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# Behavioral analytics of financial advertisements influence through visual elements across generational cohorts

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## Abstract

Visual elements impact an individual's cognitive assessment for financial decision making. Financial advertisements through a visual medium that an investor is exposed to might be amongst the myriad factors that impact the investor. The study assesses the implication of financial advertisements for decision making across cohorts. Area of interest (AOI) and visual elements have been taken for study to comprehend the data collected through a visual tracking application and through a structured questionnaire. The respondents' attention on the imagery and their own assessment of their attention to the advertisement was determined. The subconscious impact of the imagery and their conscious assessment for financial advertisements has been studied in the paper. Generational cohorts: Generation X, Generation Y and Generation Z have been the respondent cohort and an understanding of the cognitive assessment of visual imagery across the cohorts has been studied. Deeper insights into what actually is of relevance for the attention of an investor in an advertisement has wide implications in the study of investor behavior.

**Keywords:** Behavior, cohort, analytics, finance, advertisement, visual elements

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## Introduction

Financial advertisements involve practice of communication towards investors for financial products and services towards financial consumers. A plethora of services are offered by financial institutions and advertising pertaining to these myriad products and services are specifically targeted. From state backed institutions to private players, advertising has been emphasized as a form of communication to the consumer in India. Marketing with television, signage, print and online modes have been prominent in the financial services sector.

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Generational cohorts across Generation X, generation Y and Generation Z are the core target base of the financial advertisements. The cohorts comprise the working age population in India and understanding the needs and influences on these consumers are critical for financial service companies. Cohort behavior is vital to assess in the financial context as the implication of the influence of these mediums are on the financial investments made by the individual. This has far reaching effect on the overall investment scenario.

Assessing behavioral elements of a consumer towards advertising enables the company to release advertisements targeting the consumer. The relevance of this is essential as advertisements which are targeted towards the financial investor. Visual media focus on the stimulation through static medium or moving elements. Highlighting various aspects in the communication each brand strives to emphasize their financial products. It is relevant for us to understand the impact of these on the consumers and their decision making process.

Understanding aspects of visual elements which have determined the individual's intentions give insights to the working of the individual towards the decision making process which might take place subconsciously through the attention focus of the individual.

### **Review of Literature**

Rashid et al (2002) have assessed consumer behavior for advertisements in Malaysia. The paper assessed the congruence between celebrity and the type of product. Effectiveness of the brand was assessed by the researcher. The fit of the audience and the product was determined by the paper in a cross cultural context.

Chen J and Ji, (2011) have assessed probabilistic eye tracking mechanisms with an incremental learning based framework. Probability based estimation was carried out for the determination of the eye parameter without resorting to eye calibration. Individual specific eye parameters were hence determined. Image saliency and eye gaze were assessed during the research. Human and computer interactions have enabled newer assessments that enable deeper understanding of individual behavior.

Bist (2012) has determined that there is a focus on the behavior of the individual for the purpose of assessing the impact of advertising in the area. There is an impact of advertising on the consumer that was assessed with pertinent tools.

Bang and Wojdyski (2016) have determined metacognitive implication on the visual aspects of advertising. Interaction amongst the goals and attitudes were observed for the same. User awareness of the consumers was also assessed to comprehend cognition and visual perception for the respondents.

Acar, M and Temiz H (2017) have focused on the inter relationship of advertising expenditure in banks. An extent of benefit of the advertising was assessed over time. Empirical studies were carried out for the research. The future economic benefits from an economic perspective have been assessed. The study found a positive association between advertising and financial performance across using Koyack model of distribution.

Zhitomirsky-Geffet and Blau (2017) have studied smartphone usage across generational cohorts. Addictive behavior across generations were assessed for deeper assessment for the cohort. Predictive factors were assessed using hierarchical regression. Townsend, C. & Shu, S. B. (2010) determined the relation between aesthetics and financial decisions. The paradoxical impact of the varied elements considered for study in hypothetical investment decisions. Ilyas&Nayan (2020) studied the impact of brand reputation for positive brand awareness influencing the behavior of consumers. Successful advertisements impact the individual to bring in more individuals into the brand and show a positive relationship between the brand.

### **Objectives:**

- To study the impact of visual elements on financial advertisements on generational cohorts.
- To understand the area of interest (AOI) for individuals across generational cohorts.
- To assess the impact of brand ambassadors on financial advertisements across generational cohorts.
- To study the relationship of AOI and visual elements across income ranges.

