





# Disinfecting Dynamics Analyzing how Pandemic Transformed Hygiene Behaviors



# Table of contents

- 1. Introduction
- 2. Data methodology
- 3. Key insights from survey
- 4. Hypothesis Testing/Chi-squared/MANOVA
- 5. Impacts of COVID-19
- 6. Influenced factors
- 7. Recommendation
- 8. Conclusion



# Introduction





#### Why this study is important?

COVID-19 pandemic has significantly altered societal norms and behaviors, particularly in terms of hygiene practices.

#### <u>Understanding the changes in consumer behavior will help:</u>

- Market understanding
- Demand/supply chain optimization
- Risk mitigation
- Innovation



# Data methodology

How we collected and analyzed data What did we do with data in steps?

01

**Step 1: Data** 

**Description** 

### **Step 2: Variables**

- Collection: Online platforms.
- Source: 122 online survey responses.
- Type: Crosssectional study with multiple-choice and rating questions.

### **Dependent**

#### • Frequency of hygiene product use

- Monthly hygiene spending
- Hygiene attitudes

#### Independent

- Demographics (age, gender, etc.)
- Pre-pandemic habits
- COVID-19 impact

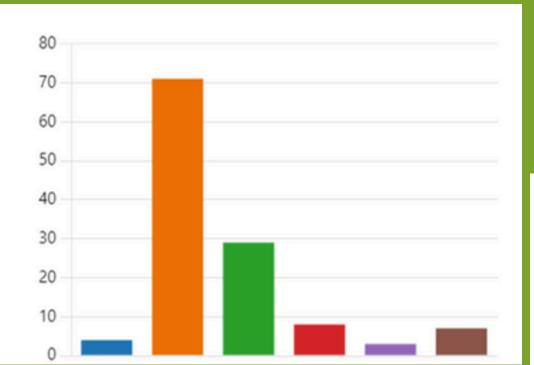
#### **Step 3: Analysis Techniques**

03

- Hypothesis Testing
- MANOVA Analysis:
  - Age
  - Gender
  - Employment status
  - Geographical location
  - Pre-pandemic hygiene habits
- Perceived COVID-19 impact on routines

#### **Step 4: Limitations**

- Convenience sampling,
- Cross-sectional design,
- Geographical Representation from primarily the US and India



