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FROM THE EDITOR'S DESK

Our journal, BJMR, has marked its fifteenth year of publication. Volume 15 No. 1 ,April 2023 presents an extensive spectrum of management subjects.

"A Study of Stress, Personality, and Coping in Police Personnel" is the title of the journal's initial paper. The research concentrated on the professional and organisational sources of stress in the police force. There has been little research done on the personality features and coping techniques of people in this category. The purpose of this cross-sectional study was to investigate the link between personality traits and coping methods to police stress among constables and sergeants working in the Amravati Police Department in Maharashtra. According to the study, personality traits and coping methods have considerable independent and interacting effects on the development of high psychological stress in police officers, putting them at high risk for developing mental disorders.

The second paper, titled "Study of the Importance of HR Analytics in the IT Sector, Delhi-NCR" aims to identify the application of HR Analytics in Human Resource practices, to examine the employee satisfaction with HR Analytics, to identify the correlation between employees' perception towards HR analytics and their satisfaction from it. The paper also intends to identify the levels of employee satisfaction from the HR analytics. The paper is based on descriptive research design. Simple random sampling has been used to collect data and the sample size is 126. A multiple choice, structured questionnaire was used to collect data having three segments i.e., demographic profile of respondents, measure of employee' perception towards HR analytics and measure of employees' satisfaction from HR analytics. Data has been analysed using suitable statistical tools like descriptive statistics, ANOVA, graphical representations etc. It was found that employees have a very favourable perception towards the use of HR analytics tools in the organizations and are very satisfied with it. A high degree of positive correlation has been identified between employees' perception and employees' satisfaction.

The third paper is titled "Analysis of Big Data BI Tools Using Technology Acceptance Model in Hospitality Industry". This study was conducted in a large hotel company in Mysore, Bangalore, to analyse the factors influencing the end users of big data BI Tools. This study began with a literature analysis in the hotel industry using the TAM model, which assisted in gradually identifying critical aspects influencing the adoption and satisfaction of hospitality industry BI Tools. A questionnaire was created based on the criteria found, and the data was then reviewed using IBM Statistics SPSS 25 and data analysis software like JMP. There have been tests for dependability, factor analysis, descriptive statistics, regression analysis, and SEM bootstrapping. The test revealed five crucial factors, including attitude, perceived utility, perceived usability, perceived simplicity of use, perceived hazards, and desired results, that impacted end users' acceptance and satisfaction with big data BI tools. The majority of respondents to this study used BI tools regularly, although they did not fully utilise the functions of their Big Data BI solutions.

The fourth paper is titled Stock Price Prediction: An Intelligent Approach. Numerous studies have been undertaken to forecast stock prices using technical indicators that merely use previous stock price data. They do not, however, always perform to a high standard. The impact of combining technical, fundamental, and expert opinion market indicators for stock price prediction is investigated in this essay. To improve the accuracy of stock price prediction, a fuzzy-neural network is fed input variables collected from several market hybrid indicators. Empirical results utilising publicly available stock data show that the proposed methodology has the potential to improve stock price prediction precision.

The fifth paper article is titled A Study of Passengers Satisfaction with Maharashtra State Transport Corporation Services with Reference to Sangli District. Customer satisfaction is a significant concern in the service business. This paper investigates passengers' current perspectives. A majority of passengers are pleased with the services provided, yet they want more. This study focuses on the Satara district's Customer Satisfaction.

This sixth research indicate the Current State of Green Marketing in India: Opportunities and Challenges. The most essential need at the moment is to sustain consumer loyalty in this age of globalisation, as well as to protect our environment. Green marketing has received a lot of attention recently. The main focus of this research study is on the concept of green marketing, factors, and present marketing methods.

The seventh paper, "The Study of Consumer Awareness of Robotics Services with Special Reference to Robostorms Technology Pvt Ltd, Kolhapur," is titled "Robostorms Technology Pvt Ltd, Kolhapur." With the emergence of robotics and the current age of artificial intelligence, the utilisation of innovative technology in today's corporate world is expected to expand. During this study, customers were made aware of various innovative services offered by Robostorms Technology Pvt Ltd. Thus, the objective of this study is twofold: first, obtaining feedback from customers to improve service quality if necessary, and second, providing them with accurate information about Robostorms Technology Pvt Ltd. in order to meet the needs of the customer.

A case study titled "Social Media Platform Can Instantly Boost Oats Burger" is the eighth paper in the issue. This case is intended to

appeal both the buyers and sellers for making smart health decisions than merely wearing smart devices to check on the parameters of good health. The paucity of time with more often than not contradicting multiple demands of all professionals has pocketed needs of the food seller who can serve carefully crafted nutritious food than just tasty food.

The issue's ninth paper, is titled "A Study of Marketing Strategies Implemented for Two-Wheeler Bikes with Special Reference to Bajaj Rambha Auto Services, Vita,". This research looks at the marketing strategies used for two-wheelers, with a focus on Bajaj Rambha Auto Services in Vita. This research is being conducted in Vita City's two-wheeler market. This research focuses on the environmental elements impacting the Bajaj Rambha, as well as the two-wheeler analysis. This study also analyses consumer behaviour, such as purchase behaviours, decision making, and buying roles. The report also looks at Bajaj Rambha's competitors.

The issue's last paper, is titled "Impact of Digital Platform on Grocery Shopping in Navi Mumbai ". The purpose of the study is to comprehend both the demographic aspects and the elements that affect consumers; decisions to shop for groceries online. The Navi Mumbai region served as the site of the research. Exploratory research techniques are used. Today's customers are adopted new digital platforms for grocery shopping. Technology plays a very important role in retail digital platforms and impacts more on customer perception. Consumer learning and social acceptance is very important in online grocery selling. This study discovered that consumer learning and societal acceptance both have an impact on how appealing grocery shopping is to consumers and, as a result, how likely they are to embrace this new shopping strategy.



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A study of Stress, Personality, and Coping in Police Personnel

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ABSTRACT:

Background: Research has focused on the professional and organizational causes of stress in the police force. There is little research on the personality traits and coping styles of individuals in this group.

Objective: To study the relationship between personality traits and coping styles to police stress.

Setting and Design: This cross-sectional study was conducted among constables and sergeants working in Amravati Police Department, Maharashtra.

Materials and methods: The research sample consisted of 150 police officers. Sociodemographic data was collected separately from them. The General Health Questionnaire 28 (GHQ-28) was used to assess psychological stress, the Eysenck Personality Questionnaire (EPQ) was used to assess personality traits, and the Coping Checklist 1 (CCL-1) was used to determine coping methods. Statistical analysis was performed using SPSS v10 software.

Results: After screening by the GHQ-28, it was found that 35.33% of the police officers suffered from psychological distress. Sociodemographic variables were not significantly related to psychological stress. Personality traits such as neuroticism, psychoticism, and extraversion, and coping styles such as negative distraction and denial/blame were significantly correlated with psychological stress ($P < 0.05$). The most used coping styles in the sample are social support (72.55%), acceptance/redefinition (64.72%) and problem solving (60.46%). There was also evidence of a linear association between certain personality traits and coping styles, as measured by Pearson's correlation coefficient (r).

Conclusions: Personality traits and coping styles have significant independent and interactive effects on the development of high psychological stress in police officers, putting them at high risk for developing mental disorders.

Keywords: Coping methods, personality traits, police personnel, psychological distress

INTRODUCTION

Policing has always been one of the most difficult and stressful in India, and with the changing times, it has only gotten worse. The biggest burden of this job is borne by the police as they are the Indian police foot soldiers. They must deal with angry mobs, counter-insurgency operations, traffic control, VIP security, political rallies, crowd control at religious festivals, and a variety of other police duties while remaining calm and sensitive. In the performance of their duties, they must deal with potentially dangerous situations that can lead to physical or mental trauma or even death. Their job stress may be further exacerbated by their faulty personality traits or coping methods. Most Indian [1,2] and international [3,4] studies have found police stress to be high, which is surprising given the many direct and indirect negative impacts of police psychopathy on society. Therefore, to perform your duties properly, you must be in good physical and mental health.

Objectives of the Research:

- To study the association of personality traits and coping methods with the development of psychological stress in police personnel
- To study the associations between personality traits and coping methods used by the study sample.

Review of literature

Previous research has examined high stress levels among police officers and its relationship to the impact of physical and mental illness. It is believed that high psychological stress has a negative impact not only on their ability to work, but also on the personal and relational areas of their life. Deb et al in a study of Calcutta Police Department traffic police officers showed that 79.4% of them were moderately or highly stressed.[1] A study by Rao et al. Central Industrial Security Force (CISF) personnel found that 28.8% of them tested positive for high stress on GHQ-30. The study also found higher rates of psychosis in the high-

stress group. [2] Collins et al. In a cross-sectional study of British police officers and sergeants, the high stress group was found to comprise 41% of the population and was found to be significantly associated with negative job perceptions. [3] Lipp [4] found that 43% of senior Brazilian police officers were under a lot of stress. Zukauskas et al. In their study of police officers, they found that the effects of stress included depression, alcoholism, physical illness, and suicide. [5] Cohan et al. Job stress linked to high rates of drug use among police officers. [6] We must therefore explore ways to reduce psychological stress in order to ensure that police officers are physically and mentally equipped to perform their duties effectively and vigilantly. There are many research papers on the sources of external and professional stress in police work, with a focus on organizational and operational issues. These stressors include lack of organizational support, excessive workload, insufficient time off, political pressure, lack of time for family, frequent moves, negative public image, and exposure to traumatic events related to functions. [1,3,7,8] However, although most police officers face the same external professional and organizational pressures, not all develop mental illness. Indeed, a person's vulnerability to stress also depends on their assessment and reaction to difficult situations. Personality and coping styles play interactive and independent roles in influencing adaptation to stress. [9] Cabarkapa found neuroticism to be a personality trait associated with job stress in a study of military aircrew and concluded that stress ratings and some personality measures. [10] Gershon et al. The most important risk factors among officers' perceived work stress were maladaptive coping behavior and exposure to critical events, according to the report. [11] Ranta [12] A study of police officers at all levels reported that the use of Indian psychological techniques to improve subjects' coping behavior resulted in a significant reduction in job stress. Personality traits and coping styles have also been associated with the development of suicidal ideation in police officers [13], highlighting the need for further research and work in these two areas. Since there is not much research in this area in India, this study attempted to investigate the relationship between personality traits, coping styles and psychological stress among police officers. It can also serve as a useful guide for pre- and post-recruitment measures used to reduce stress on police departments.

MATERIALS AND METHODS

Sample selection

The sample was obtained from a police officer working in the Vigilante Division of Amravati Police, Maharashtra. All active-duty officers and sheriff-level officers were included in the study. We chose to include only police officers and police chiefs in our sample because they face the same external pressures at home, financially, and at work. Therefore, research can focus on the role of individual personality traits and coping styles in the development of individual psychological stress. The officers above them, in addition to the various jobs and external stressors, were too few in the affected cities studied to have a representative value in the sample.

Tools used in assessment: After obtaining written informed consent from study subjects, they will be assessed using the following tools:

a. Sociodemographic variables: A semi-structured questionnaire for sociodemographic data is used to obtain age, sex, marital status, seniority and rank

b. General Health Questionnaire-28, Goldberg (G.H.Q-28): This is one of the most widely used and validated questionnaires for screening for elevated psychological stress and morbidity. [14] Using Goldberg's terminology and according to their GHQ scores, workers were divided into two groups, "cases" (score > 4) and "non-cases" (score ≤ 4)

c. Eysenck Personality Questionnaire (EPQ): Used to assess the personality traits of police personnel. It aims to provide rough but clear measures of three important personality dimensions: psychopathy, neuroticism, and extraversion. These three dimensions are considered completely independent and can therefore exist in an individual in all possible combinations [15] **d. Kiran Rao's Coping Checklist-1 (CCL-1)** is used to assess coping methods used by police officers. This scale is very comprehensive and easy to administer. It is one of a kind in an Indian setting. The CCL has 3 scales and 7 subscales, with a total of 70 items. There is a problem-focused scale (subscale: problem solving), an emotion-focused scale (subscales: positive approach to distraction, negative approach to distraction, acceptance/redefinition, religion/belief, and denial/blame) and A Problem- and Emotion-Focused Scale (Subscale: Social Support) [16] The sample from Study

was assessed by the authors on an individual basis using the tools of assessment. Of the 161 police officers and police chiefs who initially participated in the study, 11 scored high on the EPQ's lying scale and were therefore excluded from the study. Therefore, the final sample for this study consisted of 150 people. Differences in socio-demographic profiles, personality traits and coping styles were then analyzed between the "case" and "non-case" groups. The relationship between personality traits and coping styles has also been studied.

Statistical analysis

The data collected was entered in excel sheets. The statistical analysis was done using SPSSv10 software. Independent 't' test, Chi-square test, and Pearson's correlation analysis were used to study the data. $P < 0.05$ was considered as statistically significant.

RESULTS

Socio-demographic profile

The sample size for the study was 150 police officers, including 135 men and 15 women. The average age of the sample is 42 years old. Males greatly outnumbered females in the sample with a 9:1 ratio of males to females. Most included men ($n=135$, 90%), married ($n=142$, 94.6%), police officers ($n=124$, 82.6%). According to the years of service, the sample was composed of 4 groups, of which 14% ($n=21$) had 1-10 years of service, 52% ($n=78$) had 11-20 years of service, 24% ($n=36$) of service were between 21 and 30 years old and 10% ($n=15$) had more than 30 years of service.

Psychological distress

A total of 53 people (35.32%) were labeled as "cases" according to the GHQ-28 threshold value of 4 points, which in this study means that people with high psychological stress tend to develop a mental illness. The remaining 97 (64.66%) were categorized as "no cases". In the total sample, 35. It was found that 55% ($n=48$) of men and 33.33% ($n=5$) of women had high psychological stress. When comparing the "case" and "non-case" groups, sociodemographic variables such as age, gender, marital status, seniority, and rank were not significantly

associated with the development of psychological stress. By rank, 46.15% ($n=12$) were sheriffs and 33 were.06% ($n=41$) of the agents belonged to the "case" group [Table 1].

Personality traits and psychological distress

Personality traits (assessed by EPQ) of the "case" and "non-case" groups were analyzed using independent "t" tests. The "case" group had higher mean scores for psychoticism and neuroticism, while the "non-case" group had higher mean scores for extraversion. The differences in these trait scores between the two groups were found to be statistically significant, with $P < 0.001$ for neuroticism and psychopathy and $P < 0.05$ for extraversion. According to Pearson's correlation analysis, neuroticism ($r = 0.603$) and psychoticism ($r = 0.288$) were positively correlated with higher GHQ scores, while extraversion ($r = -0.283$) was negatively correlated with higher GHQ scores. GHQ scores [Table 2].

Coping methods and psychological distress

The most used coping method across the entire study sample was social support (72.55%), followed by acceptance/re-definition (64.72%) and problem-solving methods. problems (60.46%) [Table 3]. The most common coping methods used for the case and non-case groups were also social support (73.20% and 72.16% respectively). Negative distraction ($P < 0.001$) and denial/blame ($P < 0.001$) were found to be statistically significantly associated with the development of psychological distress when coping styles were compared between the two groups. Negative distraction ($r = 0.404$) and denial/blame ($r = 0.358$) were also positively associated with high GHQ scores [Table 4].

Personality traits and coping methods

Research in to the links between personality traits and coping methods or the "coping-trait" complexes brought up certain interesting findings. Using the Pearson's correlation analysis on the study data, it was seen that psychoticism showed a positive correlation with coping items denial/blame ($r = 0.288$), negative distraction ($r = 0.295$), and problem solving ($r = 0.258$).

Neuroticism was also in positive correlation to negative distraction ($r=0.190$) and denial/blame ($r=0.412$).

Extroversion was positively correlated to coping item of positive distraction ($r=0.181$) and in negative correlation with denial/blame ($r=-0.185$) [Table 5].

DISCUSSION

This study revealed that 35.33% of the police officers in the sample suffered from psychological stress, which corresponds to the stress reported by Rao et al. Among 28.8% of CISF staff. [2] Other studies, such as that of Geetha et al. The higher stress levels reported in these studies compared to the present study may be due to sociodemographic and methodological differences in the studies. Several international studies of police officers have also reported stress levels in 40-50% of the sample, but unlike this study, these studies found higher levels of psychological stress among female officers. [3,4,18] This may be because there were significantly fewer women than men in the sample for this study, with a male to female ratio of 9:1. Since the proportion of women in Indian police forces is much lower than that of men, a larger sample size is needed to truly reflect their stress levels and other study parameters. No statistically

significant difference was found between the two groups in terms of marital status and seniority. No significant relationship was found between rank and "case". This suggests that the entire sample and the two groups share the same socio-demographic background. In this study, neuroticism and psychopathy were significantly associated with the "case" group and positively associated with high GHQ scores. In the present study, extraversion appears to be significantly associated with the "non-case" group and negatively associated with high GHQ scores. The association of this personality trait with experiences of stress was investigated in a study by Francis et al. who correlated GHQ scores with neuroticism and introversion, but not with psychopathy. [19] Another study by Fontana et al. showed that stress was positively associated with neuroticism and psychosis, and that stress was negatively associated with extraversion. [20] This very clearly illustrates that while people with these neurotic and psychopathic personality traits are more prone to stress when faced with the difficult tasks of police work, extraversion acts as a protective shield against them. Extraversion as a personality trait was also less likely to be present in people with a high neuroticism score.

Table 1: Relation between socio-demographic data and psychological stress

Variables	Total n (%)	Case n (%)	Non case n (%)	Chi square (x2)	P value
Age (years)					
21-30	14 (9.33)	5 (35.71)	9 (64.28)	0.553	0.907
31-40	46 (30.66)	17 (36.95)	29 (63.04)		
41-50	65 (43.33)	21 (32.30)	44 (67.69)		
51-60	25 (16.66)	10 (40)	15 (60)		
Sex					
Male	135 (90)	48 (35.55)	87 (64.44)	0.029	1
Female	15 (10)	5 (33.33)	10 (66.66)		
Marital status					
Unmarried	8 (5.33)	4 (50)	4 (50)	0.796	0.454
Married	142 (94.66)	49 (34.50)	93 (65.50)		

Duration of service (years) n–Numbers; $P < 0.05$ is statistically significant

01-Oct	21 (14)	7 (33.33)	14 (66.66)	5.304	0.151
Nov-20	78 (52)	22 (28.20)	56 (71.79)		
21-30	36 (24)	18 (50)	18 (50)		
31-40	15 (10)	6 (40)	9 (60)		
Rank					
Constables	124 (82.66)	41 (33.06)	83 (66.94)	5.869	0.053
Head constables	26 (17.33)	12 (46.15)	14 (53.85)		

Table 2: Association between personality traits and psychological stress

Personality traits	Mean	T value	P value
Psychoticism			
Case	5.1321	4.609	0.000*
Non-case	3.5361		
Neuroticism			
Case	9.4906	8.931	0.000*
Non-case	4.3608		
Extroversion			
Case	13.0755	-2.304	0.023
Non-case	14.1443		

*P<0.05 is considered as significant

Table 3: Coping methods used by case and non-case group expressed in percentages

Coping methods	Case group (n=53) (%)	Non case group (n=97) (%)	Total sample (n=150) (%)
Problem focussed			
Problem solving	63.3	58.86	60.46
Emotion focussed			
Positive distraction	48.37	48.74	48.61
Negative distraction	25.35	12.71	17.18
Acceptance/redefinition	65.67	64.19	64.72
Religion	38.56	38.14	38.29
Denial/blame	41.67	27.62	32.6
Problem and emotion focussed			
Social support	73.2	72.16	72.55

Table 4: Association of coping methods to psychological stress

Coping methods	Mean	t value	P value
Problem-focussed Case			
Problem-solving	0.122		
Emotion Focussed			
Positive-distraction			0.905
Case	6.7736	-0.120	
Non-case	6.8247		
Negative-distraction			0.000*
Case	2.283	5.724	
Non-case	1.1443		
Acceptance/redefinition			0.528
Case	7.2264	0.633	
Non-case	7.0619		
Religion/faith			0.905
Case	3.4717	0.119	
Non-case	3.433		
Denial/blame Case			0.000*
	4.5849	5.438	
Non-case	3.0412		
Problem and emotion focussed			
Social support			0.647
Case	4.3962	0.459	

*P<0.05 is considered significant

The most used coping skills in the research sample were social support, acceptance/reframing, and problem solving. A study by Deb et al. Kolkata Police Traffic Police officers reported using the following coping strategies: sharing problems with colleagues (72.6%), family (62.9%) and friends (59.7%); work dependency people (64.5%); accepting reality (58.1%); watching TV/listening to music (56.5%); playing sports (50%); becoming optimistic about the future (43.5%); smoke more Cigarettes (29%); devote more time to religious activities (25%). [1] A study by Madu et al. Also

listed are the use of humor, social support, meditation, and delegation of responsibility as coping strategies used by police officers. [21] In the present study, coping skills involving negative distraction, blaming/denial showed a statistically significant association with the development of high psychological stress. Maladaptive coping behaviors such as heavy drinking and problem gambling have been identified as risk factors associated with high perceived job stress. [11] Although avoidance increases stress, research has found that coping strategies of keeping a distance and planning problem solving can significantly reduce stress in policing situations. [22] Positive coping skills have been shown to have an anti-stress effect. [17] Therefore, to help people recognize

their maladaptive coping methods, educate them about the resulting psychological damage while encouraging them to practice good coping skills such as yoga/meditation, exercise, seeking support from friends/family, using assessment and realistic problem solving, and using acceptance and prayer will help to significantly reduce psychological stress. The coping skills of denial/blame and negative reasoning were

positively associated with psychopathy and neuroticism in this study. Extraversion was positively associated with positive distraction and negatively associated with denial/blame. Psychopaths also show a positive relationship with problem solving, but perhaps the methods they use to solve problems increase rather than decrease stress.

Table5:Sample Pearson's correlation coefficient@ between personality traits, coping methods, and GHQ scores

GHQ-28–General health questionnaire-28; *Correlation is significant at the 0.001 level (2-tailed); Correlation is significant at the 0.05 level (2-tailed)

	Problem solving	Positive distraction	Negative distraction	Acceptance/ redefinition	Religion/ faith	Denial/ blame	Social support	GHQ score
Psychoticism	0.258*	0.036	0.295*	0.045	0.032	0.288*	- 0.023	0.288*
Neuroticism	0.075	- 0.034	0.190 [†]	0.134	0.03	0.412*	- 0.033	0.603*
Extroversion	0.125	0.181	- 0.049	0.077	0.156	- 0.185	0.079	- 0.283*
GHQ score	0.062	- 0.040	0.404*	0.11	- 0.019	0.358*	0.086	1

A conceptual link was found between personality models and coping prescriptions to allow future research to focus on coping 'trait' complexes. [23] Carver et al. In a study on personality and coping, a meta-analysis linked optimism, extroversion, conscientiousness, and openness to more committed coping; neuroticism to more disengagement; and optimism, conscientiousness, and agreeableness unless disengaged. [9] Thus, we see that employees with neurotic and psychopathic traits are more likely to use maladaptive coping methods and are therefore more prone to stress. By using good coping skills, such as active distraction, extroverts are less likely to experience stress. This interplay of stress, personality and coping skills can provide us with important guidance for reducing stress in the selection and training of police forces. A study by Du Preez et al. Research on the personality and mental health of police trainees in India advocates the development of screening tools to identify vulnerable individuals during the screening process to prevent stress response problems later and to provide

additional training modules focusing on coping skills to reduce trainees' vulnerability to stress. [24]

Conclusions : In this study, police officers with high neurotic or psychotic traits were more likely to experience high psychological stress. People who use maladaptive coping methods such as denial/blame and negative distraction are also more likely to experience psychological stress when faced with difficulties at work. In this study, the relationship between personality traits and coping methods used by employees is evident.

Limitations: Because this study was conducted on a small sample, it should be replicated in other multicenter study samples.

Implications: Based on the finding of an association between certain personality traits and high levels of psychological stress, we can recommend that personality assessments be used as part of police recruitment tests. It is also useful to assess stress, personality and coping styles at different points in the service to identify maladaptive behaviors so that necessary corrective action

can be taken. Workshops could be held to teach positive coping techniques, such as yoga and meditation, to reduce police stress.

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Study of the Importance of HR Analytics in the IT Sector, Delhi-NCR

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Abstract: *HR-analytics is emerging as a novel way to first augment and later exploit the HR for organizational gains. The process of collecting and analysing talent data in order to improve critical talent and business outcomes is known as human resource analytics. So far, HR-analytics has been adopted by Western IT sector but off late is making its way in the Indian IT sector too. HR analytics leaders work with HR leaders to develop data-driven insights that can be used to inform talent decisions, improve workforce processes, and foster a positive employee experience. HR analysts are responsible for identifying and resolving HR-related issues while adhering to the organization's policies and objectives. With this scenario all the organizations and their respective departments want to leverage this data for the interest of their businesses. The paper aims to identify the application of HR Analytics in Human Resource practices, to examine the employee satisfaction with HR Analytics, to identify the correlation between employees' perception towards HR analytics and their satisfaction from it. The paper also intends to identify the levels of employee satisfaction from the HR analytics*

The paper is based on descriptive research design. Simple random sampling has been used to collect data and the sample size is 126. A multiple choice, structured questionnaire was used to collect data having three segments i.e., demographic profile of respondents, measure of employee' perception towards HR analytics and measure of employees' satisfaction from HR analytics. Data has been analysed using suitable statistical tools like descriptive statistics, ANOVA, graphical representations etc. It was found that employees have a very favourable perception towards the use of HR analytics tools in the organizations and are very satisfied with it. A high degree of positive correlation has been identified between employees' perception and employees' satisfaction

Key words: *HR Analytics, perception, employees' satisfaction*

INTRODUCTION: In today's world, it's difficult to find someone who hasn't heard of terms like big data, data science,



and analytics. With the introduction of new technologies and the way people interact with one another and with businesses, a massive amount of data is being generated, and the velocity and variety of data is increasing at an exponential rate with each passing day. With this scenario all the organizations and their respective departments want to leverage this data for the interest of their businesses. The process of collecting and analysing talent data in order to improve critical talent and business outcomes is known as human resource analytics. HR analytics leaders work with HR leaders to develop data-driven insights that can be used to inform talent decisions, improve workforce processes, and foster a positive employee experience. HR analysts are responsible for identifying and resolving HR-related issues while adhering to the organization's policies and objectives. Data and report analysis and evaluation, reporting findings to relevant managers, and making recommendations for changes and improvements HR analytics does not collect information about how your employees perform at work; rather, its sole purpose is to provide better insight into each of the human resource processes by gathering related data and then using this data to make informed decisions about human resource processes. HR-analytics is emerging as a novel way to first augment and later exploit the HR for organizational gains. So far, HR-analytics has been adopted by Western IT sector but off late is making its way in the Indian IT sector too. Present paper provides a captious-analysis of the HR-analytics in Indian IT sector and attempts to explore its approach towards analytics? development and application. Here, HR-analytics in Indian IT sector has a vast-potential but inadequacies in HR systems, teams and people skills. This calls for need to have rational HR professionals for strategic decision-making and competitive advantage, as we believe creative and innovative minds can generate the best economies in the world. To ensure the presence of such talent in the organization, we need good assessment tool as well.

