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Big Data Analysis on the Role of Public Networking in Intensifying the Conventional Purchaser Perception of Opulent Brands

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Abstract

This research analysis employs big data in examining the role of public networking in intensifying the conventional purchaser perception of the opulent brands. In specific, some of the distinctive traits like highest quality, very high price, scarcity and distinctiveness, aesthetics, heritage, and surpluses that are not accounted in the previous research have been identified in this analysis and the research is to be done on that aspects. Primarily, it has been planned to collect the required data from the Instagram and then the collected data is transformed into a structured data with the help of JSON and NLP software and then it is grouped and tabulated with the help of MySQL and Econometric analysis has to be done for the measurement. Based on the measurements, the results will be examined using MySQL, JSON and Core NLP which will help us to intensify the purchaser's thoughts on conventional aspects of opulent brands and how is their distinctive traits are transmitted to the consumers through public networking.

Keywords: Big data, Opulent brands, Public Networking, Purchaser's perception, Instagram.

1. Introduction

The previous investigations of analyses suggest about the effect of an opulent brand's public media activities on purchaser engagement through different dimensions such as amusement, interaction, fashion, and personalization, opulent brands are provided with traits that are distinct in contrast to non-opulent brands. For instance, certain aspects that are not included in previous studies, including highest quality, very high price, scarcity and distinctiveness, aesthetics, heritage, and surpluses. Hence, this big data analysis is made to investigate the function of public network in intensifying purchasers' perception of the conventional aspects of opulent brands and how the distinct traits of opulent brands are communicated in public network.

2. Literature Review

This study is focussed on intensifying the view of the buyers on the conventional aspects of opulent brands and how the distinct traits like quality, price, scarcity, distinctiveness, aesthetics, heritage, and surpluses of the lavish brands are communicated in public network. Based upon the necessity, big data is going to get recovered from public network of Instagram for the past one year. The aim of this paper is to analyse the Instagram posts from top ten opulent brands with the enormous number of Instagram followers. The results will ensure that concentrating on the before mentioned conventional aspects of the lavish brand's public network marketing attempts will create an impact in the distinctive features of these brands which significantly improves the view and likeness of the purchaser towards the product.

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3. Methodology

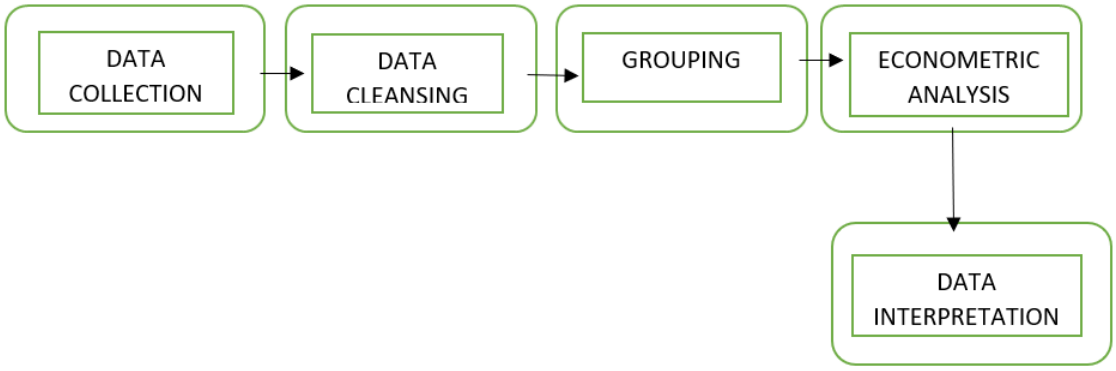

FIG 3.0.1 STEPS INVOLVED IN BIG DATA ANALYSIS

The set of procedure for this research process includes:

3.1 Collection of data:

For this big data analysis, Instagram has been opted as a source of big data to study the effect of opulent brands' public network marketing activities on buyer's perception.

