

A Study on Integrated Marketing Communications (IMC) programs of Hand Sanitizer brands during Covid – 19 Pandemic

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ABSTRACT: The research is based on medical sectors currently raising the hand sanitizer market. The reason behind selecting the hand sanitizer brands study is that there is radical growth during the pandemic situation. The graph of hand sanitizer markets were quite impressive and marketing strategies are focused on digital media. Making realistic content in advertising and promoting the awareness of hygiene. Brands may tie up with the government during covid 19 pandemic. Hashtag and challenges were conducted to attract the youngest.

The survey involved gathering wide information about hand sanitizers, brands, customer satisfaction and impact on the market. The research was conducted through collection of primary and secondary data. Suggestions were drawn on the basis of secondary data analysis and study on primary data collected. Analysis techniques used here are not limited to factor analysis and hypothesis testing to understand the two factors retained from the study are performance-based features and characteristics of hand sanitizer liquids are prominent for usage.

The researcher aims to recommend a “customer value-obsessed business” model. Each brand needs to focus on expanding their production capacity with product quality. To stand on market the brands also need to acquire advanced technologies to meet consumer demand for hand sanitizer. Rising opportunities in digital advertising and promotion will also boost up to gain market position. The supply of hand sanitizer products needs to meet the demand in both online and stores. Customer Satisfaction is totally based on the quality that is promised by the brands.

Keywords - brand promotions, Covid -19, customer satisfaction, digital advertising, hypothesis testing, product quality.

I. INTRODUCTION

The consumers' approach towards lifestyle is changing constantly. People have started realizing that personal hygiene is one of the best ways to protect ourselves and others too from illness. There is a drastic change of products in the medical sector; hand sanitizers has now become an essential product shifted from luxury products list. The covid-19 outbreak has boosted the demand for hand sanitizers and has opened new doors for many new companies and a lot of manufacturing plans to develop better varieties to capture the market. Some of the major players operating in Indian hand sanitizer markets are Reckitt Benckiser LTD, ITC LTD, Hindustan Unilever LTD, Dabur India LTD, Himalayan Drug Com PVT LTD and others.

Before 2019, the hand sanitizer market was quite low but now the graph has been rising to its peak. Hand sanitizer properties are very appealable. Companies started utilizing opportunities in the best manner. Booming and maintaining

the position in the market can achieve through adapting to the change with time only. During the pandemic situation the approaches by each brand were unique and sharp. Even new startups are growing and existing companies are adopting newer strategies too. This gives opportunities to both small- and large-scale industries to flourish in the market. Increasing the demand and supply gap helps the regional small-scale manufacturers to expand their production. Indian government has also issued production licenses to produce hand sanitizers in bulk for adequate supply. Indian hand sanitizer market shall continue its strong growth during the next few years. Customers are the best source of information to improve an existing hand sanitizer product or the firm which is planning to launch something new.

Recent Covid-19 pandemic have increased the market for hand sanitizer. People are changing the preference and the demand too. The market also has to change accordingly. The purpose of consumer behavior is not only for current customers but also attracting new consumers and increasing

the sales by creating and maintaining brand awareness. The hand sanitizer market in the current scenario is booming and undergoing a rapid growth. Shifting consumer priority towards effective disinfection products is demanded to drive the market. This paper is titled “Study on Marketing Communication Strategies of Hand-Sanitizer Brands at times of Pandemic” and the study aims to identify the extent to which the product quality of hand sanitizer affects its competitiveness. The outcome of the study reveals the current perception about the hand sanitizer rooted in the minds of the consumers which could be useful in formulating the strategies in future operations of the hand sanitizer companies, for the attainment of its goal in this competitive scenario.

MANAGERIAL IMPLICATIONS IN THE SOUTHEAST ASIAN CONTEXT

Booming and maintaining the position in the market can achieve through adapting to the change with time only. During the pandemic situation the approaches by each brand were unique and sharp. Even new start-ups are growing and existing companies are adopting newer strategies too. This gives opportunities to both small- and large-scale industries to flourish in the market. Increasing the demand and supply gap helps the regional small-scale manufacturers to expand their production. Indian government has also issued production licenses to produce hand sanitizers in bulk for adequate supply