#### **Popular Hygiene Product**

Mask 65

Below 20

21-30

31-40

51-60

61 above

Age

71

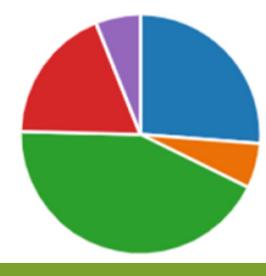
29

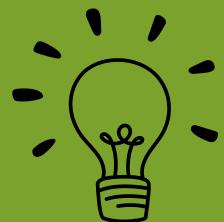
Gloves 15

Hand sanitizer/ Clorox 107

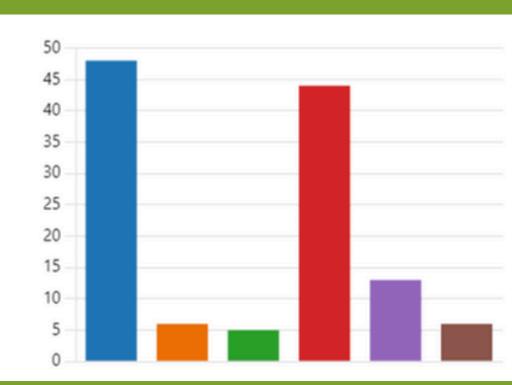
Disinfectant spray
46

Other 15



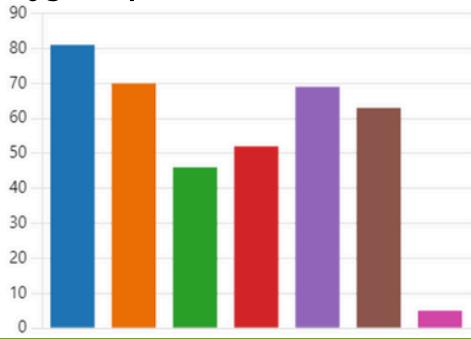






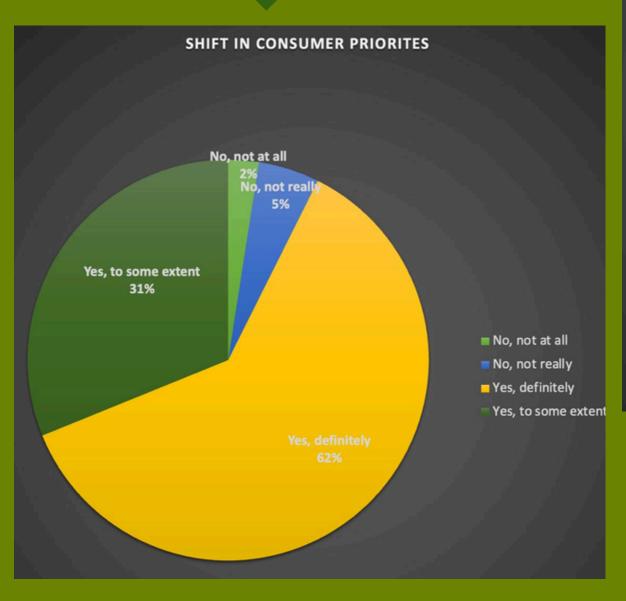
#### Factors influence purchasing of hygiene products

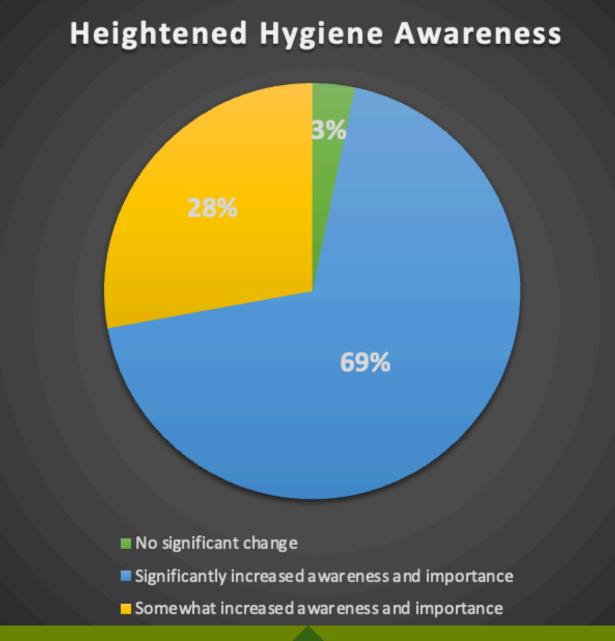
Brand reputation/trust
Price
Availability
Ingredients/composition
Recommendations (Health auth...
Product effectiveness
Other
5



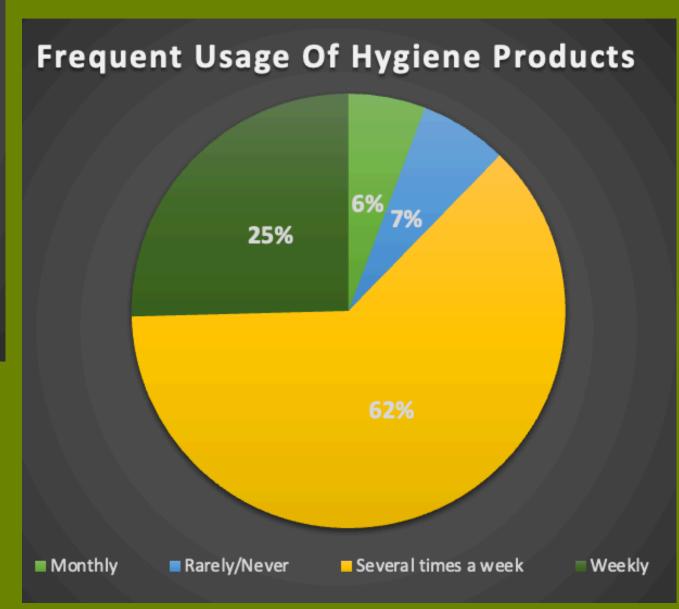
# Key insights from the survey

 Shift in Consumer Priorities:
 62% now consider hygiene products as essential household items, up from pre-pandemic.





