



## DATA ANALYTICS AND MARKETING COMMUNICATION PERFORMANCE OF NIGERIAN ORGANISATIONS

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**ABSTRACT:** *This study investigated the effect of data analytics on marketing communication performance of Nigerian organizations based on insights from JCDecaux Nigeria in Lagos state. The methodology of the study was based on quantitative research approach based on sample size of one hundred (100) respondents selected through multistage sampling techniques was consisting of purposive sampling technique to select the organization of choice (JCDecaux Nigeria and its employees in Lagos state and convenience sampling technique was used to select individual respondents. The data in this study was analysed using frequency distribution, simple percentages and means as descriptive statistics while Pearson Correlation analysis was used to test the hypotheses using Statistical Package for Social Sciences (SPSS). The results indicated that there is significant effect of data analytics on conversion rate of marketing communication in JCDecaux Nigeria in Lagos state based on the hypotheses one tested and indicated by R square value of 84.6%. Also, there is significant effect of data analytics on advertising effectiveness in JCDecaux Nigeria in Lagos state, based on the hypotheses two tested and indicated by R square value of 71.4%. Finally, data analytics has significant effect on revenue generation in JCDecaux Nigeria in Lagos state, based on the hypotheses three tested and indicated by R square value of 92.2%. This study concluded that data analytics plays significant role in affecting marketing communication performance of JCDecaux Nigeria in Lagos state. This is based on the consideration that data analytics from customer information assists in improving customer conversion rate, advertising effectiveness and overall revenue generation, based on the fact that organizations can effectively tailor marketing communication to customers. In view of the findings and conclusion, this study recommended among other things that organizations and management should develop strategic marketing communication that are well aligned with the unique characteristics of customer information from data analytics.*

**KEYWORDS:** Data Analytics, Marketing, Marketing Communication, Performance.



## INTRODUCTION

The growing competitiveness among contemporary business organisations has required for new and innovative ways for carrying out business and marketing strategies. Big data is being used more and more in business and marketing to improve decision making by providing more detailed information on customers, clients, and other stakeholders in an organization (Ali, Poulouva, Yasmin, Danish, Akhtar, & Javed, 2020). Given the importance of data in today's business and marketing worlds, it's no surprise that the big data notion has received so much attention from both professionals and academics.

For effective marketing communication there is need for availability of relevant information about consumer characteristics, product characteristics as well as marketing environment, to be integrated into marketing communication process (Kotler & Armstrong, 2016; Dixon-Ogbechi, 2019; Rahman, Hossain & Abdel-Fattah, 2021).

This study focuses on the use of data analytics for business organisations in Nigeria that require effective marketing communication to reach their target market. Data analytics has been considered to transform the business and marketing practices, it is considered as break through technological development, as well as part and parcel of the digital revolution. Gartner (2019) cited in Rahman et al (2021) argued that organisations have been known to invest up to USD 2.1 trillion in 2015 to leverage big data analytics, and these investments have grown to around USD 3.8 trillion in 2019. Most Nigeria organisations have not yet been able to fully grasp the contribution of data analytics in improving the way they apply decisions about various organisational stakeholders. As such this study is of significance to investigate the effect of data analytics on marketing communication performance of Nigerian organizations using a case study of JCDecaux.

When it comes to creating, managing, and processing information for efficient decision making across diverse elements of an organization, big data are beyond the capabilities of frequently used software solutions, as stated by Verma, Agrawa, Patel, and Patel (2016). Data analytics is a collection of tools that need novel kinds of integration in order to extract substantial hidden values from heterogeneous, complex, and huge information (Verma, et al., 2016). The term "data analytics" refers to a collection of techniques used on vast, dispersed information to draw conclusions that aid in decision-making (Mikalefa, Boura, Lekakos & Krogstiea, 2019).

Miluwi (2015) stated that marketing communications management requires vast amount of data in this contemporary age to be able to appropriately understand the changing consumer behaviour, competitive intensity, and business environment dynamics. It is therefore important that the more data is collected and used for more accurate result in business and marketing. According to Sivarajah, Kamal, Irani, and Weerakkody (2016), businesses may gain a significant competitive edge by transforming this data into real-time information on their customers. In general, data analytics is used by corporate leaders and marketers to make decisions about customer lifetime value, marketing budget allocation, lucrative client identification and retention, and optimizing profit margins (Cabrera-Sánchez & Villarejo-Ramos, 2019; Iacobucci, Petrescu, Krishen, and Bendixen, 2019). Based on the foregoing, this study seeks to solve the problem in the usage of data analytics in marketing communication,

With the advent of internet, information technology, mobile and digital technology and so on, data generation has increased exponentially. Many business organisations like JCDecaux



Nigeria are facing challenges around marketing communication based on its ability to inform, persuade, and remind target audiences, but this can only be achieved if the adverts and media communication are tailored in a manner that captures the target audience. The use of data analytics can go a long way in enhancing marketing communication performance, but the problem faced by some Nigerian organizations, is based on what data is relevant in the formulation and implementation of marketing communication. Thus, utilizing data analytics becomes a big problem because the inability to mine these data effectively can result in losing competitive advantage.