### **Hypothesis:**

H01: There is no significant relationship of visual elements on financial advertisements on generational cohorts.

H02: There is no significant relationship between areas of interest (AOI) for individuals across generational cohorts.

H03: There is no impact of brand ambassadors on financial advertisements across generational cohorts.

H04: There is no relationship between AOI - visual elements across income ranges.

### **Research Methodology**

**Research Area:** Navi Mumbai. Respondents across cohorts were part of the study.

#### **Research**

**Data Collection Resources:** The secondary data was collected through articles and journals connected with the areas of financial services/products and customer awareness, visual elements impact in selection of financial services/products.

The primary data was collected through questionnaire where the conscious viewing behavior of the individual was assessed along with structured responses and Gaze recorder application.

**Gaze Recorder:** It is an application used for measuring the intuitive gaze and interactional behaviour of the viewer. This application is also used for eye tracking through which marketer can analyse the part of the ad campaign that is most likely to attract the viewers. Eye tracking technology allows you to see how visitors view your webpage, advertisement, or image.

This applications allows to correlate the subconscious relations between the variables. The respondents were shown advertisements pertaining to the financial services sector.

**Sample Size:** 150 completed responses were taken for the same. Stratified random sampling was used for the collection of data from respondents. Respondents from Generation X, Generation Y and Generation Z were taken for the study.

**Originality**

The use of behavioral tools for visual elements like Gaze recorder apps are in the nascent stage in India in the financial domain. The focus was on eye position and eye movement of the individual during the advertisement. Area of interest (AOI) and visual elements are assessed across cohorts. Through the app gaze point and fixation was assessed and assessed with the results of the questionnaire.

**Data Analysis**

The results of data collected from the eye tracking application was tabulated for each advertisement to determine the dwell time and first view. Data analysis was carried out to understand the significance of AOI and visual elements across generational cohorts. Statistical analysis was carried out with one way ANOVA and post HOC test was carried out with Tukey Kramer test for data from structured questionnaire.

**Table 1.1: Gaze Analysis:  
 Advertisement 1: ICICI Bank  
 Generation X**

Particulars	Characterization	Content	Service/product	Brand visualization	Tagline
Dwell Time	1.19s	1.43s	3.75s	2.65s	0.15s
First View	5.15s	6.72s	8.46s	6.09s	2.02s
Viewers	113	126	92	26	30

**Table 1.2  
 Generation Y**

Particulars	Characterization	Content	Service/product	Brand visualization	Tagline
Dwell Time	1.19s	2.13s	3.87s	1.78s	0.19s
First View	7.16s	8.71s	6.46s	5.04s	2.26s
Viewers	118	123	99	31	48

**Table 1.3**  
**Generation Z**

<b>Particulars</b>	<b>Characterization</b>	<b>Content</b>	<b>Service/product</b>	<b>Brand visualization</b>	<b>Tagline</b>
Dwell Time	3.19s	2.12s	2.05s	0.65s	1.09s
First View	8.05s	8.72s	7.34s	2.09s	1.02s
Viewers	133	104	84	22	42

**Table 2.1: Gaze Analysis:**  
**Advertisement 2: Muthoot Finance**  
**Generation X**

<b>Particulars</b>	<b>Characterization</b>	<b>Content</b>	<b>Service/product</b>	<b>Brand visualization</b>	<b>Tagline</b>
Dwell Time	3.10s	2.11s	1.15s	2.85s	0.19s
First View	7.16s	8.72s	4.36s	3.09s	1.02s
Viewers	128	89	38	21	56

**Table 2.2:**  
**Generation Y**

<b>Particulars</b>	<b>Characterization</b>	<b>Content</b>	<b>Service/product</b>	<b>Brand visualization</b>	<b>Tagline</b>
Dwell Time	5.10s	1.39s	1.15s	0.77s	1.02s
First View	8.52s	4.02s	2.44s	1.12s	1.31s
Viewers	148	72	42	33	48

**Table 2.3:**  
**Generation Z**

<b>Particulars</b>	<b>Characterization</b>	<b>Content</b>	<b>Service/product</b>	<b>Brand visualization</b>	<b>Tagline</b>
Dwell Time	7.10s	0.11s	0.15s	0.85s	1.06s

