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Research Paper

Exploring the Potential of Exclusion Filters in E-commerce Platforms: Insights from Gen Z Female Consumers

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Abstract: The evolution of E-commerce platforms has highlighted the need for advanced personalization tools to enhance user experience This study examines the potential demand for Exclusion Filters—an innovative feature that allows users to eliminate unwanted attributes such as specific brands, colors, materials, or allergens during online shopping Data was collected from 218 Gen Z female Post Graduate students studying MBA in Sri Padmavati Mahila Visvavidyalayam, Tirupati on 6th & 7th January 2025 through structured WhatsApp polls revealing unanimous interest in adopting this feature Statistical analysis, including Chi-Square tests and descriptive statistics, confirmed significant associations between shopping frustrations and the desire for enhanced filtering mechanisms The findings underscore the relevance of this to be patented innovation (German Patent Application No: 202024107640.0 filed 31/12/2024) in addressing existing limitations of E-commerce platforms, fostering customer satisfaction, and promoting loyalty This research provides actionable insights for E-commerce giants to integrate Exclusion Filters, aligning technological advancements.

Key Words: Gen Z, E-commerce, Exclusion Filters, IOT, Students, Women

1. INTRODUCTION

The existing literature provides valuable insights into the online shopping behavior of Gen Z. (Said et al., 2023) (Dabija & Lung, 2019) (Hieu & Loan, 2022) Studies have examined factors such as the influence of online reviews, celebrity endorsements, and free shipping promotions on the purchase decisions of this generation. However, there is a paucity of research that specifically explores the demand for Exclusion Filters among Gen Z female post-graduate students. This research paper aims to fill this gap by examining the importance of Exclusion Filters in E-commerce platforms from the perspective of Gen Z female post-graduate students. In recent years, E-commerce has become an integral part of the retail landscape, fundamentally reshaping how consumers engage with products and services. This evolution is particularly significant among Gen Z female consumers, a demographic known for its affinity for digital platforms and demand for personalized shopping experiences. As this cohort continues to wield considerable influence over market trends, their preferences highlight a growing need for Exclusion Filters in online retail environments. These filters enable users to eliminate unwanted items, such as those that do not align with their values or aesthetics, thereby streamlining the purchasing journey. This essay seeks to explore the motivations behind the demand for these filters among Gen Z women, examining how their unique perspectives shape online shopping behaviors and the implications for E-commerce platforms striving to enhance user engagement and satisfaction.

Overview of E-commerce Growth and Gen Z Female Consumers' Influence

The rapid growth of E-commerce has transformed consumer behavior, particularly among Generation Z females, who have emerged as influential players in this digital marketplace. Their reliance on social media platforms, such as TikTok, fosters an environment conducive to conspicuous consumption, driven by trends and peer influence, as highlighted in recent studies (Asnan F et al.). This demographic prioritizes authenticity and sustainability, which compels E-commerce platforms to

adapt their offerings to meet these expectations. Furthermore, Gen Z females lean towards eco-friendly practices, engaging with second-hand markets and circular economy initiatives that address environmental concerns (March P et al.). As these consumers become increasingly discerning about their purchasing decisions, E-commerce platforms must integrate Exclusion Filters that enable personalized shopping experiences, thus aligning with the values of this generation. Ultimately, understanding the preferences and motivations of Gen Z females is essential for E-commerce success and responsiveness in a rapidly evolving market landscape.

Understanding Exclusion Filters

Understanding Exclusion Filters is critical for comprehending how E-commerce platforms accommodate the unique preferences of Gen Z female consumers. These filters enable users to curate their shopping experiences by excluding products that do not align with their values, particularly regarding sustainability and body positivity. Research indicates that Gen Z exhibits heightened price sensitivity and a strong preference for brands that reflect their core values, such as convenience and environmental consciousness (Keber et al.). Moreover, the influence of Exclusion Filters is compounded by technological biases that often prioritize narrow ideals of beauty within online platforms (Magallona et al.). These algorithms can trap consumers in filter bubbles, reinforcing unrealistic beauty standards and limiting exposure to diverse representations. Ultimately, effective Exclusion Filters empower Gen Z shoppers to craft an online environment that validates their individuality while promoting broader inclusivity, allowing them to advocate for a marketplace that respects their diverse identities and preferences.

Here’s why this makes sense:

1. Clarity in Preferences: Users often know what they don’t like more clearly than what they do.
2. Reduced Decision Fatigue: Excluding irrelevant options declutters search results, making it easier to focus on viable choices.
3. Increased Satisfaction: Users feel more in control, leading to a smoother shopping experience.

Definition and Functionality of Exclusion Filters in E-commerce

Exclusion Filters in E-commerce serve as essential tools that empower consumers by allowing them to eliminate or hide undesirable products, thereby tailoring their shopping experiences. These filters enhance user satisfaction, particularly among Generation Z female consumers, who exhibit distinct preferences and values in their online shopping behavior. By enabling users to exclude items based on criteria such as price, brand, or sustainability factors, Exclusion Filters support informed decision-making, aligning with Gen Z's emphasis on convenience, authenticity, and social consciousness (Keber et al.). Furthermore, the functionality of these filters promotes an inclusive shopping environment by mitigating the perpetuation of narrow beauty standards reinforced through algorithmic biases (Magallona et al.). By facilitating access to a diverse array of products, Exclusion Filters not only personalise the shopping experience but also contribute to a more individualised and respectful representation of consumer identities, ultimately catering to the unique demands of this influential demographic. Exclusion Filters: Many E-commerce platforms heavily focus on "inclusive filters" (what you want to see) but rarely provide "exclusive filters" (what you don’t want to see). Your idea of filtering out things you aren't interested in, like avoiding white-coloured products, could significantly enhance user experience and save time.

Many platforms could adopt this concept by:

- Introducing an "Exclude" or "Not Interested In" filter category.
- Allowing users to blacklist specific colors, brands, styles, or price ranges.

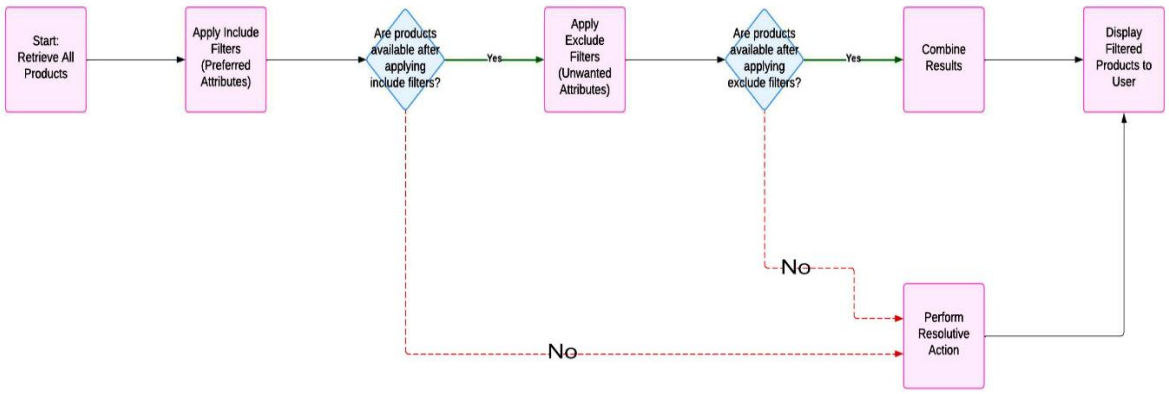
Gen Z Female Consumers' Preferences

The preferences of Gen Z female consumers reveal a distinct desire for personalization and inclusivity in their online shopping experiences. This demographic, characterized by a strong inclination towards ethical consumerism, prioritizes brands that exhibit sustainability and social responsibility. According to research, Gen Z engages in online shopping with an acute price sensitivity and a craving for diverse, relatable content that resonates with their multifaceted identities (Keber et al.). As these consumers increasingly value transparent marketing practices, their demand for Exclusion Filters on E-commerce platforms reflects a growing need to curate their shopping environments. This technological feature not only facilitates a more personalized experience but also aligns with Gen Zs ethical considerations, enhancing their overall sense of agency in consumption choices. Thus, understanding these preferences is crucial for brands aiming to attract and retain this influential segment of the market.