 Heightened Hygiene Awareness:
 69% of respondents believe the pandemic significantly increased their awareness and the importance of hygiene practices. • Increased Hygiene Product
Usage: 62% reported using
hygiene products several times a
week, indicating a significant rise
in usage frequency.



# Hypothesis Testing



#### **Null Hypothesis**

The COVID-19 pandemic has not significantly altered the frequency of hygiene product usage

**Hypothesis Testing** 

#### **Alternative hypothesis**

The COVID-19 pandemic has significantly altered the frequency of hygiene product usage

Paired t-test results:

t-statistic: -4.213481749926447

p-value: 4.86930276732728e-05

#### **P-Value < 0.5**

Significant difference Pre and Post-COVID-19 Reject the Null

#### t-statistic negative

Consumers spend more on hygienic products after COVID-19

# Chi-squared test

- **Significant Association:** Rejecting the null hypothesis (p << 0.05) indicates a significant link between pre-COVID-19 and post-COVID-19 spending.
- Strong Evidence: The Chi-square statistic supports a non-random association between spending levels.
- **Conclusion:** Pre-COVID-19 spending habits strongly influence post-COVID-19 spending patterns.

### MANOVA

#### • Age Range:

- P-value: 0.0112 (Significant)
- Insight: Significant differences across age groups suggest variations in concerns and behaviors related to hygiene, spending, and awareness.

#### • Gender:

- P-value: >0.05 (Not significant)
- Insight: Gender does not show significant differences in the dependent variables at this significance level.

#### • Country:

- P-value: >0.05 (Not significant)
- Insight: No significant differences observed based on country of residence.

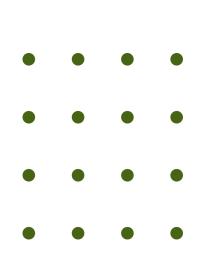
#### • Employment Status:

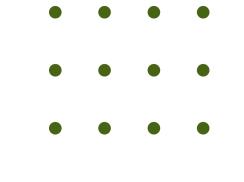
- P-value: 0.0061 (Significant)
- Insight: Employment status influences key behaviors and perceptions, indicating distinct patterns among employed vs. unemployed.

# Impacts of Covid-19 towards hygienic products

- Increase in demand (differed by age and employment status)
- Shift in product priorities
- Variations of spending habits by employment status
- Brand loyalty vs brand switching
- Stocking behavior in different age groups

