M, and L are not as per any globally recognized standardized scale.

Choose your preferred fit



Angelina

Build Your Look

36 38 40

Fit Score	90%
Shoulder	Fit
Chest	Fit
Waist	Near Fit



CHEROKEE BY UNLIMITED
Girls Maroon Sleeveless Printed Dress

Add to Cart

Recommended look



Garments with a similar fit



M&S COLLECTION
Mia Slim Cropped Trousers

₹1,999.00- ₹590.00



Available in 5 colours





M&S COLLECTION
Cotton Rich Woven 3/4 Sleeve Kaftan

₹1,999.00




Available in 1 colour






This often leads to the same size label having a completely different fit across brands for the same customer. So, for example, a t-shirt from brand 'A' labeled with the size M may fit in a completely different manner to a t-shirt from brand 'B'; also labeled with the size M, for the same person. Naturally, this leads to confusion among the customers, as they are unsure of what size to purchase without trying the product first.



Considering this uncertainty in the fits offered from different brands and clothing, Sizing fit solutions take into account the overall physical attributes of the person and scale it up against the brand's catalogue of size fits. Matching it up with the right size, the solution then suggests to the customers the necessary sizing they should opt for, eliminating the possibility of any misfits. Furthermore, the solution considers the individual's physical attributes and therefore has the potential to provide a completely customized solution rather than a generalized statement.



Conclusion

The proliferation of digital technology has enabled customers to use extensively-commerce platforms for shopping. While this has led to a lot of convenience for customers, it has also led to a problem of excessive returns of clothing products, of which a major contributor has been the sizing issue.

The use of 3D avatar-based technology can help alleviate this problem by allowing consumers to get a preview of the fit of the product. With a quantified chunk of the customers stating size fit issues as the reason for the return of product, addressing this concern can help leverage around these customers, thereby reducing the overall product return rate by approximately **45%**.

This paper demonstrates the results of a survey conducted in order to gauge the acceptance and applicability of such technology.





The results have indicated a massive retention rate of around **55%** of the customers if the right fit was offered. Leading fashion stores in the market have also witnessed an average of around **80%** returning customers with the implementation of size fitting engines into their websites.

With evidence spearheading towards increased retention and reduced product return rates, Avatar based size-fitting solutions offer a promising future in the fashion sector.

