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A study to understand the response to digital media promotions by demographic, particularly age-groups, w.r.t Indian banks

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ABSTRACT - The research aims at understanding which types of digital media promotions are better responded to by specific demographics, particularly specific age-groups. This eventually enables better targeting of digital promotions and enhances returns on digital media investments, for the mentioned industry, i.e. banking. The methodology involved asking respondents across age-groups and across various occupations to fill out questionnaires regarding their responses to digital media promotions for bank advertisements, among other responses solicited. Simple random sampling was employed for collection of data. The responses obtained were tabulated and analyzed on SPSS and results interpreted.

The study provides information on the affinity of each demographic towards a particular digital promotional platform. There is an overall preference for Google search and facebook stamp advertisements followed by google banner advertisements and promotions in the mail-box, with response to twitter advertisements receiving the lowest scores. The effects or the order of preference is more pronounced in certain age groups, towards certain digital media platforms. These in-turn enable use of specific platforms only for promotions, targeted towards specific demographics, thereby improving effectiveness or returns on one's digital media promotional investment, for the banking industry. The same has been confirmed by statistically in the research paper.

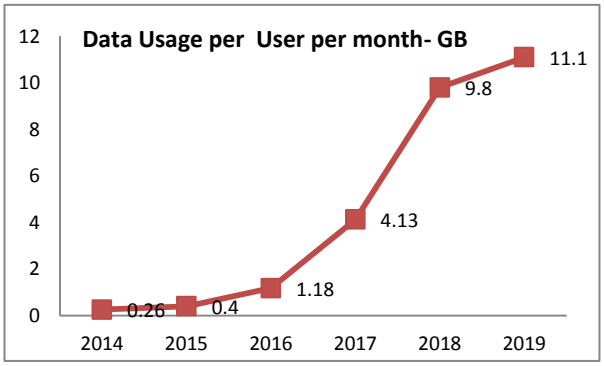
Keywords: ***Demographic study, Digital media promotions, facebook insights, googleadwords, Indian banks and social media, mailbox promotions.***

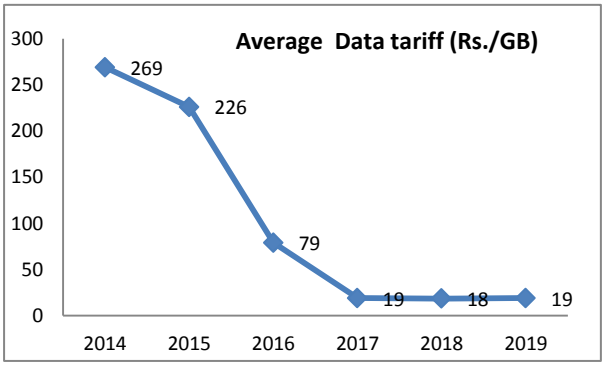
I. INTRODUCTION

Digital media is any media, that can be created, edited, viewed, distributed and preserved on digital electronics and is encoded in a machine-readable format (Rowley & Jennifer, 2019).The reach of the various types of media, direct a marketer to promote products and services on the platforms that have high reach or that are growing rapidly as the platforms with high growth will be the platforms of the future.

India has the second highest number of internet users in the world after China (Digital Insights, 2019). The number of internet users in China, India and the United States of America are 82 Crs, 63.Crs and 30 Crs respectively with internet penetration percentages of 59%, 47% and 90% respectively (Digital Insights, 2019). Apart from penetration percentages, the spends by the Indian Media industry on TV, print, digital, radio and out-of-home, need to be understood. The advertising spend in a year by all industries is at Rs.69,715 Crs. (Indian Media Observer, Dec 2019). 39% of the Indian Media expenditure is on TV, i.e. Rs. 27,189 Crs, growing at 8%. 30% of the spend is on Print, i.e. Rs.20,915, growing at 4% (Indian Media Observer, Dec 2019). The spend on Digital Media is 18% of the total spend, at Rs.12,549 Crs, growing at 15% (Indian Media Observer, June 2019). The Average data tariff and data usage/user/month have been demonstrated in Fig. I

Fig. 1: Average data tariff and data usage/user/month: (TRAI report, 2019)





(TRAI report: Dec 2019)

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Given the young demographic of India and the affinity to the digital medium, the penetration of the digital medium is increasing. The marketer goes where the consumer goes and thus there is a need to understand the affinity by demographic to various digital media platforms, for enhanced returns on one's digital media investments.