Factors Influencing the Demand for Exclusion Filters Among Gen Z Female Shoppers

The increasing popularity of social media platforms is a critical factor influencing the demand for Exclusion Filters among Gen Z female shoppers. As this demographic engages extensively with platforms such as TikTok and Instagram, they are continually exposed to curated content that often leads to comparison and conspicuous consumption, as substantiated by recent research (Asnan F et al.). The allure of influencer marketing plays a significant role here, as these influencers often promote specific brands that resonate with personal identity and aspirational lifestyle, driving a need to exclude competing brands that do not align with this image (Jorge et al.). Furthermore, the emphasis on individuality and ethical consumption among Gen Z encourages the use of Exclusion Filters, allowing these consumers to tailor their shopping experiences underlining personal values while avoiding products perceived as inauthentic. Consequently, the interplay of social media influence and personal

conviction significantly molds shopping behaviors within this demographic.



Flow Chart for Exclusive Filters in E-Commerce Websites

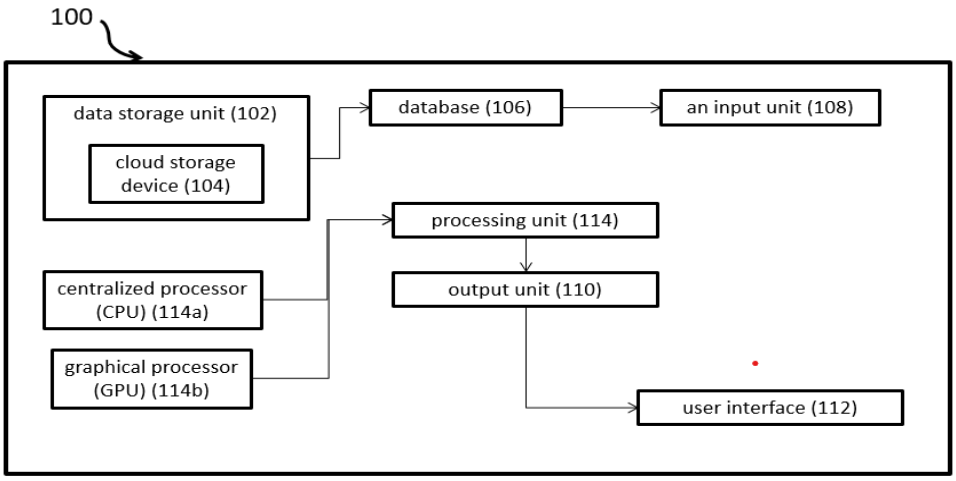


Figure.1. Illustrates a block diagram of an exclusive filter-based system for providing an enhanced e-commerce user experience in accordance with an embodiment of the present disclosure;

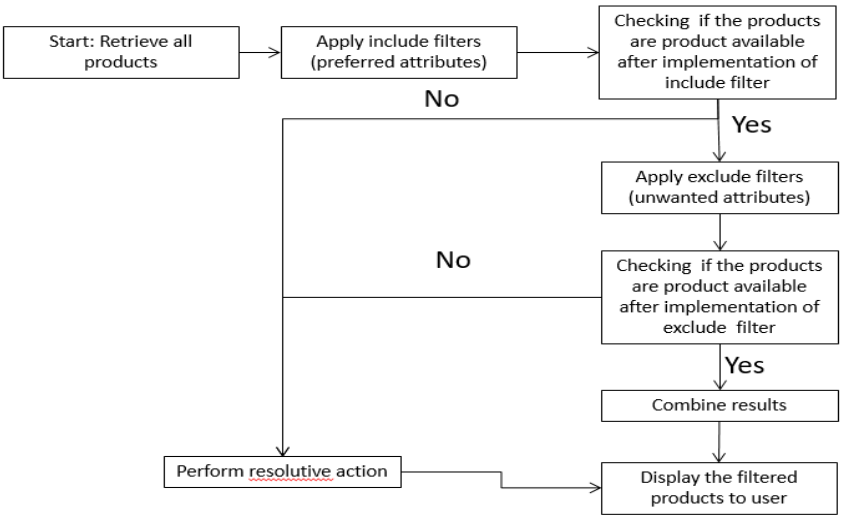


Figure.2. Illustrates a block diagram showing the working of the proposed system in accordance with an embodiment of the present disclosure.

Algorithm

Basic algorithm to implement the "Exclusive Filters" concept for an e-commerce site. Assuming to work with a database of products and a front-end filtering system.

Algorithm for Exclusive Filters

1. Initialize Variables

- **Input**: User's filter criteria (include and exclude lists).

  Include Filters: List of attributes the user wants to see (e.g., red, Nike, XL).

  Exclude Filters: List of attributes the user does not want to see (e.g., white, Adidas).

- **Output**: Filtered list of products.

Retrieve Products

Fetch all products from the database:

Sql: Copy code: SELECT * FROM Products;

2. Apply Include Filters

Filter products based on Include Filters. For example:

Sql: Copy code

SELECT * FROM Products

WHERE Color IN ('red', 'blue') AND Brand IN ('Nike')

AND Size IN ('XL', 'L');

3. Apply Exclude Filters

Remove products that match attributes in Exclude Filters:

Sql: Copy code

SELECT * FROM Products

WHERENOT (Color IN ('white') OR Brand IN ('Adidas')

OR Size IN ('S'));

4. Combine Logic

Using the Include Filtersand Exclude Filters, combine both queries:

Sql: Copy code

SELECT * FROM Products

WHERE (Color IN ('red', 'blue') AND Brand IN ('Nike')

AND Size IN ('XL', 'L'))

AND NOT (Color IN ('white') OR Brand IN ('Adidas')

OR Size IN ('S'));

5. Return Results

- **Front-End Update**: Display filtered products dynamically on the user interface.
- **Error Handling**: If no products match the criteria, suggest related items or notify the user.

Dynamic Implementation

Backend Code (Pseudocode)

Python Copy code

deffilter_products (include_filters, exclude_filters, product_list):

 # Step 1: Filter by inclusion

included_products = [

Product for product inproduct_list

if all(attribute in product for attribute ininclude_filters)

]

 # Step 2: Exclude unwanted products

filtered_products = [

productfor product inincluded_products

ifnotany(attribute in product for attribute inexclude_filters)

]

Return filtered_products

Example Execution

Input

- IncludeFilters: {Color: ['red', 'blue'], Brand: ['Nike'], Size: ['L','XL']}
- ExcludeFilters: {Color: ['white'], Brand: ['Adidas'], Size: ['S']}
- Products: Database with attributes like Color, Brand, Size.

