



Do smart phone apps generate sufficient visual stimuli for tourism among young customers?

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Abstract:

Visual content is more intriguing and has a larger influence on the user experience. Strong, appealing and positive destination image triggers travel decision process. Destination image formations are initiated by the 'flood of information' from advertising and brochures, opinions of family/friends, travel agents, media reporting through newspapers, magazines, television news reporting, documentaries, popular culture, motion pictures and literature.

Purpose: The purpose of this paper is to examine whether data-driven visual stimuli is sufficient for destination marketing among young customers from gender perspective.

Design/ Methodology/ Approach:

Primary data was collected by survey method using self-administered questionnaire as tool for collecting data. Non-probability purposive sampling technique was used to collect data. Descriptive statistics have been used for this study. This study was approached from a gender perspective among post graduate students from pan India. The sample size is 322.

Major Findings:

Visual stimuli are sufficient to generate user's attention, interest, desire and action. Attention, interest, desire and action are the behaviour displayed by the users of smartphone apps and the function of its consequences is the association between them in tourism experience. It is a hierarchal process and attraction leads to the functions of AIDA model. Females are more likely to be influenced by visual stimuli than males while availing data assisted tourism services.

Practical Implications:

The destination communication and marketing strategies needs to consider the AIDA model for effective positioning of destination. Visual stimuli need to be carefully selected as because it is an important medium for communication with the potential tourists. Tourism industry can optimise revenue if this tool is correctly used.

Keywords: Visual stimuli, AIDA, Smartphone app, Destination marketing.

1. INTRODUCTION:

Visual content is more intriguing and has a larger influence on the user experience. Advancement in technology have made the web more visual centric. Since time immemorial visual media has played a role in the growth of our civilization even ancient cave art forms are a medium of depicting content visually. Impactful visual media is an important marketing tool. The access to mass communication through smartphone apps and the extensive use of ICT has made visual content an instrument for marketing of destinations (Hemsley, 2012).

Perception formed by individuals are mostly influenced by visuals. Over 90% of the daily processed information comes from visual receptors. The text contents as compared to pictures, drawings, hieroglyphs, icons, symbols are less likely to influence the decision-making process. It overcomes the cultural and linguistic barriers and goes beyond any other form of expressions. It is a precise way of describing and 95% of the B2B clients prefer short, visual, mobile-optimized content. Users have the shortest attention span and to catch the attention of the users, the use of visuals is of prime importance. Most people remember 80% of what they see and only 20% of what they read. The pair of human eyes are designed as cameras to capture and retain visual data. Visuals have a direct effect on human emotions and are more relatable and gives strong signals to individual's brains. Visual contents increase the user's engagement as it allows users to recollect and be comprehensive in decoding the meaning of the content. Brain can process visual stimuli 60000 times faster than text stimuli (Nataliya Kosmyna, 2018).

Consumers are more likely to be influenced by visual stimuli than any other stimuli in digital platform. The psychology of color plays an important role in the marketing strategies. Hence it can be inferred that visual stimuli are one of the important parameters for influencing the attention, interest, desire and actions of an users thereby optimizing revenue generation.

Destination image is the overall general impression and mental construct of beliefs, ideals and impressions toward a certain place. (Assaker, 2013). Strong, appealing and positive destination image triggers travel decision process. (Echtner C. &, 1993). The positioning of destination image in web enabled platform vis-a-vis functional attributes will enhance the pre travel decisions and activities of the potential tourists. Destination image formations are initiated by the 'flood of information' from advertising and brochures, opinions of family/friends, travel agents, media reporting through newspapers, magazines, television news reporting, documentaries, popular culture, motion pictures and literature. (Echtner C. &, 1991). Destination image formation is the development of mental construct based on few impressions chosen from a flood of information like promotional literatures (Reynolds, 1965). A vast gamut of literature has emphasized the role of information technology in promoting and distributing products and services, besides offering transaction convenience and payment security (Bui, 2013). Graphic design refers to the "look and feel" of a website; that is the features that normally create first impression. (Montoya, 2003).

The majority of destination branding, positioning and promotion is incidental; it is not pre-planned or deliberate but merely occurs in the natural course of 'news' events picked up and transmitted by various media having nothing to do directly with tourism. (I.Crouch, 2002).