Problem Statement: It has been observed that most of the time HR managers deal with lot of data through various business intelligence tools at their disposal but what is happening is they are dealing with data in isolation, so, they we're not in a position to pinpoint the various co-relations, patterns and predictions which can enable them to be more strategic. Hence to overcome

the challenges of understanding the full potential of data related to human resources from analytical this research attempts to study the IT sector in Delhi NCR and intends to understand not only the level of employees' perception but also their satisfaction from the HR Analytics.

Objectives:

The research aims at four main objectives, which is given below:

- To identify the application of HR Analytics in Human Resource practices.
- To examine the level of employees' perception towards HR analytics
- To understand satisfaction of employees with HR analytics on the basis of demographic profile
- To suggest measures to overcome issues related to adoption of HR Analytics

LITERATURE REVIEW: HR analytics are essential in solving HR-related problems and ensuring that they comply with the goals and rules of the firm. The study's main objectives are to identify the use of HR analytics in HR practices and, in addition, to look at employee satisfaction with HR Analytics. This study uses a descriptive research design and the simple random sampling method as its research methodologies. utilizes a variety of data collection approaches, such as observations, surveys, interviews, and historical records. The results show that HR analytics boosts hiring, expedites decision-making, boosts productivity, and more. Last but not least, by providing a thorough definition, this study clarifies how HR analytics should be conceptualized. It also makes business easier. (Nagpal).

The strategic importance of human resource management (HRM) to senior management leaders has been highlighted by the emergence of human resource analytics as a new trend and challenge in the corporate setting. The five goals of this essay are as follows: 1) What HR analytics are and how important they are; 2) How HR analytics works; 3) Potential HR questions that HR analytics could be able to address; 4) A new paradigm for HR analytics; and 5) HR analytics challenges. To accomplish the stated goals of the paper, a

thorough literature review analysis was conducted. This study is conceptual in nature because it examines several elements related to HR analytics, such as definitions, importance, processes, models, problems, etc. Research methods and sophisticated statistical techniques are applied in HR analytics. (Opatha, 2020)

The twenty-first century with the best use of technological advancements, human resource management is becoming more efficient. Organizations strive for much more intelligent decisions, from finding the right talent to retaining the best talent. HR decision-making is heavily influenced by trust and relationships, unlike in other fields. Other management functional areas in our opinion, the field of human resources has been largely ignored analytically. Compared to other functional areas, however, the right people are required for every business operation to be successful results. However, following the Great Recession of 2008, most organizations recognized the importance of accurate data. People management practices that are supported by evidence. Fortunately, big data in HR has provided evidence-based HR analytics. Based on the HRM concept, data is required in HR to make sound decisions. (Edwards, 2022)

Our analysis of these articles addresses the following five issues: (1) What is HR Analytics (and how has its definition evolved)? (2) How does HR Analytics work (what processes are involved)? (3) What theories explain cause-effect relationships, antecedents, and consequences in HR Analytics? (4) What do the results of HR Analytics look like? (5) What are the prerequisites for HR Analytics success (what are the moderators of the analytics-outcome relationships)? We conclude that, despite evidence linking HR Analytics adoption to organizational success. (H. Marler, 2016)

Any organization's human resources (HR) department is crucial. In addition to information, it also delivers technical skills and abilities that are crucial for any firm to succeed over the long term. For organizations, evaluating the caliber, standing, and future prospects of human capital has always been difficult. The HR assessment has historically been done manually, which involved a lot of subjectivity. But as technology advanced, the application of sophisticated data mining analytics techniques to HR data gave analytics—now known as HR-analytics—a

new form. HR analytics is currently becoming a fresh approach to first enhance and then utilize the HR for organizational gains. HR analytics has so far only been used in the Western IT sector, but it has just started to spread to the Indian IT sector as well. current document. (Maria, 2016)

Big data and the revolutionary potential of HR analytics are hot topics in the HR profession. Optimistic reports that herald HR analytics as a "must have" capacity and guarantee HR's future as a strategic management function while improving organizational performance are refuted by this article. It contends that current HR analytics strategies are unlikely to result in revolutionary change unless the HR profession becomes aware of both the benefits and downsides of this burgeoning discipline and interacts operationally and strategically to develop better methodologies and approaches. In fact, it's feasible that present trends may cement HR's exclusion from strategic board-level influence while actively harming the interests of employees and contributing little to organizational success. (Charlwood, 2016)

Over the past ten years, Human Resource (HR) Analytics has drawn more and more attention. This is due to the use of data-driven methodologies by the study field, which are then processed and analysed to provide insightful human resource information. The discipline is involved in HR decision-making and aids in understanding why individuals, groups, or other corporate performance behave in the manner they do. Incorporating the decision-making and learning tools from computational intelligence (CI) and artificial intelligence (AI) into the HR area opens up a wide range of potential for HR Analytics. There are, however, currently insufficient applications in this field. This essay provides a survey of the tools and their uses in the HR fields of incentive, retirement, retention, and recruitment. (Sooraksa, 2021)

Analytics are used by high-performing businesses to support rational decision-making. However, many firms' human resource (HR) departments have been sluggish to implement this innovation. In order to determine why the adoption rate of HR Analytics is low, this study employs innovation theory, which is guided by the Theory of Planned Behaviour (TPB), to evaluate the individual's choice to embrace HR Analytics. We looked at the first two stages of the individual decision-making process,

from Stage 1 (knowledge) to Stage 3 (the choice to adopt or reject the innovation). We identified numerous spots along the way that could serve as obstructions or facilitators. To encourage the adoption of HR analytics, businesses and innovators can take steps to eliminate as many of these roadblocks as possible. (Vargas, 2018)

RESEARCH METHODOLOGY

The paper is based on descriptive research design. Simple random sampling has been used to collect data and the sample size is 126. A multiple choice, structured questionnaire was used to collect data having three segments i.e., demographic profile of respondents, measure of employee's perception towards HR analytics and measure of employees' satisfaction from HR analytics. Data has been analysed using suitable statistical tools like descriptive statistics, ANOVA, graphical representations etc.

DATA ANALYSIS & INTERPRETATION

TABLE 1: DEMOGRAPHIC PROFILE OF RESPONDENTS

Parameters	Category	N	% of Respondent
Gender	Male	64	49.20%
	Female	62	50.80%
Age	18-25	57	45.20%
	26-35	63	50%
	36-45	6	4.80%
Income	3 LPA -6 LPA	41	33.60%
	7 LPA -14 LPA	61	50%
	15 LPA -25 LPA	20	16.40%
Qualification	Graduation	78	61.90%
	Post-Graduation	48	38.10%

From the above table, it can be inferred that there is almost equal distribution of males (49.2%) and females (50.8%). Most of the respondents are in the age bracket of 26 to 35 years (50%). The maximum respondents had an annual income of 7 to 14 Lacs and were post graduates (61.9%)

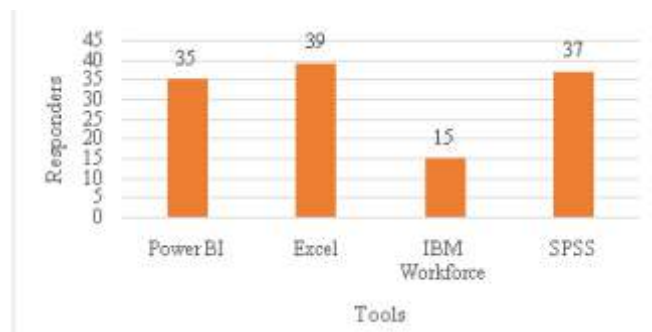


Figure 1: Tools of HR Analytics

The above graph shows that Excel is the most common platform used for the HR Analytics related operations, followed by SPSS, Power BI and IBM workforce.

TABLE 2: EMPLOYEES' PERCEPTION TOWARDS HR ANALYTICS (HRA)

Parameter	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Effective solution to HR processes	8	62	26	4	0
Real time updates	8	56	36	0	0
Secure & reliable connection with data in the cloud	4	56	40	0	0
Quick deployment & hybrid configuration	12	56	32	0	0
Creates web content, images, text box & integral URL's	8	56	40	0	0
Tools are simple to use	10	62	26	0	0
Combines business analytics and data visualization	12	68	20	0	0
Helps in goal achievement & competitiveness	8	52	36	4	0

From Table 2, it can be easily interpreted that employees have a favourable perception towards HRA on almost all the parameters. The proportion of employees having agreeability towards is more than 60% in all aspects.

TABLE 4: LEVEL OF EMPLOYEE'S PERCEPTION TOWARDS HRANALYTICS

Level	Count	%
Favourable	88	69.84%
Neutral	38	30.16%
Unfavourable	0	0.00%
Total	126	

For the purpose of measuring the level of employees' perception towards HR analytics, three levels were identified on the basis of the responses given by the respondents. There were 9 statements measured on the scale of 1 to 5. Range was between 9 to 45. The score between 9 to 20 was considered as unfavourable, 21 to 33 was labelled moderate and 34 to 45 was referred as favourable. We find that about 70% employees have favourable perception towards HRA and 30% have moderate level of perception. Not having any respondents in the 'unfavourable category, reflects the importance and value associated with HR analytics.

We can infer from table 5 that employees are highly satisfied with the HR analytics tools and its applications. Only 2% respondents have shown some dissatisfaction in terms of skill gap identification.

TABLE 5: SATISFACTION WITH HR

Parameter	Highly satisfied	Satisfied	Average	Dissatisfied	Highly Dissatisfied
Ease in the task completion	12	66	22	0	0
Time effectiveness	12	68	20	0	0
Ease of learning	8	70	8	0	0
Improvement in job performance	6	60	32	0	0
Value addition	12	120	64	0	0
Performance appraisal	14	62	24	0	0
Skill gap identification	10	58	30	2	0
Other HR functions	8	58	28	6	0
Overall satisfaction with HRA	6	66	26	0	0

TEST OF HYPOTHESES

Hypothesis: There is no significant influence of demographic variables on satisfaction with HR Analytics.

On the basis of above table and test result we can establish that demographic variables have statistically significant effect on employee's satisfaction with HR Analytics. Since the p value is less than .05 (level of significance), we will reject the hypotheses that 'there is

TABLE 6: TEST OF HYPOTHESES

Demographic variable	Test	P Value	Remarks
Age	ANOVA	.028	Hypothesis is rejected
Annual Income	ANOVA	.007	Hypothesis is rejected
Gender	T-Test	.046 (t=2.013)	Hypothesis is rejected
Education Qualification	T-Test	.045(t=2.025)	Hypothesis is rejected

no significant difference in the satisfaction with the HR analytics on the basis of demographic variables like age, annual income, gender and educational qualification'. We can further establish that people belonging to different demographic profiles may have difference in their satisfaction from the HR Analytics.

FINDINGS: On the basis of the above analysis it could be established that organizations are favouring the usage of HR analytics in their HR processes and the most commonly identified platform is Excel. Respondents have specially exhibited very favourable opinion towards HRA in terms of combining business analytics and data visualization, and use of HRA as an effective solution in not only managing and analysing data but also to arrive at evidence-based HR decisions. It has been further found that employees not only perceive HRA favourably but they are also quite satisfied with the application of HRA. More than 60% respondents have expressed their satisfaction from HRA in terms of ease in task completion, timely completion of work, improvement in the job performance, overall value addition to the employees, and in terms of specific HR functions like performance appraisal and skill gap identification.

Transitioning HR function from a traditional to more data enabled function is full of pitfalls and challenges. This occurs generally because the range of components, tools and personnel involved within the process spreads across the entire organisation. It can become quite overwhelming to implement such solutions without a proper planning and execution strategy. Many ventures fail due to this. It was also found that despite very high appreciation for the HR analytics, employees /organizations do face a number of barriers in the implementation and adoption of HRA. Some of these barriers were technology, training, cost, maintenance, capability, privacy, etc. It becomes imperative for the organizations to first of all train and reskill their employees. There is also a need to move the traditional HR functions absolutely on the analytics enabled platforms. For HR analytics to be effective it is important to identify key HR metrics and develop processes and measure them. Above all, it is very important to develop right kind of attitude and capability to handle and manage data.

CONCLUSION: HR analytics is a crucial tool for organizations in the IT sector, particularly in Delhi-NCR, which is a hub for IT companies in India. In recent years, there has been a growing recognition of the value of HR analytics in the industry, as it enables companies to make data-driven decisions to attract and retain talent, optimize workforce productivity, and improve employee engagement.

One of the key benefits of HR analytics is that it provides organizations with insights into their employee's behaviour, performance, and preferences. This can help companies identify skill gaps, training needs, and areas for improvement, enabling them to develop more targeted and effective employee development programs. In addition, HR analytics can help organizations to improve their hiring processes by identifying the most successful recruitment channels and techniques, as well as analysing the performance and potential of new hires. This can help companies reduce turnover rates and improve the quality of their workforce. Furthermore, HR analytics can help companies to optimize their workforce planning and resource allocation by predicting future trends and demands. This can enable organizations to identify potential staffing shortages and take steps to address them before they become a problem. Overall, HR analytics is a valuable tool for IT companies in Delhi-NCR, as it can help them to make better decisions, improve employee engagement and retention, and optimize their workforce planning and resource allocation. As the IT sector in the region continues to grow and evolve, it is likely that the use of HR analytics will become even more widespread and important for organizations looking to stay ahead of the curve.

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Analysis of Big Data BI Tools Using Technology Acceptance Model in Hospitality Industry

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Abstract: BI Tools for business intelligence (BI) are pieces of software that speed up the examination of massive amounts of data. Any organisation or industry can analyse data more quickly by using big data business intelligence (BI) solutions. Due to a lack of user acceptance, organisations or users find it difficult to maximize the benefits of BI tools after their introduction, which served as the impetus for this study. To analyse the factors impacting the end users of big data BI Tools, this study was conducted in a prominent hospitality industry in Mysore, Bangalore. This study started with a literature review utilising TAM model in the hotel industry, which helped to gradually identify important factors influencing the adoption and satisfaction of hospitality industry BI Tools. A questionnaire was created based on the criteria found, and the data was then reviewed using IBM Statistics SPSS 25 and data analysis software like JMP. There have been tests for dependability, factor analysis, descriptive statistics, regression analysis, and SEM bootstrapping. The test revealed five crucial factors, including attitude, perceived utility, perceived usability, perceived simplicity of use, perceived hazards, and desired results, that impacted end users' acceptance and satisfaction with big data BI tools. The majority of respondents to this study used BI tools regularly, although they did not fully utilise the functions of their Big Data BI solutions.

Keywords: Big Data Analytics, KMO, Factor Analysis, Structural Equation model.

1. Introduction

Business and process management systems containing integrated sets of applications. The applications are used as aver all business processes & functions in organizations. The functionality of these sets is to facilitate the flow of data among different departments and processes, so that processes are integrated in the same system, and data are stored and retrieved from one source. This unification helps in improving the quality of data, enhancing the performance of processes, and reducing the time of the business cycle. Big data is a group of large and complicated records units and records quantity that encompass the big portions of records, control capabilities, social media analytics and real-time records. Big records is ready records quantity and massive records set's measured in phrases of terabytes or petabytes. This phenomenon is known as Bigdata.BI and Big data have been phenomenon over past two decades, although there's great advancement in technology at the same time business data is growing at the same time.

Systems for Big Data BI Tools are regarded as essential for any advanced firm. The market for Big Data BI Tools is quickly growing to be the biggest in the IT industry, and its suppliers are the top suppliers overall.

Therefore, as record lengths grow over time, the corporate sector will need competitive intelligence to ensure its continued survival. Business knowledge devices (BI apparatuses) are created with the primary goal of recovering, modifying, and screening data from an organisation in order to get business knowledge. It includes techniques like reporting, visualisation, OLAP, data mining, machine learning, analytics, and so forth.

2. Summary of literature Review

The theoretical basis to the research subject is presented in Chapter 2. By outlining the variables that affect end users' acceptance of Big Data BI Tools from earlier study, the literature responds to the research questions. Perceived usefulness, perceived ease of use, attitude,

perceived risks, and intended outcome are the contributing elements. Additionally, it offers different management techniques that management may use proactively to make sure that Big Data BI Tools are successfully applied in the healthcare sector.

- The majority of end users of big data BI tools are unaware of the applications for using them and the advantages they have for the company. The majority of employees using big data BI tools don't use all of their features.
- Because of this, management's ability to make decisions is limited. Management is having a difficult time understanding the elements that affect the utilisation of Big Data BI Tools by its users. On the basis of the firm investigation, the aforementioned research deficiencies are noted.

3. Identification of Research Gap

- Analytical techniques could test the research model using a larger data set to deliver more comprehensive results.
- This research survey's responses are greatly influenced by psychological elements such as attitude, perception of the respondents as employees or respondents in the business, learning, and motivation.

4. Objectives of the Study

- To study and analyze existing big data BI tools in Windflower resort and Spa.
- To identify the factors for user acceptance and satisfaction of current big data BI tools in Windflower resort and Spa.
- To analyze and access the selected factors for user acceptance and satisfaction of current BI Tool in Windflower resort and Spa.
- To recommend and suggest the ways of improving the usage and user satisfaction based on results opted.

Scope of the Study

To study and analyse the Big Data BI Tools in Windflower resort and Spa using TAM and to suggest the ways to improve the efficiency and effectiveness of Big Data.

5. Conceptual Model

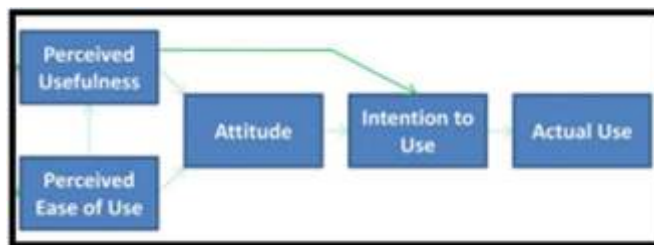


Figure 1 Conceptual Mode

Factors Identified

- **Perceived Ease of Use**
The extent to which a person thinks adopting a certain system would be effortless.
- **Perceived Usefulness**
The extent to which a person thinks using a specific method would improve his or her effectiveness at work.
- **Facilitating Conditions: Attitude**
Your own opinion or interpretation of something the uncertainty a user of Big Data.
- **Perceived Risks**
The Data BI technologies may experience.
- **Intended Outcomes**
The Responses from the respondents' results.

6. Sample size:

It is the process of selecting representative subset of a total population for obtaining data for the study of the whole population the subset is known as sample. The sample size is selected for the study 82 respondents.

7. Questionnaire Design

The questionnaire contained measure for gender, age, monthly income, occupation, education qualification and marital status. The objective was to study the factors

8. SPSS & JMP Software Data Analysis Results and Interpretations

Reliability test is used to know the consistency level of the data gathered for the analysis. Cronbach's alpha test is used to measure the internal consistency of the data, this test enables to know how items are as a group in given data. This is considered to be the measure of scale reliability.

Cronbach's alpha can be written in the following function of the numbers of test items and the average inter correlation among the items.

$$\text{Formula: } \alpha = ((N * c)/v + (N - 1) c)$$

Table 1. Case Processing Summary

Case Processing Summary

		N	%
Cases	Valid	82	100.0
	Excluded	0	.0
	Total	82	100.0
a. Listwise deletion based on all variables in the procedure.			

Table 2. Reliability Statistics

Reliability Statistics

Cronbach's Alpha	N of Items
.964	21

Here, the value of N is equal to the number of total items, c is considered as the total average interitem covariance among the total items and v is consider as the equals of average variance. In general, the rule of thumb says that the Cronbach's alpha which is 0.70 and above is considered to be good, 0.80 and above is considered better, and 0.90 and above is considered as best values.

Factor Analysis:

Factor analysis is a method of data reduction. There are also many different types of rotations that can be done after the initial extraction of factors, including orthogonal rotations, such as varimax and equimax, which impose the restriction that the factors cannot be correlated, and oblique rotations, such as Promax, which allow the factors to be correlated with one another

Kaiser-Meyer-Olkin Measure of Sampling Adequacy

– This measure varies between 0 and 1, and values closer to 1 are better. A value of .892 is a suggested minimum.

Bartlett's Test of Sphericity – This test the null hypothesis that the correlation matrix is an identity matrix. An identity matrix is matrix in which all of the diagonal elements are 1 and all off diagonal elements are 0. You want to reject this null hypothesis.

Table 3. KMO and Bartlett's Test of Sphericity

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.892
Bartlett's Test of Sphericity	Approx. Chi-Square	1909.167
	df	190
	Sig.	.000

The result of KMO is 0.892

Bartlett's test of sphericity will test the hypothesis of the correlation matrix which identity matrix, which would indicate that variables which are unrelated and therefore that will be unsuitable for structure detection. Small values i.e., less than 0.05 will give the significance level, which indicates that a factor analysis may be useful with data. The resulted Bartlett's value is 0.000.

Structural Equation Modelling (SEM)

Structural equation modelling (SEM) is a long-established method for multivariate systems modelling that has seen significant adoption in the behavioural and social sciences. The reason for its popularity in these fields is largely due to its simple visual representation of complex multivariate systems. SEMs are ideal for understanding complex relationships between variables, allowing these complex relationships to be explained to those who have little experience in the field of modelling or in systems of equations. Not only this, but SEM allows the indirect effect of variables to be determined quantitatively, as well as allowing any variable to be modelled as both an input and an output. As a result, SEM can pick up on relationships that may otherwise be missed or confounded when using traditional modelling methods.

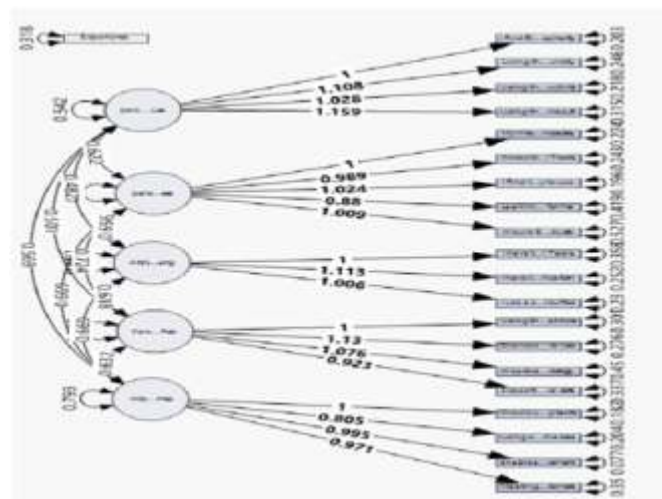


Figure 2 SEM of big data analytics for promotional tactics

Table 4 Model comparison

Model Name	-2 Log Likelihood	Number of	AICc	AICc Weight	BIC	ChiSquare	DF	Prob>ChiS	CFI	RMSEA	Lower 90%	Upper 90%
Unrestricted	2754.9866	252	.	.	3865.48	0	0	.	1	0	0	0
Independence	4914.0853	42	5090.7010		5099.168	2159.099	210	<.0001	0	0.036	0.3236	0.3494
Model 1	3304.6975	72	4616.6981		3621.981	549.7109	180	<.0001	0.81	0.098	0.1433	0.1735

SEM basics

Path analysis was developed to quantify the relationships among multiple variables (Wright 1918, 1920, 1921). It was the early name for SEM before there were latent variables, and was very powerful in testing and developing the structural hypothesis with both indirect and direct causal effects. However, the two effects have recently been synonymized. Path analysis can explain the causal relationships among variables. A common function of path analysis is mediation, which assumes that a variable can influence an outcome directly and indirectly through another variable. For example, Customer Sales Promotion, Customer buying behaviour and Customer Performance & Satisfaction can influence big data analytics for promotional tactics indirectly through Demographic Factors yet Sales promotion, buying behaviour and Performance & satisfaction can influence Demographic Factors directly (Figure 4.5.2, Shao et al. 2016).