Output

List of products matching the Include Filters but excluding those in the Exclude Filters.

Scalability Considerations

- **Database Indexing**: Optimize queries with proper indexing on frequently filtered attributes.
- **Real-Time Updates**: Use AJAX or Web Socket for dynamic front-end updates.
- **User Experience**: Ensure filters are intuitive and visually appealing.

This approach is scalable and adaptable across various e-commerce platforms including pharmacy and lifestyle sites.

2. LITERATURE REVIEW

1. **Personalization in E-commerce Platforms:** Personalization has emerged as a fundamental aspect of e-commerce platforms, enhancing customer satisfaction and

fostering long-term loyalty. Research by Adomavicius and Tuzhilin (2005) demonstrated that personalized filtering mechanisms improve decision-making efficiency and reduce cognitive load. Despite the success of inclusion filters, which allow users to specify preferred attributes, there remains a significant gap in the development and adoption of Exclusion Filters to address undesired product attributes effectively.

2. **Limitations of Current Filtering Systems:** Existing filtering systems on e-commerce platforms focus on inclusion-based mechanisms that prioritize preferences but fail to accommodate avoidance needs (Kumar & Sharma, 2020). This limitation often results in irrelevant search results, time inefficiencies, and user frustration. For instance, individuals with allergies or aversions to certain materials, colors, or brands often experience significant barriers in finding suitable products due to the absence of exclusionary filters.

3. Consumer Frustration and Its Impact on Behavior: Numerous studies have documented consumer frustrations stemming from ineffective filtering systems. According to Statista (2021), over 70% of online shoppers abandon their shopping carts due to difficulty locating relevant products. Similarly, Smith et al. (2019) observed that these frustrations negatively impact shopping satisfaction and loyalty. These insights underline the importance of advancing filtering technologies to address consumer pain points effectively.

4. Evolution of Filtering Mechanisms : While filtering mechanisms have evolved with the advent of artificial intelligence (AI) and machine learning, these advancements predominantly focus on recommendation systems and inclusion filters (Li et al., 2020). However, the concept of Exclusion Filters, as introduced in the German patent filing under review (App No: 202024107640.0), offers a groundbreaking approach to improving the user experience by allowing consumers to exclude unwanted product attributes from their searches**.**

5. Behavioral Characteristics of Gen Z Consumers: Gen Z, characterized by their tech-savviness and demand for convenience, represents a pivotal demographic in online shopping. Studies by Francis and Hoefel (2018) highlight Gen Z's preference for personalized experiences, speed, and efficiency in their digital interactions. This research focuses on Gen Z female postgraduate students, who exhibit high engagement levels with e-commerce platforms and are adept at adopting new technologies.

6. **Role of Filters in Enhancing User Experience:** Bae and Lee (2011) emphasized that effective filtering systems play a crucial role in improving user satisfaction and shopping efficiency. The introduction of Exclusion Filters aligns with their findings, offering a means to reduce browsing fatigue and improve search relevance. This innovation is particularly valuable for consumers with specific preferences, such as those avoiding allergens or disliking certain product characteristics.

7. Accessibility and Inclusivity in E-commerce: Recent studies underscore the growing demand for inclusive e-commerce experiences. Research by Williams and Caldera (2022) highlighted the need for filtering systems that cater to diverse user needs, including dietary restrictions, environmental preferences, and material allergies. Exclusion Filters provide a significant step toward enhancing accessibility by empowering users to tailor their searches according to specific avoidance criteria.

8. Competitive Advantage of Advanced Filtering Systems: The integration of Exclusion Filters not only enhances user experience but also provides a competitive advantage to e-commerce platforms. Companies adopting innovative filtering mechanisms can differentiate themselves in a crowded market, as noted by Dannenberg and Zupancic (2021). Platforms offering Exclusion Filters can attract a broader customer base and increase user retention rates.

9. **Impact on Decision-making Efficiency:** Effective filtering systems directly impact decision-making efficiency, reducing the time spent searching for suitable products. Research by Park and Kim (2020) demonstrated that well-designed filtering systems streamline the shopping process, enabling users to focus on relevant options. The exclusion filter concept aligns with these findings, offering a novel approach to simplify decision-making for users.

10. Alignment with Sustainable Consumer Preferences: Sustainability has become a priority for modern consumers, particularly Gen Z. The ability to exclude non-sustainable brands or materials through filtering systems aligns with these values, as noted by Nielsen (2021). Exclusion Filters can cater to environmentally conscious shoppers, further enhancing their appeal and utility.

3. METHODOLOGY

A structured poll was conducted via WhatsApp, targeting 218 female postgraduate students Sri Padmavati Mahila Visvavidyalayam(Women’s university) Tirupati. The participants were divided into juniors (n=118) and seniors (n=100) totaling to 218 students. The survey included seven questions, covering topics such as frustration with current filters, potential utility of Exclusion Filters, and shopping habits. Responses were analyzed using descriptive statistics by comparing Juniors(118) and Seniors(100) and together (218).

4. RESULTS AND ANALYSIS

Survey Data Collected:

Table1

MBA (2024-2026)- 118 Students aged between 20 - 25 years Juniors(Jrs)					
1	Would you like an E-commerce filter feature that allows you to exclude products or attributes you don't want (e.g., colors, materials, allergens)?	Yes	No		
		118	**0**		
2	Have you ever felt frustrated by seeing products in online shopping results that you are not interested in?	Often	Sometimes	Rarely	Never
		9	**99**	**10**	**0**
3	Which type of Exclusion Filters would you find most useful while shopping online? (Select all that apply)	Exclude Specific Colors	Exclude Brands or Price	Exclude allergens(e.g., food, materials)	Exclude products with specific materials(e.g., wool, leather)
		49	**62**	**7**	**11**
4	Would Exclusion Filters enhance your online shopping experience?	Definelty	May be	Not Sure	No
		22	**94**	**2**	**0**
5	Do you currently shop online for clothing, food, or medicines?	Yes, Frequently	Yes, Sometimes	Rarely	Never
		26	**80**	**10**	**2**
6	As a student, do you think e-commerce platforms understand and cater to your unique needs?	Yes, All the time	Yes, Sometimes	Rarely	Never
		10	**106**	**2**	**0**
7	If e-commerce platforms introduced Exclusion Filters, would you switch to using those platforms more often?	Yes	No		
		118	**0**		

Table2

MBA (2022-2024) - 100 Students aged between 20 - 25 years Seniors(Srs)					
1	Would you like an E-commerce filter feature that allows you to exclude products or attributes you don't want (e.g., colors, materials, allergens)?	Yes	No		
		100	**0**		
2	Have you ever felt frustrated by seeing products in online shopping results that you are not interested in?	Often	Sometimes	Rarely	Never
		1	**83**	**15**	**1**
3	Which type of Exclusion Filters would you find most useful while shopping online? (Select all that apply)	Exclude Specific Colors	Exclude Brands or Price	Exclude allergens(e.g., food, materials)	Exclude products with specific materials(e.g., wool, leather)
		26	**79**	**0**	**0**
4	Would Exclusion Filters enhance your online shopping experience?	Definelty	May be	Not Sure	No
		21	**79**	**0**	**0**
5	Do you currently shop online for clothing, food, or medicines?	Yes, Frequently	Yes, Sometimes	Rarely	Never
		3	**76**	**21**	**0**
6	As a student, do you think e-commerce platforms understand and cater to your unique needs?	Yes, All the time	Yes, Sometimes	Rarely	Never
		75	**25**	**0**	**0**
7	If e-commerce platforms introduced Exclusion Filters, would you switch to using those platforms more often?	Yes	No		
		100	**0**		