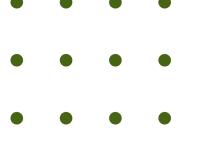


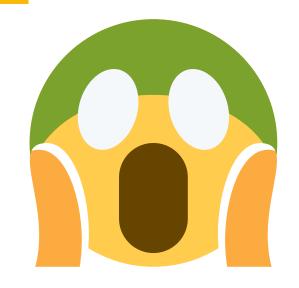






## Factors





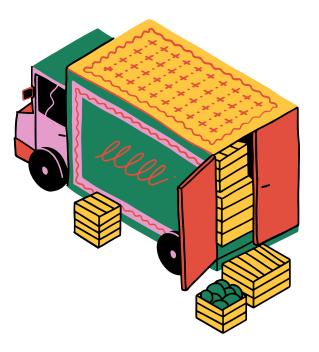
Fear of infection



Government guidelines & regulations



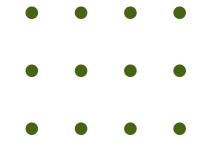
Media influencer



Different purchasing power



# **Business Strategy/ Recommendation**



#### **Businesses:-**

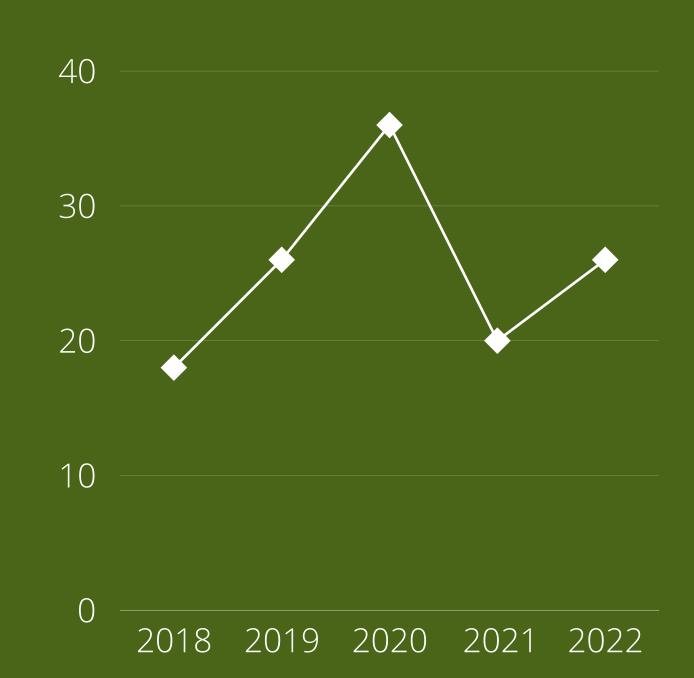
- Expand product lines to meet the increased requirement for hygiene products
- Increase online presence as majority of the people who have changed more is younger generation

#### **Consumers:-**

- Participate in surveys to ensure your feedback reaches the companies
- Have a systematic approach to hygiene to prevent themselves from any diseases

#### **Policymakers:-**

- Develop targeted public health campaigns to promote sustained hygiene practices
- Leverage digital platforms to effectively communicate hygiene guidelines



## Conclusion

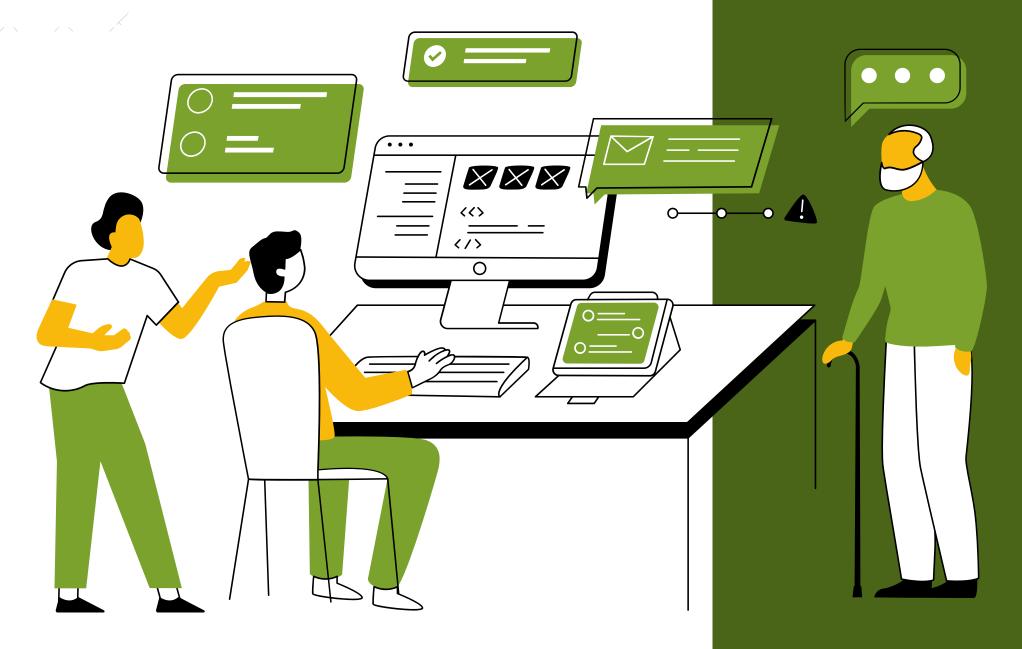




#### **Key findings:**

- Significant impact of consumer age and employment status on purchasing behavior during unpredicted economic events like COVID-19.
- Tailored marketing and pricing strategies based on demographic insights can enhance demand-supply optimization efforts.
- Undertstanding consumer behaviors is crucial for anticipating and adapting to shifts in demand patterns, especially during economic uncertainties.





# THANK YOU