9. Results:

An SEM report should include all the estimation and modelling process reports. However, most publications did not include a full description of the results for their hypothesis tests. Some publications provided their SEMs based on a covariance matrix, while even fewer studies reported the exact input covariance or correlation matrix. No study reported the multivariate normality, absence, or outliers of their data. The majority of the papers (82.2%) reported the path coefficients, but very few reported both unstandardized and standardized path coefficients. A small percentage (8.9%) of the publications reported the standard error for the path coefficient. The basic statistics (i.e., p value, R², standard errors) are of equal importance as the overall fit indices because they explain the validity and reliability of each path, providing evidence for when the overall fit is poor (Kline 2010; Hoyle

2011). Hoyle and Isherwood (2013) suggested that a publication with an SEM analysis should follow the Journal Article Reporting Standards of the American Psychological Association. The reporting guidelines are comprised of five components (McDonald and Ho 2002; Jackson et al. 2009; Kline 2010; Hoyle and Isherwood 2013):

1. **Model specification:** Model specification process should be reported, including prior knowledge of the theoretically plausible models, prior knowledge of the positive or negative direct effects among variables, data sampling method, sample size, and model type.
2. **Data preparation:** Data processing should be reported, including the assessment of multivariate normality, analysis of missing data, method to address missing data, and data transformations.
3. **Estimation of SEM:** The estimation procedure should be reported, including the input matrix, estimation method, software brand and version, and method for fixing the scale of latent variables.
4. **Model evaluation and modification:** The model evaluation should be reported, including fit indices with cut off values and model modification.
5. **Reports of findings:** All of the findings from an SEM analysis should be reported, including latent variables, factor loadings, standard errors, p values, R², standardized and unstandardized structure coefficients, and graphic representations of the model.

10. Discussions and Recommendations

- To Survey research was undertaken to determine the aspects related to technology acceptance that affect users' pleasure.
- Four elements that affect a Big Data BI tool's user acceptance and satisfaction were found by analysing the survey data.
- One of the variables that shows the end user of BI Tools believes the usefulness of the Big Data BI Tools is vital for his or her work is perceived usefulness and intended outcome. Along with providing the staff with training and development

opportunities, management should do this to assist cut down on errors.

- Users believe that the system's user interface should be easy to use and understand, and that big data BI Tools software must have the option of automatic report generating.
- To keep end users engaged, management should promote user interaction. This is also another element that affects whether or not the end user will adopt the Big Data Bi Tools.

11. Conclusions

The Technology in the hospitality business is growing quickly, especially in e- booking, processing tracing systems, and data recording of customer information tracking. Compared to the previous decade, technology has been increasing for numerous benefits from use of them.

Furthermore, a lot of the Big Data BI tools are user-friendly, simple to use, and easy to comprehend. Since then, the adoption of technology has benefited both industry experts and clients in the hospitality sector. Professionals in the hospitality sector offer a variety of intervention programmes with the goal of preserving and tracking data, which is made possible by Big Data BI Tools.

12. Acknowledgements

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Stock Price Prediction an Intelligent Approach

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Abstract: Numerous research have been conducted to forecast stock price based on technical indicators, which only use historical stock price data. However, they don't always execute to a high standard. In this essay, the impact of combining technical, fundamental, and expert opinion market indicators for stock price prediction is studied. A fuzzy-neural network is fed input variables collected from various market hybrid indicators to increase the accuracy of stock price prediction. Empirical findings using publicly available stock data demonstrate the potential utility of the suggested methodology for enhancing stock price prediction precision.

Keywords : Stock Market, Forecast, Regression, Time-Series Prediction, LSTM.

1. INTRODUCTION

The stock market is known for being unexpected, non-linear, and dynamic. It can be difficult to predict stock values since they depend on a variety of variables, such as the political climate, the state of the global economy, the financial success of the firm, and more. Therefore, methods to anticipate stock values by looking at the pattern over the previous several years could prove to be quite helpful for making stock market moves, maximising profit and minimising losses. The stock price of a firm has traditionally been predicted using two major methods. In order to forecast the future price of a stock, technical analysis examines previous stock prices, such as closing and opening prices, volume traded, adjacent close values, etc. The second type of analysis is qualitative, and it is carried out based on outside variables like a company's profile, the state of the market, aspects related to politics and the economy, textual data in the form of financial news stories, social media, and even blogs by Analyst of economics. Modern day sophisticated intelligence methods based on either fundamental or technical analysis are employed to forecast stock prices. In particular, the data size is enormous and non-linear for stock market analysis. To handle this range of data, an effective model that can spot

hidden patterns and intricate relationships is required. In this substantial data set. In this field, machine learning algorithms have demonstrated gains in efficiency of between 60 and 86 percent compared to previous approaches

2. LITERATURE REVIEW

Hassan and Nath used the Hidden Markov Model (HMM) to estimate stock market values for four different airlines. The opening price, closing price, highest price, and lowest price are the four states that they break down the model's states into. The approach used in this paper does not require expert knowledge to develop a prediction model, which is a key strength. Although this research is restricted to the airline industry and evaluated on a relatively short dataset, it might not produce a generalizable prediction model. To conduct the comparison work, one strategy from works connected to stock market prediction could be used.

McNally et al. used RNN and LSTM to predict the price of Bitcoin. The feature engineering aspect was improved using the Boruta algorithm, and the result functions similarly to the random forest classifier. They chose the LSTM parameters using Bayesian optimization in

addition to feature selection. The Bitcoin dataset covered the dates of August 19, 2013, and July 19, 2016, inclusively. Used a variety of optimization techniques to enhance the effectiveness of deep learning techniques. The main issue with their work is over fitting. The research challenge of forecasting the Bitcoin price trend shares some characteristics with that of forecasting the price of stocks. Threats to this work include hidden characteristics and sounds contained in the price data. The study challenge was approached by the writers as a time sequence issue.

Long short-term memory (LSTM) was used by Fischer and Krauss to forecast the financial markets. They used the Tomson Reuters S&P 500 index components dataset. In order to remove survivor bias, they collected all month-end constituent lists for the S&P 500 from December 1989 to September 2015, then combined the lists into a binary matrix. The authors also employed RMSprop, a mini-batch variant of rprop, as an optimizer. The authors' use of the most recent deep learning technique to make predictions is this work's main strength. They relied on the LSTM approach despite having little prior experience in the financial industry. Despite the fact that the LSTM performed better than the conventional DNN and logistic regression algorithms, the author neglected to indicate the work required to train an LSTM.

Vinay Anand Tikkiwal, Deeksha Chandol, Mehar Vijha, and Arun Kumar accomplished in *Procedia Computer Science* 167 (2020) 599–606 Utilizing the already-existing variables, new variables were constructed to increase forecasted price value accuracy. ANN is used to forecast the stock's closing price the following day, and RF is also utilised for a comparative study. RMSE, MAPE, and MBE values were used in a comparison analysis. Clearly show that ANN provides better stock price prediction than RF. The best values achieved by the ANN model are RMSE (0.42), MAPE (0.77), and MBE, according to the results (0.013)

ANN and back propagation are used in the stock market prediction model 26th–28th July 2012, Coimbatore, India, ICCCNT'12. The artificial neural networks used in this prediction model potentially provide an overall prediction rate of 63% and market direction accuracy of 81%. Back propagation algorithm, which is not

frequently utilised, is employed in this study to train the data. This model provides a wealth of graphical output to help you see the outcome.

Using a neural network, predict stocks in real time. The 8th international conference on cloud computing, data science, and engineering was held in 2018. (Confluence) In order to calculate stock prices using a feed forward neural network, this article combines ideas such traded share volume in real time, number of transactions, and fluctuations in price analysis. For several stock models, the hidden layer neurons were individually tweaked. With an accuracy of 86.12%, ADBL was determined to have the most accurate results when modelled by a 3-20-10 network.

Audit Opinions are predicted using a multiple linear regression model. International Conference on Computing, Communication, Control, and Management 2009, organized by ISECS. This is a stock prediction model extension. In order to analyze the relevance and risk associated with auditing, this article has chosen those financial aspects that have a significant bearing on audit opinions. The most popular mathematical forecasting technique employed in this study is the mean squares and best fit method.

Simple Linear Regression for Stock Market Prediction. International Conference on Aerospace, Electronics, and Communication Technology (ICECA 2017)

The project predicts the behaviour of the TCS datasets using linear regression, and the end result is contrasted and assessed with the results of other methods. The model integrates methods for applying machine learning in the real world, such as gathering and analyzing a sizable dataset and employing a range of methods to train the model and forecast possible outcomes.

Prediction of the stock market using artificial neural networks. International Conference on Computer and Communications Technology 2017. The social media platform used for this project's sentiment analysis is used to accurately forecast or assess human behavioral patterns. The model can be used in a variety of contexts, including the stock market, finance, auditing, investment trends, and corporate strategy. The best accurate results in a large dataset are produced by an ANN employing deep learning and MLR and SVM.

Sentiment analysis-based stock market forecasting: a hybrid approach. Global Conference on Automation, Communication, and Computing (ICCCA2016)

To get a more accurate outcome, this model combines sentiment analysis and clustering algorithms. Since the hybrid model combines the advantages of both approaches, it is preferable to separate strategies. To anticipate the level of change, this model can be expanded. This can be done by forecasting the range of a stock's price movement, such as "extremely high," "little high," "little low," and "very low."

3. METHODOLOGY

This paper's main goal is to increase the stock price prediction's precision using a combination of technical indicators (quantitative data), fundamental indicators, and market analysts' judgement (qualitative data). The actions listed below were completed in the order specified in the subsection below to attain this goal.

3.1 Data collection and pre-processing.

Data selection and pre-processing are crucial step in any modelling effort. To generalize the new predictive model, different data set except for the banking sector, historical stock prices from various companies were gathered from the Nigeria Stock Exchange (NSE). Indices, which are obtained from published annual report, and expert's opinion, which are obtained from the stock market experts. The training and testing data sets are separated from the stock data.

3.2 Data Collection

From the Yahoo Finance website (<https://finance.yahoo.com>), we downloaded live datasets for the experimental investigation, including Google, Nifty, Reliance, etc.

Table 3.1 Google			Table 3.2 Nifty50			Table 3.3 Reliance		
Attribute Name	Min	Max	Attribute Name	Min	Max	Attribute Name	Min	Max
Open	87.74	1005.49	Open	87.74	1005.49	Open	205.5	3298
Low	86.37	996.62	Low	86.37	996.62	Low	197.15	3141.3
High	89.29	1008.61	High	89.29	1008.61	High	219.5	3298
Close	87.58	1004.28	Close	87.58	1004.28	Close	203.2	3220.85

Sample Input

Table 3.1 Sample Input

Date	Trade Open	Trade Low	Trade High	Trade Close
11-Jun-2021	2.524.92	2.498.29	2.526.99	2.513.93
10-Jun-2021	2.494.01	2.494.00	2.523.26	2.521.60
09-Jun-2021	2.499.50	2.487.33	2.505.00	2.491.40
08-Jun-2021	2.479.90	2.468.24	2.484.50	2.482.85
07-Jun-2021	2.451.32	2.441.07	2.468.00	2.466.09
04-Jun-2021	2.422.52	2.417.77	2.453.86	2.451.76
03-Jun-2021	2.395.02	2.382.83	2.409.75	2.404.61
02-Jun-2021	2.435.31	2.404.20	2.442.00	2.421.28

Fig 1 : Datasets for the study

3.3 LSTM Algorithm

The RNN method, which has the capacity to memories, is used by LSTM. Input, forget, and output gates are the three gates that make up each LSTM cell. The data that enters the LSTM network is divided into necessary and useless data, with the forget gate erasing the unnecessary data.

Applications for LSTM include time-series prediction, speech recognition, handwriting recognition, NLP, weather forecasting, and many others. enter the farm name, the name of the crop and all the information about it are given and also the weather at the time of planting. The crop as well as supplementary information about it. This information helps in planting the next crop

3.3.1 Forget Gate:

The cell state will be cleared of extraneous data using a forget gate.

1. The information that is useless or superfluous for the LSTM to understand things is removed by multiplying the concealed state by a sigmoid function.
2. By carrying out this action, the model will operate as effectively as feasible..
3. Two inputs are needed, $h(t-1)$ and x_t , where x_t is the input for the current cell and $h(t-1)$ is the output of the hidden state of the previous cell.

$$F_t = (W_{fx} * X_t + W_{fh} * h_{t-1} + b_f)$$

3.3.2 Input Gate:

1. The data that is added to this cell from the input must be under its control. The forget gate is utilized to filter some input.
2. Using the tanh function, a vector is constructed by combining all potential values from the current cell's input X_t and the preceding cell's hidden state $h(t-1)$ in the previous cell.
the $[-1, 1]$ range of the tanh function's output.
3. The sigmoid and tanh functions' outputs are finally multiplied and the result is added to the cell state.

$$It = \sigma(W_{ix} * X_t + W_{ih} * h_{t-1} + b_i) + \tanh(W_{cx} * X_t + W_{ch} * h_{t-1} + b_c)$$

3.3.3 Output Gate:

1. To build a vector containing every conceivable value, the Tanh function is applied to the cell state.
2. To filter the essential data from the previous cell, the sigmoid function is applied to the present cell's input x_t and the prior cell's hidden state $h(t-1)$.
3. The outputs of the sigmoid and tanh functions are now multiplied, and this output is sent as the hidden state of the following cell.

$$O_t = \sigma(W_{ox} * X_t + W_{oh} * h_{t-1} + W_{oc} * C_{t-1} + b_o)$$

Forget gate (F_t) is multiplied by prior cell state to produce intermediate cell state (C_t) (C_{t-1}). The output of the input gate is then added to this intermediate state.

$$C_t = F_t * C_{t-1} + I_t$$

It By dividing the output gate by the tanh of the cell state, the current hidden/output state is achieved.

$$h_t = O_t * \tanh(C_t)$$

4. SYSTEM IMPLEMENTATION

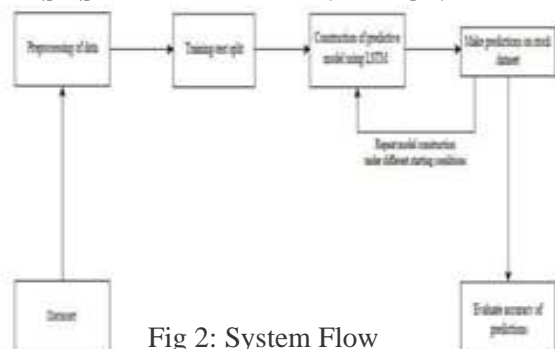


Fig 2: System Flow

4.1 Data Selection:

Choosing data for an organization and dividing it into training and testing is the first stage. 25% were utilized for testing, while 75% were used for teaching.

4.2 Pre-processing of data:

The additional qualities are not taken into consideration during pre-processing because we are choosing the traits that the algorithm needs. Trade Open, Trade High, Trade Low, Trade Close, and Trade Volume are the attributes that have been chosen. We use normalization during pre-processing to obtain numbers within a specific range.

4.2 Prediction using LSTM:

For stock value prediction in this system, we are employing the LSTM algorithm. The system first runs the training data through it to train the model. The anticipated values are then contrasted with the actual values during the testing phase

5. RESULTS:-

5.1 Google:



Fig 5.1.1 Google Graph

Table 1 : Performance measure for Google

epochs	Accuracy	MSE	RMSE
10	93.00717	207.6578	14.41034
20	94.01166	156.3873	12.50549
30	95.64188	105.3248	10.26279
40	95.59026	99.17409	9.958619
50	96.99466	62.24641	7.88964

The graph in the results displays the Trade Close value for the Google dataset and Reliance , as illustrated in Fig. 5.1.1 and Fig 5.2.1. The blue line in this graph represents the training data, and the projected values from the test data are represented by the yellow color. The accuracy, MSE, and RMSE values for the number of iterations are displayed in Table 1. And Table 2. (Epochs).

5.2 Reliance:

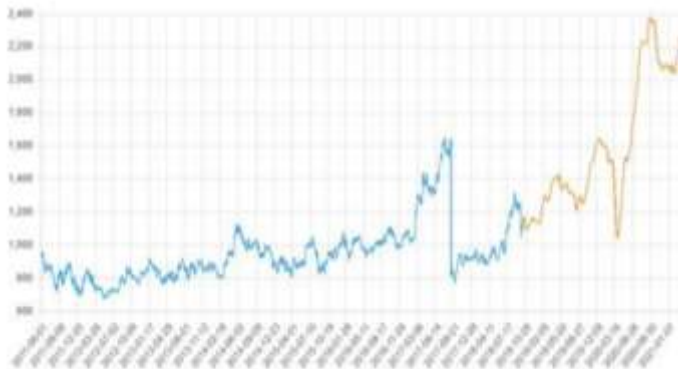


Fig 5.2.1 Reliance Graph

Table 2 : Performance measure for Reliance missing

epochs	Accuracy	MSE	RMSE
10	96.25328	4839.5690	69.56701
20	97.63884	2653.1278	51.50852
30	98.19937	1650.3337	40.62430
40	98.13571	1616.9295	40.21106
50	98.37254	1361.8098	36.90270

6. CONCLUSION

An improved predictive model for predicting stock price based on analysts' evaluations using technical and fundamental indicators is presented. This research differs from past studies in that it incorporated various market indicators to develop a stock price forecasting model. It specifically added a brand-new parameter called "expert's opinion." The proposed methodology outperformed the traditional method of using an LSTM model with technical indicators to increase stock price

forecasting accuracy, according to the empirical results.

Using the LSTM algorithm, we have developed a programmed for predicting close stock price. In order to forecast the closing stock price of any given firm. With datasets from Google, Nifty50, TCS, Infosys, and Reliance Stocks, we were able to reach above 93% accuracy. We can expand this programmed in the future to forecast bitcoin trade, Moreover, sentiment analysis can be used to make forecasts that are more precise.

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A Study of Passengers Satisfaction towards services of Maharashtra State Transport Corporation with reference to Sangli District

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Abstract: *The Maharashtra State Road Transport Corporation (MSRTC) or S.T is established by the State Government of Maharashtra. MSRTC is formed to provide proper coordinated transport services to people or passengers. S.T is called in Marathi Lal-Pari because it is part of the Common Man's life. People's first choice for traveling is S.T. MSRTC provides various types of services like Air Condition bus services, Semi-Luxury bus services, tours and Packages, City bus services, Parcel services, and Yatra services to the passengers. Customer Satisfaction is a major issue in service industry. This paper studies the current view of passengers. We can see that majority of the passengers are satisfied with the services, but they want more. This study highlights on the analysis of Customer Satisfaction of Satara district.*

Keywords: *Customer Satisfaction, Service Industry, Analysis.*

Introduction

India has a huge network of public transport systems. Transport is the Latin word 'Transporter'. Trans means 'across' and Porter means 'To Carry'. The network of the public transport system is connected to different parts of the country. There are three major types of public transport available in India. Air transport, Railway transport, and Road Transport. The number of people traveling by Air transport is limited because it is very costly and not affordable for common people. No people have used Railway and Road transport facilities because these two facilities are affordable for common people. Indian Railway is a carrier of goods and passengers. It occupies a very good position in the transport market. It started in the British period. It is an affordable and fast service to the people. Every ordinary man can be

traveling by Railway but the Railway Transport system cannot connect Rural areas and Villages. It is the main limitation of the Railway Transport system. Water transport is the oldest transportation method used by humans. Water transport is useful in transporting large quantities of materials. Petrol and chemicals are transported by water. India is registered as the second largest county in Asia. Water transport can possible in a limited area and it is a danger for travel because of the environmental condition. Road transportation plays a vital role in Human life. India's road transportation has a wide range of sectors. India is a growing economy. Road transportation is easy accessibility, reliable, and flexible and gives passengers door-to-door services. Road transportation plays an important role in a country's development. We know India is a country of villages and it is roads can connect villages. Due to Roads

development in the rural area is possible.

MSRTC is under State Government Hence Government provides a strong support system i.e. financial support. The main goal of MSRTC is all from a social point of view. MSRTC provides various concessions or schemes to passengers. Monthly, Three- Monthly, and Yearly passes as well as concessions for students, Senior Citizens, and Daily Passengers. It brings the new smart card system for the passengers. MSRTC plays a vital role in Employee's, working women's, and Student's life because they are strongly connected to S.T bus services. Students get more concessions for bus passes hence it helps them with education. In Maharashtra, a lot of Passengers daily travel with only MSRTC buses because of its easy Accessible, Relax-able traveling. MSRTC brings new buses like Shiv-Shahi, Ashwa-Medh, Vitai, and Asiad, and a new SHIVAEE Electric Bus coming to provide the best service to the passengers. For long-run travel, passengers choose Shiv-Shahi buses rather than private buses. S.T or Lal-Pari is affordable & safe for traveling as well as it creates Good-Will in people's mind and a Brand name. Privatization also affects S.T buses. We know, that Private Buses are competitors of the MSRTC buses they are attracting passengers towards us it is not good for S.T buses. MSRTC changes day by day because with globalization they attract maximum no passengers towards us. They try to give the best facilities to passengers. They know passengers are the main part of the S.T and their study satisfaction levels towards MSRTC services for improving themselves.

Statement of Research Problem

“A Study of Passengers Satisfaction towards services of Maharashtra State Transport Corporation with reference to Sangli District.”

OBJECTIVE OF THE STUDY

1. To know the Passenger's satisfaction with MSRTC Services.
2. To find the Role of MSRTC in the development of the Sangli district.
3. To know the expectations from Passengers and improvement towards MSRTC

Hypothesis

H0: There is no significance difference between distance travel and satisfaction level of passenger

H1: There is significance difference between distance travel and satisfaction level of passenger

Importance of the Study :MSRTC buses and Passengers both are correlated with each other. MSRTC plays important role in society so we can understand the gap between providing services and passenger expectations. It helps to get people the best quality services from MSRTC. Private travel companies are increasing day by day they focus on how to get maximum passengers hence they give the best quality services to the people. So, its bad effects on MSRTC because passengers shifted to another for travel hence MSRTC buses are not fully traveled which affects financial losses due to lack of passengers. So, finally how do attract and make retention of passengers towards MSRTC?

Scope of the Study: There is further scope for the study in Customer/Passenger satisfaction and perception towards MSRTC bus Services. Measuring Performance and Management of MSRTC services.

Geographic Scope: Sangli district is the Geographical scope for study.

Conceptual Scope: The conceptual framework for the study is Passenger satisfaction with MSRTC services and improving these services.

Analytical Scope: The study focuses on information that has been assessed using a variety of statistical methods, tools, and techniques including graphs, pie charts, and percentages. The Passengers survey provides data.

Periodic Scope: The periodic scope of this study is limited only 26 days.

RESEARCH METHODOLOGY

Data Collection

Primary Data: Primary data is collected through a questionnaire. Create Google forms and send them to the people. They fill up the questionnaire. Data is collected from MSRTC passengers.

Secondary Data: Secondary Data is collected through newspapers, MSRTC Reports, and websites.

Sampling: The sampling size is 384 unit of respondents. Population is infinite.

Data Analysis: Data has been analysed by using a statistical tool like graph, percentage.

Limitations

- The present study is limited only to the Sangli division or district.
- The present study focuses only on Bus facilities.
- Rules and Regulations of the MSRTC department.
- Sample size data should be infinite.

LITERATURE REVIEW

Introduction

The term 'literature review' also refers to the process involved in creating the review that appears in our project. It is an ongoing activity that begins when we pick up the first book or article related to our research and continues until the day, we finish the final draft. Initially, our literature review helps formulate research questions; at the same time, we begin to identify the relevant theories and related research studies to your own and the methodology you might adopt for your research.

Later, the literature assists in the analysis and interpretation of data. The literature review explores all aspects of the process including literature search strategies, systems for storing your key sources and notes, reading strategies, and techniques for writing the review. It provides historical background to our research as well as supporting evidence for a practical problem or issue that our research is addressing, thereby underlining its significance. The main motive behind the review of the literature is to identify the gap.

Review

1. **(Ingle Sangapal P, 2016)** - This study was conducted to know the Passenger's Satisfaction with MSRTC services and special references to the Buldhana district. This study is about

passengers' opinions of MSRTC's role in the development of the district and in providing valuable services to society. The majority of passengers are satisfied with MSRTC services. The researcher describes shortly the Passenger's satisfaction.

2. **(Dr. Prakash V Pise, 2020)** – This study conducted a study of the quality services provided by MSRTC with special references to the Pune district. This study examines public and private transportation services in the terms of passenger satisfaction and finds out the reasons for passenger dissatisfaction in the case of MSRTC as well as measures MSRTC services at various parameters. Through the questionnaire, the author has focused on five general dimensions of service quality Tangibles, Reliability, Responsiveness, Assurance, and Empathy.
3. **(ManishaKarne, 2003)** – This study examined the issue of splitting financial recovery as well as the possibility of an improvement in financial profitability. The focus of the study is the financial performance of the MSRTC. The author stated that MSRTC operators complete along 100% Nationalized routes in Maharashtra state it faces competition from Private Buses operators due to this effect on the financial performance of MSRTC.
4. **(S.N. Gawali, Y.M. Waghere, 2013)** – This research paper study of the MSRTC. The paper is an evaluation of the assorted services provided by State Transport to Maharashtra people. In Indian rural areas, people travel through state transport, and MSRTC also tries to produce good service to their passengers. If this transport service is going to be disconnected then it affects the routine of the people this purpose of research took some important data from the ST depot and through the Internet and also discusses with the people about the State transport service and trying to realize the objectives of the research paper.
5. **(Bagade M. V. (1980)** – This study was conducted on the "Management Information System for Passengers Bus Transport" special study of MSRTC. Use of Management Information

System in MSRTC websites. This is certainly not a new system. Many firms have a customer information system, accounting information system; marketing information System. With the coming of the computer age, management information systems have. The purpose of MIS is to report and is to provide the necessary information to the managers and supervisors at various levels to help them to discharge their functions of organizing, planning, control, and decision-making.

DATA ANALYSIS AND INTERPRETATION

Introduction

This chapter presents an analysis and discussion of the result. This chapter's analysis and discussion are based on replies to survey and interview questions as well as secondary data. The researcher analyzed the data received from the respondents and used a simple mathematical formula to calculate the average percentage.