II. REVIEW OF LITERATURE

Janet P Haas, Columbia University, 2007 Impact of wearable alcohol gel hand sanitizer gel dispenser on hand hygiene compliance in an urban emergency department. Compliance with hand hygiene (HH) among healthcare workers is widely recognized as the most effective way to decrease transmission of infection among hospitalized patients. However, compliance remains poor, averaging about 40%. A potential barrier to compliance is convenience and accessibility of sinks or alcohol hand sanitizer dispensers. In addition to accessibility of HH products, the effort needed to perform HH, social norms and performance expectations are thought to impact staff members' behavior. The use of alcohol products did not change significantly, in spite of the new wearable dispenser, which was initiated to improve access to HH products. These results support other studies in which only transient success was reported when a single intervention to improve HH was implemented. Greater success in sustaining increased HH compliance has been reported with multi-modal interventions. The UTAUT framework was likely too burdensome relative to the simple mechanical device being evaluated. A more parsimonious evaluation tool may be necessary to improve response rate. More research is needed to assess the acceptance and use of personal wearable alcohol gel dispensers in the context of a multi-modal intervention.

K Subbulakshmi, P Geethamani study on Customers Perception towards Cosmetic Items in Patanjali Products with Special Reference to Tirupur City. Fast-moving consumer goods (FMCG) are products that are sold quickly and at relatively low cost. A marketing concept that encompasses a customer's impression, awareness and consciousness about a company's offerings. Customer perception is typically affected by advertising, reviews, public relations, social media, personal experiences and other channels. Patanjali is one of the great competitors of FMCG products in the market. The Indian herbal market is flooded with numerous well-known and recognized herbal brands. Consumers of this millennium have become more concerned about their health and also inclined to maintain quality of life which is reflected through the preferential consumption of those products that protects the good state of their health as well as provide maximum satisfaction. A healthy lifestyle Indian has become more inclined to Ayurvedic or Herbal therapy as alternative health care for natural cure. The choice and usage of a particular brand by the consumer over the time is affected by the quality benefits offered by the brand especially when it comes to brand of eatable and cosmetics. Consumer satisfaction is derived when he compares the actual performance of the product with the performance he expected out of the usage. The primary objective of this study is to understand the consumer perception and satisfaction studying the awareness of the products within the consumers and the number of consumers who consume herbal cosmetics.

Sadia Afrin Samanta School of Business and Economics, United International University, 2020 Internship Report on Marketing Strategy and Customer's Perception-Savlon Hand Wash & Hospital Assistant Items as part of the Internship at United International University, I have been assigned for doing an internship project at ACI Limited, Consumer Brand department. One of the leading FMCG companies in Bangladesh is the Advanced chemical Industry (ACI) Limited. It started its journey with some household products. One of the prestigious and market-leading products is Savlon and I was doing my internship under the direct supervision of the Savlon and Hospital Accessories item team. As a part of preparing my internship report, to the market scenario, some of the competitors of Savlon had been identified by visiting the market and surveyed more than 100 Hospitals for hand wash and Hospital items through one-to-one meetings and an online survey. During that time, I also analyzed the market portion and customers' opinions regarding hand wash and hospital items. In the time of my internship, most of the questionnaires were made by me and some were given by my supervisor Mr. Shahed Kamal, General Manager, Sales Development, ACI Consumer Brand. For accomplishing my task throughout that time, I have tried my best which was allocated to me and came up with some results. These

results have assisted me to prepare this report.

Anand Kumar Jaiswal, Sachin Kumar Singh, A Manu
Indian Institute of Management

Ahmedabad, 2014 Study on Cerenity Sanitizer: Marketing Research for New Product Launch (A). The case deals with the application of marketing research for launching a new product in the marketplace. The company was planning to enter the Fast-Moving Consumer Goods (FMCG) market in India with its new product Cerenity. Cerenity was a toilet seat sanitizer for women who frequently use public restrooms. The case describes the exploratory study conducted by the research team. The team used different qualitative marketing research tools such as focus groups, in-depth Interviews and participant observations.

Doug K Jones, Joseph J Spiroso US Patent App. 12/054,232, 2008 Integrated cross corporate branding with giveaways and sweepstakes and contests processes with advertising opportunities on a hand wipe product. The present invention provides systems, methods, and apparatus for integrated cross corporate branding using a hand wipe product. The invention includes advertising by producing a plurality of high quality, individually packaged, disposable hand wipes packaged in a wrapper, the wrapper including an indicia of a third-party and an indication of an online source for additional hand wipes, wherein the high quality of the hand wipes is such that the third party perceives that an association of the third party with the hand wipes reflects positively on the third party; distributing the plurality of hand wipes to target customers of the third party without charge to the target customers; and selling additional hand wipes to the target customers via the online source. Numerous additional aspects are disclosed.

