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Organisational Factors and Business Analytics Implementation of Selected Small and Medium Enterprises in Makurdi Metropolis, Benue State, Nigeria

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Abstract
This study organizational factors and Business Analytics implementation of Small and Medium Scale Enterprises in Makurdi metropolis, Benue State, Nigeria. The study specifically examined the effect of Technological Infrastructure Capabilities, Management Supports, Talent Management Challenges, and Environmental Factors on Business Analytics Implementation of Small and Medium Enterprises in Benue State Nigeria. On the other hand, Business Analytics Implementation is designed broadly to cover Descriptive Analytics, predictive Analytics, and prescriptive Analytics. Four research question and four hypotheses were posed and stated respectively to achieve the stated objective of the study. A survey research design was adopted for the study, using Structured Questionnaire. The population of the study was 1,124 owner-managers of SMEs in Makurdi Metropolis, and a sample size of 295 was determined using Taro Yamane's Techniques. The research instrument was validated through content and face validity; Cronbach Alpha reliability procedure was used to establish the reliability of the research instrument. Data gathered in the study were analyzed with the use of descriptive and multiple regression analysis. The result show that a statistical significant relationship exists between Technological Infrastructure Capabilities, Management Support, Talent Management Challenges

and Business Analytics Implementation (r=.929, p<.05). However, an insignificant relationship was observed between Environmental Factors and Business Analytics Implementation (r=.964, P>.05). Therefore, the result found that Technological Infrastructure Capabilities, Management Support, Talent Management Challenges Influence Business Analytics Implementation in small and medium enterprises in Benue State, Nigeria. It was recommended that Business owners and Government should consider these actors to increase the extent Business Analytics Implementations among Small and Medium Enterprises.

Introduction

Technology is changing business rules, and how to transform data into knowledge has become a key issue (Davenport *et al*. 2013). Data explosion and information have changed the way the organization manages its performance, ranging from intuition towards data-driven based on information, knowledge, intelligence, and wisdom. These occur as a result of uncertain economic conditions that urge the organizations to manipulate resources wisely in order to remain competitive. The data accessibility and improved analytics revolution are igniting opportunities for new companies and existing SMEs to find new ways to harness the power of the growing aggregation of digital data. These immense opportunities generated by capturing and analysing data are creating new companies every day, the power of data is not limited to start-ups but also apply to existing business models across industries.

Business analytics (BA) can be viewed as a technology innovation for improving decision-making and organizational performance by analysis of data (Amit Kumar, 2020). Business analytics is the study of data using operation research, statistical analysis and machine learning. Therefore, business analytics calls for quantitative approaches and evidence-based decision-making and business modeling (Evans, 2016). Business Analytics (BA) is overhauling the way firms are generating and using data worldwide (Dubey and Gunasekaran, 2015; Oberg and Graham, 2016; Wamba *et al*., 2015; Waller and Fawcett, 2013).

Analytics is a powerful antidote to many commercial problems, there are several sources of big data that individuals or companies can access, and this is all depending on the type of analysis, variables and goal of the study (Fouladirad, 2018). In today's world there are software applications that can be used to study, analyze, simulate and optimize large sets of data. Business Analytics is able to

analyse enormous data sets which exist in different formats and to extract useful information within the data which may be used to improve business decision-making, predict sales, enhance customer relationships, and ultimately lead to generating increased revenues and profits. Multinational and large companies are starting to adopt Business Analytics to acquire the benefits and advantages from this technology.

Basically, from the business and managerial perspective, business analytics is a vital element which is used by managers to gain knowledge regarding their organization which aid them in making insightful decisions. As a result, business analytics provides managers with key information to predicting the future of the organization's sales (Nur Hani Zulkifli Abai, 2019). Analysis of this information makes it possible to be able to drive better decision making in the formulation and implementation of a strategy to increase organizational performance.

According to the International Finance Corporation, small and medium-sized enterprises (SMEs) account for about 90 percent of businesses and more than 50 percent of employment worldwide. Meanwhile from the Nigeria Bureau of Statistics, small and medium scale enterprises (SMEs) in Nigeria have contributed about 48% of the National GDP in the last five years. With a total number of about 17.4 million, they account for about 50% of industrial jobs and nearly 90% of the manufacturing sector, in terms of number of enterprises. They play a major economic and social role, and therefore, they have become a source of economic development. Thus, the need to improve SMEs' competitiveness worldwide is crucial. However, SMEs are typically vulnerable and not robust enough to withstand the onslaught of economic and global competition (Ngah, 2015). In order to survive, they must be able to monitor their business and use all their resources efficiently, especially information resources (Raj, 2016).