With the help of big data from Instagram can widen the understanding of an opulent brand's public network marketing activities. The associated features of Instagram offer real-time data on firm-customer interaction. Thus, Instagram is an appropriate public network platform to study the conventional perspective of buyer involvement for opulent brands.

The top 10 opulent brands with the highest number of Instagram followers, are to be collected based on the highest number of followers for that page are to be used as a research sample. Big Data are to be collected based on web crawling techniques and registered access to Instagram's API1 (Application Programming Interface). Based on this account information about the 10 opulent brands' Instagram accounts including date joined, country, the number of followers, active ads, review posts etc., that are required for the research can be gathered.

3.2 Transformation of data:

Big data collected here could be unstructured data, containing both textual and non-textual data. In contrary to the structured data of numerical values which can be easily stored in databases and processed by conventional marketing of software packages.

First, we need to get the responses through JavaScript Object Notation (JSON) and use Java programming language and JSON parsers to extract field information from them in a csv (comma-separated values) file format. At this stage, each observation is noted down. The values of these sample variables do not change once a response is posted. The numbers of Reposts, Likes and Replies are also to be obtained from the JSON data. After this by using Neuro linguistic programming (NLP) the unstructured data is converted into structured format i.e. numerical data. Once it is done, it is mandatory to check the tokenization and tagging.

Tokenization is the process of splitting up of a sentence into words and tagging is the process of finding the part of speech of a word and then stop words such as "so", "an", and "on", that does not provide any information is removed. Once the removal of the stop words is done, tagging all the words of the opulent brands' responses in Instagram is done using different criteria. Some of them are the parts of speech like Noun, Verb, Adjectives and Adverbs that will be used to recognize the presence of the different conventional aspects like quality, price, scarcity, distinctiveness, aesthetics, heritage, and surpluses in the textual component of the Instagram followers' responses.

After that the quantitative data like comments, reviews, posts are combined with qualitative data which is to be converted to into quantitative. MySQL database management software is to be used on grouping the data. The different SQL commands that are to be used here are GROUP BY for grouping purpose and then

Count, Average and Sum are also used to do this integration. During this process, response types like company details, created time are to be identified to whether it is created by a buyer or seller. The ultimate monthly panel comprises a group of 10 opulent brands details**.**

Opulent Brands	Instagram account	Date of Creation	Number of followers	Number of accounts following	Number of posts
Gucci	gucci	09-03-2011	40.3M	224	6819
Louis Vuitton	louis vuitton	28-06-2012	38M	5	4237
Michael Kors	michael kors official	10-02-2011	16.1M	300	5269
Chanel	chanel official	21-11-2013	39.7M	2	2703
Armani	giorgioarmani	20-01-2020	220K	8	216
Dior	dior official	11-09-2013	30.8M	253	7021
Valentino	maisonvalentino	13-04-2012	13.8M	1	7909
Saint Laurent	saint laurent	18-01-2012	7.8M	1	1308
Alexander McQueen	alexander mcqueen official	04-10-2011	9.6M	0	4010
Versace	versace	08-09-2011	21.7M	219	5708

FIGURE 3.2.1 SUMMARY OF INSTAGRAM ACCOUNTS

Measures	Observations	Mean	Std.Dev	Min	Max
Quality	500	6.11	12.41	0	189
Cost	500	5432.75	4189.62	43	56539
Scarcity	500	21.07	19.06	0	106
Uniqueness	500	16.53	38.9	0	157
Aesthetics	500	35.47	76.43	0	1786
Heritage	500	23.87	45.69	0	165
Surpluses	500	9546.05	10034.7	167.56	106507.7

