EFFECT OF ONLINE ADVERTISING ON CONSUMER PREFERENCES FOR STEEL BARS

L. Ivan Kenny Raj, S. Ramesh Babu and T. Nandhini

Mepco School of Management Studies, Mepco Schlenk Engineering College, India

Abstract

This study investigates the impact of advertising on customer preferences for steel bars,. The research objectives include examining how advertising influences purchase decisions, determining the necessary frequency of advertisements to maintain customer awareness, and assessing the effectiveness of different advertising mediums (digital, print, and outdoor). A sample of 411 responses was collected through physical forms. Various analytical tools, including Chi-Square tests, Cross-tabulations, regression, and frequency to analyze the data. Key findings reveal that advertisements significantly shape customer perceptions by accurately portraying product quality, enhancing brand image, and highlighting unique features. The frequency of advertisements is crucial for maintaining customer awareness, with frequent viewers showing a tendency to encounter regularly. The effectiveness of advertising mediums varies, with digital advertisements particularly resonating with younger audiences. The study concludes that targeted and frequent advertising strategies have substantially contributed to increased sales, expanded dealer networks, and overall business growth for the Steel Bars.

Keywords:
Advertisement, Customer Purchase, Frequency of Advertisement, Advertisement Medium

1. INTRODUCTION

In today's highly competitive business environment, establishing and maintaining customer awareness is paramount for companies aiming for market success. Among the endless strategies available to achieve this goal, advertising stands out as a powerful tool for reaching and influencing target audiences. This holds especially true for companies operating in industries characterized by intense competition and complex product offerings, such as the steel manufacturing sector. Advertising is the use of sponsored, branded messages to sell products or services. The purpose of advertising is to boost revenue, gain an advantage over competitors, and build brand awareness [4]-[6]. If you walk by an ad on your way to the grocery store, it may appear to be a standalone billboard or poster. However, single ads are usually part of a larger campaign. Ad campaigns are a series of advertisements grouped around a common theme or goal. Companies may create their ad campaigns internally, by working with independent advertising consultants, or with the help of a third-party advertising agency. People have been advertising goods and services in some form since at least the 1500s. Today's advertisers have more options available to them than ever before, making ads an effective tool for companies of all sizes. The two images below show the way one company's advertising has evolved over several decades. First, we see a vintage Sunbeam toaster ad, most likely from a magazine or newspaper. And the second image shows an Australian micro-influencer with over 28,000 follower's shares photos of a Sunbeam toaster in her kitchen as part of a sponsored post.

1.1 INDUSTRY PROFILE

Attempts to establish iron and steel units were actively being made in the early years of 1800. The very first attempt was made in the year 1808 by Mr. Duncan of the East India Company, which soon met its end. Another attempt was made by Josiah Marshall Heath, who established the first iron and steel unit at Porto Novo, Madras, in the year 1830. This plant, however, could not succeed and was shut down in 1860.Post-Independence; India has seen a magnificent growth in the steel industry. From the year 1950 to 1951, India produced an estimate of 16.9 lakhs tons of pig iron. During the first plan, Iron and Steel in India, TISCO and IISCO were the three main players in the private sector and Mysore State Iron and Steel Works were in the public sector. The Steel Authority of India (SAIL) was launched in the year 1973. It is a government organization which manages all the major steel plants in India, like Bhilai, Bokara, Rourkela and Burnpur. This organization started managing Iron and Steel in 1976.The Maharashtra Elektrosmelt Limited and the Visweswaraya Iron and Steel Limited were taken over by SAIL in the year 1986 and 1989 consecutively. The functioning of SAIL saw some changes in the year 1991 owing to the Liberalized industry policy. This organization will become more tech-driven, and the manual labor cut down by 40,000 in the next 5 years.