II. LITERATURE REVIEW

Google AdWords was once the undisputed leader in online advertising medium. There has been constant improvement in tools and techniques, by google, for their users to better the returns on ad spend for those promoting on the google platform. (Gabriel Villar et al, 2019). As the internet got more 'social' and the focus shifted towards social media platforms, social connections, social shares, likes etc., advertisers were forced to think on where to spend their advertising money (Melvin & Bernardino, 2019). The Literature review section has been bucketed into sections to segregate different takes on the digital promotion activities and the gaps therein.

Literature review

Tracking by Traditional media has been mainly in terms of using print order and readership numbers prior to approaching a print media house or TRPs of a news channel in case of television advertisements. (Martino, & Lewis, 2019). With changing consumer habits in terms of increased digital consumption, the new parameters are clicks, website hits and fans. A paper by Krishnamurthy et al (2018) brings out the differences in the costs of infrastructure between the traditional and the new platforms.

Table 1: Summary of Literature Review: Traditional Media versus New Media

Author / Year	Area of Research	Gaps
Meave Martino, & Joyce Lewis, (2019)	Tracking by Traditional Media	In-depth illustrations or examples
Upasana Krishnamurthy, T. Parasarthy & K. Laxmi, (2018)	Infrastructure comparison between traditional and new media	Specific costs or cost ratios
William Lingard, Matthew Brown & Jason Mindlin, (2018)	Basics and comparisons between Traditional and new media	Future indicators

After studying the differences between the traditional and new media, further understanding about the different ways in which digital media promotions have been strategically used along with traditional media have been studied.

In case of digital promotions, targeting is based on likes or browsing history, search history and specific interest based on cookies that translate those specific interests and likes and enable better customer targeting. (Andersen & Bale, 2019). The advertisements on google are paid for via google adwords for search and display options, on the sites that are in the Google Display Network. (Eisenhardt. & Martin, 2018). The summary of the Literature review is given in Table-2

Table 2: Summary of Literature Review: Digital Media as a Means of Communication

Author /Year	Area of research	Gaps
Patrick Mikalef, Michail Giannakos & Adamantia Pateli, (2019)	Digital media can be a double edged sword.	Demographic-wise response.
Andrew Lipsman, Graham Mudd, Mike Rich, (2019)	Brands Reach to younger demographics and influence through social-media marketing	Examples of the banking Industry
Aarohi Guha, Sudhendu Sarkar and Prosenjit Mallik, (2018)	Continuum from physical to digital.	Demographics and quantification

Digital media as a means of communication and the importance of responding to customers queries, where promotion and a two-way communication between the promoter and the customer are carried out on the same platform. (Melvin E. et al 2019). While there are many options available. Indian banks have taken well to social media promotions. (Srivastava, 2018). The review contains the history of the Indian banking system, followed up with the types of online banking platforms, the digital infrastructure of India and the types of platforms used by Indian banks for promotions, as enlisted in Table 3, below.

Table 3: Summary of Literature Review: Digital media and Indian Banks

Author /Year	Area of research	Gaps
Deepak Tandon, (2019)	The number of transactions on each online banking platform.	The values of transactions.
Dr. Arnab K. Deb & Subhash C. Ray, (2019)	Digital wave, post-demonetization.	Stabilization after the demonetization wave.
Umashankar, Venkatesh, (2018)	Promotions on the Digital platforms, with details on Affiliate marketing	Return on Investment and demographic response.

A review of literature helps to understand the various studies available around digital promotions of banks. While there are details of overall activity by the Indian banking sector, a study on the demographic affinity towards each platform is not available.

THE VARIABLES: The objective is to compare the most preferred promotional type, broken down by demographics such as age-group. The age-group/occupation/gender constitute the independent variable, each taken separately for each hypothesis test The score given to each of the digital media promotional types, i.e. preference score given to promotions in the mailbox, advertisements in the newsfeed on facebook, google display advertisements, google search advertisements, twitter advertisements are the dependent variables.

Dependent variables: Scores given to each of the platforms as per preference. 1 being most preferred.

Independent variables: Age, Occupation, Gender.

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Developing the hypothesis:

Maximizing the impact of marketing efforts on online advertisements is the key factor that measures the success of a campaign. An important decision is to study the responsiveness to a particular digital media promotional type by demographic, to better the return for a promotional campaign, for a given industry, banking in this study.

Hypothesis 1: There is a significant difference in the score across age-groups for different types of digital media promotions.