The first motivation in embarking on this study is to advance my knowledge of data analytics and marketing communication. The study is of significance by providing contemporary insights about data analytics and marketing communication performance.

This study would benefit the executives and management of Nigerian organizations such as JCDecaux Nigeria in Lagos state based on understanding the usage of data analytics to improve their business operations in media and advertising.

The findings from this study will be of significance to government and their agencies, as it will also suggest ways of leveraging on data analytics to enhance government activities for economic growth. Finally, students and academic scholars might utilize the data from this survey to influence future investigations into similar topics.

The overall objective of this study is the effect of data analytics on marketing communication performance of Nigerian organizations. The specific objectives include to:

- i. examine the effect of data analytics on conversion rate of marketing communication.
- ii. determine the effect of data analytics on advertising effectiveness.
- iii. evaluate the effect of data analytics on revenue generation.

The following research questions would be answered in the course of undertaking this study:

- i. What is the effect of data analytics on conversion rate of marketing communication?
- ii. What is the effect of data analytics on advertising effectiveness?
- iii. To what extent is the effect of data analytics on revenue generation?



## LITERATURE REVIEW AND THEORETICAL UNDERPINNING

### Resource-Based View Theory

The Resource Based View is a theory in strategic management and marketing used by corporate managers to assess the available strategic assets of an organization. This concept is predicated on the idea that a company's competitive edge stems mostly from how effectively and efficiently, it uses the resources at its disposal to forster operations (Wernerfelt & Rumelt, 2004; Wheelen & Hunger, 2019).

According to proponents of the Resource-Based View of the Firm (RBV), an organization may gain an enduring edge over rivals by managing its resources more efficiently. As digital technologies continue to advance, they provide a window into the resource viewpoint in the field of marketing communications (Miluwi, 2015). It's no secret that digital technologies have had a profound influence on all of the marketing collateral, helping to reduce expenses, increase exposure, and bolster the persuasive power of the many methods of communication. Customized communications have helped retail firms acquire a considerable competitive edge in their marketplaces, made possible by the capacity to collect and analyze massive volumes of consumer data (Miluwi, 2015). As a result, it is hypothesized that the resources needed to transform a temporary competitive advantage into a permanent one must be multifaceted and imperfectly movable. Since an organization's resources come from inside and may be leveraged to gain an edge in the market, this notion is applicable to the current investigation. Every business has resources at its disposal that may be put to good use for the company as a whole. In order to get an edge over the competition, a company must be able to put its resources to better use than its rivals. Physical resources, organizational resources, and human resources are all types of inputs (Waruiru, & Kagiri, 2013). Organizational capital, like data analytics, is a key resource in the context of the factor indicator of big data, which is part of the resource-based theory of an organization. The significance of data analytics as the foundation for successful marketing campaigns inspired the adoption of this theory in this investigation (Waruiru, & Kagiri, 2013; Ghasemaghaei et al., 2018).

### Concept of Data Analytics

There has been a dramatic increase in interest throughout the globe in the idea of data analytics recently (Akter, 2016). The phrase "big data analytics," which describes data that cannot be analyzed by conventional means, has recently received a great deal of interest in the commercial world (Salvador & Ikeda, 2014).

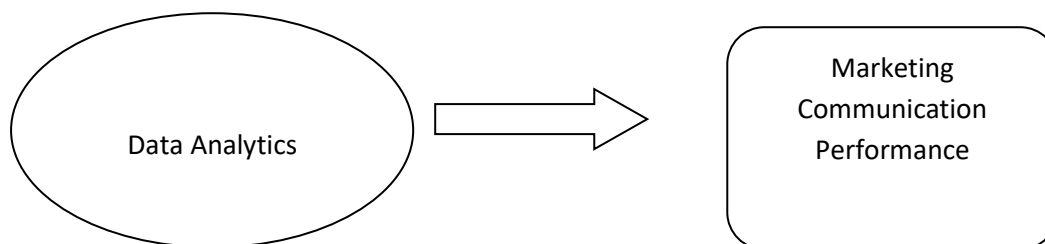
According to Goes (2014), it's a huge quantity of data in several formats that may be used for decision-making in many contexts. Schroeck et al (2012) definition of big data places more emphasis on the broader scope of information, which includes real-time data, non-traditional forms of media data, new technology-driven data, the massive amount of data based on consumer and market insights, and social media data. According to George and Haas (2014), big data comes from an ever-expanding variety of sources, such as the Internet, mobile devices, user-provided content, and purposely created material via sensor networks or business activities, such as sales enquiries and buy transactions from both consumer and organization viewpoints.