Data Analysis and Interpretation

1 Gender-Wise Distribution

Gender	Respondents	Percentage
Male	260	67.71
Female	124	32.29
Total	384	100

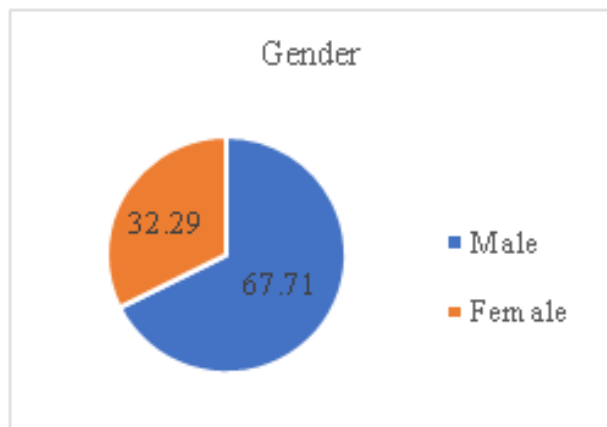


Table 5.2.1 indicates that 260 (67.71%) Respondents are Male and 124 (32.29%) Respondents are Female. Hence, it is found that male passenger are travel maximum by bus. So, MSRTC provide some concessions to females to increase the maximum passenger.

2 Occupation:

Occupation	Respondents	Percentage
Student	162	42.19
Employee	133	34.64
Businessman	6	1.56
Farmer	31	8.07
Housewife	51	13.28
Total	384	100

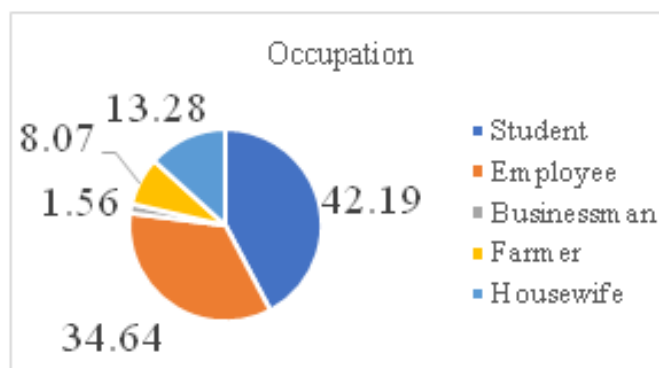


Table 5.2.2 indicates that 162(42.19%) Respondents are students, 133(34.64%) Respondents are Employees, 6(1.56%) Respondents are Businessman, 6(1.56%) Respondents are Farmer, 51(13.28%) Respondents are housewife's. Management thinks on how to attract maximum passengers from all background.

3 Mode of travel Preferred Most:

Mode of Travel	Respondents	Percentage
Public Transport MSRTC	293	76.30
Bike	50	13.02
Auto-Rickshaw	20	5.21
Car	21	5.47
Total	384	100

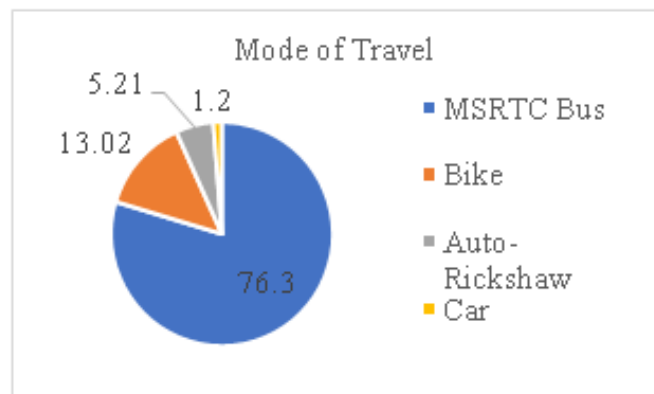


Table 5.2.3 indicates that 293(76.30%) Respondents travel by MSRTC bus, 50(13.02%) Respondents travel by bike, 20(5.21%) Respondents travel by Auto-Rickshaw, and 21(5.47%) Respondents travel by Car. After Covid-19 passengers move towards other resouces for travel. Hence, MSRTC increase the theirwoking capacity to attract the passengers.

4 Distance travel Preferred by Bus:

Distance Travel	Respondents	Percentage
1-10 km	13	3.39
11-70 km	290	75.52
71-150 km	57	14.82
Above 150	24	6.25
Total	384	100

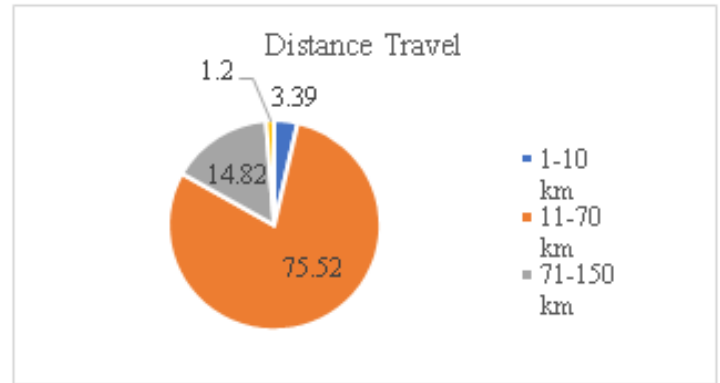


Table 5.2.3 indicates that 13(3.39%) Respondents prefer travel 1-10 km, 290(75.52%) Respondents prefer travel 11-70 Km, 57(14.82%) Respondents prefer travel 71-150 Km and 24(6.25%) Respondents prefer above travel above 150. It is found that maximum passenger travel to prefer 11-70 km distance. MSRTC management creates a long term plan for retention of the passengers to travel maximum distance.

5 Frequently Travel with Bus:

Frequently Travel	Respondents	%
Daily	235	61.20
Weekly	54	14.06
Monthly	26	6.77
Not Frequently	66	17.19
Not so Frequently	3	0.78
Total	384	100

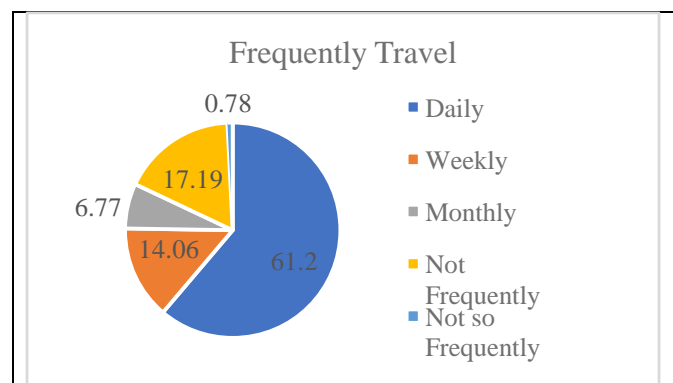


Table 5.2.5 indicates that 235(61.20%) respondents travel daily, 54(14.06%) respondents travel weekly, 26(6.77%) respondents travel monthly and 66(17.19%) respondents travel not frequently and 3 (0.78%) respondents travel not so frequently. It is found that maximum passenger travel daily by MSRTC bus. It is good but the maximum passengers are also use daily buses some scheme provide to them.

6 Buses travel to Prefer:

Buses Prefer	Respondent	%
Luxury(Shivshahi Bus)	26	6.77
Semi Luxury(HirkaniBus)	4	1.04
Vitai (Non-Ac Buses)	53	13.80
City Bus (Lal-Pari)	301	78.39
Total	384	100

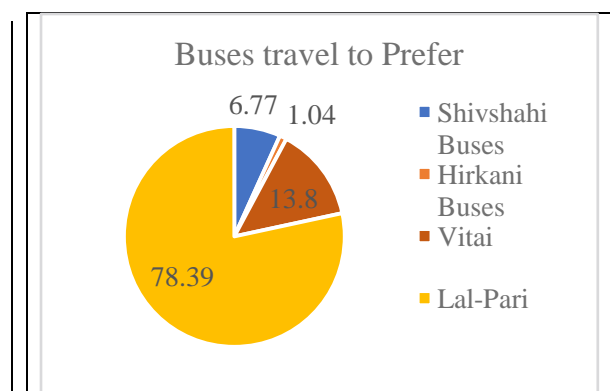


Table 5.2.6 indicates that 26(6.77%) respondent travel prefer luxury (Shiv-shahi buses%), 4(1.04%) respondent travel to prefer Semi-Luxury Buses, 53(13.80%) respondents travel to prefer Vitai buses and 301(78.39%) respondents travel to prefer City Bus (Lal-Pari). It is found that maximum passenger travel to prefer Lal-Pari buses. Lal-Pari is good option for common man but other buses are traveling with fulfilment.

7 Motive to Choose MSRTC bus for Travel:

Motive	Respondents	%
Affordable	52	13.55
Safe	78	20.31
Comfortable	30	7.31
All the Above	224	58.33
Total	384	100

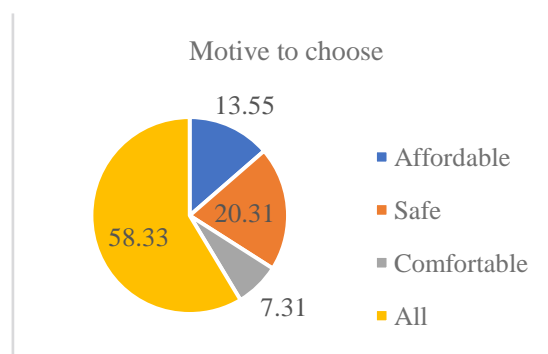


Table 7 indicates that 52(13.55%) respondents motive to choose MSRTC bus is affordable for travel, 78(20.31%) respondents motive to travel choose MSRTC bus is Safe, 30(7.31%) respondents motive to travel choose MSRTC bus is comfortable and 224(58.33%) respondents motive to travel choose MSRTC bus is all. It is found that maximum passenger motive to choose MSRTC it is affordable, safe and comfortable.

8 Facility/ Scheme uses Provided by MSRTC:

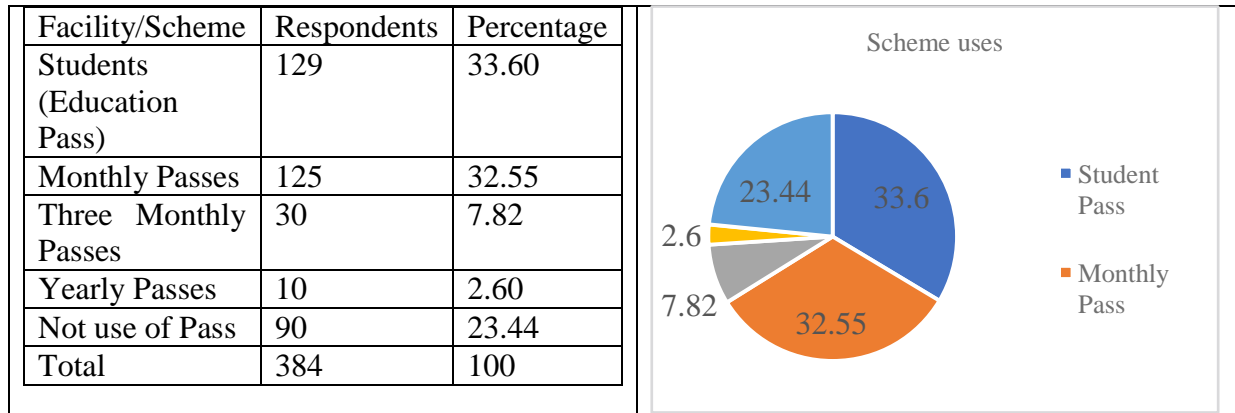


Table 5.2.8 indicates that 129(33.60%) respondents scheme uses student pass, 125(32.55%) respondents scheme uses Monthly Pass, 30(7.82%) respondents use three monthly pass, 10(2.60%) respondents

scheme uses Yearly passes, 90(23.44%) respondents not use any scheme or passes. It is found that maximum passenger uses students pass for education. Students are maximums attract towards

5.2.9 Opinion about MSRTC provides Valuable Service to Society:

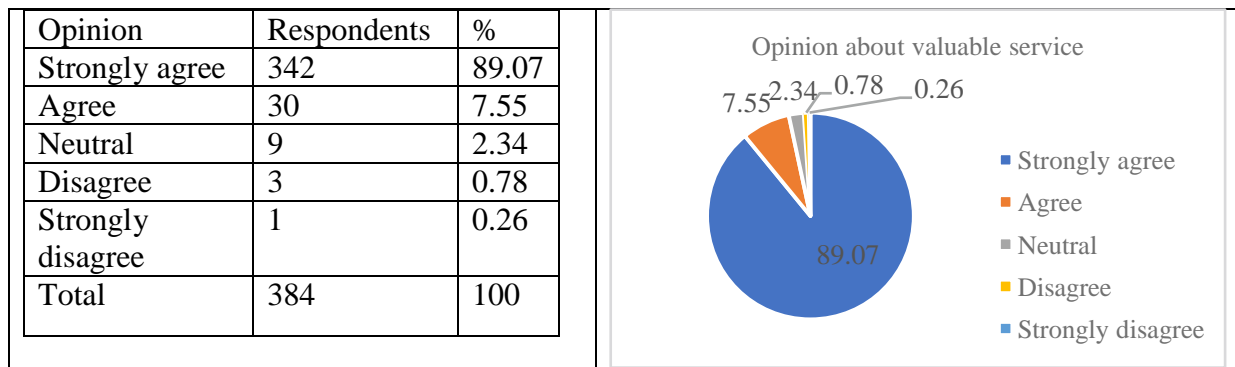


Table 5.2.9 indicates that 342(89.07%) respondents strongly agree, 30(7.55%) respondents are agree, 9(2.34%) respondents are neutral, 3(0.78%) respondents are disagree 1(0.26%) respondents are strongly disagree about MSRTC provide valuable

service to society. It is found that maximum passenger are strongly agree about MSRTC provide valuable service to society. It is found that maximum passenger are strongly agree about MSRTC provide valuable service to society.

5.2.10 Opinion about MSRTC provides a vital role in the development of District

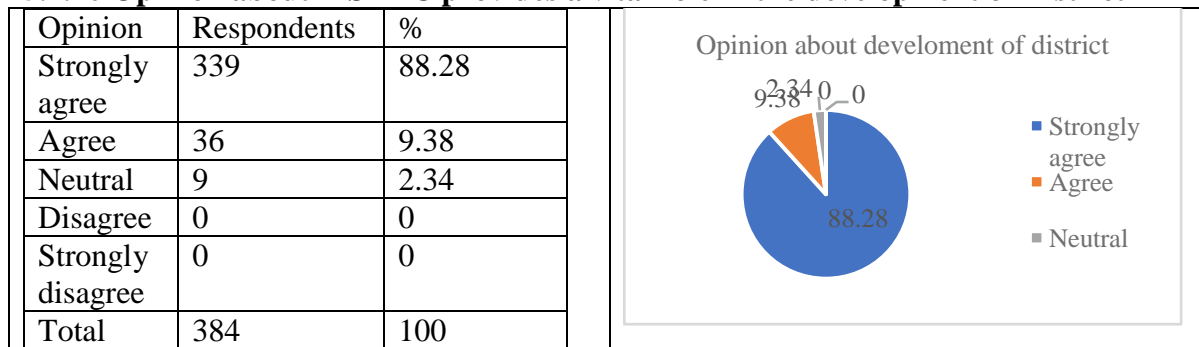


Table 5.2.10 indicates that 339(88.28%) respondents are strongly agree, 36(9.38%) respondents are agree, 9(2.34%) respondents are neutral 0(0%) respondents are disagree as well as 0(0%) respondents are strongly

disagree about S.T. provide important role in the development of District. It is found that maximum passenger is strongly agree about MSRTC provide important role in the development of District.

5.2.11 Satisfaction level of Passengers Regarding Maharashtra State Road Transport Corporation employee behaviour.

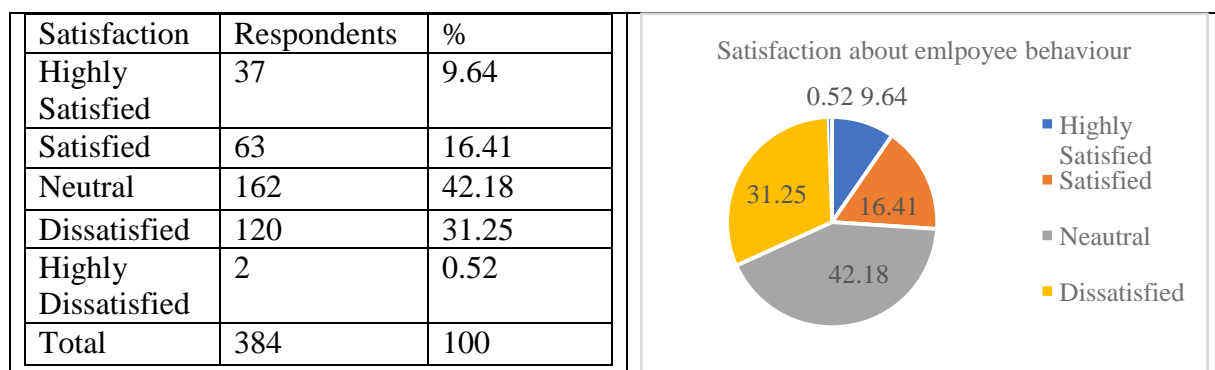


Table 5.2.11 indicates that 37(9.64%) respondents are highly satisfied about Maharashtra State Road Transport Corporation employee behaviour, 63(16.41%) are satisfied, 162(42.18%) are

neutral, 120(31.25%) are dissatisfied, 2(0.52%) are highly dissatisfied about Maharashtra State Road Transport Corporation employee behaviour.

5.2.12 Satisfaction level of Passengers Regarding service “Safe and Accident-free bus service”.

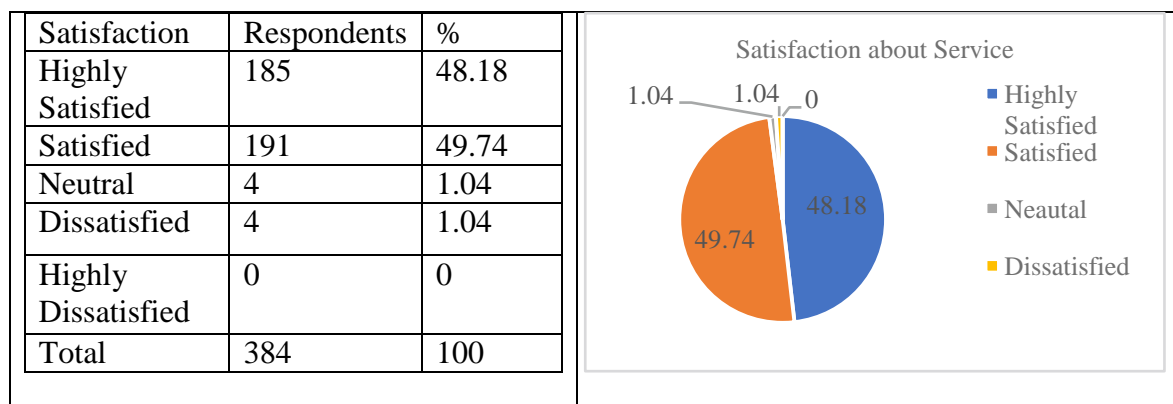


Table 5.2.12 indicates that 185(48.18%) respondents are highly satisfied with Maharashtra State Road Transport Corporation service “Safe and Accident-free

bus service”. 191(49.74%) are satisfied, 4(1.04%) are neutral as well as same highly dissatisfied about MSRTC service “Safe and Accident-free bus service”.

5.2.14 Satisfaction level of Passengers Regarding Punctuality.

Satisfaction	Respondents	%
Highly Satisfied	24	6.25
Satisfied	188	48.96
Neutral	49	12.76
Dissatisfied	120	31.25
Highly Dissatisfied	3	0.78
Total	384	100

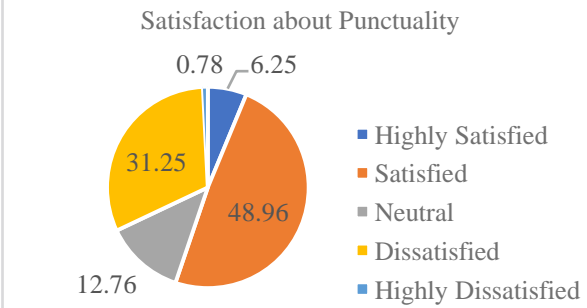


Table 5.2.14 indicates that 24(6.25%) respondents are highly satisfied, 188(48.96%) are satisfied, 49(12.76%) are neutral, 120(31.25%) are dissatisfied and 3(0.78%)

are highly dissatisfied about Maharashtra State Road Transport Corporation Buses Punctuality.

5.2.15 Satisfaction level of Passengers Regarding Value for Money.

Satisfaction	Respondents	%
Highly Satisfied	154	40.10
Satisfied	210	54.69
Neutral	18	4.69
Dissatisfied	2	0.52
Highly Dissatisfied	00	00
Total	384	100

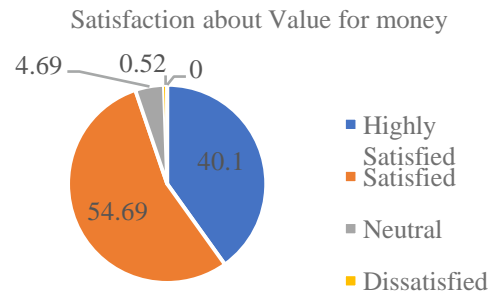


Table 5.2.15 indicates that 154(40.10%) respondents are highly satisfied, 210(54.69%) are satisfied, 18(4.69%) are neutral, 2(0.52%) are dissatisfied as well as 0(0%) are highly

dissatisfied about Maharashtra State Road Transport Corporation buses services are value for money.

5.2.16 Satisfaction level of Passengers Regarding alternate arrangements for uncertain cases.

Satisfaction	Respondents	%
Highly Satisfied	23	5.99
Satisfied	201	52.40
Neutral	56	14.58
Dissatisfied	104	26.83
Highly Dissatisfied	00	00
Total	384	100

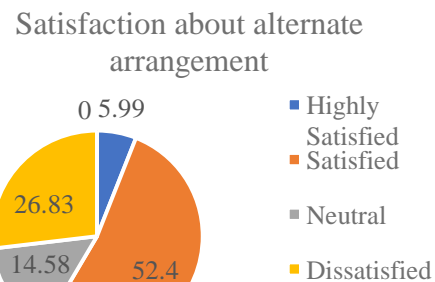


Table 5.2.16 indicates that 154(40.10%) respondents are highly satisfied, 210(54.69%) are satisfied, 18(4.69%) are neutral, 2(0.52%) are dissatisfied as well as 0(0%) are highly

dissatisfied about Maharashtra State Transport Corporation alternate arrangements for uncertain cases.

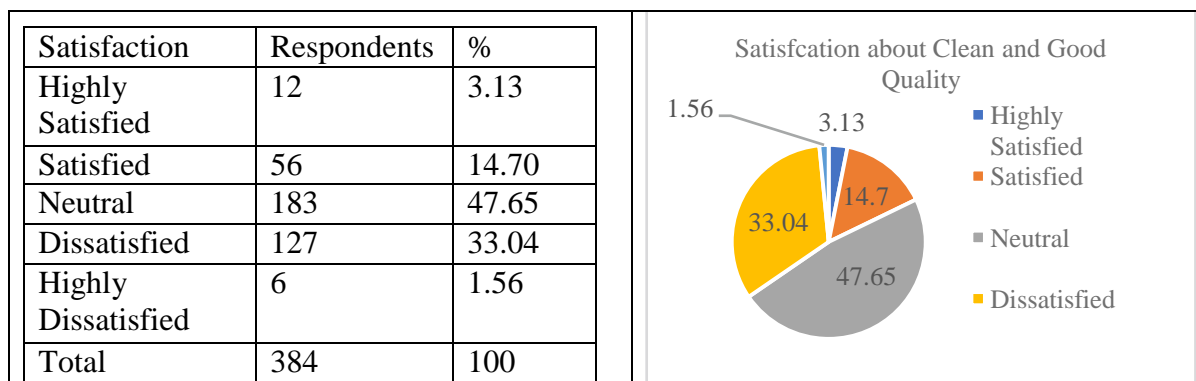
5.2.17 Satisfaction level of Passengers Regarding Clean and Good Quality of Buses.

Table 5.2.17 indicates that 12(3.13%) respondents are highly satisfied, 56(14.70%) are satisfied, 183(47.65%) are neutral, 127(33.04%) are dissatisfied as well as

6(1.56%) are highly dissatisfied about Maharashtra State Transport Corporation buses services are clean and good Quality of Buses.

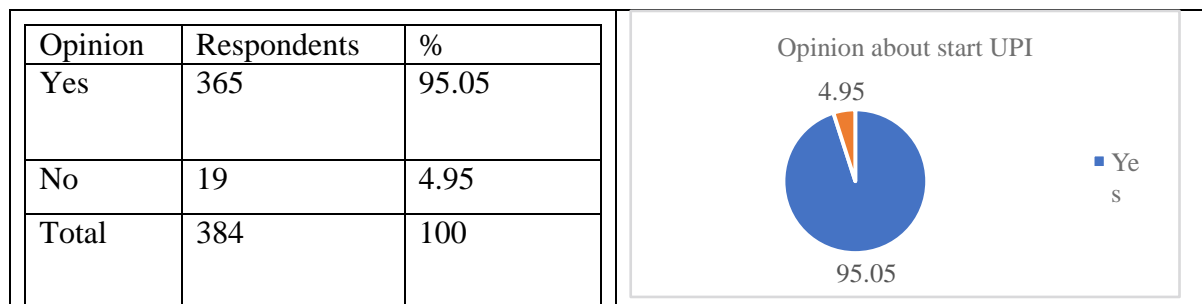
5.2.18 Opinion Regarding Start UPI Online Payment Mode in Buses.

Table 5.2.18 indicates that 365(95.05%) respondent's opinion is Yes to start UPI online payment mode in buses as well as 19(4.95%) respondents' opinion is No to start UPI onlinepayment mode in buses. It is

found that the maximum passenger wants to start UPI online payment mode in buses. Hence, it is MSRTC starts UPI payment mode.