K Kumaravel, P Vikkraman, Life Science Journal 10 (2), 1524-1530, 2013 study on consumer behavior towards FMCG products with special reference to personal care products. The motive of this research work is to study the consumer behavior towards Fast Moving Consumer Goods (FMCG) personal care products in Coimbatore district of Tamilnadu. The data for the study has been collected by performing face-to-face interviews with the respondents with the distribution of questionnaires. This study collects data from 200 consumers at various places in Coimbatore district. This study is started with objectives of examining socio-economic background of respondents, analyzing the factors influencing consumer behavior towards FMCG personal care products, checking level of satisfaction of consumers and knowing expectation of the consumers from the personal care products. The collected data are tabulated properly and analyzed with percentage analysis, principal component factor analysis, and multiple regression linear analysis, mean score analysis and chi-square test. This study reveals that consumer behavior is largely affected by place, product, price, promotional, psychological and people influences. The satisfaction level of consumers also

depends on product specific and market wide factors. Consumer behavior will improve when their expectations are fulfilled by their distribution channels.

Jane Lee Jia Jing, Thong Pei Yi, Rajendran J. C. Bose
Nagendran Tharmalingam, Jason R. McCarthy and
Thiagarajan

Madheswaran, Int. J. Environ. Res. Public Health, 3326 2 of 17, 2020 Hand Sanitizer : A Review on Formulation Aspects, Adverse Effects, and Regulations. The study shows droplets of airborne microorganisms from coughs and sneezes can easily contaminate hands, proper hand hygiene is crucial. By properly sanitizing one's hands, it is especially important to stop the virus from spreading, especially during pandemic outbreaks. It is possible to accomplish this with contact isolation and strict infection control measures like practicing good hand hygiene in public and hospital settings. Antimicrobial soaps, alcohol-based hand sanitizer, and water-based hand sanitizer are just a few of the effective hand disinfecting agents that can be used to ensure a successful hand sanitization. Alcohol-based hand sanitizer is widely used in hospitals. Until now, the greater part of the successful hand sanitizer items are liquor based plans containing 62%-95% of liquor as it can denature the proteins of organisms and the capacity to inactivate infections. This systematic review will look at the data in PubMed and the various hand sanitizers that are available, their effectiveness, as well as the aspects of the formulation, potential side effects, and suggestions for making the formulation more effective and safer. In addition, the effectiveness of alcohol-based hand sanitizer against the coronavirus is highlighted in this article. Andrew P Golin, Dexter Choi, Aziz Ghahary, American journal of infection control 48 (9), 1062-1067, 2020 Hand sanitizers: A review of ingredients, mechanisms of action, modes of delivery, and efficacy against coronaviruses. SARS-CoV-2, a novel virus, has caused public health problems that have never been seen before. At the moment, the only methods for dealing with COVID-19 are supportive and preventative ones with the goal of reducing transmission. Hand hygiene is an easy and effective way to prevent infection transmission in healthcare or public settings. Unfortunately, little is known about the effectiveness of hand sanitizers against SARS-CoV-2. An extensive literature search was conducted to compare the effectiveness and compliance of gel and foam sanitizers, predict whether alcohol-based and non-alcohol hand sanitizers would be effective against SARS-CoV-2, and summarize the primary active ingredients and mechanisms of action of hand sanitizers. The majority of alcohol-based hand sanitizers are effective at inactivating it may be difficult to confidently recommend one method of hand sanitizer delivery over another given what is currently known from the literature. A sufficient amount of sanitizer is required to ensure complete hand coverage when soap and water are unavailable, and compliance is essential for proper hand hygiene.

Retno Dewanti, Ratu Desita Piyantina, Andreas Chang *Pertanika Journal of Social Sciences & Humanities, 2018* Role of Monetary Promotion as a Moderator between Intensity of Distribution Channel and Brand Equity of Hand Sanitizer. This research examines how promotional activities act as a moderator between brand equity and intensity of distribution channels. In this research, sales promotion is monetary promotion. By using a good sales promotion, the company will know the customer perception of the brand. Previous studies have stated that monetary promotion is a key element in a successful marketing strategy. The management of hypermarkets needs to understand the dynamic of monetary promotion and conceive new ways of organising and executing hypermarket activities that add values to customers. A total of 100 shoppers at a selected hypermarket was used as samples. This study adopted a customer-based approach to address consumer aspects affecting brand awareness, perceived quality, brand association, and brand loyalty. The unit of analysis were Indonesian consumers who are familiar with Antis brand and actively shop at Carrefour's Puri Hypermarket Jakarta, Indonesia. Data was analysed using Structural Equation Modelling-Partial Least Square (PLS-SEM) method. The results showed intensity of distribution channels had a positive significant influence on perceived quality, brand awareness, brand association, and brand loyalty. Monetary promotion did not have any association between intensity of distribution channel and perceived quality, brand awareness, and brand association.