## Concept of Marketing Communication

The term "marketing communications" may be interpreted in a variety of ways, and there is no one, agreed-upon definition for it (Kotler & Armstrong, 2016; Lamb, Hair & McDaniel, 2019). The basis of marketing communication is founded on a promotional perspective, where the goal is to enable conversations in order to convince target audiences to purchase items and services (Fill, & Jamieson, 2014). Firms are increasingly interested in integrating their marketing communications for better outcomes (Jerman, & Zavrnik, 2012; Dixon-Ogbechi, 2019), hence a large body of marketing communications literature is devoted to this topic. One of the most contentious issues in today's marketing communications literature is the concept of IMC (Shakeel-Ul-Rehman & Ibrahim, 2018).

## Conceptual Model of the Study

The study focused on the investigation of the use of data analytics in enhancing the performance of marketing communication. The model was developed based on data analytics as the independent variable and marketing communication performance as the dependent variable as adapted from previous studies such as Saidali et al (2019), Ali et al (2020) as well as Rahman et al (2021). The model is diagrammatically expressed below:



Source: *Researcher (2022)*.

## Empirical Review

Rahman et al (2021) carried out a study on how marketing analytics capabilities can boost organizational competitive marketing performance in data-rich business setting. As a result, the goal of this study was to create and evaluate a conceptual model that connects firms marketing analytics capabilities (FMAC) and the effects it has on the corporate environment. The research design was based on 250 managers from big and medium-sized manufacturing and service-intensive enterprises providing primary data for the study analysis. estimation approach. According to the findings of the multivariate study, HMDM acts as a mediator between FMAC and businesses' competitive marketing performance, having a considerable impact on both. Adoption of artificial intelligence also improves the connections between FMAC-HMDM and FMAC-FCMP.



Ali et al (2020) studied big data analytics enhancements for the use of organizational performance based on data provision for sustainable product development. The study was carried out in Pakistan based on experiences of air pollution in a similar way to other nations, and smog has developed into a fifth season. The study created a conceptual model to determine how adopting a sustainable development program might improve organizational performance using big data analytics. The study used a time lag strategy to gather the data in three waves and received 372 valid replies, which helped to eliminate biases caused by standard method usage. The empirical PLS-SEM results imply that big data analytics positively affect the development of sustainable products, and that the development of sustainable products positively and significantly affects organizational performance. Big data analytics and organizational performance are verified to be mediated by the construction of a sustainable program.

Saidali and other (2019) investigated big data and marketing tactics together yield useful company insights for enhanced production success. The study outlined the distinction between traditional marketing analytics and big data analytics (CMA). It also proposed conducting a theoretical investigation to develop more effective marketing plans to support the production. By carefully examining these analytics—BDA and CMA—and selecting the high level of complexity and customization of this combination, a business decision can be made in real time. The study concluded on the existence of prediction knowledge and examines the influence of marketing behavior on the growth of output. Additionally, it described how marketing practices and marketing turbulence together have a positive impact on production optimization by detecting client wants and interests and winning early decisions.

Results from a mixed-method study by Mikalef et al. (2019) show that the importance of big data analytics resources varies when considering performance gains depending on the context, as evidenced by survey data from 175 chief information officers and IT managers working in Greek firms and three case studies. The impact of big data analytics on businesses was investigated by Maroufkhani et al. (2019). Specifically, a literature evaluation was conducted on the topic of big data analytics and the effectiveness of businesses. Journal articles indexed by Web of Science are evaluated. This research categorized the numerous kinds of performance that may be addressed by big data analytics, as well as identifying elements that may impact the adoption of big data analytics in different sections of an organization. In this study, we looked at the correlation between data analytics and business success and discovered a favourable correlation.

The effects of big data analytics on businesses were analysed by Ghasemaghaei et al. (2018), who used a resource-fitting approach. Researchers developed a quantitative methodology based on in-depth interviews with business leaders to determine whether or not big data analytics really do boost productivity in the workplace. The study relies on the person-environment (P-E) and resource-based view (RBV) theories to build a framework for analysing the effects of organizational factors such as tool, data, task, and personnel compatibility on performance.

Expenditures on big data analytics were studied by Raguseo and Vitari (2017). Big data was the subject of the research because of its significance in the modern corporate world. The study employed a descriptive research design and a sample size of 103 participants to determine the types of business value that can be generated by investing in big data analytics, the effects that these investments have on a company's bottom line, and the moderating roles played by the



firm's market standing and its customers. Based on the results, it can be said that big data is the practical implementation of the resource-based perspective theory that benefits businesses financially.

## METHODOLOGY

The research approach used for this study was quantitative based on the objective collection of primary data from participant who are employees of JCDecaux Nigeria in Lagos state. This data was then be analysed using quantitative and statistical methods to shed light on the study's central research questions. As defined by Kothari (2018), a quantitative research technique is one that relies on numerical data gathering and analysis to provide an unbiased account of the factors at play in a study.