The first impression later becomes anchor and influence the final result of purchasing decision. (Chaffey, 2009). It is also supported by psychologist that human brain tends to jump into the conclusion about particular information even it is only served with least amount of information. (Kanhenman, 2011).

The AIDA model is applied in the practical world to analyse the actions initiated by the customers (Mustikaningrum, 2017). The AIDA model is a response model consisting of: Attention, Interest, Desire, and Action. The AIDA model impacts the destination promotion and have effect on how the destination have been positioned. Virtual reality ads were more effectively that the print advertising format (LishengWeng, 2021).

The conceptual framework for the study is graphically represented in the below mentioned Figure1.

Fig 1: Conceptual Framework



Source: Generated by the author

2. RESEARCH DESIGN AND APPROACH:

This study aims to address the research question- Do smart phone apps generate sufficient visual stimuli for tourism among young customers? The purpose of this paper is to examine the association between visual stimuli and AIDA behaviour of young customers using smartphone apps for tourism purpose. The following null hypotheses have been formulated for addressing the objective:

2.1 There is no association between Visual attention and Visual Interest

2.2 There is no association between Visual attention and Visual survey

2.3 There is no association between Visual attention and Visual action

For the study, data collection was done via non-probability purposive sampling technique. The criteria for data collection among young customers was set as interrogating the post graduate students in pan India who had the experience of availing tour planning experience(s) by smart phone apps in last 6 months. In order to achieve the objectives of this study, primary data was collected by survey method among the PG students by circulating self-administered questionnaire as an instrument. The sample size for this cross-sectional survey is n=322. Out of which 165 were female and 157 were male. Ordinal scale ranging from 1 to 5 was used to measure the items (indicating 1= Never, 2=Rarely, 3= Sometimes, 4= Often and 5= Always).

Visual stimuli with special reference to AIDA behaviour among young customers have been considered for this study where AIDA refers to attention, interest, desire and action. The items have been detailed in the below mentioned Table 1.

Item No.	Item code	Item Name	Statements
1.	VA	Visual attention	Online visuals (photos and videos) draw my attention for planning a trip.
2.	VI	Visual interest	I find online travel and tourism visuals very much interesting.
3.	VD	Visual desire	I search for online visuals of destination before planning a trip.
4.	VA	Visual action	I share the online videos on travel and tourism with others.

Source: Compiled from the self-administered questionnaire

Considering the nature of study, descriptive statistics have been considered for analysing the survey data for this study. The methodology for this study has considered relation-function approach. As a part of descriptive statistics cross tabulation was carried out and further Somer's-d, Kendell's tau-b and Gamma were used to test the hypotheses.

The reliability test for the items shows the value of Cronbach alpha as 0.760 respectively which signifies its acceptability as per rule of thumb.

3. FINDINGS AND DISCUSSION:

The frequency of occurrence of interaction between visual attention and interest from gender perspective have been detailed in below mentioned table 2. From the findings it can be inferred that data driven visual stimuli influence attention and interest of females more as compared to males.

Table 2: Visual attention* Visual interest Crosstabulation

Count			Visual attention					Total
Gender			1.00	2.00	3.00	4.00	5.00	
Female	Visual interest	1.00	8	1	10	0	0	19
		2.00	0	4	9	3	3	19
		3.00	1	4	31	8	6	50
		4.00	0	0	12	15	9	36
		5.00	1	0	3	9	28	41
Total			10	9	65	35	46	165
Male	Visual interest	1.00	2	3	10	1	0	16
		2.00	2	2	14	2	2	22
		3.00	0	2	33	16	6	57
		4.00	3	1	11	16	7	38
		5.00	0	1	5	5	13	24
Total			7	9	73	40	28	157

Source: Compiled from the survey data

For testing the hypotheses and to examine the association between visual attention-interest Somer's-d, Kendell's tau-b and Gamma were calculated considering the data on ordinal scale. The below mentioned table 3 details the findings for this hypothesis.