The hypothesis has been tested by a MANOVA i.e. to test the effect of Age, the independent variable on multiple dependent variables i.e. the affinity measured in terms of score towards different types of digital promotional stimuli. Whether a particular demographic has affinity towards a certain digital promotional platform needs to be ascertained for a statistical confirmation.

The current digital behaviours by occupation are needed to be understood, so as to be able to tailor better online promotions. Different occupations of groups of customers have different responses towards digital promotion types. The customers in the occupation categories are service class, business class, professionals and even house-wives and students. The study shows that they all had different affinities towards the online medium. Hence the need for Hypothesis 2.

Hypothesis 2: There is a significant difference in the score across occupations for different types of digital media promotions. (H_2)

This too is a case of MANOVA to test the effect of Occupation, i.e. the independent variable on multiple dependent variables such as different types of promotional stimuli. Whether a particular occupation has affinity towards a certain digital promotional platform needs to be ascertained for a statistical confirmation. The same has been carried out for Gender, which will help ascertain the differences in behaviours between the sexes, if any, towards the response to various digital media promotional stimuli.

Hypothesis 3: There is a significant difference in the score across **genders** for different types of digital media promotions. (H_3)

III. METHODOLOGY

Respondents across age-groups were contacted to fill out questionnaires regarding their responses to digital media promotions for bank advertisements, among other questions. Simple random sampling was employed for collection of data. Care was taken not to incorporate any errors of bias or skewedness towards certain profiles/ categories. The responses obtained were tabulated and analyzed on SPSS and results interpreted.

SAMPLE SIZE

The sample size selected is 845 respondents for the research, across 4 age-groups, viz, 21-30 years, 31-40 years, 41-50 years and 51-60 years.

Table 4a: The break-up of age in the sample

	N	%
21to30	227	27.0
31to40	203	24.0
41to50	189	22.4
51to60	226	26.7
Total	845	100

Ascertaining response to online promotions for banks for every age-group is equally important, as response to promotions is likely to differ across age-groups. Below 21 years of age respondents have not been considered as their values of online banking are low, as revealed from the pilot study. Similarly the age-group above 60 years is not very technologically savvy, also seen from the pilot study. Hence the age-group above 60 years has not been taken. Since online banking activity is low for the mentioned age-groups, response to advertisements of banking products does not hold much meaning. Hence these age-groups have been kept out.

The above tabulated age groups were taken to encompass various professions/occupations, as well.

Table 4b: The break-up of various occupations in the sample

		N	%
Occupation	Service	458	54%
	Business	192	23%
	Student	108	13%
	Retired	51	6%
	Housewife	36	4%
Total		845	100%

Broad Occupation categories have been taken for the study, namely Service and Business, as these are the key categories of occupations. While there is an apparent skew towards service class, the skew is in line with the real population skew, replicated into the sampling. Also, other categories of the population that are not employed also have been taken into the study, namely, Student, Retired persons and Housewives, as these also carry out a certain level of banking activity, albeit lower than the first two categories.

Table 4c: The break-up of gender in the sample

	N	%
Female	384	45
Male	461	55
Total	845	100

Gender-wise sample: An approximately equal number of men and women have been taken for the study, for each city. The study also helps in ascertaining the variation in response to various digital media promotions by gender.

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IV. DATA ANALYSIS AND RESULTS

Table 5a: Age-wise Ranks comparison, for receptivity to different types of Digital stimuli

Age		Rank for Promotions in the mail box	Rank for Fb Newsfeed	Rank for Promoted Tweet	Rank for Promoted trend	Rank for Trending Hash tag	Rank for Banner Ads while surfing	Rank for Ads coming upon Google Search
21-30	Mean	3.62	3.38	4.81	4.44	3.85	3.59	3.10
	N	215	214	197	198	207	220	222
	Std. Deviation	0.268	0.239	1.051	1.002	0.471	0.190	0.121
31-40	Mean	3.00	2.32	3.57	3.87	3.93	2.00	1.24
	N	198	199	192	195	199	199	201
	Std. Deviation	0.324	.014	.211	.308	0.184	0.551	0.556
41-50	Mean	2.57	2.11	5.70	4.98	3.51	1.98	1.70
	N	188	188	183	182	183	183	188
	Std. Deviation	0.337	0.888	0.024	0.473	0.869	0.332	.994
51-60	Mean	2.05	2.60	4.68	4.55	3.47	2.88	2.47
	N	223	221	220	218	219	220	222
	Std. Deviation	0.431	0.587	0.585	0.735	0.793	0.644	0.309
Total	Mean	2.81	2.62	4.68	4.45	3.69	2.66	2.17
	N	824	822	792	793	808	822	833
	Std. Deviation	0.947	0.981	1.428	0.687	0.819	0.813	0.671