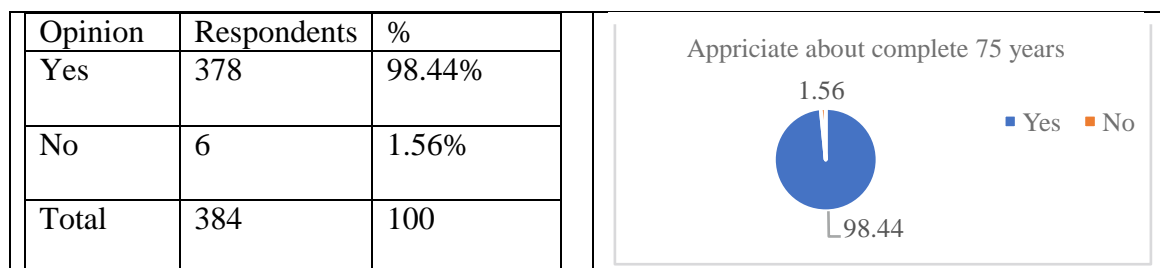
5.2.19 Appreciate Regarding Lal-Pari completing her 75 Years successfully despite Facing a lot of problems like Privatization, Strikes, Covid-19 situation.

Table 5.2.19 indicates that 378(98.44%) respondents' opinion is Yes as well as 6(1.56%) respondents' opinion is No about appreciate regarding Lal-Pari completing her

75 years successfully despite Facing a lot of problems like Privatization, Strikes, and Covid-19 situation. It is found that maximum passenger are appreciate.

FINDINGS, SUGGESTIONS AND CONCLUSION

6.1 Findings

1. It is found that the maximum number of male passengers are traveling by bus because men travel due to jobs and vice-versa females in minimum passengers because of society's culture effects on women are housewives. Hence men travel maximum by bus.
2. It is found that the maximum number of passengers is occupation is employees and students because of the benefit of the bus passes.
3. It is found that the maximum mode of travel prefers the Maharashtra State Transport Corporation bus because it is affordable for common man people, as well as Maharashtra State Transport Corporation provides concessions for passes.
4. It is found that the maximum distance traveled by bus is 11-70 km because of increasing Petrol prices are day-by-day hence Public Transport is affordable to people.
5. It is found that the maximum number of passengers traveling on a daily basis is because of employees on the job or personal work.
6. It is found that the maximum number of passengers traveling by City Bus (Lal-Pari) because of is affordable to all people.
7. It is found that the maximum number of passenger's motive to choose the Maharashtra State Transport Corporation bus is affordable, Safe, and comfortable to the passengers.
8. It is found that the maximum number of passengers use the scheme provided by Maharashtra State Transport Corporation are Students Pass as well as Monthly passes.
9. It is found that the maximum number of passenger's opinion that Maharashtra State Transport Corporation provides valuable service to society.
10. It is found that the maximum number of passenger's opinion that Maharashtra State Transport Corporation provides a vital role in the development of the district.

11. It is found that the maximum number of passenger's satisfaction with employees' behavior is dissatisfied.
12. It is found that the maximum number of passenger's satisfaction regarding "Safe and Accident-free service" is Highly satisfied.
13. It is found that the maximum number of passenger's satisfaction regarding Maharashtra State Transport Corporation Buses Information and Reservation is Highly satisfied.
14. It is found that the maximum number of passengers satisfied regarding Maharashtra State Transport Corporation buses punctuality are satisfied.
15. It is found that the maximum passenger is satisfied about Maharashtra State Transport Corporation buses services are value for money.
16. It is found that maximum passengers are satisfied about alternate arrangements for uncertain cases.
17. It is found that maximum passengers are neutral about Maharashtra State Transport Corporation buses services are clean and good quality of buses.
18. It is found that the maximum passenger wants to start UPI online payment mode in buses.
19. It is found that the maximum number of passengers are appreciate regarding Lal-Pari completing her 75 years successfully despite Facing a lot of problems like Privatization, Strikes, and the Covid-19 situation.

6.2 Suggestions

On the basis of responses taken from passengers of Maharashtra State Transport Corporation on the basis of the whole research work, the researcher has given suggestions for increasing the Passenger's satisfaction towards Maharashtra State Transport Corporation services.

1. As per the present research study, the maximum number of male passengers are traveling by bus hence I suggest that Management thinks about increasing the number of women passengers to provide a concession in bus tickets for them. Hence, it is very helpful to attract women

passengers as well as will help increase the revenue of Maharashtra State Transport Corporation

2. As per the present research study, the maximum number of passengers is occupation is employees, and students because of the bus passes concession hence I suggest that provides 4-5 days passes as well as a luggage facility to attract the farmers and small businessman.
3. As per the present research study, the maximum number of passengers prefer Maharashtra State Transport Corporation buses. I suggest that after the Covid-19 situation frequency of the buses is decreased day by day hence people move towards Auto-rickshaws as well as Taxi, and Bike. So, retention of passengers is important for Maharashtra State Transport Corporation management to think about increasing the bus frequency on time to attract passengers.
4. As per the present research study, the maximum number of passengers prefer 11-70 km which is very good but I suggest that for long-distance travel passengers, use private buses like Konduskar Travel. So, passengers' psychology Maharashtra State Transport Corporation buses are not good for long distances creates some issues which is a critical situation for Shiv-shahi buses. It will affect Maharashtra State Transport Corporation revenue.
5. As per the present research study, a maximum number of passengers use the scheme provided by Maharashtra State Transport Corporation are Students Pass as well as Monthly passes. I suggest that, the other passes scheme like Three-Monthly Passes and Yearly Passes not use properly by Passengers. So, management thinks on that some provided schemes are regenerate for passengers like special Yatra Passes, and Kokan Safar Passes.
6. As per the present research study, the maximum number of passenger's satisfaction with employees' behavior is dissatisfied. I suggest that, it is a very critical situation for Maharashtra State Transport Corporation because of that it will affect passengers' satisfaction. Sometimes the language of Maharashtra State Transport Corporation

employees with the passengers it very bad. It also effects on extra duties and stress of Maharashtra State Transport Corporation employees. Management thinks on that to train their MSRTC employees.

7. As per the present research study, that the maximum number of passenger's satisfaction regarding Maharashtra State Transport Corporation Buses Information and Reservation is only satisfied. I suggest that, Management thinks about that every bus stand creates a separate bus timetable board to the know the bus time as well as use the social media accounts, websites to know the passengers Maharashtra State Transport Corporation schemes.
8. As per the present research study, the maximum number of passenger's satisfaction regarding Maharashtra State Transport Corporation buses punctuality are satisfied. I suggest that, after the Covid-19 Maharashtra State Transport Corporation buses timetable do not follow the departments, they create new timetables and showed in the bus station to know the students, employees to reach their working places properly.
9. As per the present research study, maximum passengers are only satisfied about alternate arrangements for uncertain cases. I suggest that, sometimes Maharashtra State Transport Corporation buses are failed to travel like puncture or any situation but alternate arrangements are not properly managed it will create issues on students or emergency situations.
10. As per the present research study, maximum passengers are neutral about Maharashtra State Transport Corporation buses services are clean and good quality of buses. I suggest that, Management of Maharashtra State Transport Corporation thinks seriously on that because passengers complain about dirty seats, breaks the hold hands pipes as well as cleaning buses are not properly from employees.
11. As per the present research study, the maximum passenger wants to start UPI online payment mode

in buses. I suggest that, Maharashtra State Transport Corporation accepts online payment also because of that it will solve the change issues.

Conclusion

It is concluded that Maharashtra State Transport Corporation is a part of people's life. Everyone can be traveled by Maharashtra State Transport Corporation bus. So, it plays a very vital role in society. From children to the older Maharashtra State Transport Corporation gives services to them. Students assist in education as well as employees, workers and women. After the Covid-19 Situation Maharashtra State Transport Corporation condition so critical to providing services in the society. Many of employees are works in the Maharashtra State Transport Corporation so many families are depending upon S.T. Maharashtra State Transport Corporation bus services are beneficial and needed by Students, Senior Citizens, and Employees. All people cannot daily travel on bikes or cars. Especially middle-class income level people depend upon Maharashtra State Transport Corporation buses. Maharashtra State Transport Corporation's slogan is "where there's a road, theirs an S.T. bus". Maharashtra State Transport Corporation changes day by day because with globalization they attract maximum no passengers towards us. They try to give the best facilities to passengers. They know passengers are the main part of the S.T. and their study satisfaction levels towards Maharashtra State Transport Corporation services for improving themselves.

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Current Scenario of Green marketing in India:- Opportunities and Challenges

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Abstract: -This research paper has covered Current Scenario of Green marketing in India:-

Opportunities and Challenges. The most pressing necessity at the moment is to maintain consumer loyalty in the present era of globalisation, as well as to maintain the safety of our environment. Green marketing is a trend that has gained a lot of attention. In this research paper, main focus on idea behind green marketing, factors, existing marketing strategies.

Keywords: Green Marketing, Environment, Traditional Marketing, Consumer, Marketer.

I Introduction

According to Mr. J. Polonsky, "any activities meant to produce and enable any transaction intended to satisfy human needs or wants such that satisfying those needs and wants occur with little adverse influence on the national environment" are included in the definition of "green marketing." Environmental marketing and ecological marketing are other names for green marketing. Because human wants are limitless and resources are scarce, it is crucial for marketers to make effective, waste-free use of resources in order to meet organisational goals. Green marketing is therefore necessary. Around the world, customers are becoming more and more interested in environmental conservation. There is evidence that people are changing their behaviour and are concerned about the environment. This has led to the development of green marketing, which represents the expanding market for environmentally and socially conscious goods and services. To meet consumer requirements and increase revenues, this is now the new motto for marketers.

The Features of Green Products

By taking the following actions, we can define green products:

1. Goods made with natural components.
2. Items that are grown at the source.
3. Products that is biodegradable, recyclable, and reusable.
4. Goods made using non-toxic chemicals and recycled materials.
5. Product ingredients that contain permitted substances.
6. Eco-friendly products that don't damage or destroy the environment
7. Goods with environmentally friendly packaging, such as reusable, refillable containers.

Objectives of the Study

The paper titled ? Current Scenario of Green marketing in India:- Opportunities and Challenges is aimed to cover the following objectives:

1. To comprehend the idea behind green marketing.
2. To recognise the value and necessity of green marketing.
3. To research the difficulties and potential of green marketing.

Research Methodology The research is exploratory in nature; it focuses on Literature review, News Papers, Journals, websites and the other reliable sources.

II. Review of Literature

1. Kilbourne, W.E. (1998) talked about how green marketing couldn't get past the constraints of the dominant paradigm. The author recognised the cultural frame of reference's economic, political, and technological components as areas that need to be investigated for their impact on the interaction between marketing and environment.
2. A. Prothero (1998) introduced numerous papers on green marketing that were covered in the July 1998 issue of "Journal of Marketing Management." There were references to the need to review the body of research on green marketing, an empirical study of American and Australian marketing managers, an explanation of how a green alliance functions in practise in Great Britain, definitions of green marketing, and information on ecotourism.
4. In their research of environmentalism, which had quickly become a global issue, Sanjay K. Jain and Gurmeet Kaur (2004) examined how commercial organisations had also risen to the occasion and had begun responding to environmental challenges by utilising green marketing tactics. Green consumption has acted as a catalyst for corporate environmentalism and business enterprises' focus on green marketing. The research evaluated the level of environmental awareness, attitudes, and behaviour prevalent among Indian consumers using information gathered through a field survey.
5. Greater ecological awareness can be achieved through capitalism, according to Prothero and Fitchett's (2000) argument, by utilising the traits of a commodity culture to advance environmental aims. Not only does marketing have the ability to help create more sustainable social structures, but it also bears a heavy burden of responsibility because it is a key player in the development and spread of the commodity discourse. When examining Jordanian customers' environmental practises.
7. A high level of environmental consciousness is

found in Jordanian consumers, according to Alsmadi's 2007 investigation of their consumer behaviour. Sadly, though, this favourable inclination and preference for "green" products did not seem to have any impact on the final choice, clearly because these customers had more faith in the traditional products and less faith in the green claims. The lack of environmental consciousness on the part of many businesses and the wide range of costs for the same product, many of which included an exaggerated estimate of environmental responsibility, added to the aforementioned challenges. Additionally, several studies have demonstrated the same phenomenon (Ottman, 2004; Donaldson, 2005; Cleveland et al, 2005).

III. WHY ARE FIRMS USING GREEN MARKETING?

Opportunity Around 25% of Indian buyers favour environmentally friendly goods, while 28% are presumably health-conscious. As a result, green marketers have expanded to serve a sizable percentage of consumers.

Being Socially Responsive Many businesses are beginning to understand the importance of acting sustainably. They are committed to attaining both profit-related and environmental goals while adhering to the extended producer responsibility principle (EPR).

Governmental Influence The government creates a number of regulations to safeguard citizens and the general public. A framework of laws has also been devised by the Indian government to lower the generation of dangerous products and by-products. The use of plastic bags is prohibited, smoking is not permitted in public spaces, and other dangerous products are produced less by the industry and consumed less by consumers.

Pressure from competitors: - The need for businesses to remain competitive has been a significant driving force in the field of environmental marketing. Firms frequently watch competitors promote their environmental activities and try to imitate them. A whole industry may have changed as a result of competitive pressure in some cases, reducing its harmful environmental behaviour.

Cost cutting Getting rid of dangerous garbage could save you a lot of money. Sometimes, numerous businesses form a symbiotic connection in which the waste produced by one is used as a cost-effective raw resource by another.

Golden Rules of Green Marketing

1. **Get to Know Your Customer:** Check to see if the customer is aware of and worried about the problems that your solution aims to solve.
2. **Educating your clients:** It's not enough to just say that everything you do is for environmental protection; you also need to explain why it matters.
3. **Being Genuine & Transparent:** This entails that a) You are actually carrying out the actions that you advertise as being environmentally friendly, and b) the remainder of your business practises are in line with these actions.
4. **Assure the Buyer:** It is important to convince customers that a product will do what it is supposed to do. However, this does not mean that product quality should be sacrificed in the name of the environment.
5. **Think about Your Pricing:** If you are charging a premium for your product—many environmentally preferable products do—make sure those customers can afford the premium and believe it is worthwhile.

The Four Ps of Green Marketing

1. Product

Entrepreneurs looking to take advantage of the growing green industry by determining their customers' environmental needs or by creating items that are more environmentally friendly than their rivals the continuing growth of:

1. Recyclable or reusable products. Product efficiency reduces environmental effect while saving money, water, energy, or gasoline.
2. Goods with packaging that is environmentally friendly. For instance, McDonald's switched from plastic clamshells to paper packaging.

3. Items with green labelling provided they provide proof.
4. Organic goods - Because they guarantee quality, many buyers are willing to spend more for organic goods. For instance, organic butchers advertise the additional attributes like taste and tenderness.
5. A business that lends or leases out things, like toy libraries.
6. Products that have been certified as meeting or exceeding environmental responsibility standards. Whatever the product or service, it is imperative to make sure that it has through rigorous testing and meets or exceeds consumer quality requirements.

2. Price

A crucial component of the marketing mix is pricing. If there is a sense of greater product value, most buyers are willing to pay more. This value can be improved functionality, design, aesthetic appeal or taste. The environmental benefit is usually a bonus, although it often differentiates goods of comparable value and quality. However, considering product life cycle costs, environmentally friendly products such as fuel-efficient cars, water-saving printers and non-hazardous goods are often cheaper.

3. Place

The clients that are drawn depend heavily on the decision of where and when to make a product available. Few consumers intentionally seek out green items to purchase them for aesthetic purposes. Most of the time, marketers who want to successfully launch new green products should position them broadly in the market, rather than targeting a specific green niche. Additionally, the site ought to be in line with the brand that a business wishes to portray. A company's location needs to set it apart from its rivals. This can be accomplished by employing recycled materials to highlight the environmental and other benefits, in-store promotions, and visually appealing displays.

4. Promotion

Paid advertising, public relations, sales promotions, direct marketing, and on-site promotions are all methods of promoting goods and services to target markets. When advertising their commitment to the environment, retailers, for instance, are seeing the significance of partnerships with other businesses, environmental groups, and academic institutions. Some merchants sell shopping bags under the Go Green Environment Fund brand in an effort to decrease the usage of plastic bags and highlight their commitment to environmental protection. Credibility is the key to effective green marketing. Never set excessive expectations or make exaggerated statements about the environment; instead, keep your communications straightforward and from reliable sources. Promote your environmental accomplishments and qualifications. Promote the company's environmental awards programmes in order to highlight its environmental credentials to stakeholders and customers.

Eco-Labeling: -Eco-labelling programmes offer a labelling programme that is less eco-friendly. Germany started it off in 1978. An eco-label is a statement about the environment that appears on product packaging. A manufacturer receives it after being chosen by the proper authority. In 1991, the Indian government introduced the Eco Mark programme to raise public awareness of products that are environmentally beneficial. The program's goal is to persuade consumers to buy goods with a lower negative environmental impact. An instruction manual for eco-label awards is ISO 14020.

"Green Washing" Customers are very confused about what exactly green marketing entails, according to Jacquelyn Ottman, who claims that "consumers do not really grasp a lot about these concerns on Green marketing" (Author of "Green Marketing: Opportunity for Innovation.") Because of this uncertainty, some marketers willfully offer false or exaggerated "green" claims. This practise is referred to by critics as "green washing," which refers to the attempt to sell clients things that are not environmentally beneficial despite firm claims to the contrary.

Indian Green Products The first firm to introduce environmentally friendly computer peripherals in India was Wipro Infotech (Green It). The W510 and F268 eco-

friendly mobile phones from Samsung were the first to be released in India and are built of renewable materials. The largest oil firm in India, Oil and Natural Gas Corporation Ltd. (ONGC), has developed the energy-efficient Mokshada Green Crematorium, which reduces wood use by 60% to 70% and burn time by a fourth during each cremation. The first firm in the world to commercially release an electric vehicle was Reva, an Indian corporation with its headquarters in Bangalore. Honda India debuted their Civic Hybrid automobile. ITC has unveiled Paper Kraft, a high-end line of green office paper. With the installation of the nation's first solar-powered ATM, Indusland Bank revolutionised the Indian banking industry and made it more environmentally conscious. Suzlon Energy produces and sells wind turbines, an alternative energy source based on wind energy. The company's eco-friendly strategy is crucial for lowering its carbon footprint.

10 Ways To Go Green

1. When not in use, unplug.
2. Conserve water; every drop matters.
3. Use tiny fluorescent light bulbs instead.
4. Select goods with minimal packaging.
5. Purchase local and organic food.
6. Drive less that saves fuel.
7. Move more.
8. Increase recycling.
9. Use alternative energy sources, such as solar electricity, or switch to green energy.
10. Inform people about going green, staying green, and living green.

Green Marketing- Challenges

Despite the fact that many businesses are using green marketing, doing so is not simple because there are a number of issues that must be resolved. The following are the main obstacles that Green Marketing must overcome:

1. **New Concept:** Urban, educated Indian consumers are becoming more knowledgeable about the advantages of green products.

2. **Cost Factor:** Green marketing involves promoting environmentally friendly goods and services as well as environmentally friendly technology and energy sources. To do this, a lot of money must be spent on R&D projects to develop these products as well as subsequent marketing campaigns, which could ultimately result in higher costs.
3. **Convincing Customers** - Because customers might not accept the firm's green marketing approach, the company must take all reasonable steps to persuade them of the merits of its green products. The best course of action is to create eco-labelling programmes. Customers might not always be willing to pay the higher price for the products.
4. **Sustainability** - Because green technologies and products are more expensive at first, the revenues are relatively low. Green marketing will only be effective over the long term. As a result, the company must prepare for a long-term strategy rather than a short-term one and plan accordingly. At the same time, the company must resist the temptation to engage in immoral behaviour in an effort to generate immediate financial gain.
5. **Lack of co-operation** - Companies using green marketing must work hard to persuade the stakeholders, and frequently they may fall short of doing so when pointing out that green marketing has long-term advantages over short-term costs.
6. **Refraining from Green Myopia** - Green marketing must achieve both the improvement of environmental quality and increased customer happiness. Green marketing myopia is the inability to distinguish between the two or to distinguish between the two without error.

IV. SUGGESTIONS

The benefits of green products need to be made more widely known to consumers. The public has to be informed about the dangers to the environment. The consumer's awareness and concern for the problems your product tries to solve should be ensured.

1. Green marketing initiatives and green advertising

are positive steps in that direction. Customers must be encouraged to switch products or even pay more for the environmentally friendly option.

2. Make sure the customer feels like they can change the world. This is referred to as "empowerment," and it is the key reason why customers will choose greener goods. In order to preserve the validity and reliability of green products, further measures should be implemented to regulate misleading promises and claims made by the marketer.
3. The government is a significant factor in the effective and efficient execution of this notion of green marketing. The idea cannot be imagined unless the government makes clear, strict laws and uses its power to enforce them.
4. The environment can be saved, and the world will become a better place to live in, if the consumer, the organisation, and the government all work together to minimise the negative environmental impact of their actions.
5. Consumers want the things they buy to be cost-effective and to contribute to reducing the environmental impact in their own lives in addition to the environmental impact of the company's products.
6. Because most organisations place little emphasis on green marketing, it is still an underutilised USP (Unique Selling Proposition). Effective green marketing that is directed at the proper audience will therefore have an impact.

V. CONCLUSION

A tool for preserving the environment for future generations is green marketing. It won't be a simple idea to grasp. In order to determine whether or not it will be possible, the company must first plan and then do research. Since green marketing is still in its early stages, it must develop. Although implementing green marketing may not be simple at first, it will undoubtedly benefit the company in the long run. In Indian businesses, green marketing is still in its infancy. There are numerous opportunities accessible..

Indian industrial customers are also willing to pay more

for eco-friendly products. One thing that keeps coming up is how excessive and unsustainable the current level of consumption is. Therefore, green marketing is essential, as is a change in customer behavior and attitude towards a more environmentally friendly lifestyle. For green marketing to be successful, consumers must want a cleaner environment and be willing to pay for it—perhaps by buying more expensive goods, changing their personal lifestyles, or even participating in political activities. Until that happens, it will be difficult for companies to lead the green marketing revolution alone. An organization that cares about the environment can, in addition to producing products that are less harmful to the environment, influence its suppliers so that they behave more ecologically. End consumers and industrial buyers can pressure companies to integrate environmental protection into their business culture and ensure that all companies limit the negative environmental impact of their operations.

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The Study of Consumer Awareness of Robotics Services with Special Reference to Robostorms Technology Pvt Ltd, Kolhapur.

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Abstract : *The current age of artificial intelligence, along with the advent of robots, portends increased use of innovative technologies in the today's corporate world. During this study, customer was made aware about some advanced services which are provided by Robostorms Technology Pvt Ltd to them. Thus, the outcome of this study is two-fold, that is firstly taking the feedback from customer to increase the quality services, if necessary, as well as provided them proper information regarding Robostorms Technology Pvt Ltd. The analysis over computer training, drone training, computer training for 3D printing, robotics, robotic training centers, tutorials for aeromodelling and much more in order to satisfy the need of the customer.*

Keywords: Artificial Intelligence, Robotic Training, Customer Satisfaction.

Introduction

In the current trend of marketing, the consumer is the lifeblood of all its functioning. Making ensuring a buyer or customer is informed about products, goods, services, and consumer rights is known as raising consumer awareness. A generic word used to indicate how familiar consumers are with a company's goods or services is "consumer awareness."

Customer care is critical in light of the fact that it helps swarms with sorting out, call, and become alright with your picture care among your goal section, you can help your picture with becoming top of mind when these clients are prepared to do their survey and make a purchase. Clients are more disposed to buy from your organization than, say, a contender's business that they are less acquainted with on the grounds that they know your image.

The project was started by going through files, journals, brochures, consultation with official and other sources of secondary data. The project objectives were analyzed for the future course of the action.

The Indian economy is growing. There are various factors contributing for the development of economy. One of the industries which have revolutionized the economy is robotics sector which is artificial intelligence. Change in the IT and faster growth has changed the technology operations to great extent. Artificial intelligence operations have led to a great development of economy and meeting and customer's needs. Among various sector that Artificial intelligence is involved; customer awareness is one area that has changed gradually in meeting dynamic needs of customers.

Research Problem

The Study of Consumer Awareness of Robotics Services.

Statement of research problem

“The Study of Consumer Awareness of Robotics Services with Special Reference to Robostorms Technology Pvt Ltd, Kolhapur.”

Objective of the study

1. To understand customers interest in robotics products and services.
2. To study effective marketing and advertising plan to reach the target customer segment.
3. To study the awareness of robotics products and services to the customer.
4. To study customer relationship management application at Robostorms Technology Pvt Ltd, company.

Hypothesis: Hypothesis is a tentative outcome of our research. This is null and alternative hypothesis.

H⁰ - The customers are not aware about the robotics product and services.

H¹ - The customers have awareness about the robotics products and services.

Importance of the study: Under this study the researcher can get fair and good knowledge about the consumer awareness of robotics products and services. Researcher can get information which helps for the further study. And also important to learn new things like artificial intelligence and robotics.

Importance to the organisation: Due to this study the company can derive their marketing strategy to get maximum consumers for their products and services. Also it helps for achieve the objectives of the organisation. And design the product as per the customer's requirement and interest.

Scope of the study

1. This is realistic source directly collected from the customers of Robostorms Technology Pvt Ltd.
2. There is opportunity to increases customer in robotics area.
3. There is opportunity for potential customers.

Research methodology

Type of research: The research is application based so it is Applied Research by analysis of the consumer awareness and its applicable for formulating marketing strategy and product design.

Data required: The system of information assortment relates to data to how the information is gathered, i.e., either from essential sources or optional sources. It makes sense of the strategies for used and the instrument utilized in information assortment.

Data source: The sources of data can be classified into two categories: Primary & Secondary sources

Primary data: Primary data has been collected through questionnaire method by direct contact with samples. Well framed questionnaire is prepared with all types of questions and survey is carried by the researcher.

Secondary data: The data is collected from company reports and company website.

Sampling: Sampling method: For this researcher has chosen census survey method. In that we collect the information or data from all respondents that organization provided.