2. LITERATURE SURVEY

The study objectives were to establish the relationship between product development strategy and sales performance, evaluate the relationship between price strategy and sales performance, to determine the relationship between place strategy and sales performance and examine the relationship between promotion strategy and sales performance of Tembo Steels Uganda Limited [1]. A case study design was used for this study. The results showed a strong positive impact of sales promotion on sales performance through improving brand awareness, consumer-perceived product quality, enhancing product use, company's brand image, and loyalty. The use of pricing strategy increases sales volume, use of penetration pricing influences customer purchase and value-based pricing has a positive impact on profitability. The research strategy is a case study that uses three companies from-petrochemical and steels industries [2] [3]. The data was collected through interviews. The data show several variables influencing buyer's attitude [7]. Findings show there are specific preferences for interviewed customer organizations. Which are price and quality? In could be seen that brand, environmental preference and advertisements have effect on buying attitude. Findings show the price and quality are the most nominated factors for buyer's attitude and producers should work on them more if they want to increase their customer's satisfactions. Results indicate that market orientation has the strongest positive relationship with measures of performance,

compared to strategy selection, firm size, or industry characteristics. The most influential market orientation elements are fast response to negative customer satisfaction information, basing strategies on creating value for customers, immediate response to competitive challenges, and fast detection in changes in customer product preferences [8]. The study examines the environmental impact and climate change concerns, resource depletion and conservation issues, and the social responsibility and stakeholder expectations faced by these industries. Current initiatives and barriers to sustainability implementation are discussed, followed by an analysis of the industrial scenario. Strategies to implement sustainability practices are presented, covering various stages of the oil and gas production process, including exploration, drilling fluids, well completion, production, and surface processing [9]. Additionally, strategies specific to steel manufacturing are outlined. This study developed and tested a simple model examining the magnitude, scope, and timing of U.S. steel firms' use of political strategies to address U.S. trade policy [10]. The findings showed that the industry's largest firms dominated the politics surrounding trade protection in order to capture expected benefits from trade protection or to postpone high downsizing costs. Firms engaged in certain political strategies not when import competition was the greatest but when domestic demand was weak. Significant quantities of sludge and slag are generated as waste material or byproduct every day from steel industries. They usually contain considerable quantities of valuable metals and materials. It is generally possible to recover some values by physical or chemical mineral processing techniques such as crushing, grinding, classification, hydrocyclone, magnetic separation, flotation, leaching or roasting. Transforming these solid wastes from one form to another to be reused either by the same production unit or by different industrial installations are very much essential not only for conserving metals and mineral resources but also for protecting the environment [11]-[18]. This paper analyzes the characterization, beneficiation and utilization aspects of blast furnace flue dust, blast furnace sludge, LD sludge and LD slag generated at modern steel plants. Marketing is the manner on doing someone actions as makes more beautiful on the manufacture then services so much makes a vast affect the audiences through an amazing messaging. Through content, advertising objectives in accordance with entrust a high value worth because of prospects then customers including the long-term purpose for strengthening company loyalty then demonstrating manufacture value as nicely so makes ultimately increasing sales. Marketing is the manner on working human beings more fascinated in the direction of the company's manufacture then services.

3. OBJECTIVES OF THE STUDY

- To identify how advertising influences customers' purchase of Steel products
- To identify overall satisfaction of customers' watching and visiting Steel Advertisement and website
- To examine the effectiveness of different advertising mediums (e.g., digital, print, outdoor) in reaching target customers.

- To identify the major factor influencing the purchase decision of Steel bars

4. RESEARCH METHODOLOGY

The descriptive nature research method is used to conduct this study. Primary data are those which information required for this research was collected from the respondents, using a Structured Questionnaire. Secondary data for this research was obtained from journals, literature and various websites. The samples taken for the study is 411. The data will be collected on a structured questionnaire. In this survey will be done at Madurai among the Customer. The questionnaire will be designed in a way to collect information about the retailers satisfaction towards

4.1 LIMITATION

1. For this data was collected only from a particular region of Madurai, not from all areas.
2. Customer view may be based on nature due to the differences in individual opinions.
3. The time limit was less for conducting and collecting the detailed study at the customer's preference.

4.2 ANALYSIS PLAN

The Statistical Package for Social Science (SPSS) tool is used to analyze the data collected for this study. The tools used for the analysis is chi square, cross tab frequency and regression analysis.

4.2.1 Analyzing the Influence of Advertising on Customer Purchases of Steel Products:

- **Null Hypothesis**: There is no significant relationship between age and customers' purchase
- **Alternate Hypothesis**: There is a significant relationship between age and customers' purchases

Table.1. Relationship between age and customers' purchases.