This study's methodological approach, known as positivism, originated in the 1920s. According to Saunders, Lewis, and Thornhill (2019), empiricist and positivist research ideologies shape the quantitative method by emphasizing the significance of testing hypotheses.

As regarding the population of this study, the employees of in JCDecaux Nigeria in Lagos state in the marketing and sales department. Both Kothari (2018) and Saunders, Lewis, and Thornhill (2019) defined the population as "the whole set of things that are going to be investigated in a research. JCDecaux Nigeria in Lagos state has a total of 135 employees as its workforce as at 2021. For the reason of this study, the appropriated sample size was using purposive and convenience sampling technique. The purposive sampling technique was used based on selecting the organization of study while convenience sampling technique was used to select individual participants used for the study.

This study used a structured questionnaire to obtain primary data for its analysis. Section A of the structured questionnaire inquired about the demographics and experiences of the respondents, including their gender, age, marital status, degree of education, years of experience in the workforce, and managerial responsibilities. The bulk of the questionnaire may be found in Part B, and its purpose is to collect data on research factors related to data analytics and the effectiveness of marketing communications. The majority of the survey's questions are designed to gauge respondents' opinions; hence a 5-point Likert scale was used in lieu of a 3- or 7-point (Kothari, 2018). The current study presented field data in both descriptive and inferential statistics. Descriptive statistics for this investigation relied on frequency counts, basic percentages, averages, and standard deviations. In order to determine how data analytics impacts the efficiency of marketing communications, descriptive analysis was used for this study's data. According to Saunders, Lewis, and Thornhill (2019), descriptive analysis is both warranted and acceptable for studies that aim to probe the nature and scope of the connection between independent and dependent variables. Data would be analysed using SPSS (Statistical Packages for the Social Sciences) (version 20).



## RESEARCH RESULTS

A total of one hundred participants (100) participants were used as sample size and similar copies of the questionnaire were administered. All of the research instruments were double-checked to guarantee that only correctly completed forms were utilized in the data analysis. Ninety (90) questionnaires were recovered, and all of them could be used for statistical analysis. At a 90% response rate, this suggests that most people were happy to take part in the survey. The data was collected using structured questionnaires administered to employees of Jcdecaux in Nigeria in Lagos state.

### Analysis of Demographic Data

The demographic data represented in section A was analysed using frequencies and simple percentages, this is shown in the table below:

**Table 4.1: Presentation of the demographic data of Participants**

Demographic Characteristics	Responses	Frequency	Percentage (%)
Gender	Male	57	63.3
	Female	33	26.7
	<b>Total</b>	<b>90</b>	<b>100.0</b>
Age	21 – 30 years	22	14.4
	31 - 40 years	12	13.3
	41 – 50 years	48	53.3
	Above 50 years	8	9.0
	<b>Total</b>	<b>90</b>	<b>100.0</b>
Educational Qualification	WASC/GCE	0	0.0
	B.Sc. / BA/ HND	36	40.0
	M.Sc. / MA/MBA	54	90.0
	Ph.D.	0	0.0
	<b>Total</b>	<b>90</b>	<b>100.0</b>
Management Status	Top Level	9	10.0
	Middle Level	13	14.4
	Lower Level	68	75.6
	<b>Total</b>	<b>90</b>	<b>100.0</b>
Number of years' experience in the organization:	Less than 1 year	10	11.1
	1 - 5 years	9	10.0
	6 - 10 years	71	78.9
	Above 10 years	0	0.0
	<b>Total</b>	<b>90</b>	<b>100.0</b>

*Source: Field Survey, 2022*





According to Table 4.1, men make up 63.3% of the sample while women account for 26.7% of the sample. Table 4.1 also shows that 24.4% of all participants are between the ages of 21 and 30, 13.3% are between the ages of 31 and 40, 53.3% are between the ages of 41 and 50, and 9.0% are above the age of 50.

Table 4.1 also shows that none of the participants have a Ph.D., whereas 40.0% have a B.Sc./BA/HND, 60.0% have an M.Sc./MA/MBA, and 0.0% have a WASC/GCE. The results showed that the vast majority of Jcdecaux's staff in Lagos, Nigeria, possess master's or doctoral degrees in some field, demonstrating that they have the requisite knowledge to provide reliable responses to the survey questions.

According to Table 4.1, 10.0% of the participants are senior managers, 14.4% are in middle management, and 75.6% are in lower management at Jcdecaux in Nigeria's Lagos state. As a result, we can see that the bulk of Jcdecaux's Nigerian staff are lower-level managers who are familiar with the company's data analytics and marketing communication results.

Table 4.5 summarizes the participants' lengths of service with Jcdecaux Nigeria in Lagos state: 11.1% have been with the company for less than a year, 78.9% have been there for between 1 and 5 years, 10.0% have been there for between 6 and 10 years, and 0% have been there for more than 10 years.