Table 3: Directional and symmetric measures

Gender				Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Female	Ordinal by Ordinal	Somers' d	Symmetric	0.558	0.050	10.726	0.000
			Visual interest Dependent	0.580	0.052	10.726	0.000
			Visual attention Dependent	0.538	0.049	10.726	0.000
Female	Ordinal by Ordinal	Kendall's tau-b		0.559	0.050	10.726	0.000
			Kendall's tau-c	0.519	0.048	10.726	0.000
			Gamma	0.708	0.057	10.726	0.000
	N of Valid Cases			165			
Male	Ordinal by Ordinal	Somers' d	Symmetric	0.394	0.063	6.078	0.000
			Visual interest Dependent	0.416	0.067	6.078	0.000
			Visual attention Dependent	0.375	0.060	6.078	0.000
Male	Ordinal by Ordinal	Kendall's tau-b		0.395	0.063	6.078	0.000
			Kendall's tau-c	0.354	0.058	6.078	0.000
			Gamma	0.531	0.080	6.078	0.000
	N of Valid Cases			157			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Source: Compiled from the survey data

From the result, it can be inferred the alternate hypothesis is statistically significant and have been accepted at $p=0.000$ for both the genders i.e., there is association between visual attention and interest.

The frequency of occurrence of interaction between visual attention and desire from gender perspective have been detailed in below mentioned table 4. From the findings it can be said that females are more driven by visual stimuli than males as it influences the desire through search activity using smartphone apps.

Count		Visual attention					Total
Gender		1.00	2.00	3.00	4.00	5.00	
Female	Visual search 1.00	2	0	3	0	0	5
	2.00	0	3	7	2	1	13
	3.00	7	2	23	3	5	40
	4.00	0	2	18	17	8	45
	5.00	1	2	14	13	32	62
	Total		10	9	65	35	46
Male	Visual search 1.00	1	1	0	0	1	3
	2.00	2	3	8	3	0	16
	3.00	3	4	32	10	3	52
	4.00	1	1	14	12	3	31
	5.00	0	0	19	15	21	55
	Total		7	9	73	40	28

Source: Compiled from the survey data

For testing the hypotheses and to examine the association between visual attention-desire Somer's-d, Kendell's tau-b and Gamma were calculated considering the data on ordinal scale. The below mentioned table 5 details the findings for this hypothesis.

Gender			Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Female	Ordinal by Ordinal	Somers' d	0.427	0.057	7.316	0.000
		Visual desire Dependent	0.428	0.058	7.316	0.000
		Visual attention Dependent	0.426	0.058	7.316	0.000
Female	Ordinal by Ordinal	Kendall's tau-b	0.427	0.057	7.316	0.000
		Kendall's tau-c	0.383	0.052	7.316	0.000
		Gamma	0.572	0.071	7.316	0.000
	N of Valid Cases		165			
Male	Ordinal by Ordinal	Somers' d	0.405	0.060	6.461	0.000
		Visual desire Dependent	0.416	0.060	6.461	0.000
		Visual attention Dependent	0.395	0.061	6.461	0.000
Male	Ordinal by Ordinal	Kendall's tau-b	0.405	0.060	6.461	0.000

	Kendall's tau-c		0.354	0.055	6.461	0.000
	Gamma		0.560	0.077	6.461	0.000
	N of Valid Cases		157			
a. Not assuming the null hypothesis.						
b. Using the asymptotic standard error assuming the null hypothesis.						

Source: Compiled from the survey data

From the result, it can be inferred the alternate hypothesis is statistically significant and have been accepted at $p=0.000$ for both the genders i.e., there is association between visual attention and data driven desire resulting from visual stimuli.

The frequency of occurrence of interaction between visual attention and action from gender perspective have been detailed in below mentioned table 6. From the findings it can be said that females are more likely to take action based on visual stimuli than males while using smartphone apps.

Count		Visual attention					
Gender		1.00	2.00	3.00	4.00	5.00	Total
Female	Visual action 1.00	1	0	6	0	2	9
	2.00	4	2	8	2	0	16
	3.00	2	3	31	11	12	59
	4.00	2	4	19	18	23	66
	5.00	1	0	1	4	9	15
	Total		10	9	65	35	46
Male	Visual action 1.00	3	0	3	2	1	9
	2.00	1	2	11	1	2	17
	3.00	2	2	38	16	8	66
	4.00	0	5	16	15	14	50
	5.00	1	0	5	5	3	14
	Total		7	9	73	39	28

Source: Compiled from the survey data

For testing the hypotheses and to examine the association between visual attention-action Somer's-d, Kendall's tau-b and Gamma were calculated considering the data on ordinal scale. The below mentioned table 7 details the findings for this hypothesis.