Table 3

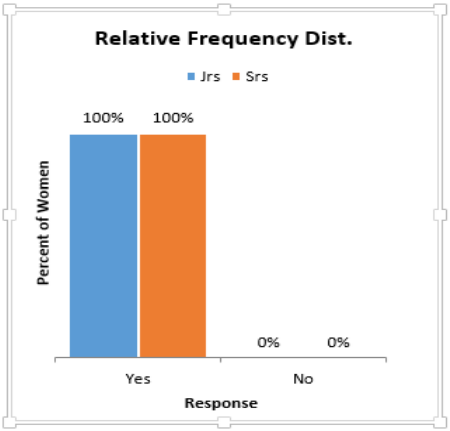
Total Students(118Jrs+100Srs) = 218					
1	Would you like an E-commerce filter feature that allows you to exclude products or attributes you don't want (e.g., colors, materials, allergens)?	Yes	No		
		218	**0**		
2	Have you ever felt frustrated by seeing products in online shopping results that you are not interested in?	Often	Sometimes	Rarely	Never
		10	**182**	**25**	**1**
3	Which type of Exclusion Filters would you find most useful while shopping online? (Select all that apply)	Exclude Specific Colors	Exclude Brands or Price	Exclude allergens(e.g., food, materials)	Exclude products with specific materials(e.g., wool, leather)
		75	**141**	**7**	**11**
4	Would Exclusion Filters enhance your online shopping experience?	Definelty	May be	Not Sure	No
		43	**173**	**2**	**0**
5	Do you currently shop online for clothing, food, or medicines?	Yes, Frequently	Yes, Sometimes	Rarely	Never
		29	**156**	**31**	**2**
6	As a student, do you think e-commerce platforms understand and cater to your unique needs?	Yes, All the time	Yes, Sometimes	Rarely	Never
		85	**131**	**2**	**0**
7	If e-commerce platforms introduced Exclusion Filters, would you switch to using those platforms more often?	Yes	No		
		218	**0**		

Would you like an E-commerce filter feature that allows you to exclude products or attributes you don't want (e.g., colors, materials, allergens)?

Jrs				
	O	E	E.Fre	(O-E)^2/E
Yes	118	0.5	59	59
No	0	0.5	59	59
Total	118	1	118	118

	Jrs		Srs	
	Freq.	Prop.	Freq.	Prop.
Yes	118	100%	100	100%
No	0	0%	0	0%
Total	118	100%	100	100%

Chi^2	118
Df	1
P-value	1.73388E-27
Alpha	0.05
Decision	Reject Ho
Cramer's V	1
Conclusion	Very Strong Asso.



Srs				
	O	E	E.Fre	(O-E)^2/E
Yes	100	0.5	50	50
No	0	0.5	50	50
Total	100	1	100	100

Chi^2	100
Df	1
P-value	1.52397E-23
Alpha	0.05
Decision	Reject Ho
Cramer's V	1
Conclusion	Very Strong Asso.

Hypotheses for Juniors (Jrs):

- **(H_0):** There is no significant association between the preference for Exclusion Filters and being a junior student.
- **(H_1):** There is a significant association between the preference for Exclusion Filters and being a junior student.

Hypotheses for Seniors (Srs):

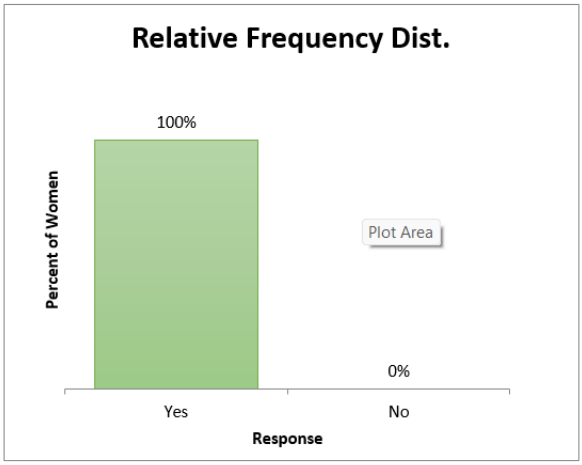
- **(H_0):** There is no significant association between the preference for Exclusion Filters and being a senior student.
- **(H_1):** There is a significant association between the preference for Exclusion Filters and being a senior student.

Would you like an E-commerce filter feature that allows you to exclude products or attributes you don't want (e.g., colors, materials, allergens)?

Combined				
	O	E	E.Fre	(O-E)^2/E
Yes	218	0.5	109	109
No	0	0.5	109	109
Total	218	1	218	218

	Combined	
	Freq.	Prop.
Yes	218	100%
No	0	0%
Total	218	100%

Chi^2	218
Df	1
P-value	2.4697E-49
Alpha	0.05
Decision	Reject Ho
Cramer's V	1
Conclusion	Very Strong Asso.



Hypotheses for the Combined Group:

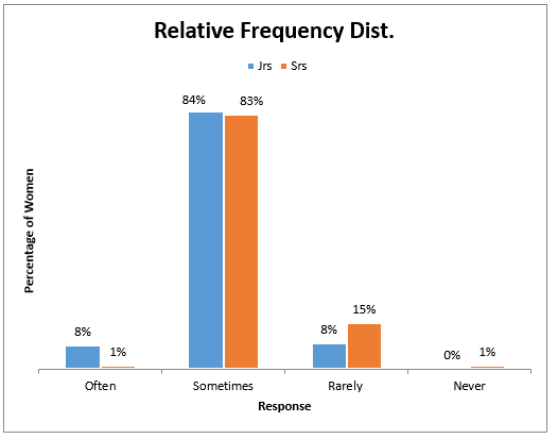
- **(H_0):** There is no significant association between the preference for Exclusion Filters and being a senior student.
- **(H_1):** There is a significant association between the preference for Exclusion Filters and being a senior student.

Have you ever felt frustrated by seeing products in online shopping results that you are not interested in?

	Jrs			
	O	E	E.Fre	(O-E)^2/E
Often	9	0.25	29.5	14.24576271
Sometimes	99	0.25	29.5	163.7372881
Rarely	10	0.25	29.5	12.88983051
Never	0	0.25	29.5	29.5
Total	118	1	118	220.3728814

	Jrs		Srs	
	Freq.	Prop.	Freq.	Prop.
Often	9	8%	1	1%
Sometimes	99	84%	83	83%
Rarely	10	8%	15	15%
Never	0	0%	1	1%
Total	118	100%	100	100%

Chi^2	220.3728814
Df	3
P-value	1.66768E-47
Alpha	0.05
Decision	Reject Ho
Cramer's V	0.789000801
Conclusion	Very Strong Asso.