M Pyrek, *Infection Control Today, 2012* Study on Hand hygiene monitoring goes high-tech. In their quest to assess the prevalence and correlates of compliance and noncompliance with hand hygiene guidelines in hospital care, Vicki Erasmus, MSc, of the Department of Public Health at Erasmus University Medical Center in Rotterdam, The Netherlands, and colleagues determined that noncompliance with hand hygiene guidelines is a universal problem that calls for standardized measures for research and monitoring. After examining 96 empirical studies, Erasmus, et al. (2010) found an overall median compliance rate of 40 percent, with lower compliance rates in intensive care units (30 percent to 40 percent) than in other settings (50 percent to 60 percent), lower among physicians (32 percent) than among nurses (48 percent), and before (21 percent) rather than after (47 percent) patient contact. Although hand hygiene has been the target of continuous scrutiny, study and awareness campaigns, Erasmus, et al. (2010) say that substantial and lasting effects on compliance rates has been minimal. As healthcare institutions continue to wrestle with this issue, manufacturers have stepped in to offer high-tech solutions to this perennial problem. Automated hand hygiene monitoring systems may offer a reliable method of measuring individual hand hygiene compliance, and Erasmus, et al. note, "Apart from observation and self

reporting, there are a number of other methods that may be employed as indicators of hand hygiene compliance, such as the amount of alcohol or soap used (ie, 2 L/day), electronic monitoring (ie, counter in alcohol dispenser), or the number of hospitals acquired infections. Each of these indirect measures has some advantages over direct observation by a trained observer because some are much cheaper and easier to use but they do not provide valid information on compliance. One study made a new step in this direction, however, by monitoring the entrance and exit of people from a patient's room and linking this to electronic monitoring of the alcohol-based hand rub dispenser. When someone enters without using the dispenser, this is registered as noncompliance. However, this method also has limitations, because only hand hygiene behavior when entering and exiting can be monitored, and it can only be applied to single patient rooms.

Epaphrodite Habanabakize University of Rwanda, 2017 Study on Low hand hygiene compliance among Gisenyi District Hospital Clinical staff Hospital-acquired Infections (HAI) represent an important cause of morbidity and mortality in hospitals. HAIs increase the length of stay, and are associated with substantial risk of mortality. Good hand hygiene compliance reduces HAI rates and cross-transmission of antimicrobial-resistant pathogens. There is low hand hygiene compliance among clinical staff of Gisenyi Hospital. Health care workers need to protect themselves, protect co-workers, patients and ensure the wellbeing of patients. It has long been recognized that hand hygiene is the most effective way to prevent the spread of infection, thereby ensuring patient safety. Pre and post intervention study design have been used in this project. The identified priority solutions/strategies to improve hand hygiene compliance among Gisenyi District Hospital clinical staff were: Educating clinical staff on Hand hygiene practice. Increase the Availability and accessibility of soap, paper towels Availability and providing pocket-sized ABHR bottles to clinical staff with Alcohol-based hand rub.

Jonathan Gabay Kogan Page Publishers, 2015 Study on Brand psychology: Consumer perceptions, corporate reputations. Why do we trust some brands more than others? How important is integrity for a brand's survival? How can brand confidence be rebuilt during a crisis? Using both new and classic insights from social psychology, cognitive psychology and neuroscience, Brand Psychology reveals the hidden processes behind why certain brands command our loyalty, trust and-most importantly-disposable income. Reputation management authority Jonathan Gabay takes readers on a tour of the corporate, political, and personal brands whose understanding of consumer psychology has either built or broken them. Suitable for marketing, branding and PR professionals, reputation management specialists and students, Brand Psychology takes examples from e-cigarette legislation, the iPhone 5S's fingerprint ID technology, Barclays' branded bikes and the London 2012

Olympics, Miley Cyrus and the UK National Health Service's big data to reveal how to build a meaningful brand that resonates with the public.