The respondents were asked to rank the various promotions related to banking that they have come across in their digital browsing activity. The options provide to rank were, Promotions in the mail box, a facebook advertisement seen in the Newsfeed, a promoted tweet on twitter, a promoted trend on twitter, a trending hash tag, banner ads while surfing and advertisements that come up in google search. The ranking scale proved was such that the stimuli were to be ranked in the order of preference, 1 being most receptive to or preferred. Having ascertained the preference for a particular platform by a certain age-group provides mathematical evidence to understanding the age-wise response to different types of digital promotions. The same has been analyzed statistically by MANOVA where there are multiple dependent variables ie. Rank for newsfeed advertisements, rank for google search, rank for promotions in the mailbox, rank for google display, rank for twitter promoted tweet and rank for twitter promoted trend across a single independent variable ie. Age are studied.

As seen from the table, the overall average is in favour of google advertisements, namely google search as well in favour of facebook newsfeed advertisements, in that order. The next preferred platform is the google display followed by promotions in the mailbox. The ranking given by the 31-40 years age-group, for promoted tweet the overall ranking of promoted tweet comes before the trending hashtag. For promoted trend on twitter, the ranking given by the 31-40 years age-group is better than other age-groups. But overall rank is lowest. The older age-groups i.e. 41-50 years and 51-60 years respond better to promotions in the mail-box. While the overall high receptivity to google search and facebook newsfeed advertisements remain high, of these two categories of promotions, google search is a self-initiated task and the subsequent promotion is a response to the same. In case of google display, the user does not initiate the search. It is a reading of the cookies in the users' digital activity that triggers the banner advertisements. Thus based on the past browsing history, relevant products and services are targeted to the consumer. While different types of promotions are used to garner the attention of user, such as simple text advertisements, images or videos, it has been found that visuals are most responded to. (Market Maven, 2017).

Table 5b: MANOVA output for the multiple dependent variables affected by various age-groups

Effect		Value	F	Error df	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[d]
Intercept-	Pillai's Trace	.996	7175.249[b]	832.000	.000	.996	50226.746	1.000
	Wilks' Lambda	.004	7175.249[b]	832.000	.000	.996	50226.746	1.000
	Hotelling's Trace	227.270	7175.249[b]	832.000	.000	.996	50226.746	1.000
	Roy's Largest Root	227.270	7175.249[b]	832.000	.000	.996	50226.746	1.000
Age	Pillai's Trace	.864	12.883	2408.000	.000	.288	270.533	1.000
	Wilks' Lambda	.317	14.883	2286.143	.000	.318	296.430	1.000
	Hotelling's Trace	1.613	16.876	2372.000	.000	.350	354.393	1.000
	Roy's Largest Root	1.208	38.468[c]	832.000	.000	.547	269.277	1.000

From the table above, since the p-values are 0.000, i.e less than 0.05, we can reject the Null hypothesis that there is no significant difference in the scores across age-groups for different types of digital media promotions, which constitute the

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dependent variables, ie, ads on google and facebook platforms. Thus, we confirm the above mathematical findings statistically as well, that each age-group responds differently to different types of digital media promotions.

Thus age-group has a statistically significant effect on the dependent variables i.e. the preference in terms of scores of each of the digital media promotional platforms.

Table 5c: MANOVA output for the multiple dependent variables affected by various occupations

Effect		Value	F	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.994	4918.524[b]	828.000	.000	.994
	Wilks' Lambda	.006	4918.524[b]	828.000	.000	.994
	Hotelling's Trace	158.662	4918.524[b]	828.000	.000	.994
	Roy's Largest Root	158.662	4918.524[b]	828.000	.000	.994
Occupation	Pillai's Trace	1.085	5.842	2412.000	.000	.155
	Wilks' Lambda	.285	6.340	2278.117	.000	.164
	Hotelling's Trace	1.473	6.472	2392.000	.000	.174
	Roy's Largest Root	.544	17.344[c]	830.000	.000	.353

From the table above, since the p-values are 0.000, i.e. less than 0.05, we can reject the Null hypothesis that there is no significant difference in the scores across occupations for different types of digital media promotions, which constitute the dependent variables, i.e., ads on google and facebook platforms. Thus, we confirm the above mathematical findings statistically, that each occupation responds differently to different types of digital media promotions.