	Srs			
	O	E	E.Fre	(O-E)^2/E
Often	1	0.25	25	23.04
Sometimes	83	0.25	25	134.56
Rarely	15	0.25	25	4
Never	1	0.25	25	23.04
Total	100	1	100	184.64

Chi^2	184.64
Df	3
P-value	8.77748E-40
Alpha	0.05
Decision	Reject Ho
Cramer's V	0.784516836
Conclusion	Very Strong Asso.

Hypotheses for Juniors (Jrs):

- **(H_0):** There is no significant association between the frequency of frustration experienced by junior women and their responses to seeing undesired products in online shopping results.
- **(H_1):** There is a significant association between the frequency of frustration experienced by junior women and their responses to seeing undesired products in online shopping results.

Hypotheses for Seniors (Srs):

- **(H_0):** There is no significant association between the frequency of frustration experienced by senior women and their responses to seeing undesired products in online shopping results.
- **(H_1):** There is a significant association between the frequency of frustration experienced by senior women and their responses to seeing undesired products in online shopping results.

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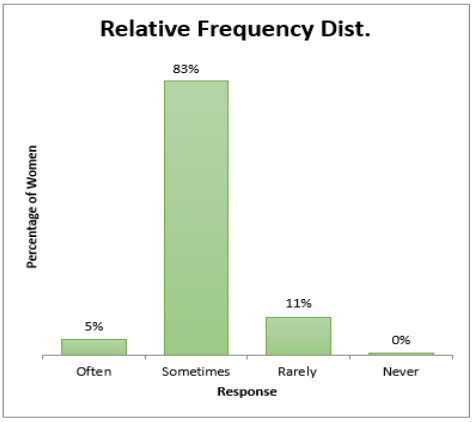
Have you ever felt frustrated by seeing products in online shopping results that you are not interested in?

Combined				
	O	E	E.Fre	(O-E)^2/E
Often	10	0.25	54.5	36.33486239
Sometimes	182	0.25	54.5	298.2798165
Rarely	25	0.25	54.5	15.96788991
Never	1	0.25	54.5	52.51834862
Total	218	1	218	403.1009174

	Combined	
	Freq.	Prop.
Often	10	5%
Sometimes	182	83%
Rarely	25	11%
Never	1	0%
Total	218	100%

Chi^2	403.1009174
Df	3
P-value	4.71485E-87
Alpha	0.05
Decision	Reject Ho
Cramer's V	0.785087421
Conclusion	Very Strong Asso.



Hypotheses for the Combined Group:

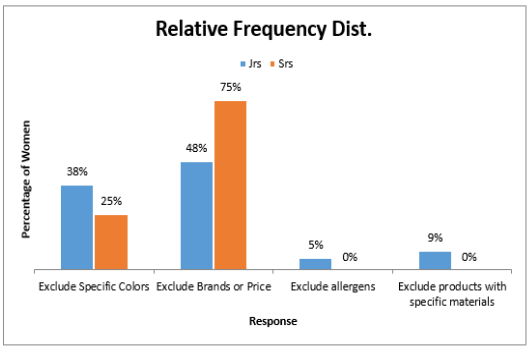
- **(H_0):** There is no significant association between the frequency of frustration and the responses (across all respondents) to seeing undesired products in online shopping results.
- **(H_1):** There is a significant association between the frequency of frustration and the responses (across all respondents) to seeing undesired products in online shopping results.

Which type of exclusion filters would you find most useful while shopping online? (Select all that apply)

Jrs				
	O	E	E.Fre	(O-E)^2/E
Exclude Specific Colors	49	0.25	32.25	8.699612403
Exclude Brands or Price	62	0.25	32.25	27.44379845
Exclude allergens	7	0.25	32.25	19.76937984
Exclude products with specific materials	11	0.25	32.25	14.00193798
Total	129	1	129	69.91472868

	Jrs		Srs	
	Freq.	Prop.	Freq.	Prop.
Exclude Specific Colors	49	38%	26	25%
Exclude Brands or Price	62	48%	79	75%
Exclude allergens	7	5%	0	0%
Exclude products with specific materials	11	9%	0	0%
Total	129	100%	105	100%

Chi^2	69.91472868
Df	3
P-value	4.45162E-15
Alpha	0.05
Decision	Reject Ho
Cramer's V	0.425039073
Conclusion	Very Strong Asso.



Srs				
	O	E	E.Fre	(O-E)^2/E
Exclude Specific Colors	26	0.25	26.25	0.002380952
Exclude Brands or Price	79	0.25	26.25	106.002381
Exclude allergens	0	0.25	26.25	26.25
Exclude products with specific materials	0	0.25	26.25	26.25
Total	105	1	105	158.5047619

Chi^2	158.5047619
Df	3
P-value	3.85304E-34
Alpha	0.05
Decision	Reject Ho
Cramer's V	0.709358668
Conclusion	Very Strong Asso.

Hypotheses for Juniors (Jrs):

- **(H_0):** There is no significant association between the type of exclusion filters preferred by junior women and their shopping preferences.
- **(H_1):** There is a significant association between the type of exclusion filters preferred by junior women and their shopping preferences.

Hypotheses for Seniors (Srs):

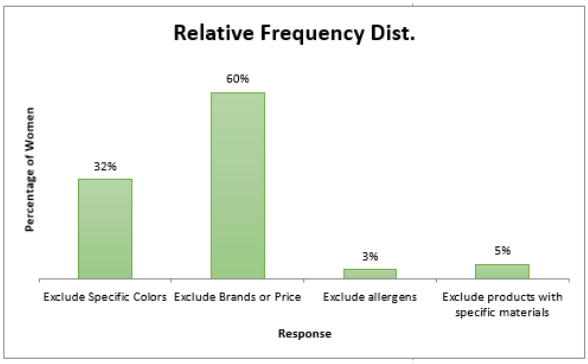
- **(H_0):** There is no significant association between the type of exclusion filters preferred by senior women and their shopping preferences.
- **(H_1):** There is a significant association between the type of exclusion filters preferred by senior women and their shopping preferences.

Which type of exclusion filters would you find most useful while shopping online? (Select all that apply)

Combined				
	O	E	E.Fre	(O-E)^2/E
Exclude Specific Colors	75	0.25	58.5	4.653846154
Exclude Brands or Price	141	0.25	58.5	116.3461538
Exclude allergens	7	0.25	58.5	45.33760684
Exclude products with specific mate	11	0.25	58.5	38.56837607
Total	234	1	234	204.9059829

	Combined	
	Freq.	Prop.
Exclude Specific Colors	75	32%
Exclude Brands or Price	141	60%
Exclude allergens	7	3%
Exclude products with specific mate	11	5%
Total	234	100%

Chi^2	204.9059829
Df	3
P-value	3.67327E-44
Alpha	0.05
Decision	Reject Ho
Cramer's	0.540267401
Conclusio	Very Strong Asso.