Sample Unit: The sample unit of the study is customer who interested in robotic field products and services. Basically, company targets schools and colleges for providing these services. So they give the population or list of the customers that consists 100 respondents

Sample size: Sample size for the study is 100.

Formula- Finite population –

$$Z = \frac{(Z^2 * P(1 - P) / e^2) / 1 + (Z^2 * P(1 - P) / e^2 N)}{1 + (Z^2 * P(1 - P) / e^2 N)}$$

Z = 1.96 e = -0.05 (5%) P = 50 % Confidence level = 95 %

Instruments: Sample designs are the road map of serve as the basis for selection of primary data collection of samples.

The secondary data already available so it's collected to various research papers and various websites. The various methods of data collections :-I) Nature, scope, & object of enquiry II) Availability of funds III) Time factor IV) Precision required.

Its data collection method. In this method using “Precision required Method” are using in project

collection of data. Because also primary and secondary data. Following process of data collection: -

- I) Firstly, decided which questions are asking to investors.
- II) This choosing question to create questionnaires.
- III) To contact selection of particular location area.
- IV) Sending the questions though mail.
- V) Then collection of primary data to using Applied research technique.

Researchers in this type try to find immediate solutions to existing problems facing a society or an area as well as in industry.

Data analysis: Data will be coded at the excel, then analyse in the SPSS, after that the data result and interpretation mention in the report.

Limitations of the study

1. This study is restricted to only Robostorms Technology Pvt Ltd, Kolhapur.
2. Duration of study is short. It is limited to only 26 days.
3. Limited interaction with the concerned heads due to their busy schedule.
4. Certain documents are confidential; it is not possible to collect all the information necessary for the study.
5. The sample size is limited to 100 respondents only. Due to most of the company's customers are schools.

Review of literature

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2. **Choi, Y., Choi, M., Oh, M., & Kim, S. (2020).** – Service robots in hotels: understanding the service quality perceptions of human-robot interaction they made one research on the robot interaction and the service provided by the robots to a guests and

that survey conducted in customers or consumers and it observed that the fast and good services can be provided through robot service.

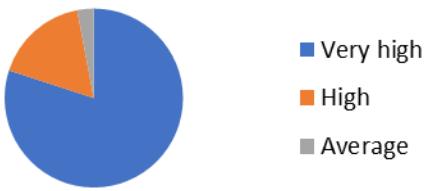
3. **Kim, S. S., Kim, J., Badu-Baiden, F., Giroux, M., & Choi, Y. (2021).** – Do you prefer automated or human service in hotels? As a result of the COVID-19, artificial intelligence technologies are proliferating in the travel and tourism sector, giving consumers a variety of options, including humans, robots, and artificial intelligence.
4. **Goel, P., Kaushik, N., Sivathanu, B., Pillai, R., & Vikas, J. (2022).** Consumers' adoption of artificial intelligence and robotics in hospitality and tourism sector the study shows that the synthesizing draws upon various factors affecting adoption of AIR such as individual factor, service factor, social and cultural factor and infrastructure, and also author find barriers for customer's adoption of AI System.
5. **Seyito lu, F., & Ivanov S. (2020).** Multiple case studies in understanding the robotic restaurant experience. The purpose of the study is to investigate how tourists from all around the world perceive robotic restaurants and to comprehend its essential elements.
6. **Liu, Y., Wang, X., & Wang, S. (2022).** Research on help robot reception under various assistance situations the review shows that in future help robots are supposed to turn into a basic piece of the people groups insight in the help field. Through the three trials, this study investigates the impact of various assistance situation on help robot reception.
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9. **Hwang, J., Park, S., & Kim, I. (2020).** Understanding driven consumer innovation in the setting of a robotic restaurant: The regulating function of product knowledge. A study looked at how product knowledge affected the intentions behind word-of-mouth recommendations. This study aims to comprehend the function of motivated consumers.
10. **Murphy, J., Gretzel, U., & Pesonen, J. (2021)** Advertising robot administrations for cordiality

and the travel industry: humanoid attribution's commitment. Six areas of significance for the educating and exploration of mechanical technology in friendliness and the travel industry are distinguished in this paper's fast appraisal of the mechanical technology writing.

Data analysis and Interpretation

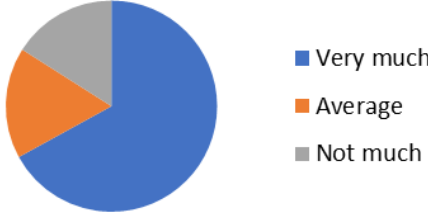
1 Customer Satisfaction

Sr.No	Particulars	No. Of Respondents	%	Customer satisfaction 
1	Very high	80	80	
2	High	17	17	
3	Average	3	3	
Total		100	100	

From the above table, it is seen that 80 % of the respondents exceptionally happy with the administrations given by the Robostorms Innovation Pvt Ltd organization, 17 % of the respondents profoundly

happy with the administrations given by the Robostorms Innovation Pvt Ltd organization, 3 % of the respondent's normal happy with the administrations given by the Robostorms Innovation Pvt Ltd organization.

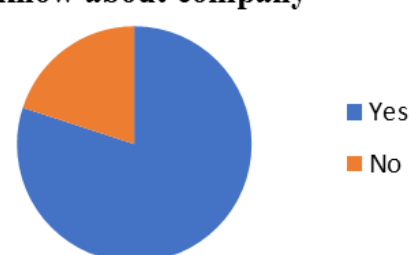
2 Knowledge about robotics

Sr.No	Particulars	No. Of Respondents	%	Knowledge 
1	Very much	67	67	
2	Average	17	17	
3	Not much	16	16	
Total		100	100	

From the above table, it is seen that 67 % of the respondents know about concept of robotics very well, 17 % of the respondents slightly know about concept of

robotics, 16 % of the respondents not know much about concept of robotics.

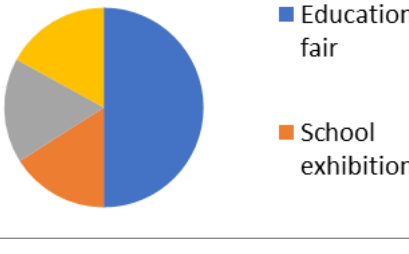
3 Know about Robostorms Technology Pvt Ltd Company, Kolhapur.

Sr.No	Particulars	No. Of Respondents	%	know about company 
1	Yes	80	80	
2	No	20	20	
Total		100	100	

From the above table, it is seen that 80 % of the respondents know about Robostorms Technology Pvt

Ltd Company, 20 % of the respondents slightly know about Robostorms Technology Pvt Ltd Company.

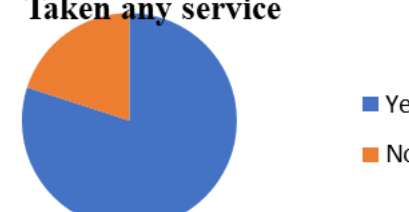
4 Sources of knowing Robostorms company

Sr.No	Particulars	No. Of Respondents	%	source of awareness 
1	Education fair	50	50	
2	School exhibition	16	16	
3	Awareness robotics-camp	17	17	
4	Pamphlets	17	17	
Total		100	100	

From the above table, it is seen that 50 % of the respondents got to be familiar with the Robostorms organization in light of training fair, 16 % of the respondents got to be aware of the Robostorms organization as a result of school presentation, 17 % of

the respondents got to be familiar with the Robostorms Organization due to mindfulness mechanical technology camps, 17 % of the respondents got to be aware of the Robostorms Organization due to handouts.

5 Taken any robotics services

Sr.No	Particulars	No. Of Respondents	%	Taken any service 
1	Yes	80	80	
2	No	20	20	
Total		100	100	

From the above table, it is seen that 80 % of the respondents have taken the services of Robostorms Technology Pvt Ltd Company after knowing the

company services, 20 % of the respondents have not taken the services of Robostorms Technology Pvt Ltd Company after knowing the company services.

6 Mode of advertising

Sr.No	Particulars	No. Of Respondents	%	<p>Mode of advertising</p> <p>■ Education fair ■ School exhibition</p>
1	Education fair	50	50	
2	School exhibition	16	16	
3	Awareness robotics camps	17	17	
4	Pamphlets	17	17	
Total		100	100	

From the above table it is seen that 50 % of the respondents got to know about the Robostorms Technology Pvt Ltd Company from education fair, 16 % of the respondents got to know about the Robostorms Technology Pvt Ltd Company from school exhibition, 17

% of the respondents got to know about the Robostorms Technology Pvt Ltd Company from awareness robotics camps, 17 % of the respondents got to know about the Robostorms Technology Pvt Ltd Company from education fair.

7 Awareness of different services provided by Robostorms company

Sr.No	Particulars	No. Of Respondents	%	<p>Awareness about services</p> <p>■ Yes ■ No ■ Not much</p>
1	Yes	66	66	
2	No	17	17	
3	Not much	16	16	
Total		100	100	

From the above table, it is seen that 66 % of the respondents know about all services provided by Robostorms Technology Pvt Ltd company, 17 % of the respondents does not anything know Robostorms

Technology Pvt Ltd company, 16 % of the respondents does not know much about concept of Robostorms Technology Pvt Ltd company.

8 Using Robostorms Company's services for how long

Sr.No	Particulars	No. Of Respondents	%	<p>Using Robostorms Company's services for how long</p> <p>■ From 1-2 years ■ From 2-4 years ■ From 6 months</p>
1	From 1-2 years	40	40	
2	From 2-4 years	27	27	
3	From 6 months	33	33	
Total		100	100	

From the above table, it is seen that 40 % of the respondents have been taking services provided by Robostorms Technology Pvt Ltd company from 1-2 years, 27 % of the respondents have been taking services

provided by Robostorms Technology Pvt Ltd company from 2-4 years, 33 % of the respondents have been taking services provided by Robostorms technology Pvt Ltd company from 6 month

9 Advertisements respondents came across recently.

Sr.No	Particulars	No. Of Respondents	%	<p>Advertisements respondents came across recently...</p> <p>■ 15 days ago,</p>
1	15 days ago,	63	63	
2	30 days ago,	3	3	
3	60 days ago,	34	34	
Total		100	100	

From the above table, it is seen that 63 % of the respondents have seen the advertisement of Robostorms Technology Pvt Ltd company 15 days ago, 3 % of the respondents have seen the advertisement of Robostorms

Technology Pvt Ltd company 30 days ago, 34 % of the respondents have seen the advertisement of Robostorms Technology Pvt Ltd company 60 days ago.

10 Service quality

Sr.No	Particulars	No. Of Respondents	%	<p>Service quality</p> <p>■ Very high ■ Average ■ Low</p>
1	Very high	70	70	
2	Average	27	27	
3	Low	3	3	
Total		100	100	

From the above table, it is seen that 70 % of the respondents think that Robostorms Technology Pvt Ltd company provides very high-quality services to its customers, 27 % of the respondents think that

Robostorms Technology Pvt Ltd company provides average quality services to its customers, 3 % of the respondents think that Robostorms Technology Pvt Ltd company provides quality services to its customers.

11 Service recommendation to others

Sr.No	Particulars	No. Of Respondents	%	<p>Service recommendation to others</p> <p>■ Not at all likely ■ Most likely</p>
1	Not at all likely	7	7	
2	Most likely	40	40	
3	Extremely likely	53	53	
Total		100	100	

From the above table, it is seen that 7 % of the respondents are not the least bit liable to suggest administrations given by Robostorms Innovation Pvt Ltd organization to other people, 40 % of the respondents are probably going to suggest administrations given by

Robostorms Innovation Pvt Ltd organization to other people, 53 % of the respondents are incredibly prone to suggest administrations given by Robostorms Innovation Pvt Ltd organization to other people.

12 Rating for value and quality of services

Sr.No	Particulars	No. Of Respondents	%	<p>Rating for value and quality of services</p> <p>■ Very high ■ Average ■ Low</p>
1	Very high	84	84	
2	Average	10	10	
3	Low	3	3	
4	Very low	3	3	
Total		30	100	

From the above table it is seen that 84 % of the respondents think that Robostorms Technology Pvt Ltd company provides very high value and quality services to its customers, 10 % of the respondents think that Robostorms Technology Pvt Ltd company provides average value and quality services to its customers, 3 %

of the respondents think that Robostorms Technology Pvt Ltd company provides low value and quality services to its customers, 3 % of the respondents think that Robostorms Technology Pvt Ltd company provides very low value and quality services to its customers.

13 Parameter for building good image

Sr.No	Particulars	No. Of Respondents	%	<p>Parameter for building good image</p> <p>■ Quality of service ■ Good value</p>
1	Quality of service	30	30	
2	Good value	30	30	
3	Added services	30	30	
4	Innovation	10	10	
Total		100	100	

From the above table it is seen that 30 % of the respondents think that quality of services provided by the company will help them to a build good image of the company, 30 % of the respondents think that good value of the company will help them to a build good image of

the company, 30 % of the respondents think that added services provided by the company will help them to build a good image of the company, 10 % of the respondents think that unique innovations provided by the company will help them to build a good image of the company.

14 The reason why Robostorms company can be differentiated

Sr.No	Particulars	No. Of Respondents	%	Reason why Robostorms company can be differentiated
1	Services	57	57	
2	Infrastructure	3	3	
3	Credit worthiness	37	37	
4	Other	3	3	
Total		100	100	

From the above table it is seen that 57 % of the respondents think that quality services provided by the Robostorms company would differentiate the company from other companies , 3 % of the respondents think that infrastructure of the Robostorms company would differentiate the company from other companies , 37 %

of the respondents think that credit worthiness of the Robostorms company would differentiate the company from other companies, 3 % of the respondents think that other services provided by the Robostorms company would differentiate the company from other companies.

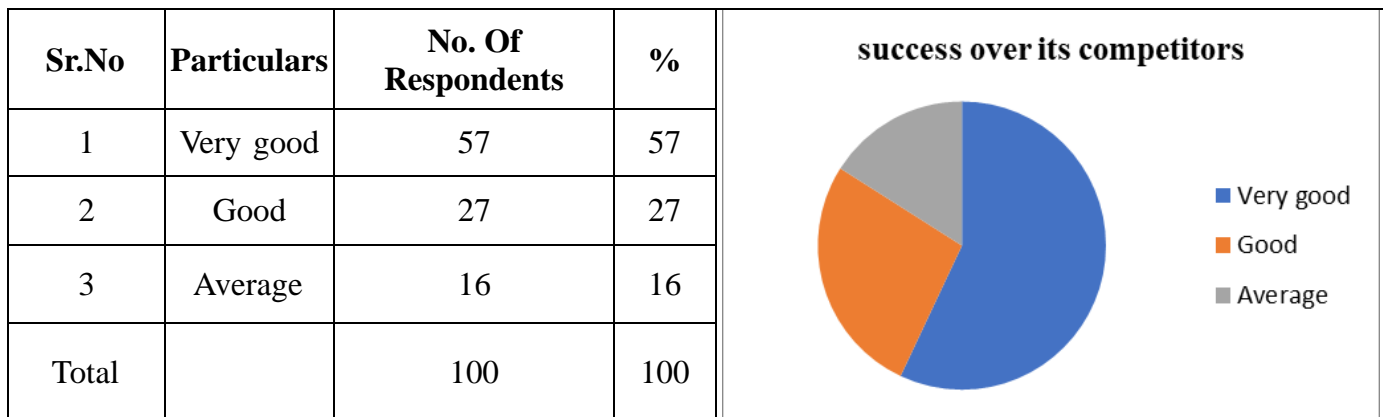
15 Customers trust

Sr.No	Particulars	No. Of Respondents	%	Customers trust
1	Very high	57	57	
2	Average	33	33	
3	Low	7	7	
4	Very low	3	3	
Total		100	100	

From the above table, it is seen that 57 % of the respondents has very high trust on Robostorms Technology Pvt Ltd company, 33 % of the respondents has average trust on Robostorms Technology Pvt Ltd

company, 7 % of the respondents has low trust on Robostorms Technology Pvt Ltd company, 3 % of the respondents has very low trust on Robostorms Technology Pvt Ltd company.

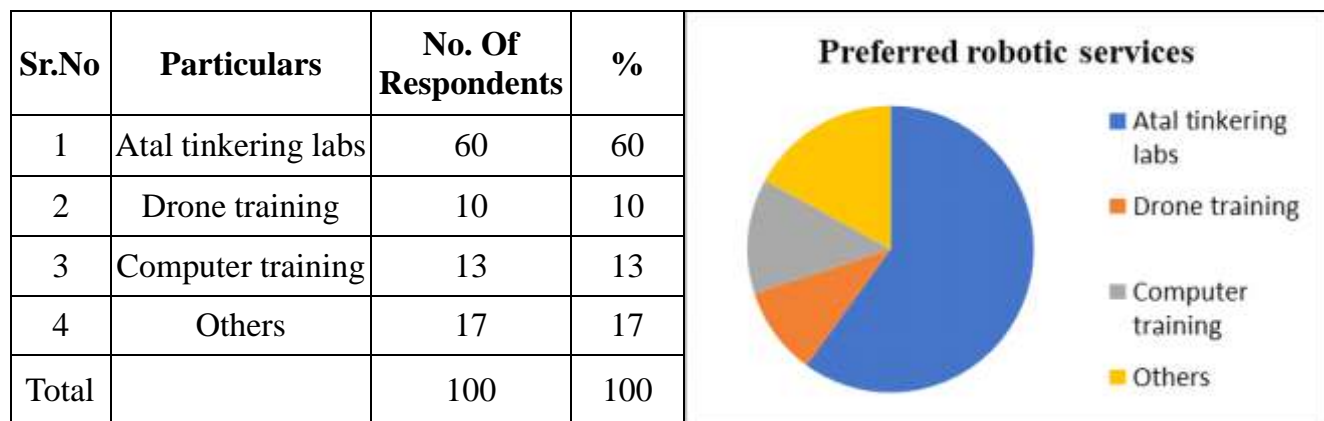
16 Robostorms Company's success over its competitors



From the above table, it is seen that 57 % of the respondents think that Robostorms Technology Pvt Ltd company has very good success over its competitors, 27 % of the respondents think that Robostorms Technology

Pvt Ltd company has good success over its competitors, 16 % of the respondents think that Robostorms Technology Pvt Ltd company has average success over its competitors

17 More preferred robotic services



From the above table it is seen that 60 % of the respondents prefer Atal tinkering labs services provided by the Robostorms Technology Pvt Ltd Company, 10 % of the respondents prefer drone training services provided by the Robostorms Technology Pvt Ltd

Company, 13 % of the respondents prefer computer training services provided by the Robostorms Technology Pvt Ltd Company, 17 % of the respondents prefer other services provided by the Robostorms Technology Pvt Ltd Company.

18 Wish to get services from Robostorms company

Sr.No	Particulars	No. Of Respondents	%
1	Not likely at all	17	17
2	Most likely	17	17
3	Extremely likely	66	66
Total		100	100

Wish to get services from Robostorms company

- Not likely at all
- Most likely
- Extremely likely

From the above table, it is seen that 17 % of the respondents not at all likely to get services provided by Robostorms Technology Pvt Ltd company, 17 % of the respondents most likely to get services provided by

Robostorms Technology Pvt Ltd company, 66 % of the respondents extremely likely to get services provided by Robostorms Technology Pvt Ltd company.

Hypothesis testing –

H0: The customers not have awareness about the robotics products and services.

H1: The customers have awareness about the robotics products and services.

From the Question no 1, Question no 7 and Question no 15 is conclude that the customers are aware and satisfied with the robotics services.

So the alternative hypothesis is accepted through the analysis of the table no 1, 7, 15 and null hypothesis is rejected by default.

Findings:

- 1) Most of customers know very much about robotics and Robostorms Technology Pvt Ltd Company, Kolhapur.
- 2) Education Fair had been an effective source of knowing Robostorms Technology Pvt Ltd Company, Kolhapur.
- 3) Most of the people have taken robotics services after knowing Robostorms Technology Pvt Ltd Company, Kolhapur.
- 4) Most of the respondents wish to get services

provided by Robostorms Technology Pvt Ltd Company, Kolhapur.

- 5) Most of the respondents prefer Atal tinkering labs services provided by the Robostorms Technology Pvt Ltd Company, Kolhapur.
- 6) Most of the customers of Robostorms company are satisfied with the services provided by robotics company.
- 7) Most of the customers would like to recommend new services of Robostorms company to others.
- 8) Customers today are aware about different robotics services are provided.
- 9) Customers think that Robostorms company have built a good image.
- 10) Most of the customers are satisfied with the services given by company and trust more on the company.
- 11) Hypothesis – from the table no 1, 7, & 15 I observers and analyze that the customers have awareness about the robotics products and services. So H1 is accepted and Ho rejected.

Suggestions:

- 1) Some of the people do not know about robotics and Robostorms company. So, company should work towards that to get them know about services.
- 2) Pamphlets are the source of advertisement does not make any effective impact on the customers, so company must use other techniques to reach its customers.
- 3) Some of the people have still not taken the robotics services though they know about the Robostorms Technology Pvt Ltd Company, Kolhapur. And company should work towards its customer requirements.
- 4) Awareness robotics camps and pamphlets should be more impactful to reach the customers.
- 5) Some of the people do not know all the services provided by the company, so company should convey all the service-related information to them.
- 6) Company's advertisement frequency should be more.
- 7) Company should take the program for their customers to increase the knowledge about robotics facility which they provide to their customers.

Conclusions:

After doing study of the project, it comes to know that consumers of Robostorms Technology Pvt Ltd Company, Kolhapur are more aware of robotics products and services. They are fully satisfied with their services. Some of the customers want to have better services than the present. Most of the customers are highly satisfied with the services provided by Robostorms Technology Pvt Ltd Company, Kolhapur are quality oriented, and company provides best technical facility to their customers.

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Social Media Platform Can Instantly Boost Oats Burger

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Abstract : *Fast food brands are preferred for convenience and hygiene. The traditional fast food is losing its lustre to the Generation Z which has witnessed Generation Y with several disadvantages of fast food consumption.*

This case is designed to appeal both the buyers and sellers for making smart health decisions than merely wearing smart devices to check on the parameters of good health. The paucity of time with more often than not contradicting multiple demands of all professionals has pocketed needs of the food seller who can serve carefully crafted nutritious food than just tasty food.

Keywords: Junk food, Healthy Diet, Nutrition, Smart health, Pizza

Brief Introduction

Junk food is still not jinxed. Knowingly the benefits and disadvantages of the food the urge to consume unhealthy food is rampant. Given the choice of selection on the menu list the taste buds prefer the food which is matching the similar taste of food consumed last time. The addiction to consume the same taste creates a pattern of same order and the healthy foods as once in the schedule.

These fingers licking food are most easily acceptable during the youth hang out points and matching to their social prestige but millennial generation which is also characterized as a health freak has started to avoid these fast food visits (Pila, Mond, Griffiths, and Mitchison, 2017). A difference in their healthy eating habits is now reflected as oats and other multigrain food. This cohort has started to enlarge its market. The enrichment of the product line in this regard includes variants of flavours while making it as much as a habitual purchase just as cooking noodles, burgers, fries, pasta, etc. (Peters and Remaud, 2020). This industry of fast food ensconced into Food and Beverages sector serves tasty yet nutritiously deficient food to young millennial. The industry faces competition from KFC, Burger King, Papa John, Dairy Queen, Taco Bell, Chipotle, Starbucks, Wendy's, Pizza Hut, Subway, Dunkin Donuts among other such snack options. Operating under the format of QSR (Quick Service Restaurant) the 200000 employees

working to maintain market share of 82% has worked hard to stretch the brand worldwide.

Marketing Strategies of Popular Brands

In 1990s Domino's made itself popular in the country of India that it will deliver pizza in half an hour or the product and delivery will be free of charge. This excited most to experiment ordering the product. The brand based on the pricing dynamics made itself slightly polemic but extremely popular. This was an appreciated model which came after the success of Mc. Donald's. Mc. D positioned itself in a variety of ways such as Price: that is Value for Money model. That is a promise of hygiene and that too at the most suitable price model made it an instant hit with the youth that experimented to dine out for small occasions. Now with the smart phones, online accessibility of everything is facile. Online food order is based on several reasons: secured payment options, attractive food advertising, convenience to order, etc.

Advertisements in the digital era is an equivalent to talking to the customer live and retaining a perennial mind share with them by educating them for various rights or ways to make them more empowered. While offline mode prevented a two-way communication online mode has various platforms and tools to make life easy (UK report, 2018). Kelly et al. (2019) mentioned in

their research about the adverse effects of the children consumption of the digitally attractive and tasty food which makes them socially acceptable. Meals make difference for lifetime and thus a change in the fundamentals of basic ingredients that is substitution of generic burger with multigrain and or oats burger is suggested.

Customers are educated and innocent patrons. They can be influenced for low pricing, high quality, etc. Wolf (2017) mentioned that millennials is a generation that finds food as a personal friend. When the food on their platter becomes a personal friend then brands think over how the same can be made more customized. McDonald's initially started to call out name of the customer for the order to be ready to be collected from the counter. Moreover, lately Starbucks came with the concept of the name written on their coffee cups and boasted a lot on the social media platforms. Quick service restaurants were previously condemned for self service model and it was mentioned that if a customer would have to self serve they would order less. The fast food being already more than half prepared just needs to be wrapped to place it on the tray to be collected. Youth supported this new innovative idea of dining out for mini meals package and various options on the menu card such as combo deals etc. along with the fact of etching in their minds that all the deals were economical. This was done with an objective that the customer gets their friends to dine out for a snacks party along as well. The idea was not only to sell more but propagate the brand more. Agustin, et al., (2015) mentioned that online food ordering which is based on the attractive digital marketing strategies of the firm is based on quality food promises with indication of availability of variety supporting a quick choice schema for the buyer. Jones (2018) reported burger, fries, chicken burger, mc coffee among the best-selling items on the menu of Mc Donald's. Bareuther (2019) mentioned that fresh food is shown as forever fresh and made attractive with various payment gateways along with an indication of prices for the delivery. Customers feel about the brand as much as they feel about their organizations in the format of taste. Since these are slightly availing more cost than satiating appetite thus, they need to be ordered in more quantity or a variety to be served.