Thus occupation has a statistically significant effect on the dependent variables i.e. the preference in terms of scores of each of the digital media promotional platforms.

Table 5d: MANOVA output for the multiple dependent variables affected by gender

Effect		Value	F	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.997	11777.623[b]	223.000	.284	.997
	Wilks' Lambda	.003	11777.623[b]	223.000	.198	.997
	Hotelling's Trace	369.701	11777.623[b]	223.000	.102	.997
	Roy's Largest Root	369.701	11777.623[b]	223.000	.341	.997
Gender	Pillai's Trace	.290	13.016[b]	1328.000	.325	.290
	Wilks' Lambda	.710	13.016[b]	1547.000	.228	.290
	Hotelling's Trace	.409	13.016[b]	1544.000	.345	.290
	Roy's Largest Root	.409	13.016[b]	241.000	.401	.290

From the table above, since the p-values are more than 0.05, we accept the Null hypothesis that there is no significant difference in the scores across gender for different types of digital media promotions, which constitute the dependent variables, ie, ads on google and facebook platforms. Thus, we confirm the above findings statistically that each of the genders responds similarly to different types of digital media promotions.

Thus gender does not have a statistically significant effect on the dependent variables i.e. the preference in terms of scores of each of the digital media promotional platforms.

V. CONCLUSION

The overall average is in favour of google advertisements, namely google search as well in favour of facebook newsfeed advertisements, in that order. The next preferred platform is the google display followed by promotions in the mailbox. The ranking given by the 31-40 years age-group, for promoted tweet the overall ranking of promoted tweet comes before the trending hashtag. For promoted trend on twitter, the ranking given by the 31-40 years age-group is better than other age-groups. But overall rank is lowest. The older age-groups i.e. 41-50 years and 51-60 years respond better to promotions in the mail-box. While the overall high receptivity to google search and facebook newsfeed advertisements remain high, of these two categories of promotions, google search is a self-initiated task and the subsequent promotion is a response to the same. In case of google display, the user does not initiate the search. It is a reading of the cookies in the users' digital activity that triggers the banner advertisements. Based on the past browsing history, relevant products and services are targeted to the consumer.

SUGGESTIONS: The study gives an idea about the affinity by demographic towards digital media promotions banking advertisements. Google has multiple avenues to display promotions, ie. The google search and google banner advertisements. In case of facebook the options are advertisements in the newsfeed and the stamp advertisements. These avenues on facebook and google are executed for digital promotions over and above promotions in the mail-box, which are actually free and the most cost-effective option. Thus, these mail-box promotions are to be continued along with paid digital marketing campaigns. In case of the paid promotions, it is important that the cost-per-click for google and the cost-per-fan in case of facebook are optimized. The study provides a ready reckoner for such paid promotions, wherein tailored and

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targeted promotions can be executed as per the requirement. E.g. Home loans which have a fitment with the 31-40 age-group can be targeted to this age-group by google search advertisements and google banner advertisements, as the average rank is 1.24 and 2 for these. Similar to the 31- 40 years age group, the 41-50 years age group responds best to search and banner with ranks of 1.70 and 1.98 respectively. Home loans or retirement planning schemes tailored to the 41-50 years age-group can be promoted on the said platforms. The 21-30 years age- group, responds to all types of promotions with preference towards google search. Thus products such as education loans should be promoted to them via google search advertisements. The 51-60 years responds best to promotions in the mail-box followed by paid promotions. This there is fine-tuning and convergence of product, place, i.e. the preferred digital media platform, the relevant promotion targeted to a specific age-group, thereby enhancing the conversion that marketers look for in a paid promotion.

VI. LIMITATION OF THE STUDY

The study has been carried out for one particular industry i.e. Retail Banking. The results can be similar or can be different for different industries. The response will be different for other industries, such as travel or hotel-booking and even different for other industries such online shopping industries. The industries that could give varied results from the above are: Airline/Travel industries, hotels, online companies. Similar Pilot marketing spends can be made to ascertain the demographic-based response for each of these and tailor digital promotions accordingly.

MANAGERIAL IMPLICATIONS OF THE PAPER: While a lot has been read and written about digital media and it's usefulness to a marketer, for a bank product, such as marketing a home loan or a car loan or fixed deposits, or credit and debit cards, a study, wherein consumers were asked about their preference to promotions across digital media platforms has been put forth in this paper. One hopes that it is of use to those investing in marketing campaigns and at the same time opens avenues for experimenting with parameters enlisted with respect to industry specific variables.

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