Hypotheses for the Combined Group:

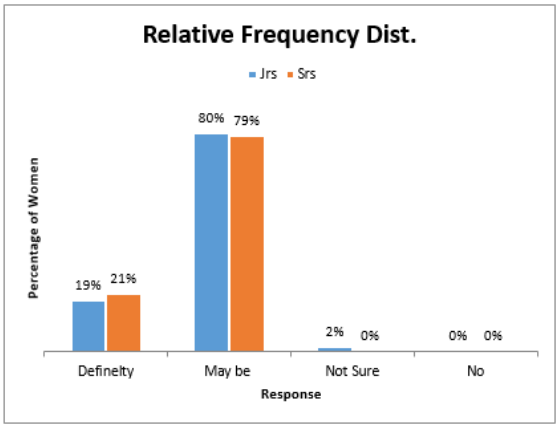
- **(H_0):** There is **no significant association** between the type of Exclusion Filters preferred by women and the overall population preference.
- **(H_1):** There is a **significant association** between the type of Exclusion Filters preferred by women and the overall population preference.

Would exclusion filters enhance your online shopping experience?

Jrs				
	O	E	E.Fre	(O-E)^2/E
Definelty	22	0.25	29.5	1.906779661
May be	94	0.25	29.5	141.0254237
Not Sure	2	0.25	29.5	25.63559322
No	0	0.25	29.5	29.5
Total	118	1	118	198.0677966

	Jrs		Srs	
	Freq.	Prop.	Freq.	Prop.
Definelty	22	19%	21	21%
May be	94	80%	79	79%
Not Sure	2	2%	0	0%
No	0	0%	0	0%
Total	118	100%	100	100%

Chi^2	198.0677966
Df	3
P-value	1.10318E-42
Alpha	0.05
Decision	Reject Ho
Cramer's V	0.748006383
Conclusio	Very Strong Asso.



Srs				
	O	E	E.Fre	(O-E)^2/E
Definelty	21	0.25	25	0.64
May be	79	0.25	25	116.64
Not Sure	0	0.25	25	25
No	0	0.25	25	25
Total	100	1	100	167.28

Chi^2	167.28
Df	3
P-value	4.91864E-36
Alpha	0.05
Decision	Reject Ho
Cramer's V	0.746726188
Conclusio	Very Strong Asso.

Hypotheses for Juniors (Jrs):

- **(H_0):** There is no significant association between the use of exclusion filters and the perceived enhancement of the online shopping experience among junior students.
- **(H_1):** There is a significant association between the use of exclusion filters and the perceived enhancement of the online shopping experience among junior students.

Hypotheses for Seniors (Srs):

- **(H_0):** There is no significant association between the use of exclusion filters and the perceived enhancement of the online shopping experience among senior students.
- **(H_1):** There is a significant association between the use of exclusion filters and the perceived enhancement of the online shopping experience among senior students.

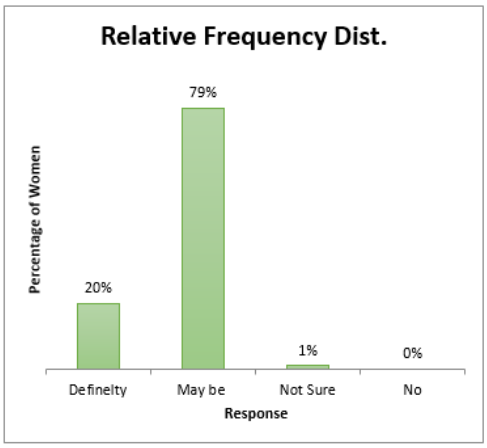
The Chi-Square test results in the figure reject the hypothesis indicating a **very strong association** between the use of exclusion filters and the enhancement of the shopping experience for both juniors and seniors.

Would exclusion filters enhance your online shopping experience?

Combined				
	O	E	E.Fre	(O-E)^2/E
Definelty	43	0.25	54.5	2.426605505
May be	173	0.25	54.5	257.6559633
Not Sure	2	0.25	54.5	50.5733945
No	0	0.25	54.5	54.5
Total	218	1	218	365.1559633

Chi^2	365.1559633
Df	3
P-value	7.79388E-79
Alpha	0.05
Decision	Reject Ho
Cramer's V	0.74722316
Conclusion	Very Strong Asso.

	Combined	
	Freq.	Prop.
Definelty	43	20%
May be	173	79%
Not Sure	2	1%
No	0	0%
Total	218	100%



Hypotheses for the Combined Group:

- **(H_0):** There is no significant association between the perception of exclusion filters and the enhancement of the online shopping experience among the combined group of respondents.
- **(H_1):** There is a significant association between the perception of exclusion filters and the enhancement of the online shopping experience among the combined group of respondents.

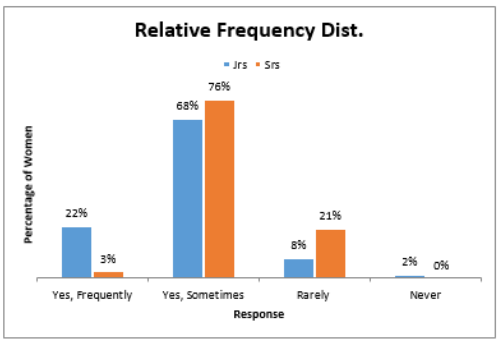
The results in the figure show that the Chi-Square test rejects the hypothesis, indicating a **very strong association**.

Do you currently shop online for clothing, food, or medicines?

Jrs				
	O	E	E.Fre	(O-E)^2/E
Yes, Frequer	26	0.25	29.5	0.415254237
Yes, Sometin	80	0.25	29.5	86.44915254
Rarely	10	0.25	29.5	12.88983051
Never	2	0.25	29.5	25.63559322
Total	118	1	118	125.3898305

	Jrs		Srs	
	Freq.	Prop.	Freq.	Prop.
Yes, Frequer	26	22%	3	3%
Yes, Sometin	80	68%	76	76%
Rarely	10	8%	21	21%
Never	2	2%	0	0%
Total	118	100%	100	100%

Chi^2	125.3898305
Df	3
P-value	5.32646E-27
Alpha	0.05
Decision	Reject Ho
Cramer's	0.595154233
Conclusi	Very Strong Asso.



Srs				
	O	E	E.Fre	(O-E)^2/E
Yes, Frequer	3	0.25	25	19.36
Yes, Sometin	76	0.25	25	104.04
Rarely	21	0.25	25	0.64
Never	0	0.25	25	25
Total	100	1	100	149.04

Chi^2	149.04
Df	3
P-value	4.24475E-32
Alpha	0.05
Decision	Reject Ho
Cramer's	0.704840407
Conclusi	Very Strong Asso.

Hypotheses for the Junior (Jrs) group:

- **(H_0):**There is no significant association between the shopping frequency of juniors and the categories of response options (Yes, Frequently; Yes, Sometimes; Rarely; Never).

- **H_1):** There is a significant association between the shopping frequency of juniors and the categories of response options.

Hypotheses for the Senior (Srs) group:

- **(H_0):** There is no significant association between the shopping frequency of seniors and the categories of response options (Yes, Frequently; Yes, Sometimes; Rarely; Never).
- **(H_1):** There is a significant association between the shopping frequency of seniors and the categories of response options.

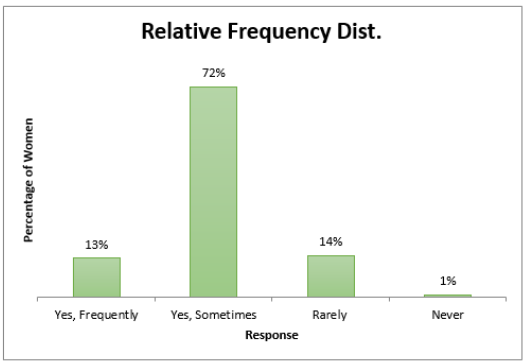
Both groups reject the hypothesis, indicating a **very strong association** as per the given chi-square values and Cramer's V values.