Environment Scanning of Food & Beverages Industry

Business requires strength of the external and internal environment. Thus, external forces exercise to a great extent the internal environment strategies. Micro environment of a business includes product portfolio, pricing based on cost benefits, profit margin, organizational culture, customers' centrality, etc.

Employees: New staff needs to be engaged as product managers to ensure profitability out of the new product line of healthy schema added. The implied rejection or inner guilt after having the classic traditional burger means rejection or deferred repurchase of the same.

Procedures: New production systems, assembly lines need to be installed and the back-end staffs needs to be trained.

Staff development: Staff education pertaining to the need of the introduction of the new product line.

Culture of innovation: Mc Donald's is a brand based on the youthful advertising and consideration of innovative product and its services.

Product portfolio: Mc Donald's is not serving pasta also because the classic menu is popular and yielding returns in the form of cash cow. However, a report of WHO (2019) mentioned that unhealthy food for children and adolescents is harmful thus innovation of the junk food in the form of oats burger and or a multigrain burger can be a healthy option for this category of consumers who are brand loyal as customers and are not only fond of but habitual buyers and consumers of this genre of food. This is most recommended as a means to disrupt own products portfolio than inviting a competitor to invade in.

Health issues reported by various organizations such as WHO and advertising ethics related to food marketing by UK advertising codes granting permission to reach out to children consumers required a revamp on the marketing strategies.

Further, digital marketing is the most competent platform for reaching out to the young consumers. Research on children health issues has compelled Mc Donald's to introduce this innovative product line of oats burger and multigrain burger. The research carried out

had political and legal implications. The economy requires brand sustainability which is based on the products offered in the portfolio catalogue. The change in the technical environment and excessive usage of applications and software demands technical shift from marketplace to the customer pockets.

Customer persona: Four customer personas have been identified at the time of online food buying behaviour: Methodological, humanistic, competitive and spontaneous. The instant buying behaviour is based on impulse and is meant for customer to like the product offer to convert into sales funnel. Methodological is a process-oriented buyer who is apprehensive due to past buying decision and seeks clarity and credibility on conformed buying decision of his. A competitive persona is based on the competitors' offerings and with a comprehensive and comparative evaluation can help them make a concrete buying decision. Humanistic persona reads company as a person and wants relation and long-term solution from the seller. Thus, an emotional appeal shall work for this customer types. In the present times of guerrilla marketing warfare, it is to be explored and comprehended that customer needs to be thoroughly studied with his needs and preferences mapped for the benefit of immediate conversion from an onlooker and seeker to the stages of buyer and consumer.

Literature Review

Dejong et al. (2017) reported that the element of nutrition is most important concern of the digital audience who intend to order and eat. Djafarova & Kramer (2019) reported millennial as health-conscious youth that visits online platforms for consistent update on their own resources (holding relevance of both physically and nutritionally viable). Hennessy (2016) defined that healthy means food which retains nutrition for metabolic processes. Youth love makes a brand popular. Customers of different age brackets react differently to the same object of interest. Demographics play a significant role in the form of age, gender, religion, culture, health, weight, height, etc.

Customers select the dine out options based on the image of the brand and the exchange of the same based on

pricing (Sungpo, Zhao and Joung, 2018). Tang et al. (2018) mentioned obesity as a reason of repetitive advertisement on the digital media platforms such as Youtube targeted especially at children. Tatlow et al. (2017) discussed application of ethical and legal codes for advertising food and drinks to children. All the drinks marketed to children are necessarily based on excessive sweet while the sugar content of the food posted most attractively via digital media channels makes most appeal to children making emotional demands to purchase. UK Advertising association (2019) cautioned the food marketers to educate the young viewers to consume in small meals options along with healthy condiments of salad, etc.

Social media marketing is the most effective tool for communicating digitally to the youth. Usage of audio and video, animations make the brand lyrics and music most memorable to the audience. Brand enforceability and equity is ensured with the regular posts on Instagram, Facebook and twitter.

Content Management Strategy

Content management requires careful strategies to be crafted and deployed to capture the segmented market. Mc Donald's as reflected by its young staff is catering to meet the small feast needs of the young consumers.

The youth which is based on the millennial is now oriented to maintain their health, wealth and other parameters which are required in the necessary diet intake.

Content designing: the content to be posted on instagram, facebook, for the videos to be posted on the digital media. The choice of the audio song, the text reflected in the video, needs to be succinct, comprehensive and attractive to read.

Content writing: The content updates related to the change in the advertising and marketing strategies of other competitors make the content an easy and a likeable read. Addition of a catchy music makes the viewer come back to the video. Also, watching the video again and again makes the brand entrench and occupy both mind space and pocket space. Food delights heart and soul not just intestines. Thus a requirement to write

compelling content is an attractive mode of keeping the brand recall high.

Content auditing: the content needs to be consistently audited for updates via other competitors' offerings. The content needs to be explored and made on health streaks while also appreciating receipt of the feedback from readers and viewers.

Content reports: Insights to be reviewed from the analytics report, that is, how many views and reads have been achieved in how much time and the readers and viewers are geographically dispersed.

Disguised sponsorship: Mc Donald's is a brand that can sponsor its advertising research either through some agencies or may hire the employees they trust in their job enrichment profile roles to extend and reach out to the customer how much do they like the taste and talk about the same in person to individuals thus scrutinizing word of mouth advertising.

Disguised observation: Further, the various blogs that are posted by Mc Donald's fans club and other food bloggers will make it easy to assess the digital marketing campaigns of the organization. The timely observation on the campaign will make it effective.

Metrics for evaluating campaign success

Content Theme	The celebration of food as a natural diet. Small pangs of hunger need not be ignored but can be managed to be fulfilled.
Message	The message is based on the festive occasion of Christmas where people are celebrating with various food and drinks option from the menu card of Mc. Donald's. Mc. Donald's party away from the outlet at the roof or at the beach because of easy unwrap packaging.
Content Elements	<p>Stewart et al. (2019) researched the effectiveness of digital video advertisement with infotainment where the purpose is to educate the buyer in an entertainment mode. Thus, the following content is proposed:</p> <p>Content marketing for:</p> <p>Competitive persona: Even if after two years of loss of lives during the pandemic you find a healthy option expensive then how you are ready to sacrifice your immunity for money.</p> <p>Humanistic persona: toss your family health for a small fraction of wealth!</p> <p>Spontaneous: Taste with health now! Fast food is now going to reduce weight fast too! Say yes to Oats Burger and Multigrain burger now for multiple benefits!</p> <p>Methodological: Burger of your dreams made of oats, multigrain and loads of nutrition! Ignore it at your own risk!</p>

Hashtags	<i>Number of hashtags, words used in hashtags</i>
Content Flow	Adherence to coherence in concrete craft of the message is the most effective tool.
Visuals	<p>Food needs to be captured with maximum size of the burger visible in the digital advertisement.</p> <p>Following options can be considered:</p> <ul style="list-style-type: none"> • <i>Celebrity brand endorsement: Use of renowned models or health practitioners</i> • <i>Mom educating her child for healthy snacks while making an online order</i> • <i>Birthday party menu list being prepared in office or home settings</i>
Audio	A light music shall accompany the visuals but original as there can be copyright issues.
Validity	The content of the digital marketing idea needs to be valid according to the advertising laws.
Frequency to update	The content is valid for the eve of Christmas therefore the need to alter different posts and ensure a frequent repost of the campaign so that the reels or video post shall be re visible.
Data Review	
Data to delete	What data is obsolete and needs to be deleted?
Data to add	How can the existing data be made interesting to the viewer?
Data to change	Should there be a change in the appeal scheme to the customers?
Data to retain	What data needs to be consistently reinforced to the customer market share?
Content Goals	
1	Is the data valid for the goal of a short purpose such as festive discounts?
2	Are there any intermediate goals such as group discounts?
3	Putting up veritable information such as years of brand establishment, Founders, successful employees and most money savvy, most ordered, combo deals, etc.

Content Type	
Reviews	Product reviews- Exploration of multiple uses of the product Movie reviews Reviews on a political phenomenon
New Concepts / Conceptual Clarity of a topic	Elaborative description of a theme of the topic Innovative dimension of the topic
Entertainment	Dance Videos- Choreography Teaching; Singing; New lyrics on the same song
Sales Funnel	Informative, Creative
Content Budget	The DM campaign with \$100000
	Budget allocation for shoot of the videos
	Budget allocation for shoot for the promotion of videos
	Budget for the actor / characters / camera / camera persons / musicians
	Budget for location
	Budget for meals on display
	Budget for decoration and other charges

Lee et al. (2017) mentioned about food porn and the adverse effects on the viewers raising the rhetorical question to marketers on the ethical norms in digital marketing. The hunger pangs that arise are an offshoot of the various techniques of orienting mind to watch healthy food cooking as a lifestyle thus a break from the patterned cooking. WHO (2016) reported that a customer needs to be caught at the earliest (Aaker, 1980). Food is marketed to children as a source of happiness and an achievement of a target. This is promulgated in the corporate world as a form of targets and not project completion. But if it needs to be tasty, it must be healthy too! Thus, the marketing strategies especially in the digital mode where 'Live' sales can be easily promoted.

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A Study of Marketing Strategies Implemented for Two-Wheeler Bikes with special reference to Bajaj Rambha Auto Services, Vita.

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Abstract: *This study is regarding the Marketing Strategies implemented for Two-Wheeler Bikes with special reference to Bajaj Rambha Auto Services, Vita. This study is done in the two wheeler market of Vita city. This study focuses on the environmental factors affecting Bajaj Rambha and also the analysis done for the two wheeler. The analysis of consumer behaviour is also undertaken in this study like the purchase behaviour, decision making and buying roles. The study also focusses on competitor analysis of Bajaj Rambha.*

Keywords: Marketing Strategies, Environmental Factors, Consumer Behaviour.

INTRODUCTION

With the help of marketing strategy companies grown speedy way and more cost effectively. Marketing communication programs distinctive compelling and cost effective solution are always institutional goal in India, a two - wheeler is used as personal / family vehicle or a goods carrier. whereas it is confined to sport / racing analysis survey conducted in order to excess the marketing strategies of two wheeler segment of Bajaj and Hero Honda.

The study has been conducted in a systematic manner right from investigation the objective and breaking it down to the various components of the study to arriving at final conclusion on possible parameter to study the customer satisfaction level of the customer towards dealer services depending on the profile, i.e. Custer income, demographics such as age, gender, occupation etc.,the questionnaire was designed on the basis of an exploratory research. The actual data collection was through personal surveys of convenient sample of unit. Based on analysis and what was found. I have tried to

develop that the players will have to complete on Various on various fronts viz. pricing, technology, product, design, productivity, after sales services, marketing and distribution. In short term, market shares of individual manufacturers, are going to be sensitive to capacity, pricing and competitive pressures from other manufacturers.

According to the study, all the three segments' Motorcycle, Scooters and Mopeds have witnessed capacity additions in the upcoming period on this period, only the motorcycles segment is expected witness higher demand vis - a - vis supply, while the scooter and mopeds, Supply will outstrip demand. A sincome-grow and people feel the needs to own a private means of transport, sales of two wheelers will rise .

STATEMENT OF RESEARCH PROBLEM

“A study of Marketing Strategy with special Reference to Bajaj Rambha Auto in Vita City.”

OBJECTIVE OF THE STUDY

1. To study the Marketing Strategy of Bajaj Rambha Auto.
2. To know the Customer Satisfaction Level for Bajaj Rambha Auto.
3. To study the challenges faced by Bajaj Rambha Auto.

HYPOTHESIS

Null Hypothesis:

H0: There is no significant difference of marketing strategies on brand awareness

Alternate Hypothesis:

H1: There is significant difference on marketing strategies on brand awareness

SCOPE OF THE STUDY

- **Geographical scope:** The geographical scope is limited to the Bajaj Rambha Auto Vita.
- **Conceptual scope:** Conceptual scope is limited to the concept of marketing strategy and loyalty.
- **Analytical scope:** Analytical scope is related to the use of table, graph, percentage, interpretation.
- **Periodic scope:** The periodic scope of this study is limited only 26 days

IMPORTANCE TO STUDY

- The study would be helpful to the organization for formulating of profit ability strategy and also to the organization to overcome from there weakness and difficulties.
- The study helps to explore future requirement of consumers.
- The study is useful for knowing the sales of the organization

RESEARCH METHODOLOGY

PRIMARY DATA: Primary Data is first-hand information and which is not published. The primary

data sources are –Questionnaire, Schedule, Observation and Interview.

For present study questionnaire method is used to collect the data.

SECONDARY DATA: Secondary data is data which is available in printed form and used already. Secondary sources are internet, books, magazines, website govt. publications, journals etc. Secondary data has been collected through company record, annual report, etc.

SAMPLING: For present study, 100 customers are selected from the Bajaj Rambha Auto. For the study researcher has used non-probability convenient sampling Technique.

DATA ANALYSIS: Data has been analysed by using statistical tools like tabulation, graph and percentage.

LIMITATIONS OF STUDY

- The study limited to the one organization.
- The study is limited to marketing strategy.
- Study time period is of 26 days only.

LITERATURE REVIEW

INTRODUCTION

A literature review is a type of academic writing that provides an overview of existing knowledge in a specific field of research.

A good literature review summarizes, analyse, examine and synthesizes the relevant literature in a specific field of research. It illuminates how knowledge has evolved within the field highlighting what has already been done, what is generally accepted and what emerging and current state of thinking on particular topic. Additionally, literature review evaluates the gap in current knowledge i.e. not investigated or under researched areas.

REVIEW

1. **Haralayya, B. (2021)** This temporary role record is the result of research done purely using the ace of business enterprises. In each of the four semesters focusing on the "M/S SIDET BAJAR

BIDAR" capacity of the association as a major component for any affiliation to accomplish goals and makes a specialty of, every understudy should almost truly educate as a learner inside the association to get halfway information and present a comparable report to acquire these necessities. This necessitates planning at all levels to ensure that the document is understood well and that BAJAJ AUTOMOBILES functions in relation to various walls. In India, Bajaj Auto Ltd is likely the leading manufacturer of 3 Wheelers. The company is excellent for construction.

2. **Nayagam, T. P., Gurusamy, G., & Sangeetha, V. (2015).** This survey looks at how satisfied customers are with using Bajaj bikes. Its goal is to gauge client happiness. The information was gathered from 50 respondents and applied to Nagercoil Town's urban regions. To get a conclusion, percentage analysis and the likert scale approach are both applied. According to the study's findings, the majority of respondents are pleased with the popularity of the brand. The study's conclusion is that they will continue to effectively market their services.
3. **RAJAN, A. (2014)** Many businesses have entered the car industry in India, and they advertise their services under a variety of programmers. In turn, bike users—regardless of age, sex, or income—are constantly on the rise. However, in reality, buyers rarely stick with a single brand of bike; instead, they switch between bikes of different brands or models based on convenience and performance. For this reason, a study on customer satisfaction with the use of Bajaj bikes is currently being conducted, with a focus on Tirunelveli Town.
4. **Tiwari, D., & Bali, S. (2022).** The foundation for creating a particular business plan is customer happiness. Consumer engagement is the most crucial aspect that needs to be focused on in the two-wheeler sector to enable the necessary planning's growth. Hero and Bajaj, two well-known businesses, both place an emphasis on the structural development of business planning as a means of guaranteeing business development objectives.
5. **Raj, S. D., & Kannan, N. (2022).** India is the world's largest two-wheeler manufacturer. More than 80% of India's total automotive manufacturing is in the two-wheeler sector. Two-wheelers are the most popular mode of transportation since they are perceived to be more user-friendly in terms of time, fuel consumption, parking, and other factors. Since consumer perception of two-wheelers plays a significant role in their sales, a study was conducted with the primary goal of determining how consumers feel about the industry as it relates to various brands produced by Hero Motor Corp., Honda motorcycles and scooters, TVS, Bajaj Auto, Royal Enfield, Yamaha, and Suzuki.
6. **RK, A., Rajee, J. M., & Cherian, M. E. (2021).** Maintaining and improving products, services, and brand perception are all part of brand management. Unfortunately, 2020 didn't get off to the best start possible. COVID-19, a personal tragedy with long-term economic repercussions, has had a significant impact on consumers and brands during the past few months. In order to properly express the brand's message during this time, marketing will need to be very creative and tactful. As a result, businesses are now working together to support their key customers during this unprecedented period. The second study's main focus is on how businesses were able to preserve their brand value and what contributions they made to hasten their growth during the epidemic.
7. **Yadav, M. S. V., & Shirke, H. P. (2021).** A motorcycle is essentially a two-wheeled vehicle with an engine that is mostly used for transportation. There are numerous internal and external stimuli, such as psychological, sociological, economic, and demographic aspects, in addition to the customer themselves. This study's objective is to examine the two-wheeler consumers' purchasing decisions and demographic characteristics. customer demographics were examined, as were factors affecting consumer purchasing decisions.

DATA ANALYSIS AND INTERPRETATION

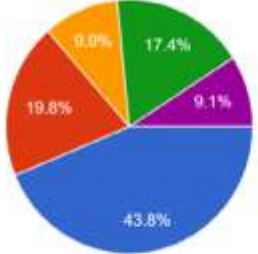
INTRODUCTION

“The data after collection has to be processed and analysed in accordance with the outline laid down at the time of development the researcher has all

relevant data for making contemplated comparison and analysis.”

Table 1: Classification of data respondents on the basis of Model.

Model	Respondents	%
Bajaj	168	43.8
Hero-Honda	76	19.8
TVS	38	9.9
Yamaha	67	17.4
Any Other	35	9.1
Total	384	100

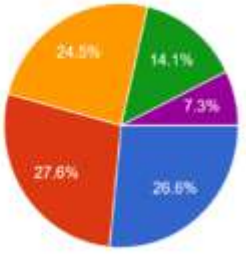


The above table shows that the 43.8% people using the Bajaj Vehicle and 19.8% people using the Hero vehicle. 9.9% people using

the TVS vehicle 17.4% people using Yamaha and 9.1% people using Honda vehicle.

Table 2: Classification of data respondents on the basis of Preference of Bajaj Bikes.

Preference of Bajaj Bikes	Respondents	%
Low – Cost	102	26.6
Less Maintenance	106	27.6
High Mileage	94	24.5
Availability of loan	54	14.1
Any Other Scheme	28	7.3
Total	384	100

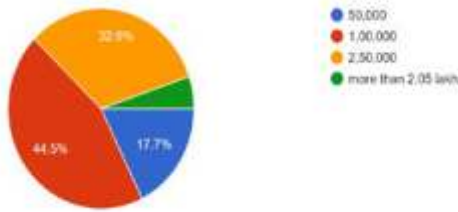


The above table shows that the 26.6% customers choose Bajaj Vehicle due to low cost, 27.6% customers choose Bajaj Vehicle due to less maintenance, 24.5% customers choose Bajaj

Vehicle due to high mileage, 14.1% customer choose Bajaj Vehicle due to availability of loan and 7.3% customers choose Bajaj Vehicle due to any other scheme.

Table 3: Classification of data respondents on the basis of Budget.

Budget	Respondents	%
50000	68	17.7
100000	171	44.5
250000	125	32.6
More than 2.5 lakh	20	5.2
Total	384	100

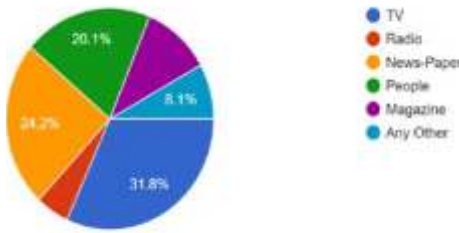


The above table shows that 17.7% customers budget is 50,000 for choose the bike. 44.4% customers budget is

1,00,000, 32.6% customers budget is 2,50,000 and 5.2% customers budget is more than 2.5 lakh.

Table 4: Classification of data on the basis of from where customer get information about Bajaj auto.

From where cust get information	Respondents	%
TV	122	31.8
Radio	20	5.2
News – Paper	93	24.02
People	77	20.1
Magazine	41	10.7
Any Other	31	8.1
Total	384	100

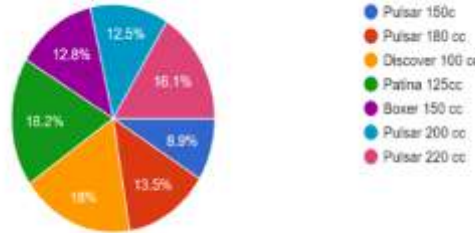


The above table shows that the 31.8% customers have got information about bajaj auto from the source of TV, 5.2% customers have got information about bajaj auto from the source of Radio, 24.2% customers have got the information about bajaj auto from the source of

newspaper, 20.1% customers have got the information about bajaj auto from People, 10.7 customers have got information about bajaj auto from the source magazine and 8.1% customer have got the information about bajaj auto from the any other source.

Table 5: Classification of data respondents on the basis of purchasing bikes from bajaj auto.

Purchasing Bikes From Bajaj Auto	Respondents	%
Pulsar 150cc	34	8.9
Pulsar 180cc	52	13.5
Discover 100cc	69	18
Platina 125cc	70	18.2
Boxer 150cc	49	12.8
Pulsar 200cc	48	12.5
Pulsar 220cc	62	16.1
Total	384	100

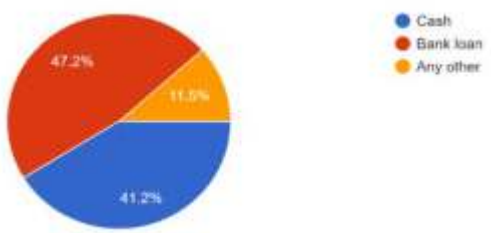


The above table shows that the 8.9% customers have preferred to choose Pulsar 105 cc Bike from Bajaj auto, 13.5% customers like to choose pulsar 180 cc, 18% of the customers like to choose Discover 100 cc, 18.2% of the customers likes to

prefer platina 125 cc, 12.8% of the customers like to choose Boxer 150 cc and 12.5% of the customer like to choose pulsar 200 cc and remaining 16.1% customers like to choose Pulsar 220 cc from Bajaj auto.

Table 6: Classification of data respondents on the basis of way purchasing vehicle.

Way of Purchasing Vehicle	Respondents	%
Cash	157	41.2
Bank Loan	180	47.2
Any Other	47	11.5
Total	384	100




The above table shows that the 41.2% customers like to purchase the vehicle by cash, 47.2% customer like to purchase the

vehicle with the help of bank loan and remaining 11.5% of the customers like to buy the vehicles by the other way.

Table 7: Classification of data respondents on the basis of types of promotional schemes.

Types of promotional schemes	Respondents	%
Advertisement	55	14.3
Auto - Exhibition	45	11.7
Coupons	70	18.2
Cash Discount	115	29.9
Contests	18	4.7
Availability of loan	53	13.8
Any Other	28	7.3
Total	384	100

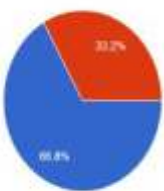


The above table shows that the 14.3% customers prefer advertisement schemes, 11.7% of the customers prefer Auto Exhibition, 18.2% customers prefer coupon allocation, 4.7% of the customers

prefer contests, 29.9% of the customers prefer cash discounts, and 13.8% like to choose availability of loan remaining 7.3% like to prefer other schemes.

Table 8: Classification of data on the basis of dealer promote their vehicles through sales force.

How dealer Promote their vehicle	Respondents	%
Yes	255	66.8
No	129	33.2
Total	384	100

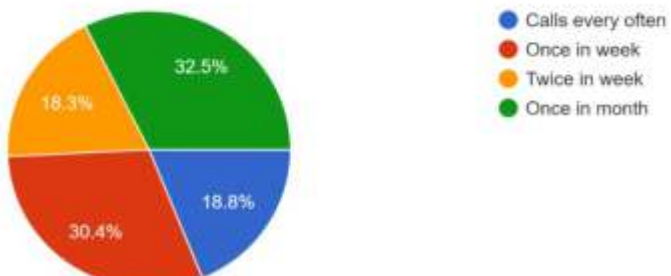


The above table shows that 66.8% customers say that their vehicles are promoted from dealer

through sales force and remaining 33.2% of the customers do no agree.

Table 9: Classification of data respondents on the basis of their times of call.

Their times of call	Respondents	%
Calls every often	74	18.8
Once in week	116	30.4
Twice in week	70	18.3
Once in Month	124	32.5
Total	384	100

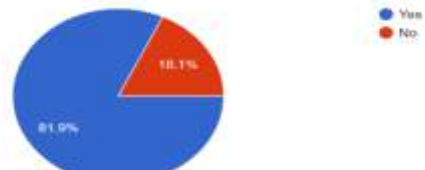


The above table shows that 18.8% of the customers say that organization calls them every often, 30.4% of the customers say that the bajaj auto calls them once in week, 18.3%

of the customers says that the organization calls them twice in week, and remaining 32.5% of the customers says that organization calls them once in month.

Table 10: Classification of data respondents on the basis of is showroom far from residence.

Is showroom far from your residence	Respondents	%
Yes	313	81.9
No	71	18.1
Total	384	100




The above table shows that 81.9% customers says that showroom is far from their residence and remaining 18.1% customer

says that showroom is not far from their residence

Table 11: Classification of data on the basis of promotional efforts taken by dealer.

Promotional efforts taken by dealer	Respondents	%
Free petrol coupons	61	15.9
Extra two services	107	27.9
Free extended warranty up to 2-3 years	74	19.3
Discount on spare parts	73	18.8
Any other	69	18
Total	384	100

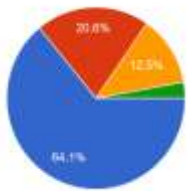


The above table shows that 15.9% of the customers say that promotional efforts like free petrol coupons should be allocated by the dealer, 27.9% of the customers says that promotional efforts like extra 2 free services should be provided by the dealer, 19.3% of

the customers says that free extended warranty up to 2-3 years should be provided by the dealer, 18.8% of customers says that dealer provide any other promotional efforts.