First View	7.20s	1.72s	1.46s	3.03s	1.11s
Viewers	142	78	51	29	63

**Table 3.1:Gaze Analysis:**

**Advertisement 3: AU Small Finance**

**Generation X**

Particulars	Characterization	Content	Service/product	Brand visualization	Tagline
Dwell Time	0.30s	0.13s	3.85s	0.15s	0.49s
First View	5.16s	0.21s	8.46s	3.09s	3.02s
Viewers	142	114	88	38	32

**Table 3.2:**

**Generation Y**

Particulars	Characterization	Content	Service/product	Brand visualization	Tagline
Dwell Time	1.20s	0.11s	3.79s	0.09s	0.49s
First View	3.26s	0.16s	7.56s	1.09s	2.01s
Viewers	138	109	98	41	32

**Table3.3:**

**Generation Z**

Particulars	Characterization	Content	Service/product	Brand visualization	Tagline
Dwell Time	0.56s	0.20s	0.81s	0.15s	0.67s
First View	5.16s	0.19s	6.48s	1.23s	3.12s
Viewers	142	114	93	49	42

### Grid View Mapping

Figure 1: Advertisement 1: ICICI Bank

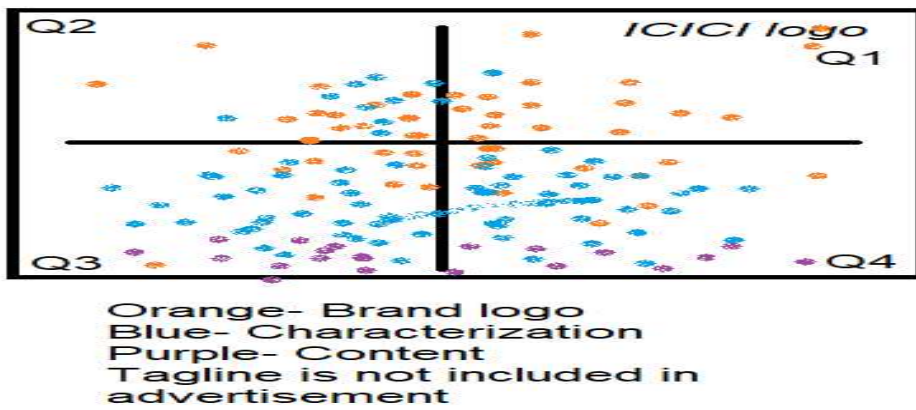


Figure 2: Advertisement 2: Muthoot Finance

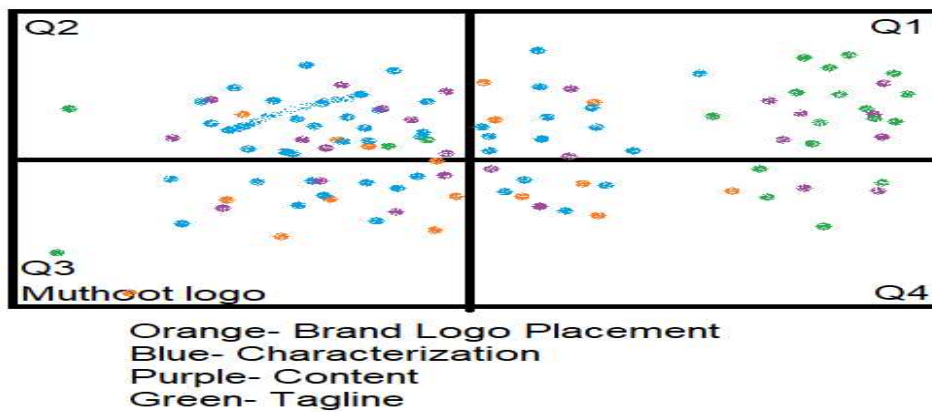
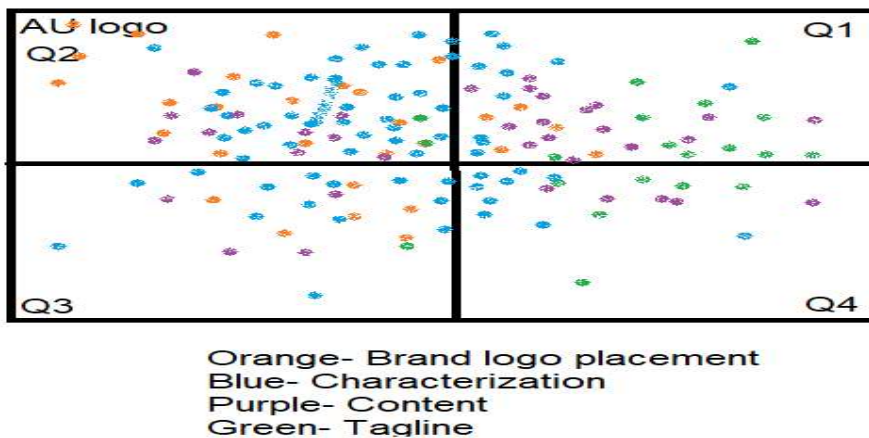