Raina Pinto, Nandakumar Mekoth, Study on Consumers' willingness to pay based on gender, brand reputation and involvement in cause related marketing. The study attempts to identify whether there exists significant difference in consumers' behaviour in terms of WTP for high and low involvement products associated with a cause, and whether reputation of the brand would matter in CRM. Although there did exist differences, the differences were not statistically significant. However, consumers did express their WTP more for the cause irrespective of involvement and reputation of the brand.

Alberto Berardi, Diego R Perinelli, Hamid A Merchant, Lorina Bisharat, Iman A Basheti, Giulia Bonacucina, Marco Cespi, Giovanni F Palmieri, International Journal of Pharmaceutics, 119431, 2020 Study on Hand sanitizers amid CoViD-19: A critical review of alcohol-based products on the market and formulation approaches to respond to increasing demand. The world is facing a medical crisis amid the CoViD-19 pandemic and the role of adequate hygiene and hand sanitizers is inevitable in controlling the spread of infection in public places and healthcare institutions. There has been a great surge in demand for hand sanitisation products leading to shortages in their supply. A consequent increase of substandard products in the market has raised safety concerns. This article, therefore, presents a critical review of hand sanitation approaches and products available on the market in light of the scientific evidence available to date. This review also provides a range of hand sanitisation product formulations, and manufacturing instructions to allow for extemporaneous preparations at the community and hospital pharmacies during this urgent crisis. In addition, this emergent situation is expected to continue, hence hand sanitizers will be in demand for an extended time, and the availability and purchase of substandard products on the market create an ongoing safety concern. Therefore, this article shall also provide various commercial organisations, interested in stepping forward the production and marketing of hand sanitizers, with a guide on the development of products of standardised ingredients and formulations.

COVID-19 pandemic in the beginning of 2020 have spurred the market for hand sanitizer. The outbreak has reinforced the significance of regular hand sanitizing and cleaning practices among consumers and is among the prominent factors driving the market. Consumer inclination towards health & wellness and product innovation such as addition of fragrances in formulation of sanitizers are projected to boost the growth of the global hand sanitizer market. Shifting consumer preference towards convenient hygiene products is expected to drive the market. This report provides an extensive analysis of the current and emerging

market trends and dynamics of the global hand sanitizer market.

STATEMENT OF THE PROBLEM & RESEARCH OBJECTIVES

As a researcher trying to measure customer satisfaction provides an indication of how successful the organization is at providing products to the marketplace. The usual measures of customer satisfaction involve a survey with a set of statements using a Linker scale. The customer is asked to evaluate each statement in terms of their perception and their expectation of performance of the hand sanitizer brands. Therefore, the objectives of the study are summarized as below: -

1. To study the level of awareness of hand sanitizer and importance of hygiene
2. To find if there is a difference in purchasing mode of hand sanitizer across different age categories.
3. To find if there is a relationship between rate of usage of quality hand sanitizers after every use across gender.
4. To study the importance of brand value and loyalty across gender
5. To extract the factors most preferred by customers in hand sanitizer brands
6. To study the regression and prediction between the rate after the use of hand sanitizer and how likely it is to the same product
7. To study the regression and prediction between quality of hand sanitizer and brand value of hand sanitizer.
8. To study the regression and prediction between quality of hand sanitizer and functionality of hand sanitizer
9. To rank the top 10 brands of hand sanitizer in India based on the collected response of customers.

Hypothesis of the Study

Alternate (Researcher) hypothesis

H1: There is a significant relationship between the preference of purchasing mode of hand sanitizer and age group.

H2 : There is a significant relationship between rate of quality of hand sanitizer after use and gender.

H3: There is a significant relationship between brand value and continuing using same brand hand sanitizer with Male.

H3: There is a significant relationship between brand value and continuing using same brand hand sanitizer with Female.

III. RESEARCH METHODOLOGY

This study is an empirical paper which has been written after doing an exhaustive study on literature review of several papers regarding similar topics and relevant reports. A qualitative approach and a descriptive research design was done for the study.

In this research study project, the number of customers was big so the population was infinite. The time frame was planned to be kept with the plan of Google forms shared through WhatsApp contacts to canvass the different hand sanitizer consumers of various parts of Kerala. Survey area was chosen as India’s one of the prominent states, Kerala. Sample size was 151 respondents and the sample units were consumers. For the purpose of research study, a convenience sampling method was used. This method is one of the apt non-probability sampling techniques that helps in saving time and resources. The main research instrument was a well-structured questionnaire and data was collected through primary and secondary sources. The primary data were collected through advocating a structured, standardized questionnaire survey for different sanitizer brands using consumers in Kerala. Secondary data were collected from the following sources such as websites, journals and the internet

Questionnaire Design and Data Collection The purpose of this study was to investigate pre dominant factors influencing of hand sanitizer over consumer perception. In addition, to test hypotheses about advertising, Product Properties and Packaging of using products in order to predict purchase decision making towards hand sanitizer. 5-point Likert Scale was used to measure independent variable. The questionnaire was designed with two parts, the first part was the general query to the consumer interest or not and the second part was measured items of the individual variables and consumer purchase decision and last part demographic variables. All the measured items were derived from literature in the field of marketing, consumer behavior, and social psychology. Finally, structured survey questionnaires were conveniently distributed to 151 consumers from brand users in different parts of Kerala.