Given that most participants are educated and have sufficient experience as workers of Jcdecaux in Nigeria, the aforementioned demographic statistics have implications for this research.

### **Analysis of Data in section B of the Questionnaire**

The section B of the questionnaire was divided into subsections according to the research variables and questions, Likert scale statements were used with points awarded to the scale ranging from 1 to 5 and were interpreted as follows:

Strongly agree	(4.45 and above)
Agree	(4.44 – 3.45)
Undecided	(3.44 – 2.45)
Disagree	(2.44 – 1.45)
Strongly Disagree	(Below 1.44)



**Table 4.2: Means and standard deviation of the opinions on the effect of data analytics on conversion rate of marketing communication in JCDecaux Nigeria in Lagos state**

VIEWS	MEAN	STD DEV
Data analytics provides detailed information about customers which assists in tailoring marketing communications to attract customers	4.41	1.92
We are able to enhance conversion rate through the amount of information used to engage customers	4.74	0.78
Customer data used in data analytics helps in increasing conversion rate from marketing communication campaign	4.64	0.82

*Source: Field Survey 2022*

Table 4.2 shows that participants agreed with the opinion that Data analytics provides detailed information about customers which assists in tailoring marketing communications to attract customers of JCDecaux Nigeria. This was indicated with a mean of 4.41 and standard deviation of 1.92 respectively.

Also, Table 4.2 reveals that participants strongly agreed with the opinion that JCDecaux Nigeria has been able to enhance conversion rate through the amount of information used to engage customers. This is indicated with a mean of 4.74 and standard deviation of 0.78 respectively.

Finally, Table 4.2 shows that participants strongly agreed with the opinion that customer data used in data analytics helps in increasing conversion rate from marketing communication campaign. This is indicated with a mean of 4.64 and standard deviation of 0.82 respectively.

**Table 4.3: Means and standard deviation of the opinions of participants on p effect of data analytics on advertising effectiveness in JCDecaux Nigeria in Lagos state**

VIEWS	MEAN	STD DEV
Data analytics provides detailed information about customers for targeted advertising	4.09	1.01
We are able to enhance advertising effectiveness through the amount of information gathered from data analytics.	4.54	1.04
Advertising is made more interactive as result of customer data used in developing marketing communication campaign.	4.76	0.88

*Source: Field Survey 2022*

Table 4.3 shows that participants agreed with the opinion that data analytics provides detailed information about customers for targeted advertising. This is indicated with a mean of 4.09 and standard deviation of 1.01 respectively.



Furthermore, Table 4.3 shows that participants strongly agreed with the opinion that JCDecaux Nigeria has been able to enhance advertising effectiveness through the amount of information gathered from data analytics, this is indicated with a mean of 4.54 and standard deviation of 1.04 respectively.

Finally, Table 4.3 revealed that participants strongly agreed with the opinion that advertising is made more interactive as result of customer data used in developing marketing communication campaign from JCDecaux Nigeria, this is indicated with a mean of 4.76 and standard deviation of 0.88 respectively.

**Table 4.4: Means and standard deviation of the opinions of participants on effect of data analytics on revenue generation in JCDecaux Nigeria in Lagos state.**

VIEWS	MEAN	STD DEV
Data gotten from adverts, sales promotion and social media engagements assists in reaching the right customers	4.76	0.76
Revenue generation is impacted by customer purchase due to relevant data analytics	4.82	0.45
Data analytics helps this organization target customers for revenue drive.	4.88	0.86

*Source: Field Survey, 2022*

Table 4.4 shows that participants strongly agreed with the opinion that data gotten from adverts, sales promotion and social media engagements assists in reaching the right customers. This is indicated with a mean of 4.76 and standard deviation of 0.76 respectively.

Furthermore, Table 4.4 reveals that participants strongly agreed with the opinion that revenue generation is impacted by customer purchase due to relevant data analytics, this is indicated with a mean of 4.82 and standard deviation of 0.45 respectively.

Finally, Table 4.4 shows that participants strongly agreed with the opinion that data analytics helps JCDecaux Nigeria to target customers for revenue drive. This was indicated with a mean of 4.88 and standard deviation of 0.86 respectively.

## Test of Hypotheses

### Hypothesis One:

There is no significant effect of data analytics on conversion rate of marketing communication in JCDecaux Nigeria in Lagos state. The decision rule for this test of hypothesis is once p value calculated is less than 5% level of significance reject the null hypothesis and accept the alternative hypothesis otherwise accept null hypothesis and reject alternative hypothesis.

**Table 4.5: Pearson Correlation Analysis**

		Data Analytics	Conversion Rate
Data Analytics	Pearson Correlation	1	0.846
	Sig. (2-tailed)		0.03
	N	90	90
Conversion Rate	Pearson Correlation	0.846	1
	Sig. (2-tailed)	0.03	
	N	90	90

*SPSS Output, 2022*

Research Hypothesis one was tested using the Pearson Correlation analysis. The result as shown in the table above states that there is a strong positive impact of 0.846 of the independent variable (data analytics) on dependent variable (conversion rate).