Figure 3: Advertisement 3: AU Small Finance



**From the above tables and figures obtained from the gaze analysis, following are the results:**

- I. In this experiment of gaze tracking, researchers have tried to track the AOI (area of interest) of the respondents.
- II. AOI includes the characterization, brand logo placement, content placement and uniqueness in the advertisement that catches the eye movement of respondents.
- III. It was found that in all the three financial advertisements, characterisation has played a significant role of catching the attention of respondents and it does not have any significance with generation.
- IV. The experiment showed that respondents' eyes were fixed at characters shown in advertisements.
- V. While analyzing the experiment, it was found that the respondents were not seeing the brand logo. This was experienced in all the three advertisements shown to respondents. This shows that placement of brand logos in advertisements was improper.
- VI. It was seen that content and tagline was noticed by the respondents but services and products remained unfocused in advertisements.
- VII. Hence, this experiment clearly mentions that the placement of brand logo, picturization of services and products loses the expected impact on customers if not properly placed.
- VIII. Uses of characters influence customers of generation X, Y and Z.

**Table 4.1 Data analysis Parameter vs Generational cohort**

Parameter	F cal	F critical	Significance at 95 %
AOI across Generational Cohorts	4.573770	4.2564	Fcal> F critical
Visual elements across Generational cohorts	4.6785	4.3654	Fcal> F critical
Brand ambassador across Generational cohorts	1.4465	5.145	F cal< F critical
AOI across income brackets	2.71	3.495	F cal< F critical
Visual elements across income brackets	3.35	3.496	F cal< F critical

**Table 4.2 Post Hoc Test**

Cohort pair and Q values- Tukey post HOC test

Parameter	Cohort Pair		Q calculated	Q critical
AOI across Generational Cohorts	X	Y	1.05	df@2,9



	Y	Z	1.034	
	Z	X	0.61234	
Visual elements across Generational cohorts	X	Y	1.056	df@2,9
	Y	Z	1.0345	
	Z	X	0.6743	

### Results and discussion

H01: There is a significant relationship of visual elements on financial advertisements on generational cohorts.

H02: There is a significant relationship between areas of interest (AOI) for individuals across generational cohorts.

H03: There is no impact of brand ambassadors on financial advertisements across generational cohorts.

Ho4: There is no relationship between AOI - visual elements across income ranges.

The data analysis showed that the AOI across generational cohorts and visual elements across generational cohorts show significance and we reject the null hypothesis. For the presence of brand ambassadors the null hypothesis was accepted with no significant variation across cohorts. All the cohorts were positively impacted by the brand ambassador with gaze shifting on the same. Income with AOI - visual elements did not show any significant for brand across cohorts.

### Conclusion

From the above research it has been found that the usually the subconscious mind and conscious mind of an individual does not relates in the same direction. The perception an individual differs from what exactly they see when something comes in front of them. So, researchers after the survey and gaze application experiment found that the asked questionnaire and the visuals does not match. It is seen that respondents while watching advertisements were more connected with brand ambassador than brand logo, content and actual financial services/products offered in advertisements.

While designing the advertisements for financial products, marketer should keep in mind the placement of brand logo and the content used which will make more impact on consumers mind in case of decision making for financial product purchasing.

This study is focused on analysing the behaviour of cohorts that is generation X, Y and Z. And it has been evidenced that all the three responses for the questionnaires were different but when the eye tracking was done the visualization of brand ambassador was more than brand logo and

content. Hence, the financial organisations while making the annual budget for promotion and advertisements should be aware about the designing matter so that the people would know more about their services/products by their brand logo and content rather than brand ambassadors. This will in future would give them more opportunities to grow as financial sector and investments are never ending and plays a vital role in individual savings.

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