Demographic Factors	Asymptotic Significance	Null Hypothesis	Interpretation
I think Steel advertisements accurately represent the quality of their steel bars, so I bought it	0.008	Rejected	There is a significant relationship between age and customers' purchase
I think Steel advertisements effectively highlight the unique features of their steel bars, so I prefer it to buying it	0.018	Rejected	There is a significant relationship between age and customers' purchase

While observing the results of this test, associate the nature of quality and unique features of Steel is lesser than 0.05 ($p<0.008$, $p<0.0018$), the null hypothesis is rejected that there is a significance relationship between the two variables.

4.2.2 Relationship between Age and Digital Advertisements:

Table.2. Relationship between Age and Digital advertisements

Age	Digital advertisements effectively capture my attention				Total
	Disagree	neutral	Agree	Strongly Agree	
18-25	2	9	14	32	57
26-30	1	11	18	21	51
31-35	3	8	30	26	67
above 35	5	49	101	81	236
Total	11	77	163	160	411

Overall, older age groups (especially above 35) tend to agree more with the effectiveness of digital advertisements in capturing their attention, whereas younger groups show varied responses with relatively fewer in strong agreement.

4.2.3 Relationship between Age and Print Advertisements:

Table.3: Relationship between Age and Print advertisements

Age	Print advertisements (e.g., in newspapers or magazines) are informative and engaging.				Total
	Disagree	neutral	Agree	Strongly agree	
18-25	1	23	20	13	57
26-30	1	24	12	14	51
31-35	3	25	21	18	67
above 35	3	89	76	68	236
Total	8	161	129	113	411

Overall, older age groups, particularly those above 35, tend to find print advertisements more informative and engaging, while younger groups show a tendency towards neutrality with fewer strong agreements.

4.2.4 Relationship Between Age and Outdoor Advertisements:

Table.4. The Relationship between Age and outdoor advertisements

Age	Outdoor advertisements effectively communicate their message to me.				Total
	Disagree	Neutral	Agree	Strongly agree	
18-25	3	25	5	24	57
26-30	2	18	8	23	51
31-35	7	29	8	23	67
above 35	7	106	30	93	236
Total	19	178	51	163	411

Overall, older age groups, especially those above 35, tend to agree more with the effectiveness of outdoor advertisements in communicating their message, while younger groups show varied responses with notable strong agreements in the 18-25 and 26-30 age ranges.

4.2.5 Factors Considered the Most While Choosing a Steel Product:

Table.5: Factors that are considered the most while choosing a steel product

Factors	Frequency	Percent
Product quality	299	72.7
Price	71	17.3
Promotion	20	4.9
Availability	21	5.1
Total	411	100.0

The factors considered most when choosing a steel product among 411 respondents. Product quality is the predominant factor, with 72.7% of respondents prioritizing it. This indicates that quality is the key driver in steel product selection, significantly outweighing other factors.

4.3 REGRESSION ANALYSIS

Multiple regressions are a statistical technique that can be used to analyze the relationship between a single dependent variable and several independent variables. Multiple Regression test is used to show the association of Overall satisfaction in cookies and other related factors of the retailers.

4.3.1 Relationship between Advertising Influences Customers' Purchases and Overall Satisfaction:

Table.6. Relationship between advertising influencing customers' purchases and overall satisfaction

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.498	.376		9.292	.000
Quality	-.432	.103	-.201	-4.206	.000
Brand image	.540	.095	.281	5.660	.000
Unique features	-.218	.083	-.126	-2.620	.009
I prefer Steel product from its Advertisement	-.145	.081	-.088	-1.804	.072
Informative	-.044	.079	-.027	-.558	.577
Advertisements more impressive	-.325	.079	-.198	-4.125	.000

In this analysis, the regression result is

$$Y = 3.498+(-0.432)x_1+0.540x_2+(-0.218)x_3+(-0.325)x_6$$

where,

X_1 = Quality of Advertisement

X_2 = Brand Image

X_3 = Unique Features

X_4 = Product

X_5 = Informative

X_6 = Advertisements more impressive

Y = Overall Satisfaction with the advertisement provided by Steel bars

Observing the above tables, it is found that there is a significant relationship between quality of Advertisement(0.000), Brand Image(0.000), Unique Features(0.009), Advertisements more impressive(0.000), with the dependent variable Overall Satisfaction with the advertisement provided by Steel,Where the null hypothesis was rejected and alternative hypothesis accepted(Sig value<0.05) .