FIGURE 3.2.2 DESCRIPTIVE STATISTICS FOR THE MEASURE

4. Econometric Analysis Measurement:

Econometric analysis is the application of statistical tool to economic data in order to give empirical content to economic relationships. It makes use of the linear regression model for analysing the data. It is to be executed on this integrated panel dataset with the help of MySQL. All the observations in this panel data is composed of 7 elements like Quality, price, scarcity, distinctiveness, aesthetics, heritage, and surpluses. We have planned to use fixed-effects (FE) model to analyse panel data that contains monthly observations for 10 opulent brands. A FE model assumes that individual heterogeneity between brands is captured by the unknown intercept and therefore gives researchers the ability to control for all time-invariant unobserved variables. Unit root test, Before we conducted the final analysis of the panel data, we first ran unit root tests to check whether any of the variables of interest showed non-stationarity, which can cause spurious regression results if not handled correctly. We ran the Fisher-type unit root tests on the variables Quality, price, scarcity, distinctiveness, aesthetics, heritage, and surpluses. respectively and found that all the p-values were <0.001,rejecting the null hypothesis that the panels contain unit roots. This confirms that all the panels are stationary.

Fixed-effect model

We executed the Hausman test to decide whether a fixed-or random-effects model would be the correct choice. The p-value of the Hausman test was 0.013. At a 5% significance level, the null hypothesis that differs in coefficients are not systematic was eliminated, meaning that a fixed-effects model is preferable. We denote the basic model by the following definition:

Purchaser Perception$_{it}$ = $\beta 1 Quality$it + $\beta 2 Costit + \beta 3 Scarcityit + \beta 4 Uniquenessit + \beta 5 Aestheticsit + \beta 6 Heritageit + \beta 7 Surplusesit + \alpha i + \varepsilon it$_where i=1, …, N (=10) luxury brands and t=1, …, T (=60) time periods, spanning from March 2020 to February 2020 and producing 500 observations; Perceptionit represents customer perception with luxury brand i at time period t; *Qualityit, Costit, Scarcityit, Uniquenessit, Aestheticsit, Heritageit, Surplusesit* represent brand i's $Quality$it, $Costit, Scarcityit, Uniquenessit, Aestheticsit, Heritageit, Surplusesit$ at time period t, respectively; αi is the unknown intercept(i.e., the fixed-effects); ε it is the random error.

Opulent Brand's Social Network marketing	**Purchaser Perception**	
	b	**P**
Quality	83.14	0.01
Cost	3.68	0.002
Scarcity	46.76	0
Uniqueness	56.89	0.05
Aesthetics	-6.67	0.004
Heritage	28.43	0.025
Surpluses	5.23	0.001
Constant	1694.28	0.003
Number of observations = 500 Number of brands = 10 R2 = 0.23 F Statistics(7,480) = 60.16		

FIGURE 4.1 THE EFFECT OF OPULENT BRAND'S SOCIAL NETWORK MARKETING ON PURCHASER PERCEPTION

5. Results

The effects of opulent brand's social network marketing efforts on customer purchase behavior are presented in Table 4.1. The results from the fixed-effects model suggests that the first three foci of the social network marketing activities have significantly positive effects on customer perception: quality (b= 83.14, p=0.01), cost (b=3.68,p < 0.001) and Uniquenessness(b=56.89,p < 0.001).We can also compare the relative impacts of the independent variables on The effect of aesthetics on perception on customer perception ,withb=−6.67andp=0.04.Thisunexpected finding and aplausible explanation behind this effect is presented **.**Results examined using MySQL, JSON and Core NLP helped us to intensify the purchaser's thoughts on conventional aspects of opulent brands and how is their distinctive traits are transmitted to the consumers through public networking.

5.2 Limitation

The reliability of the parameters is uncertain as the responses collected are only for the sample variables and not for the full population. Although we can draw a conclusion on the pattern of perception of customer buying opulent brands from its conventional aspect, it need not be same for all years as it is dynamic rather than static.

5.3 Value

This system helps both the purchaser as well as the seller. In seller aspects, this pattern helps them in analysing the purchaser perception and how their products can be designed and improved by creating ads in such a way that purchasers get attracted towards the product. On the other hand, by means of this study customer related problems are answered.