Gender	Ordinal by Ordinal	Somers' d	Symmetric	Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Female	Ordinal by Ordinal	Somers' d	Symmetric	0.329	0.062	5.200	0.000
			Visual action Dependent	0.323	0.062	5.200	0.000
			Visual attention Dependent	0.334	0.062	5.200	0.000
Female	Ordinal by Ordinal	Kendall's tau-b		0.329	0.062	5.200	0.000
		Kendall's tau-c		0.289	0.056	5.200	0.000
		Gamma		0.457	0.083	5.200	0.000

	N of Valid Cases			165			
Male	Ordinal by Ordinal	Somers' d	Symmetric	0.224	0.070	3.164	0.002
			Visual action Dependent	0.226	0.071	3.164	0.002
			Visual attention Dependent	0.221	0.070	3.164	0.002
Male	Ordinal by Ordinal	Kendall's tau-b		0.224	0.070	3.164	0.002
		Kendall's tau-c		0.192	0.061	3.164	0.002
		Gamma		0.316	0.097	3.164	0.002
	N of Valid Cases			156			
a. Not assuming the null hypothesis.							
b. Using the asymptotic standard error assuming the null hypothesis.							

Source: Compiled from the survey data

From the result, it can be inferred the alternate hypothesis is statistically significant and have been accepted at $p=0.000$ for females and $p=0.002$ for males respectively i.e., there is association between visual attention and data driven action resulting from visual stimuli.

The bivariate correlation among visual attention, interest, desire and action have been highlighted in below mentioned table 8.

		Visual attention	Visual interest	Visual search	Visual action		
Visual attention	Pearson Correlation	1	.555**	.478**	.311**		
	Sig. (2-tailed)		.000	.000	.000		
	N	321	321	321	321		
	Bootstrap ^c	Bias	0	.000	.001	.001	
		Std. Error	0	.044	.047	.059	
		BCa 95% Confidence Interval	Lower	.	.466	.382	.176
			Upper	.	.636	.577	.437
Visual interest	Pearson Correlation	.555**	1	.445**	.467**		
	Sig. (2-tailed)	.000		.000	.000		
	N	321	321	321	321		
	Bootstrap ^c	Bias	.000	0	.001	-.001	
		Std. Error	.044	0	.050	.052	
		BCa 95% Confidence Interval	Lower	.466	.	.339	.358
			Upper	.636	.	.552	.571
Visual search	Pearson Correlation	.478**	.445**	1	.384**		
	Sig. (2-tailed)	.000	.000		.000		
	N	321	321	321	321		
	Bootstrap ^c	Bias	.001	.001	0	.001	
		Std. Error	.047	.050	0	.048	
		Lower	.382	.339	.	.291	

		BCa 95% Confidence Interval	Upper	.577	.552	.	.486
Visual action	Pearson Correlation			.311**	.467**	.384**	1
	Sig. (2-tailed)			.000	.000	.000	
	N			321	321	321	321
	Bootstrap ^c	Bias		.001	-.001	.001	0
		Std. Error		.059	.052	.048	0
		BCa 95% Confidence Interval	Lower	.176	.358	.291	.
Upper			.437	.571	.486	.	
**. Correlation is significant at the 0.01 level (2-tailed).							
*. Correlation is significant at the 0.05 level (2-tailed).							
c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples							

Source: Compiled from the survey data

4. CONCLUSION:

From the analysis of the study, it can be inferred that AIDA model of consumer behaviour is an efficient tool to assess the online behaviour of customers. It is relevant even in the digital destination marketing context. The findings of this study highlights that the smartphone apps generate sufficient visual stimuli to creates impact in the tour planning process among customers regardless of gender. Females as compared to males are more inclined to be influenced by visual stimuli with respect to AIDA behaviour.

Hence it can be concluded that destination marketing strategies must focus on positioning a destination considering AIDA model of consumer behaviour. Online contents on destinations create positive correlations among attention, interest, desire and action initiated by an individual. As attention function has association with interest, desire and action among individuals, destination marketing contents must be attractive enough to draw the attentions of the users.

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