Table 12: Classification of data respondents on the basis of satisfaction of pre and post services.

Satisfaction of pre & post services	Respondents	%
Fully Satisfied	246	64.1
Nor fully satisfied	79	20.6
Less satisfied	48	12.5
Unsatisfied	11	2.9
Total	384	100



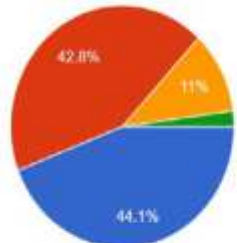
A pie chart illustrating the distribution of satisfaction levels among respondents. The chart is divided into four segments: a large blue segment for 'Fully satisfied' at 64.1%, a red segment for 'Nor fully satisfied' at 20.6%, an orange segment for 'Less satisfied' at 12.5%, and a small green segment for 'Unsatisfied' at 2.9%.

The above table shows that 64.1% of the customers are fully satisfied by the pre and post services

provided of Bajaj auto, 20.6% of the customers are not fully satisfied, 12.5% of the customers are

Table 13: Classification of data respondents on the basis of overall performance of Bajaj auto.

Overall performance of bajaj auto	Respondent	%
Excellent	169	44.1
Good	164	42.8
Average	42	11
Poor	9	2.1
Total	384	100



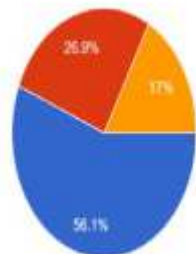
A pie chart showing the overall performance ratings for Bajaj auto. The chart features four segments: a blue segment for 'Excellent' at 44.1%, a red segment for 'Good' at 42.8%, an orange segment for 'Average' at 11%, and a small green segment for 'Poor' at 2.1%.

The above table shows that 44.1% customers give excellent rate for overall performance of bajaj auto, 42.8% customers give good rate for overall performance of bajaj auto,

11% customers give average rate for overall performance of bajaj auto and 2.1% customers give poor rate for overall performance of bajaj auto.

Table 14: Classification of data on the basis of how they provide after sales service.

How they provide after sales service	Respondents	%
Tele – Calling	215	56.1
After sales and service at the customer	104	26.9
Workshop	65	17
Total	384	100



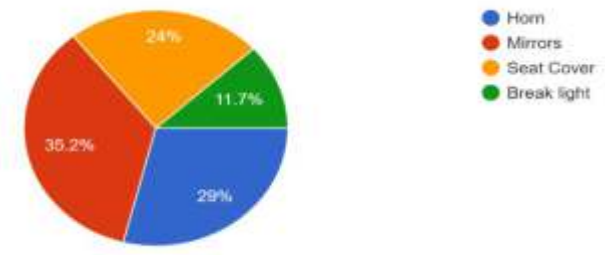
A pie chart depicting the methods used for after-sales service. The chart is divided into three segments: a blue segment for 'Tele-Calling' at 56.1%, a red segment for 'After sales and services at the customer door' at 26.9%, and an orange segment for 'Workshop' at 17%.

The above table shows that 56.1% customers says that bajaj auto provide after sales services by Tele-Calling, 26.9% customer say that bajaj auto provide after sales service at

door and remaining 17% customers says bajaj auto provide after sales services by workshop.

Table 15: Classification of data respondents on the basis of accessories which you like to add.

Accessories which you like to add	Respondents	%
Horn	111	29
Mirrors	135	35.2
Seat Cover	92	24
Break Light	46	11.7
Total	384	100

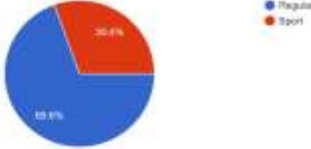


Above table shows that 29% customers like to add Horn, 35.5% customers like to add Mirror, 24% customers like to add seat

cover and remaining 11.7% customers like to add break light.

Table 16: Classification of data respondents on the basis of favourite bike type.

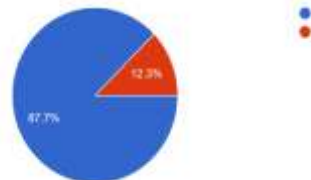
Favourite Bike Type	Respondents	%
Regular	265	69.6
Sport	119	30.4
Total	384	100



The above tables show that, 69.6% customers like regular bikes and remaining customers like sports bikes.

Table 17: Classification of data on the basis of you want electric bike of bajaj or not.

You want electric bike of bajaj or not.	Respondents	%
Yes	334	87.7
No	50	12.3
Total	384	100

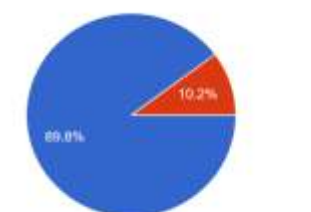


The above table shows that, 87.7% customers want electric bike of baja and

remaining 12.3% customers not want electric bike of bajaj.

Table 18: Classification of data respondents on the basis of bajaj bikes are comfortable or not.

Bajaj bikes are comfortable or not.	Respondents	%
Yes	343	89.8
No	41	10.2
Total	384	100

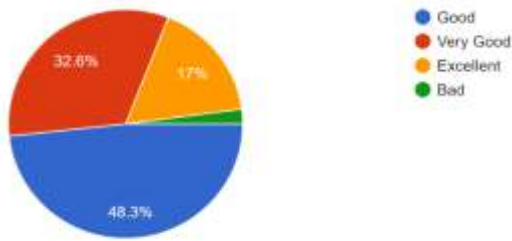


The above table shows that, 89.8% customer says that bajaj bikes are comfortable for daily use

and remaining 10.2% customers says that bajaj bikes are not comfortable for daily use.

Table 19: Classification of data respondents on the basis of satisfy about bajaj auto service.

Satisfy about bajaj auto service.	Respondents	%
Good	185	48.3
Very Good	125	32.6
Excellent	65	17
Bad	9	2.1
Total	384	100



The above table shows that, 48.3% customers says bajaj auto services are good, 32.6% customer says

bajaj auto services are very good, 17% customer says bajaj auto service are excellent and remaining

FINDINGS

Researcher has arranged the data by using various methods and made interpretation from the analysis interpretation of the researcher has delivered some findings and observation researcher had suggestions for improving the performance of the organization.

1. It is observed that 43.8% customers are using Bajaj Bikes.
2. It is observed that 27.6% customers preferred to choose Bajaj bikes due to Less Maintenance.
3. It is observed that 44.5% customers budget is 1 lakh.
4. It is observed that 31.8% customers have got information from the source to TV.
5. It is observed that 18.2% customers preferred to choose Platina 125 CC of Bajaj auto.
6. It is observed that 47.2% customers like to purchase the vehicle by bank loan.
7. It is observed that 29.9% customer prefer cash discount promotional scheme;
8. It is observed that 66.8% customers have opinion that dealers use their workforce for sales promotion.
9. It is observed that 32.5% customers say that organization calls them every often.
10. It is observed that 81.9% customer say that showroom is far from their residence.
11. It is observed that 27.9% customers say that

promotional efforts like extra two services should be allocated by dealer.

12. It is observed that 64.1% customers are satisfied with pre & post service provided by dealer.
13. It is observed that 44.1% customers give excellent rating for overall performance of Bajaj Auto.
14. It is observed that 56.1% customers say dealer provide after sales service by Tele- Calling.
15. It is observed that 35.2% customers like to add mirror to their bike.
16. It is observed that 69.6% customers like regular Bajaj bikes.
17. It is observed that 87.7% customers want the electric bikes of Bajaj.
18. It is observed that 89.8% customers say that Bajaj bikes are comfortable for daily use.
19. It is observed that 48.3% customer gives good rating for Bajaj auto services.

SUGGESTIONS:

1. The organisation should provide sufficient information about loans and should take agent between bank and customers.
2. The organisation should provide proper service on time to each and every customer.
3. The organisation should increase their sales by using various promotional activities like digital marketing etc.

CONCLUSION:

Marketing strategies have made it much easier to promote products and services. They also limit the strategy to target audience ensuring the proper advancement of the business.

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Impact of Digital Platform on Grocery Shopping in Navi Mumbai

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Abstract: The Purpose of the study is to comprehend both the demographic aspects and the elements that affect consumers' decisions to shop for groceries online. The Navi Mumbai region served as the site of the research. Exploratory research techniques are used. An online survey was used to collect data. Data on customer demographics, such as gender, age, and monthly income, as well as buying habits and websites visited, was gathered using a standardized questionnaire. In Navi Mumbai City, 117 online grocery shoppers were included in the sample. A convenient sampling method is used. Finding reveals that an innovation in digital platforms in grocery shopping provides an array of tailored services. Today's customers are adopted new digital platforms for grocery shopping. Technology plays a very important role in retail digital platforms and impacts more on customer perception. Consumer learning and social acceptance is very important in online grocery selling. This study discovered that consumer learning and societal acceptance both have an impact on how appealing grocery shopping is to consumers and, as a result, how likely they are to embrace this new shopping strategy.

Keywords –Demographic, groceries, customer, Consumer Decision, Navi Mumbai

Introduction

Online grocery shopping has been a quickly expanding industry on the internet, while not having the same development pattern as other online-sold goods like clothing, consumer durables, gadgets, books, etc. The ease and choice of consumers were the main drivers of the e-commerce sector's explosive rise. Yet, the development of online groceries was fundamentally changing the food sector because of the connections with customers. For clients who wish to experience luxury every day, it offers the benefits of the product and makes a service more convenient. Numerous additional factors, such as avoiding busy areas, not wanting to travel to the market, not caring about costs, payment security, product replacements, etc., also influence customers to shop for groceries online.

Objectives

- To study the most used digital platform for grocery shopping in Navi Mumbai.
- To study the factors responsible for online grocery shopping in Navi Mumbai.
- To Study the impact of digital platforms on grocery shopping.

Hypothesis

H1: Gender of customer significantly impacts choosing digital platform and grocery shopping behaviour.

Literature Review

Nirmithi Sanghiet. Al.(2023) conducted a research study on the emergence of the Indian hyperlocal grocery delivery industry: Dunzo v/s Blinkit'. This research throws a light on comparative study on Dunzo and Blinkit and hyperlocal grocery industry in India. Study describes technological innovations in grocery delivery services in India. Research describes the evolution and growth of retail industry dynamics.

Meshram J. (2020) conducted a research study on How COVID 19 affected the online grocery Buying Experiences- A study of selected cities of Mumbai and Pune. The study indicated that consumers nowadays, whether they are purchasing clothing, electronics, or regular groceries, prefer to shop online. The pandemic had an impact on the companies of retailers who primarily operate online. Nothing was operating during the lockdown, and after it was over, the absence of resources—such as inventory, transportation, and delivery personnel—made it difficult for businesses to satisfy customers' expectations. Study concluded that lockdown had largely affected online retail sector. Pandemic revolutionized entire grocery buying pattern of the Indian Customer and converted to offline mode to online mode. Hence there is a large growth of digital platform of grocery buying in India.

Rupali Rajesh (2019) conducted a research study on Assessing the impact of Online Grocery Shopping in Mumbai. The main goal of study was to comprehend the variables that affect online grocery shopping as well as the demographic elements that affect customer decision-making. The study was carried out in the Mumbai region. Research was exploratory type. Data collecting has been done through an online survey. The study's findings demonstrate that both male and female consumers are influenced by aspects including product availability, delivery options, and product choice while shopping for groceries online. Online grocery buying in the Mumbai region is significantly different depending on the client age and the products' accessibility. Marketers can concentrate primarily on the three proposed surrogate elements of product descriptions, online grocery delivery and replacement, and product availability and choice.

Jisha & Karan (2017) According to a study, factors such as product availability, pricing, product quality, offers and discounts, delivery time scheduling options, and others have transformed how consumers perceive online grocery shopping. Certain characteristics of online purchasing have an impact on buying choices. It was found that knowing how consumers feel about online grocery shopping can help e-marketers attract more customers in the future.

Kaur and Shukla (2017) Study focused on the social effect, technical difficulties, and shopping aspects for grocery buying. It was found that consumers in India were resisting the trend due to technical issues including slow internet and a lack of knowledge with grocery shopping websites, among other anxieties regarding the quality of the products. For effective search and a simple purchase process, diversification of website design, content, platform, and product price was necessary.

Research Methodology

For this research study the primary data is collected through a self-administered questionnaire targeted toward different age groups spread across Navi Mumbai. A qualitative and quantitative approach has been chosen for the study. To study a large population of online grocery shoppers, the convenience sampling technique is used. The collection of original data from respondents doing online grocery shopping constitutes primary data. The secondary data of the study is collected through various journals, reports, books, articles, magazines, research papers, websites etc. Data collected from 57 respondents from the Navi Mumbai area for online grocery shopping.

Data Analysis

Table 1 : Gender Demographics of the respondent's

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	28	28.0	28.0	28.0
	Female	72	72.0	72.0	100.0
	Total	100	100.0	100.0	

Interpretation: From the above, it was observed that out of 100 respondents, the maximum of 72 i.e. 72% were

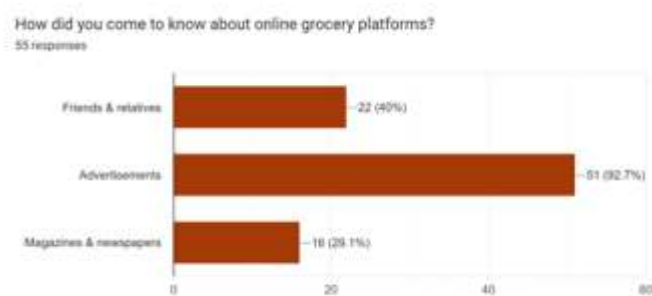
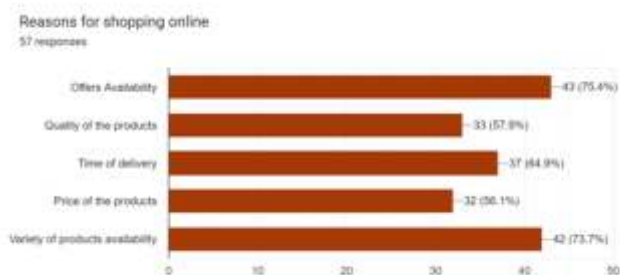
females, and a minimum of 28 i.e. 28% respondent's were males.

Table 2: Age Demographics of the respondent's

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25 to 30	12	12.0	12.0	12.0
	30 to 35	29	29.0	29.0	41.0
	35 to 40	13	13.0	13.0	54.0
	40 to 45	41	41.0	41.0	95.0
	45 to 50	5	5.0	5.0	100.0
	Total	100	100.0	100.0	

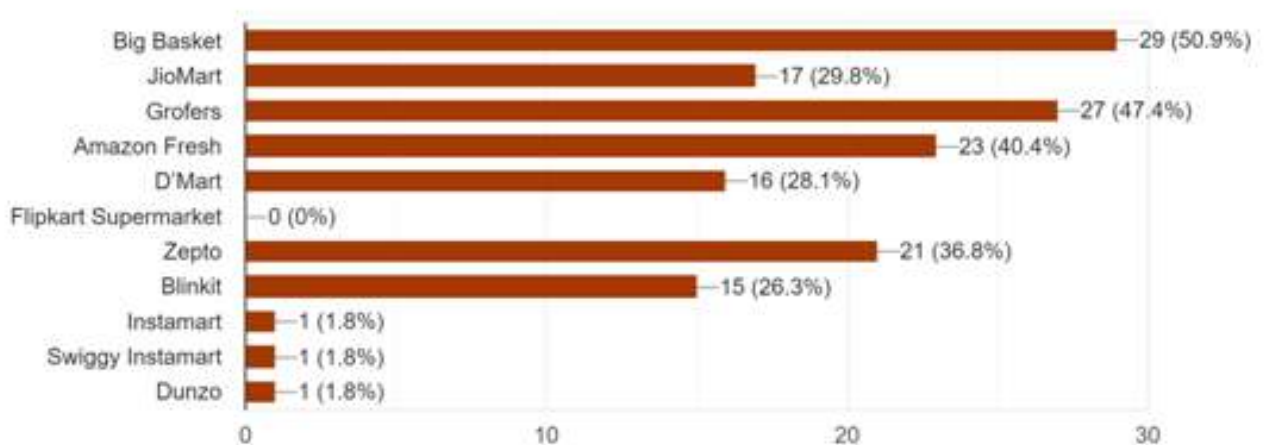
Interpretation: From the above, it was observed that out of 100 respondent's , 41 i.e. 41% were belong to the 40-45 years of age group and 29 % were belong to the 30-35

years of age group and minimum 5 % belong to the 45-50 years of age group.



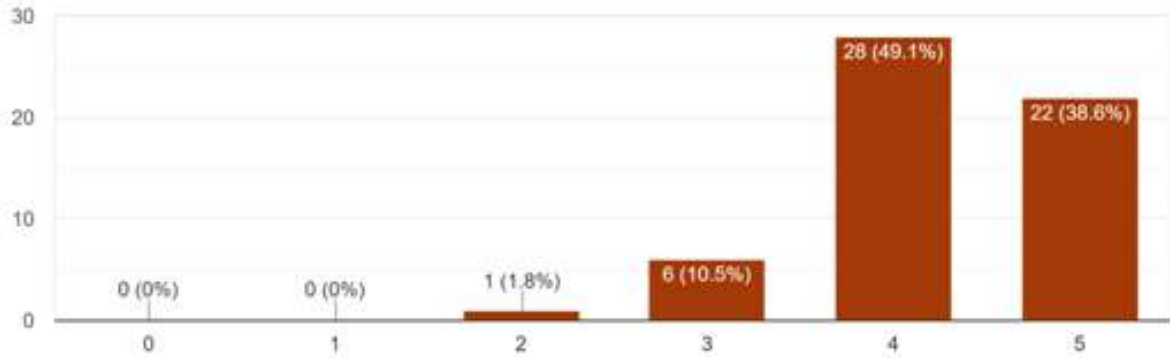
Which of the following websites do you prefer while shopping for groceries online?

57 responses



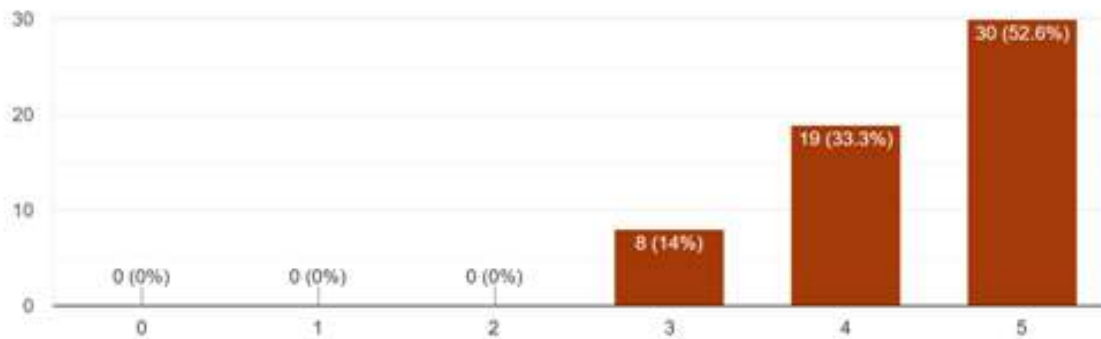
Satisfaction with the quality of online grocery.

57 responses



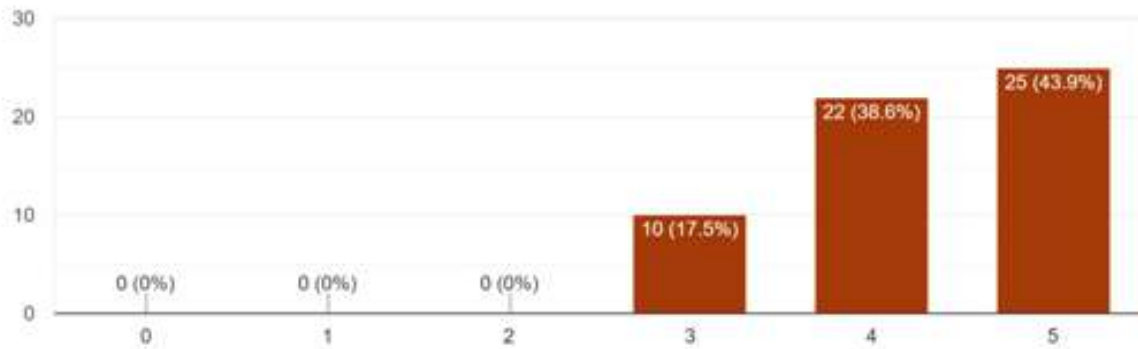
Satisfaction with timely delivery of groceries.

57 responses



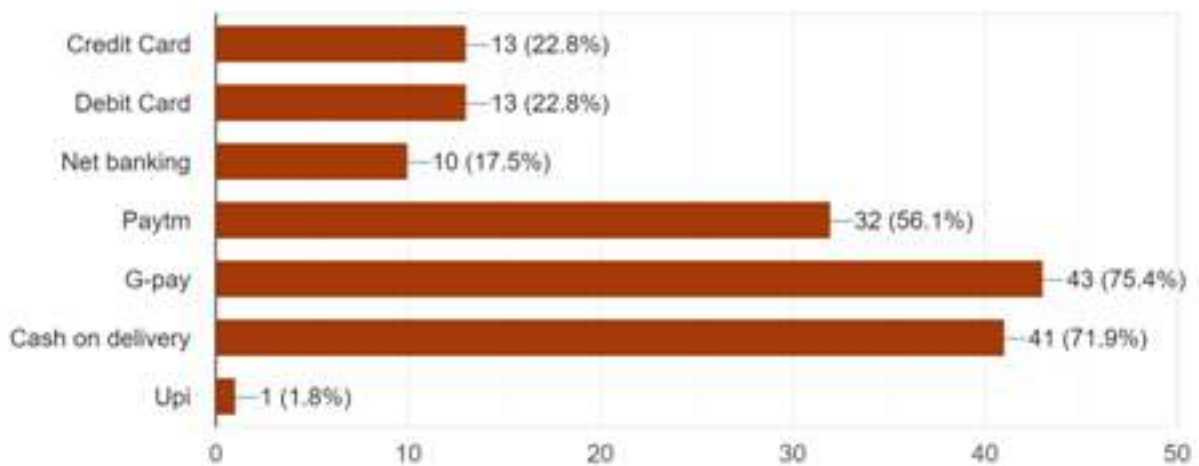
Are you satisfied with the packaging?

57 responses



What is your preferred method of payment?

57 responses

**Hypothesis Testing :**

H₁: Gender of customer significantly impacts choosing digital platform and grocery shopping behaviour.

Table 3: T-Test: Customer's Perception about usage and adoption of digital platform for grocery shopping

Group Statistics

	Gender	N	Mean	Std. Deviation	t-value	df	p-value
Offers Availability Quality of the Product	Male	28	73.68	14.113	1.979	98	.051*
	Female	72	78.44	9.252			
Time of delivery Offers Availability	Male	28	13.29	4.276	4.247	98	.000**
	Female	72	16.50	2.998			
Quality of the Product	Male	28	86.96	16.473	2.698	98	.008**
	Female	72	94.94	11.845			

From the above table, by applying t-test it was observed that, there is statistically significant difference (t-value=1.979, df=98, p-value=0.051<0.05) in customers perception about usage and adoption of digital platform for grocery shopping across the gender. The mean score of female (78.44) customer is more than male (73.68) customers. Similarly, for the customers perception about time of delivery there is statistically highly significant difference (t-value=4.247, df=98, p-value=0.000**)

across gender. The mean score of female (16.50) customer is more than male (13.29) customers. And there is significant difference ((t-value=2.69, df=98, p-value= 0.008**) in customer perception about quality of the product.

Result : Hence it is proved that Gender of customer significantly impacts choosing digital platform and grocery shopping behaviour.

Findings

1. With the convenience and product selection becoming comparatively more essential as a decision factor for online grocery buying, people are becoming more comfortable with the experience of making purchases online.
2. Consumer time and spending are steadily shifting more towards e-commerce. Consumers are motivated to purchase online for a variety of reasons, with pricing, shopping convenience, and the availability of a large selection of goods being the main ones.
3. Online grocery buying in the Navi Mumbai region is significantly different based on the customer's age and the products' availability. Marketers can concentrate primarily on the three potential alternative aspects of product descriptions, online grocery delivery, replacement, product availability and choice.
4. Websites like Bigbasket, Grofers, Amazon Fresh, Zepto are the most used platforms for grocery shopping in Navimumbai.
5. The creative and young internet users buy for groceries at sites like Amazon Grocery, Big Basket, D-Mart Online, Grofers, Nature Basket, and Zopnow.com, among others, which offer a variety of promotions and coupons for everyday bazaar purchases. Due to the long customer lifecycle, building a loyal customer base online for the grocery sector is appealing. E-commerce businesses were bringing their current consumers online while also attracting new ones from the market.
6. It is proved that gender of customer significantly impacts choosing digital platform and grocery shopping behaviour.

Conclusion

Today, the fastest-expanding area of e-commerce is online grocery. A growing number of people are

becoming interested in and accepting of it as a result of the high quality products, quick delivery, and convenience. Online grocery delivery is a niche business, according to the Allied Market Research Report 2015–2022. In the upcoming years, it is anticipated that the purchase of fresh and packaged food through online portals will increase significantly. This includes a wide range of products including bakery and dairy goods, cereals, vegetables, fruits, and so on. Because it is easy and offers a wide selection of products delivered to the consumer's doorstep within a certain time limit, female customers have increasingly chosen to do their grocery shopping online. The ability for clients to monitor their expenditures was another benefit.

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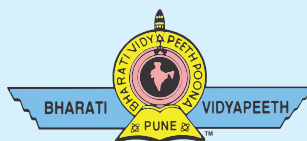


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