4.3.2 Relationship between the Frequency of Advertising and Overall Satisfaction:

Table.7. Relationship between frequency of advertising and Overall Satisfaction

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.935	.317		6.110	.000
Often watch an advertisement	.256	.090	.137	2.856	.005
Frequently come across advertisements	.308	.087	.171	3.563	.000
Often visit Steel Websites	-.247	.064	-.185	-3.872	.000

In this analysis the regression result is

$$Y= 1.935+0.256x_1+0.308x_2+(-0.247)x_3$$

where,

X_1 = Often watch an advertisement

X_2 = Frequently come across advertisements

X_3 = Often visit Steel Websites

Y = Overall Satisfaction with the advertisement provided by Steel bars

Observing the above tables, it is found that there is a significant relationship between Often watch an advertisement(0.005), Frequently come across advertisements(0.000), Often visit Websites (0.009), Advertisements more impressive(0.000), with the dependent variable Overall Satisfaction with the advertisement provided by Steels Bars, where the null hypothesis was rejected and alternative hypothesis accepted(Sig value<0.05) .

4.3.3 Relationship between Advertising Medium and Overall Satisfaction:

Table.8. Relationship between advertising medium and Overall Satisfaction

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.658	.288		12.707	.000
Digital advertisements	-.190	.092	-.102	-2.060	.040
Print advertisements	-.236	.088	-.133	-2.679	.008
Outdoor advertisements	-.134	.074	-.089	-1.809	.071

In this analysis the regression result is

$$Y= 3.658+(-0.190)x_1+(-0.236)x_2$$

where,

X_1 = Digital advertisement

X_2 = Print advertisements

X_3 = Outdoor advertisement

Y = Overall Satisfaction with the advertisement provided by Steel bars

Observing the above tables, it is found that there is a significant relationship between Digital advertisement(0.040), Print advertisements (0.008),with the dependent variable Overall Satisfaction with the advertisement provided by Steel bars,Where the null hypothesis was rejected and alternative hypothesis accepted(Sig value<0.05)

5. FINDING OF THE STUDY

- **To identify how advertising influences customers' purchases of Steel products.**

Advertising influences customers' purchases of AMMAN-TRY GROUP products by accurately representing product quality, enhancing the brand image, and highlighting unique features.

- **To identify overall satisfaction of customers' using Steel Bars.**

Amman TRY Group advertisements significantly enhances overall customers' satisfaction.The costumers frequently come across the advertisement and also the visit the websites of AMMAN-TRY GROUP .

- **To examine the effectiveness of different advertising mediums (e.g., digital, print, outdoor) in reaching target customers'.**

Older age groups (above 35) consistently find digital, print, and outdoor advertisements more effective in capturing attention and communicating messages compared to younger age groups (18-25, 26-30). Younger respondents show varied responses, with stronger agreement towards digital advertisements but more neutral views on print and outdoor advertisements.

- **To identify the major factor influencing the purchase decision of Steel Bars.**

Product quality is the major factor influencing the purchase decision of AMMAN-TRY GROUP

6. CONCLUSION

The study of the impact of advertisements on customer preferences steel bars reveals several key insights. Firstly, advertisements play a crucial role in shaping customer purchases by accurately representing the product quality, enhancing the brand image, and highlighting unique features. Customers' preferences are notably influenced by the informativeness and

overall impression of these advertisements. Secondly, the frequency of advertisements is vital in maintaining customer awareness, with frequent viewers of ads also showing a pattern of encountering steel bar advertisements and visiting the company's website, indicating a clustered consumer behavior. Thirdly, the effectiveness of various advertising mediums varies, with digital advertisements particularly resonating with younger audiences. Overall, these advertising strategies have led to significant increases in sales, dealer networks, consumer base, production, and turnover. The findings underscore the importance of targeted and frequent advertisements in boosting customer engagement and driving business growth for Steel Bars.

REFERENCES

[1] L. Ivan Kenny Raj, S. Ramesh Babu, S.M. Atchaya Eswari "Retailers' Preference for Biscuit and the Role of Marketing Mix - A Survey Study", *ICTACT Journal on Management Studies*, Vol. 10, pp. 1631-1637, 2024.