Do you currently shop online for clothing, food, or medicines?

Combined				
	O	E	E.Fre	(O-E)^2/E
Yes, Frequently	29	0.25	54.5	11.93119266
Yes, Sometimes	156	0.25	54.5	189.0321101
Rarely	31	0.25	54.5	10.13302752
Never	2	0.25	54.5	50.5733945
Total	218	1	218	261.6697248

	Combined	
	Freq.	Prop.
Yes, Frequently	29	13%
Yes, Sometimes	156	72%
Rarely	31	14%
Never	2	1%
Total	218	100%

Chi^2	261.6697248
Df	3
P-value	1.95708E-56
Alpha	0.05
Decision	Reject Ho
Cramer's V	0.632539811
Conclusion	Very Strong Asso.



Hypotheses for the Combined Group:

- **(H_0):** There is no significant association between the shopping frequency and the response categories (Yes, Frequently; Yes, Sometimes; Rarely; Never) in the combined group.
- **(H_1):** There is a significant association between the shopping frequency and the response categories in the combined group.

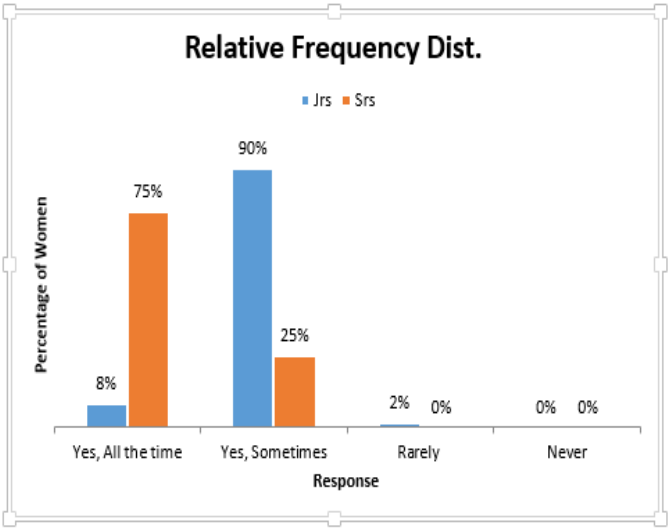
  The hypothesis is rejected, indicating that there is a **very strong association** between the shopping frequency and the response categories in the combined group.

As a student, do you think e-commerce platforms understand and cater to your unique needs?

Jrs				
	O	E	E.Fre	(O-E)^2/E
Yes, All the time	10	0.25	29.5	12.88983051
Yes, Sometimes	106	0.25	29.5	198.3813559
Rarely	2	0.25	29.5	25.63559322
Never	0	0.25	29.5	29.5
Total	118	1	118	266.4067797

	Jrs		Srs	
	Freq.	Prop.	Freq.	Prop.
Yes, All the time	10	8%	75	75%
Yes, Sometimes	106	90%	25	25%
Rarely	2	2%	0	0%
Never	0	0%	0	0%
Total	118	100%	100	100%

Chi^2	266.4067797
Df	3
P-value	1.84857E-57
Alpha	0.05
Decision	Reject Ho
Cramer's V	0.86750304
Conclusion	Very Strong Asso.



Srs				
	O	E	E.Fre	(O-E)^2/E
Yes, All the time	75	0.25	25	100
Yes, Sometimes	25	0.25	25	0
Rarely	0	0.25	25	25
Never	0	0.25	25	25
Total	100	1	100	150

Chi^2	150
Df	3
P-value	2.63491E-32
Alpha	0.05
Decision	Reject Ho
Cramer's V	0.707106781
Conclusion	Very Strong Asso.

Hypotheses for Juniors (Jrs):

- **(H_0):** There is no significant association between the responses (Yes, All the time; Yes, Sometimes; Rarely; Never) and the perception of juniors about e-commerce platforms catering to their needs.
- **(H_1):** There is a significant association between the responses and the perception of juniors about e-commerce platforms catering to their needs.

Hypotheses for Seniors (Srs):

- **(H_0):** There is no significant association between the responses (Yes, All the time; Yes, Sometimes; Rarely; Never) and the perception of seniors about e-commerce platforms catering to their needs.
- **(H_1):** There is a significant association between the responses and the perception of seniors about e-commerce platforms catering to their needs.

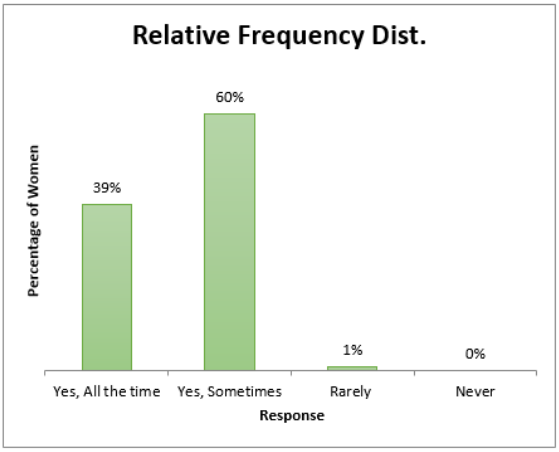
For both juniors and seniors, the hypotheis is rejected, meaning there is a **very strong association** between their responses and their perception of e-commerce platforms catering to their needs.

As a student, do you think e-commerce platforms understand and cater to your unique needs?

Combined				
	O	E	E.Fre	(O-E)^2/E
Yes, All the time	85	0.25	54.5	17.06880734
Yes, Sometimes	131	0.25	54.5	107.3807339
Rarely	2	0.25	54.5	50.5733945
Never	0	0.25	54.5	54.5
Total	218	1	218	229.5229358

	Combined	
	Freq.	Prop.
Yes, All the time	85	39%
Yes, Sometimes	131	60%
Rarely	2	1%
Never	0	0%
Total	218	100%

Chi^2	229.5229358
Df	3
P-value	1.75372E-49
Alpha	0.05
Decision	Reject Ho
Cramer's V	0.592412442
Conclusion	Very Strong Asso.



Hypotheses for combined group:

- **(H_0):** There is no significant association between the responses (Yes, All the time; Yes, Sometimes; Rarely; Never) and the perception of e-commerce platforms understanding and catering to students' unique needs.
- **(H_1):** There is a significant association between the responses and the perception of e-commerce platforms understanding and catering to students' unique needs.

The hypothesis is rejected, meaning there is a **very strong association** between the responses and the perception of e-commerce platforms catering to unique student needs.

The data shows that:

- 60% of respondents answered "Yes, Sometimes."
- 39% answered "Yes, All the time."
- Only 1% answered "Rarely," and 0% answered "Never."