The statistical tools for data analysis for the purpose of analysing the data obtained from the primary source of data collection done by Statistical Package for the Social Science (SPSS verison 20.0) and technique tools for data analysis were factor analysis, multiple response analysis, regression and prediction analysis.

IV. DATA ANALYSIS & INTERPRETATIONS

Demographics

Demographic profile: Table .1

Particulars	Classification	Frequency	Percentage
Gender	Male	90	59.6%
	Female	61	40.4%
Age category	Under 18	1	0.7%
	18 -25	108	71.5%
	26 -35	23	15.2%
	36 - 45	5	3.3%
	Above 45	14	9.3%
Education	High school	6	4%
	Under graduate	71	47%
	Post graduate	73	48.3%
	PhD	1	0.7%

Interpretation for Demographic Profile:

From the demographic profile in Table 5.1; it is evident that 59.6% were Male; whereas 40.4% were Female. It is inferred that majority males are customers of hand sanitizer but females are also using it. Mostly females stay out less. Also, 0.7% respondents were in the age group of under 18; 71.5% respondents in between 18 - 25 ; 15.2% were in 26 – 35 ; 3.3 % were in 36 – 45 ; 9.3% is above 45 years old. It is inferred that the most of the hand sanitizer users are youths and adults. Again, 4% respondents were high school or less; 47% were under graduate; 48.3% were post graduate; 0.7% were PhD or higher. Almost all are aware of the importance of hand sanitizer and hygiene.

Hypothesis Testing

Table 2: Purchase mode *age category

Hyp.No	Variables	Chi square value	Df	Critical Value
H01	Purchase mode *age category	0.045	12	21.406

Chi-square test was applied to find whether the purchase mode of hand sanitizer depends on the age category. Table 5.2 shows P value (0.045) is less than 0.05 signifies that there is an association between the purchase mode of hand sanitizer and age groups. Therefore we reject the null hypothesis. At 5% significance level can reject null hypothesis.

Table 3 : after use rate *gender category

Hyp.No	Variables	Chi square value	Df	Critical Value
H02	After use rate *gender	0.046	3	7.997

Chi – square test was applied to find whether the rating after the use of hand sanitizer quality depends on the gender.P value (0.046) is less than 0.05 signifies that there is a significant relationship between after use rating of hand sanitizer with gender. Therefore we reject the null hypothesis. Hence conclude that the variables are significant.

Table 4 : Brand value and continue to use with male

Hyp.No	Variables	Chi square value	Df	Critical Value
H03	Band value and continue to use with male	0.002	16	37.204

Chi – square test was applied to find whether the brand value after the use of hand Sanitizer to continue to use the product depends on the male. P value (0.02) is less than 0.05 signifies that is the relationship between the brand value and continue using the same brand hand sanitizer with Male. Therefore, we reject the null hypothesis. Hence conclude that the variables are associated.

Table 5 : Brand value and continue to use with female

Hyp.No	Variables	Chi square value	Df	Critical Value
H04	Band value and continue to use with female	0.681	12	9.253

Chi – square test was applied to find whether the brand value after the use of hand Sanitizer to continue to use the product depends on the female. P value (0.681) is greater than 0.05 signifies that there is no relationship between brand value and continue using the same brand hand sanitizer with females. Hence, it is inferred that female choices may flip according to time and market conditions.

Study on the regression and prediction between quality of hand sanitizer and brand value of hand sanitizer.

Table 6: Summary

Model	R	R square	Adjusted R square	Std. Error of the Estimate
1	.428	.184	.178	.69342

Inference: From the above table 6, the R value is **0.428** (represents simple correlation), which indicates a high degree of correlation. The R^2 value indicates how much of the total variation in the dependent variable. In this case, **18.4%** can be explained, which is low.