The p value calculated is less than level of significance (0.03:  $p < 0.05$ ), indicating that the null hypothesis one (H0) should be rejected and alternative hypothesis one (H1) should be accepted which is expressed that there is significant effect of data analytics on conversion rate of marketing communication in JCDecaux Nigeria in Lagos state.

### **Hypothesis Two:**

There is no significant effect of data analytics on advertising effectiveness in JCDecaux Nigeria in Lagos state. The decision rule for this test of hypothesis is once p value calculated is less than 5% level of significance reject the null hypothesis and accept the alternative hypothesis otherwise accept null hypothesis and reject alternative hypothesis.

**Table 4.6: Pearson Correlation Analysis**

		Data analytics	Advertising Effectiveness
Data Analytics	Pearson Correlation	1	0.714
	Sig. (2-tailed)		0.01
	N	90	90
Advertising effectiveness.	Pearson Correlation	0.714	1
	Sig. (2-tailed)	0.01	
	N	90	90

*SPSS Output, 2022*

Research Hypothesis two was tested using the Pearson Correlation analysis. The result as shown in the table above states that there is a strong positive impact of 0.898 of the independent variable (data analytics) on dependent variable (advertising effectiveness)

The p value calculated is less than level of significance (0.01:  $p < 0.05$ ), indicating that the null hypothesis two (H0) should be rejected and alternative hypothesis two (H1) should be accepted.



Therefore, there is significant effect of data analytics on advertising effectiveness in JCDecaux Nigeria in Lagos state.

### Hypothesis Three:

Data analytics has no significant effect on revenue generation in JCDecaux Nigeria in Lagos state. The decision rule for this test of hypothesis is once p value calculated is less than 5% level of significance reject the null hypothesis and accept the alternative hypothesis otherwise accept null hypothesis and reject alternative hypothesis.

**Table 4.7: Pearson Correlation Analysis**

		Data Analytics	Revenue generation
Data analytics	Pearson Correlation	1	0.922
	Sig. (2-tailed)		0.01
	N	90	90
Revenue generation	Pearson Correlation	0.922	1
	Sig. (2-tailed)	0.03	
	N	90	90

*SPSS Output, 2022*

Research Hypothesis three was tested using the Pearson Correlation analysis. The result as shown in the table above states that there is a positive impact of 0.922 of the independent variable (data analytics) on dependent variable (revenue generation).

The p value calculated is less than level of significance (0.01:  $p < 0.05$ ), indicating that the null hypothesis four ( $H_0$ ) should be rejected and alternative hypothesis four ( $H_1$ ) should be accepted. Therefore, data analytics has significant effect on revenue generation in JCDecaux Nigeria in Lagos state.

## DISCUSSION OF FINDINGS

This study investigated the effect of data analytics on marketing communication performance, a study of JCDecaux Nigeria in Lagos state. Based on the results from the data analysis and test of hypotheses, the several findings were arrived at, that agreed with previous studies. In line with the research objectives and questions, three hypotheses were tested and all the null hypotheses were rejected.

Firstly, the study findings indicated that there is significant effect of data analytics on conversion rate of marketing communication in JCDecaux Nigeria in Lagos state. The majority of participants stated that the conversion rate is improved based on the amount of information used from data analytics for servicing customer needs and wants. These findings were in line with the studies of Akter (2016) where it has been asserted that data analytics contributes to positive customer conversion rate. The results also corroborated those of Barutçu, (2017), who stressed the significance of data analytics for making marketing-related choices. This research's



results corroborate those of Saidali et al. (2019) about the use of merging big data and marketing techniques to improve the latter's success in converting prospects into paying customers.

Furthermore, the findings indicated that there is a significant effect of data analytics on advertising effectiveness in JCDecaux Nigeria in Lagos state. The participants stated that customer data used in data analytics helps in managing advertising effectiveness. In essence data analytics helps to enhance targeted advertising. The findings from this study agreed with the study of Davenport (2014) because data analytics improves marketing communication towards customers. Thus, the findings align with Ghasemaghaei et al (2018) based on sense of extra value to consumers from insights of data analytics. This corroborates the findings of Rahman et al. (2021), who found that businesses with the capacity to analyze their marketing data were better able to compete via the use of data-rich marketing activities such as advertising.

Finally, findings from this study posited that data analytics bears significant effect on revenue generation as a determinant of marketing performance in JCDecaux Nigeria in Lagos state. The participants indicated that data analytics improves targeting customers for revenue drive. The accuracy of data analytics creates increase in targeting the right customers. The findings agreed with previous studies of Le and Liaw (2017) as well as Maroufkhani et al (2019).) with respect to the fact that data analytics is used to do marketing communication that draws consumers. Also, the results corroborated the claim made by Ali et al. (2020) that big data analytics improves organizational performance thanks to the moderating effect of sustainable product creation on revenue generation.