[2] S. Ramesh Babu, S. Anandha Swarna "Retailers' Preference towards Edible Oil-An Empirical Study", *GIS Science URNAL*, Vol. 9, No. 5, pp. 1347-1354, 2022.

[3] S. Ajith Kumar, S. Ramesh Babu, J. Prateeba Devi, P. Pathamuthu and K.S. Pooja Shree "A Study on the Effect of 4P′s of Marketing Mix on Retailers′s Satisfaction towards Lubricant Sprays", *Academy of Marketing Studies Journal*, Vol. 27, No. 4, pp. 1-9, 2023.

[4] S. Ramesh Babu, L. Ivan Kenny Raj and R. Bhuvanasri, "Consumers Brand Preference Towards Ghee -An Opinion Study", *The Journal of Positive Psychology*, Vol. 6, No. 6, pp. 1-9, 2023.

[5] S. Tephillah Vasantham, J. Praveen Paul and N. Senthil Kumaran, "Analyze the Market Potential of Wizorld's Product in Sivakasi", *EPRA International Journal of Research and Development*, Vol. 7, pp. 1-6, 2022.

[6] S. Gopi, J.P. Paul and R. Gopi, "The Dynamics of Spice Powder Market: A COVID-19 Perspective", *International Journal of Health Sciences*, Vol. 6, pp. 1-7, 2022.

[7] S. Tephillah Vasantham, J. Praveen Paul, N. Senthil Kumaran and N. Gnanaprakash, "Business Irish Interdisciplinary Journal of Science and Research", *Published in Irish Interdisciplinary*, Vol. 8, No. 4, pp. 1-9, 2022.

[8] C. Mathan, G. Balamurugan and J. Praveen Paul, "Competition Strategy for Enhancing the Sustainability of Family Owned Kiranas in the Volatile Uncertain, Complex and Ambiguous(VUCA) Indian Retail Industry", *ICTACT Journal on Management Studies*, Vol. 2, No. 4, pp. 416-422, 2016.

[9] Ngendahayo, Jean Claude, "Marketing Strategies and Sales Performance of Manufacturing Firms in Uganda", *Open Journal of Social Sciences*, Vol. 9, No. 5, 2019.

[10] A.M Alfred Pelham, "Market Orientation and Other Potential Influences on Performance in Small and Medium-Sized Manufacturing Firms", *Journal of Small Business Management*, Vol. 38, No. 1, pp. 48-67, 2000.

[11] Chiquan Guo and Yong Wang, "How Manufacturer Market Orientation Influences B2B Customer Satisfaction and Retention: Empirical Investigation of the Three Market Orientation Components", *Journal of Business and Industrial Marketing*, Vol. 30, No. 2, pp. 182-193, 2015.

[12] N. Jagdish Sheth, S. Rajendra Sisodia and Arun Sharma, "The Antecedents and Consequences of Customer-Centric Marketing", *Journal of the Academy of Marketing Science*, Vol. 28, pp. 55-66, 2000.

[13] Christian Homburg, P. John Workman and Ove Jensen, "Fundamental Changes in Marketing Organization: The Movement toward a Customer-Focused Organizational Structure", *Journal of the Academy of Marketing Science*, Vol. 28, pp. 459-478, 2000.

[14] Watson and T. Richard, "*Electronic Commerce: The Strategic Perspective*", Bcampus Publisher, 2023.

[15] F Jacob, W Ulaga, "The Transition from Product to Service in Business Markets: An agenda for Academic Inquiry", *Industrial Marketing Management*, Vol. 37, pp. 247-253, 2008.

[16] H. Sreekumar and S. Pratap, "Forging the Nation State: An Advertising History of Tata Steel, India", *Journal of Historical Research in Marketing*, Vol. 14, No. 3, pp. 351-373, 2022.

[17] S. Ramakrishna, B. Ramasubramanian, "*Sustainable Strategies for Oil and Gas and Steel Industries*", Springer, 2024.

[18] A. Douglas Schuler, "Corporate Political Strategy and Foreign Competition the Case of the Steel Industry", *Academy of Management Journal*, Vol. 39, No. 3, pp. 720-737, 2017.