Table 7: ANOVA

Model	Sum of squares	Df	Mean square	F	Sig.
1. Regression	16.105	1	16.105	33.493	.000
Residual	71.644	149	0.481		
Total	87.748	150			

Inference: From the above table 7, P value is less than 0.05, that indicates the regression model significantly predicts the outcome variable (i.e., it is a good fit for the data).

Table 8: Coefficients

Model	Unstandardized coefficient B Std.Error	Standardized coefficient Error	t	Sig.
1. (Constant)	3.011 .263	.428	11.45 5	.00 0
Brand value	0.357 .062		5.787	.00 0

Results: Here, X = (dependent variable) quality of hand sanitizer and Y = (independent variable) brand value of hand sanitizer

$$Y = 0.357 X + 3.011$$

$$\text{Quality} = 3.011 + 0.357 (\text{brand value})$$

Multiple regression

Study on the regression and prediction between quality of hand sanitizer and functionality of hand sanitizer.

Table 9: Model Summary

Model	R	R square	Adjusted R square	Std. Error of the Estimate
1	.546	.298	.279	.650

Inference: From the table 9, R value of **0.546**, indicates a moderate level of prediction. R^2 value of **0.298** that independent variables explain **29.8%** of the variability of dependent variables.

Table 10: ANOVA

Model	Sum of squares	Df	Mean square	F	Sig.
1. Regression	26.154	4	6.538	15.498	.000
Residual	61.595	146	0.422		
Total	87.748	150			

Inference: The table 10, shows that the independent variables statistically significantly predict the dependent variable, $F(4, 146) = 15.498$, $p < 0.05$ (i.e., the regression model is a good fit of the data).

Table 11: Coefficients

Model	Unstandardized coefficient B Std.Error	Standardized coefficient Error	t	Sig.	95.0% Confidence interval for B Lower Bound Upper Bound
1. (Constant)	2.613 .281	.308	9.304	.000	2.058 3.168
portable	0.246 0.066	-.180 .250	3.711	.000	0.115 0.377
Smell	-.114 .051	.220	-0.511	.607	-0.215 0.014
Time	.151 .049		3.023	.003	0.053 0.248
Effective	.170 .064		2.654	.009	0.044 0.296

Results: Here, Y (independent variable) quality of hand sanitizer and X (dependent variable) portable, smell, timesaver than hand washing, effective (functionality of hand sanitizer).

$$Y = 2.613 + (0.246 \times \text{portable}) - (0.114 \times \text{smell}) + (0.051 \times \text{timeHW}) + (0.170 \times \text{effective})$$

Table 12 : Reliability Test

Cronbach's Alpha	Cronbach's Alpha based on standardized items	N of items
0.841	0.850	10

*All items have factor loading $\geq .5$

KMO index = .836 and Sig. of Bartlett's test = .000

Total variance explained=43.337%

The KMO index was at .836 > .5 and the Sig. of Bartlett's test was at .000 < .05. All 10 items had loading values greater than .5 which illustrated the high correlation between each item and the corresponding extracted component. Furthermore, the value of Cronbach's Alpha was at 0.850. It was reasonable to conclude that all of 10 measured items of the purchase decision factors were statistically well-related and reliable.

Factor analysis

The analysis helped to understand the involvement of the variables in determining purchase intention. To ease the interpretation, all factor loadings that explained less than 0.5 of the variances of the constructs were suppressed, resulting in just few cross loadings and the resultant table is as follows: -

Table 13: Rotated component matrix

	Component 1	Component 2
Smell	.741	
Portable	.722	
Easy	.641	
Time taken	.609	
Effective	.598	
Virus	.575	
Continue to use		.798
Rate		.708
Quality		.625
Brand value		.585

The table 13, shows the loadings of the 10 variables on the 2 factors extracted. These factors were found to have major loadings on purchase intention towards hand sanitizer products. They are further interpreted and categorized into 3 major components that has an influence on Purchase intention and user loyalty: -

Factor:

1. Characteristics of hand sanitizer
2. Performance of hand sanitizer

Rank the top 10 brands of hand sanitizer in India based on the collected response of Customers.