## CONCLUSIONS.

In line with the research objectives and questions, the following findings were arrived at:

- i) There is significant effect of data analytics on conversion rate of marketing communication in JCDecaux Nigeria in Lagos state based on the hypotheses one tested and indicated by R square value of 84.6%.
- ii) There is significant effect of data analytics on advertising effectiveness in JCDecaux Nigeria in Lagos state, based on the hypotheses two tested and indicated by R square value of 71.4%.
- iii) Finally, data analytics has significant effect on revenue generation in JCDecaux Nigeria in Lagos state, based on the hypotheses three tested and indicated by R square value of 92.2%.

It can be concluded that there is significant effect of data analytics on marketing communication performance of Nigerian organizations such as JCDecaux Nigeria in Lagos state. This study establishes that data analytics from customer information assists in improving customer conversion rate, advertising effectiveness and overall revenue generation, based on the fact that organizations can effectively tailor marketing communication to customers. This study also submits the perception that marketing communication performance becomes enhanced when appropriate data analytics are used



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## RECOMMENDATIONS

The following recommendations have been made in light of the results and discussions in this research:

- i. Firstly, it is recommended that organizations and management should develop strategic marketing communication that are well aligned with the unique characteristics of customer information from data analytics.
- ii. Furthermore, it is recommended that consistent customer surveys and feedback programmes be carried out to be able to appropriately evaluate consumer expectation of the marketing communication.
- iii. The best way to manage business organisations is through effective marketing communication and channels to all stakeholders aided by data analytics.
- iv. Lastly, it is recommended that there should be appropriate government and economic policies that can help stabilize the data analytics along the lines of the above-mentioned effect on marketing communication.

## IMPLICATION TO RESEARCH AND PRACTICE

This study findings contribute to knowledge and give implication to the necessity of data analytics in marketing and business activities, such that there can be well informed decision making as to how to carry out marketing and business strategies. In essence, the findings of this study point out the relevance of data analytics as an organizational resource from the perspective of the resource based view theory. The findings posit implication for practice in a way that managers can gather up to date customer information to carry out appropriate marketing communication. The data analytics about customer behaviour and actions can facilitate how managers prepare marketing activities.

## SUGGESTIONS FOR FURTHER RESEARCH

This study centred on the investigation of data analytics and marketing communication performance in Nigerian organizations based on a case of JCDecaux Nigeria in Lagos state. So, further research may be conducted in other types of Nigerian businesses, sectors, and regions.

Additionally, the study relied only on quantitative research methods, therefore additional research may be conducted using qualitative or mixed research methods.



## REFERENCE

- Akter, S. (2016). How to improve firm performance using big data analytics capability and business strategy alignment? *International Journal of Production Economics*, 182, 113-131.
- Ali, S., Poulouva, P., Yasmin, F., Danish, M., Akhtar, W. & Hafiz Muhammad Usama Javed, H. M. U. (2020). How big data analytics boosts organizational performance: The mediating role of the sustainable product development. *Journal of Open Innovation: Technology, Marke and Complexity*. 6(190), 1-30.
- Barutçu, M. T. (2017). Big Data Analytics for Marketing Revolution. *Journal of Media Critiques*. 10.1734-1744
- Brown R. & Harmon R (2014) Viral geofencing: an exploration of emerging big-data driven direct digital marketing services. *Portland international conference on management of engineering technology*, 3300–3308.
- Byfield, B. (2014). Big Data Customization: A New Era for the Music Industry. Umbel. Retrieved from <https://www.umbel.com/blog/big-data/music-industry-big-data/> Accessed on 10 July, 2022
- Cabrera, D., Cabrera, L., Powers, E., Solin, J., & Kushner, J. (2018). Applying systems thinking models of organizational design and change in community operational research. *European Journal of Operational Research*, 268(3), 932–945.
- Dixon-Ogbechi, B.N. (2019). *The fundamentals of business policy and strategy with Q/A*. Lagos: Philglad Nigeria, 106-130.
- Fill, C. & Jamieson, B. (2014). Marketing Communications. Edinburgh Business School. [Online] Available at <https://www.ebsglobal.net/EBS/media/EBS/PDFs/Marketing-Communications-Course-Taster.pdf>
- George, G. and Haas, M. (2014). From the editors big data and management. *Academy of Management Journal* 57(2), 321–326.
- Ghasemaghaei, M., Hassanein, K. & Turel, O. (2018). Impacts of big data analytics on organizations: A resource fit perspective. *Emergent Research Forum Papers*. 1-7
- Haradhan, H. (2017). Two Criteria for Good Measurements in Research: Validity and Reliability MPRA Paper No. 83458, UTC. Retrieved from <https://mpra.ub.uni-muenchen.de/83458/>. Accessed 13 June, 2022
- Jerman, D. & Završnik, B. (2012). The model of marketing communications effectiveness: empirical evidence from Slovenian business-to-business practice, *Journal of Business Economics and Management*, 13:4, 705-723.
- Kothari, C. R. (2018). *Research methodology- methods and techniques*, New Delhi: Wiley Eastern Limited.
- Kotler, P. & Armstrong, G. (2016). Principles of marketing. Global edition. Boston: Pearson Education limited.
- Lamb, C. W. Hair, J. F. & McDaniel, C. (2019). Marketing. (15th ed). Mason, United States of America. South-Western Cengage Learning.
- Laney, D. (2001) Ddata management: controlling data volume, velocity, and variety. Technical reports, META Group
- LaValle, S., Lesser, E., Shockley, R., Hopkins, M. S., and Kruschwitz, N. (2011). Big Data, Analytics and the Path from Insights to Value', *MIT Sloan Management Review*, 52(2), 21. – 29.
- Lee, I. (2017). Big data: Dimensions, evolution, impacts, and challenges. *Business Horizons*, 1-11.