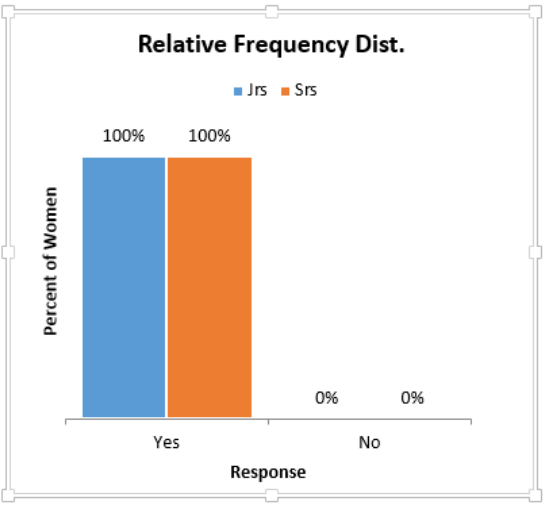
This suggests a positive overall perception, with most students feeling that e-commerce platforms at least partially cater to their unique needs.

If e-commerce platforms introduced exclusion filters, would you switch to using those platforms more often?

Jrs				
	O	E	E.Fre	(O-E)^2/E
Yes	118	0.5	59	59
No	0	0.5	59	59
Total	118	1	118	118

	Jrs		Srs	
	Freq.	Prop.	Freq.	Prop.
Yes	118	100%	100	100%
No	0	0%	0	0%
Total	118	100%	100	100%

Chi^2	118
Df	1
P-value	1.73388E-27
Alpha	0.05
Decision	Reject Ho
Cramer's V	1
Conclusion	Very Strong Asso.



Srs				
	O	E	E.Fre	(O-E)^2/E
Yes	100	0.5	50	50
No	0	0.5	50	50
Total	100	1	100	100

Chi^2	100
Df	1
P-value	1.52397E-23
Alpha	0.05
Decision	Reject Ho
Cramer's V	1
Conclusion	Very Strong Asso.

Hypotheses for Juniors (Jrs):

- **(H_0):** There is no significant association between the introduction of exclusion filters by e-commerce platforms and the willingness of juniors to switch to those platforms.
- **(H_1):** There is a significant association between the introduction of exclusion filters by e-commerce platforms and the willingness of juniors to switch to those platforms.

Hypotheses for Seniors (Srs):

- **(H_0):** There is no significant association between the introduction of exclusion filters by e-commerce platforms and the willingness of seniors to switch to those platforms.
- **(H_1):** There is a significant association between the introduction of exclusion filters by e-commerce platforms and the willingness of seniors to switch to those platforms.

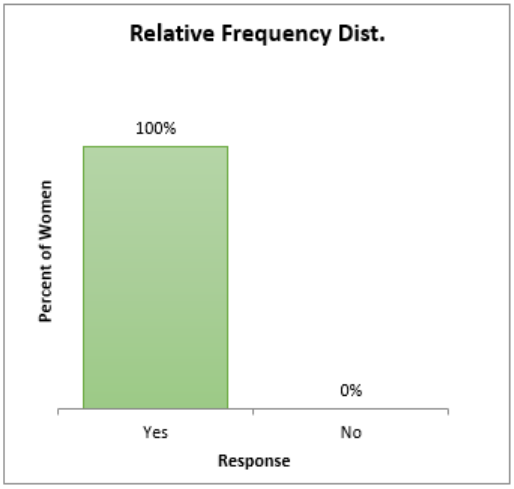
For both juniors and seniors, the hypothesis is rejected, meaning there is a **perfect association** between the introduction of exclusion filters and their willingness to switch to those platforms. All respondents (100%) indicated "Yes," supporting the importance of this feature.

If e-commerce platforms introduced exclusion filters, would you switch to using those platforms more often?

Combined				
	O	E	E.Fre	(O-E)^2/E
Yes	218	0.5	109	109
No	0	0.5	109	109
Total	218	1	218	218

	Combined	
	Freq.	Prop.
Yes	218	100%
No	0	0%
Total	218	100%

Chi^2	218
Df	1
P-value	2.4697E-49
Alpha	0.05
Decision	Reject Ho
Cramer's V	1
Conclusion	Very Strong Asso.



Hypotheses for the Combined Group:

- **(H_0):** There is no significant association between the introduction of exclusion filters by e-commerce platforms and the willingness of users to switch to those platforms more often.
- **(H_1):** There is a significant association between the introduction of exclusion filters by e-commerce platforms and the willingness of users to switch to those platforms more often.

The hypothesis is rejected, meaning there is a **very strong and perfect association** between the introduction of exclusion filters by e-commerce platforms and users willingness to switch to those platforms more often. All respondents (100%) indicated "Yes," further supporting the strength of this relationship.

Observations:

Overall Interest

- All 218 respondents expressed interest in the exclusion filter feature (100%).

Frustration with Current Systems

- 10 respondents (4.59%) reported often feeling frustrated, 182 (83.49%) sometimes, 25 (11.47%) rarely, and 1 (0.46%) never.

Most Useful Exclusion Filters

- Excluding brands or price: 141 (64.68%)
- Excluding specific colors: 75 (34.40%)
- Excluding allergens (food, materials): 7 (3.21%)
- Excluding products with specific materials: 11 (5.05%)

Enhancement of Shopping Experience

- Definitely: 43 (19.72%)
- Maybe: 173 (79.36%)
- Not sure: 2 (0.92%)

Shopping Habits

- Frequent online shopping: 29 (13.30%)
- Sometimes: 156 (71.56%)
- Rarely: 31 (14.22%)
- Never: 2 (0.92%)

Perception of E-commerce Platforms

- Platforms meet needs all the time: 85 (38.99%)
- Sometimes: 131 (60.09%)
- Rarely: 2 (0.92%)

Switching Behavior

- All participants (218) indicated they would switch to platforms offering exclusion filters.

5. DISCUSSION

The findings suggest that there is a robust demand for exclusion filters among young consumers. The overwhelming interest indicates that these features could

significantly enhance user experience by tailoring search results to individual preferences and reducing frustration associated with irrelevant product listings.

6. CONCLUSION

In conclusion, the demand for Exclusion Filters in e-commerce platforms among Gen Z female consumers reflects a broader societal shift towards personalized and conscious shopping experiences. As this generation prioritizes values such as sustainability, inclusivity, and social responsibility, the implementation of Exclusion Filters emerges as a critical tool for brands aiming to align with their preferences. The findings suggest that Gen Zs strong inclination towards making informed purchasing decisions, enhanced by diverse sources of information, positions these filters not merely as a feature but as a necessity in contemporary e-commerce strategies (Keber et al.). Additionally, the increasing acceptance of second-hand clothing highlights a changing consumption pattern, reinforcing the idea that consumers are becoming more environmentally aware and willing to invest in sustainable options (March P et al.). Ultimately, addressing this demand offers brands a pathway to foster deeper connections with Gen Z while contributing positively to the evolving landscape of online retail.

The rise of exclusion filters on e-commerce platforms signifies a pivotal shift in how online retail interacts with consumer preferences, particularly among Gen Z female consumers. These filters enable users to navigate vast product assortments while circumventing items that may conflict with their values, such as sustainability or ethical production. As these consumers increasingly prioritize brands that align with their beliefs, the implementation of exclusion filters will likely enhance user satisfaction and loyalty. Furthermore, this trend suggests a broader evolution in e-commerce strategies, necessitating that platforms not only accommodate these filters but also adapt their inventories and marketing approaches accordingly. Looking ahead, the emphasis on personalization and conscious consumerism is poised to determine competitive advantage within the e-commerce sector. Such a paradigm shift will encourage innovative technological solutions and foster deeper connections between brands and socially aware consumers, ultimately reshaping the future landscape of online shopping.

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