Fill in the following information IN CM KG LB

Gender Age Weight Height ⓘ

Select your body type

Oval Trapezodi Inverted triangle Rectangle

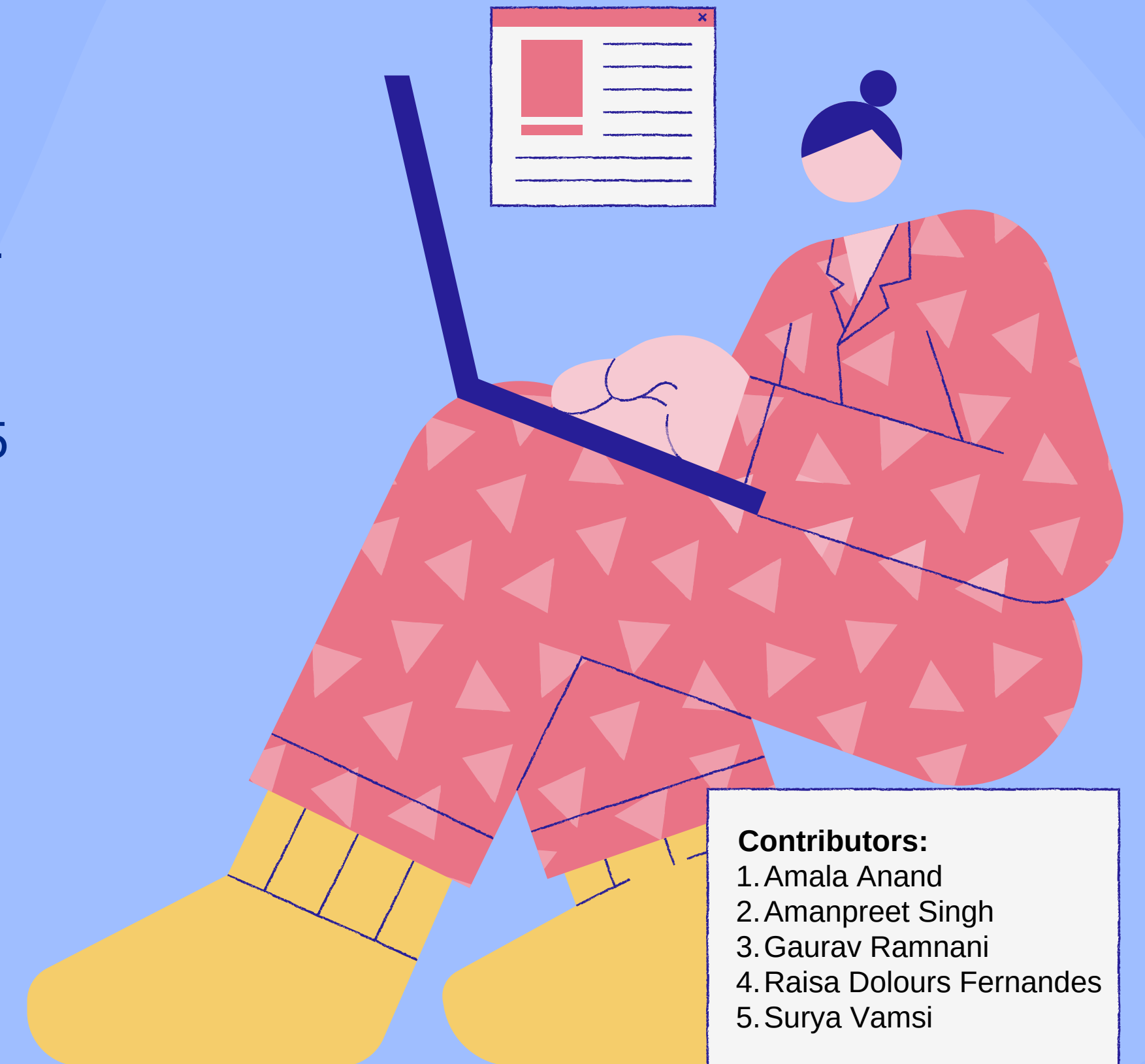
The following information is mandatory

Chest ⓘ Waist ⓘ Hip ⓘ Inseam ⓘ Thigh ⓘ Calf ⓘ

Add more Information for a precise result +

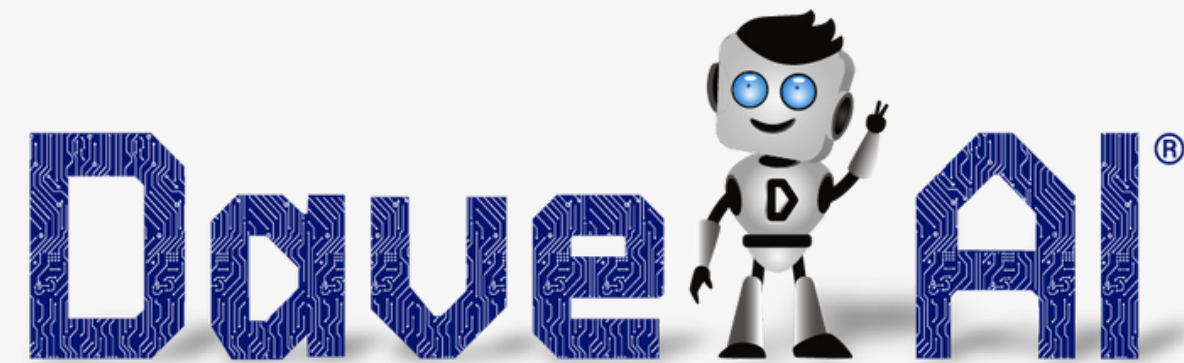
Resources

- [https://www.herosmyth.com/article/75-eye-opening-statistics-how-each-generation-uses-technology?
__cf_chl_managed_tk__=pmd_48928d6b5e49d0bea4824499a70616bd71a82497-1626935399-0-gqNtZGzNAvijcnBszQji](https://www.herosmyth.com/article/75-eye-opening-statistics-how-each-generation-uses-technology?__cf_chl_managed_tk__=pmd_48928d6b5e49d0bea4824499a70616bd71a82497-1626935399-0-gqNtZGzNAvijcnBszQji)
- <https://www.marketingdive.com/news/study-80-of-gen-z-like-shopping-in-store-but-turn-to-e-commerce-for-conv/524960>



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DaveAI is a visual AI platform that bridges the gap between self-assisted online discovery & salesperson-assisted offline discovery.

We help brands drive sales with advanced product discovery experiences using an interactive **Virtual Sales Avatar** that mimics a human sales brain, understands customer requirements & provides hyper-personalized product recommendations.