Table 14: Ranking the consumer most preferred Hand Sanitizer Brands

Brands	Percentage
Dettol	100%
Lifebuoy	59%
Savlon	56%

Himalaya	55%
Chandrika	28.5%
Godrej	19%
Dabur	20%
Santoor	18%
Palmolive	16%
Clarus	14%

"Dettol (Reckitt Benckiser LTD)" is considered as the most preferable Brand among others and out 150 response 100% Customers choose it. Due to the goodwill and familiarity through years resulted. During the pandemic situation the company tied up with tiktok to promote the hand sanitizer use and importance by making videos with new content on hashtag Dettol and that program became quite famous and crossed more than 8 billions views all over the world. second rank frequency by Lifebuoy (HindustanUnilever LTD) by 59% Customers. It is very easily available as one of India's top brands. It is very familiar due to advertisements. third rank frequency by Salvon (ITC LTD) by 56% customers. It is introduced by Johnson and Johnson, earlier of the 90's. During this pandemic situation of covid-19, this brand achieved third position in the mind of customers because they tied up with the Kerala government for the BREAK THE CHAIN project and now all over the world started following the Kerala model as reference. Indirectly or directly it also affected to increase the brand value scale to peak unto 3 rank. Himalaya ranks fourth position by 55% .The Himalaya drug company introduced in the early 90's. Due to the use of Ayurvedic ingredients and quality in products they ranked in top 5.The brand needs quite focus on advertisements. fifth rank position is gained by Chandrika by 28.8%. It is owned by Wipro consumer care and lighting LTD ,which is quite a famous brand in South India. People in Kerala are too familiar with the brand name because of Chandrika which is very common in normal families. So that becomes very easy for the company to promote hand sanitizer brand too. It is an Ayurvedic product too, Kerala people are quite impressed with such products because they don't prefer chemical products. Celebrities giving advertisements through social media with quotes and messages in this pandemic situation also gives the brand a good reach. Below ranking table clearly point out weak company did not focus much on the advertisements shown in regional languages. Thus, the product is very unfamiliar to customers.

V. RESEARCH FINDINGS

It inferred from hypothesis testing that males were more conscious about quality of hand sanitizer brands and satisfied male customers may continue to be loyal in future. It is found that females did not stick on to any particular brands. They flip according to the new trends and offers. The two factors retained from the factor analysis are performance of the hand sanitizer and characteristics of hand sanitizer that turned out to be attractive to consumers. From regression analysis it is clear that quality of hand

sanitizer is defined by factors such as portable to use, smell, time. It indicates the consumer prefer user convenient hand sanitizer. Multiple Response was also done in SPSS to rank the top ten brands of hand sanitizer in India based on the collected response of customers and it was concluded that brand familiarity and advertisement strategies creates brand recognition among consumers.

VI. SUGGESTIONS

- Portable hand sanitizers are preferred more by the customers.
- Focus more on producing Spray and Gel model hand sanitizers.
- Compact Models which can be easily carried in pockets like pocket model spray should be introduced.
- Attractive combo offers with a price range of rupees 100 for small ML hand sanitizer for convenient use.
- As an innovative idea, the byproduct of hand sanitizer: the freshness, can be used for room freshness which enhances the quality of the product as it ensures no side effects.

Research Limitations and Implications

The research is refined to the state of Kerala in the urban area and therefore the rural or semi urban areas of the state were not tapped for the research. Hence the results and interpretations cannot be generalized to the whole of the state.

VII. CONCLUSION

The study was focused on the impact made by hand sanitizer brands in public. There are wide opportunities for the medical sector. Nowadays customer approaches are also changing as they now become more conscious about healthy hygienic lifestyle and wellness. Desperate shifting of consumer preference to convenient hygiene products. Strong marketing strategies were adopted by each brand. Digital marketing spaces were utilized well with celebrities and realistic content. This shows a significant growth of new opportunities and marketing platforms.

Surveys allow an organization to quickly capture vital information with relatively little expense and effort. The information gathered by surveys can easily be analyzed and used to identify trends over time. Customer satisfaction depends on how well the product's performance meets up with their expectations. Customer satisfaction is a key influence on future buying behavior. Satisfied customers will buy again and tell others about their good experiences. Still product quality provides an enormous opportunity to distinguish a firm from the rest. Today's consumers try to know more about products and brands.

As from the entire study, researchers came to the conclusion that the consumer relies heavily on quality and if not provided with good quality to them they can shift to other

brands. Reasonable prices also affect the buying process of consumers. Indian consumers always prefer good quality at a lower price. Customer satisfaction heavily depends on the quality that is offered to them.

Acknowledgment

I wish to thank all the people whose assistance was a milestone in the completion of this paper.

Most importantly, I have had the support and encouragement of PROF. Dr Ameena Babu V, AGBS Kochi for her guidance, and valuable implications for completing the project work. To wind up, I would like to thank all my colleagues and friends who had provided guidance and persistent help, otherwise this paper would not have been possible.

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