- Le, T. M. & Liaw, S. (2017). Effects of pros and cons of applying big data analytics to consumers' responses in an e-commerce context. *Sustainability*, 9, 798 -817
- Manyika, J., Chui, M., Brown, B., Bughin, J., Dobbs, R., Roxburgh, C., et al. (2011). Big data: The next frontier for innovation, competition, and productivity. *McKinsey Journal*. 1-20
- Maroufkhani, P., Wagner, R., Ismail, W. K. W. & Baroto, M. B. & Nourani, M. (2019). Big data analytics and firm performance: A systematic review. *Information*. 10, 226 -247.
- McCafferty D (2014) Surprising statistics about big data. *Journal of International Business and Management*, 12 -19
- Miluwi, J. O. (2015). Marketing communications management: concepts & theories, cases and practices. *Elk Asia Pacific Journal of Marketing & Retail Management*, 1-9.
- Mikalef, et al. (2019). Big data analytics and firm performance: Findings from a mixed-method approach. *Journal of Business Research*, 29, 261-276.
- Nguyen, T. L. (2017). Evaluate impacts of big data on organizational performance: Using intellectual capital as a proxy. *International Conference of Advances in Big Data Analytics*, 1(1), 43-50.
- Owais S. S. & Hussein, N. S (2016) Extract five categories CPIVW from the 9Vs characteristics of the big data. *International Journal of Advanced Computer Science Application* 7(3):254–258.
- Popovic, A., Hackney. R., Tassabehji, R. & Castelli, M. (2016). The impact of big data analytics on firm high value business performance. *Information Systems Frontiers*. 1-27.
- Raguseo, E. & Vitari, C. (2017). Investments in big data analytics and firm performance: an empirical investigation of direct and mediating effects. *International Journal of Production Research, Taylor & Francis*, 56 (15),5206 - 5221.
- Rahman, M. S., Hossain, A. & Abdel-Fattah, A. M. (2021). Does marketing analytics capability boost firms' competitive marketing performance in data-rich business environment? *Journal of Enterprise Information Management*.1(1), 21-37
- Saidali, J., Rahich, H., Tabaa, Y. & Medouri, A. (2019). The combination between big data and marketing strategies gain valuable business insights for better production success. *Procedia Manufacturing*.32, 1017 -1023.
- Saunders, M., Lewis, P. & Thornhill, A. (2019). *Research methods for business students*. (5<sup>th</sup> ed.). Edinburgh Gate Harlow Essex Pearson Education Limited
- Salvador, A. B. & Ikeda, A. A. (2014). Big data usage in the marketing information system. *Journal of Data Analysis and Information Processing*, 2, 77-85.
- Schroeck, M., Shockley, R., Smart, J., Romero-Morales, D., Tufano, P.P., 2012. Analytics: The Real-world Use of Big Data. IBM Institute for Business Value, NY, USA.
- Shakeel-Ul-Rehman & Ibrahim, M. S. (2018). Integrated marketing communication and promotion. *Journal of Arts, Science & Commerce*, 2(4), pp. 187-191.
- Verma, J. P., Agrawa, S., Patel, B. & Patel, A. (2016). Big data analytics: challenges and applications for text, audio, video, and social media data. *International Journal on Soft Computing, Artificial Intelligence and Applications (IJSCAI)*, 5(1), 41-51
- Wedel, M. & P.K. Kannan, P. K. (2019). Marketing analytics for data-rich environments *Journal of Marketing: AMA/MSI Special Issue*. 80, 97–121
- Wu, P.-L., Yeh, S.-S., & Woodside, A. G. (2014). Applying complexity theory to deepen service dominant logic: Configural analysis of customer experience-and-outcome assessments of professional services for personal transformations. *Journal of Business Research*, 67(8), 1647–1670.