Implementation of Business Analytics System to support businesses has grown due to its increasing affordability (Chaudhuri, Dayal, and Narasayya, 2011). This demand for Business Analytics is not restricted to firm size, even though it has normally been associated with larger firms (Gäre and Melin, 2011). Indeed, although small and medium sized enterprises (SMEs) now have as much need for Business Analytics as large companies (Cheung and Li, 2012), their implementation rates still lag behind. This low rate of implementation could in fact reduce the ability of SMEs to compete with larger organizations and therefore have no competitive advantage.

Oxford Economics Survey (2013) pointed technology and innovation as strategic priorities for SME growth and big data is considered as one of the key drivers.

Being able to analyze and predict market and customer behavior with big data is a new paradigm shift for SMEs. When it is implemented correctly, it can yield increased flexibility, productivity, responsiveness, anticipation and ability to meet customer need through capturing blind spots and making better decisions. The right technologies still need to be chosen, but with well supported and documented open source data systems being available, it has increasingly become a question of choosing right, and choosing a scalable option that fits the specific need of an SME. However, SMEs find it difficult in reaping some of the benefits of using business analytics in doing business, by employing big data to better understand their clients, enter into new market and cut down unnecessary costs of business all in real-time, by using massive amounts of online and offline information to make wise data-driven decisions to grow their businesses. The most common challenges for SMEs are limited budgets, lack of sophistication and knowledge management in organization, use of technology, and small number of employees and, thus, have less time to employ on crucial planning and analysis. Nevertheless, if the SMEs can overcome the challenges, they will get the potential benefits. The benefits include; aggregating data from different sources and locations, analysis and insight from that data, improved decision-making, and risk mitigation. Ultimately, SMEs that implement Business Analytics Systems find themselves more effective in the marketplace, with additional insight in customer's buying patterns and needs, and therefore they operate more efficiently in financial management (Wamba *et al*, 2015).

Research Questions

The study is set to answer the following questions:

i. What is the extent of the effect of technological infrastructure capabilities on business analytics implementation among Small and Medium Enterprises in Makurdi Metropolis Benue State, Nigeria?
ii. What is the extent of the effect of management supports on business analytics implementation among Small and Medium Enterprises in Makurdi Metropolis Benue State, Nigeria?
iii. What is the extent of the effect of talent management challenges on business analytics implementation among Small and Medium Enterprises in Makurdi Metropolis Benue State, Nigeria?
iv. What is the extent of the effect of environmental factors on business analytics implementation among Small and Medium Enterprise in Makurdi Metropolis Benue State, Nigeria?

Hypotheses

The study seeks to test the following hypotheses:

Ho_1: Technological infrastructure capabilities have no significant effect on business analytics implementation among small and medium enterprises in Makurdi Metropolis Benue State, Nigeria.

Ho_2: Management supports have no significant effect on business analytics implementation among small and medium enterprises in Makurdi Metropolis Benue State, Nigeria.

Ho_3: Talent management challenges have no significant effect on business analytics implementation among small and medium enterprises in Makurdi Metropolis Benue State, Nigeria.

Ho_4: Environmental factors have no significant effect on business analytics implementation among small and medium enterprises in Makurdi Metropolis Benue State, Nigeria.

Definitions of Terms

Analytics: This refers to the science of logical analysis, process of discovering and communicating the meaningful patterns which can be found in data through the applications of statistics, computer programming, and operations research in order to quantify and gain insight in managing data.

Big data: This refers to data that is characterized by its volume, variety, and velocity that exceeds the reach of commonly used hardware environment and/or capabilities of software tools to process. It is data with so large size and complexity that none of the traditional data management tools can store it or process it efficiently.

Business analytics (BA): This refers to the combination of skills, technologies, and practices used to examine an organization's data and performance as a way to gain insights and make data-driven decisions in the future using analytical software.

Business Analytics Implementation: In this study, this refers to those capabilities an organization needs to possess to be ready for a successful utilization of a business analytics system as a way to gain insights and make data-driven decisions. The business analytics capabilities include descriptive, prescriptive, and predictive capabilities.

Descriptive Analytics: This refers is the process of using current and historical data to identify trends and relationships, descriptive analytics paints a picture for businesses to recognize patterns and gives insight into the past.

Environmental Factors: This refers to those external influences in an organization that can present constraints and opportunities for technological innovations. This includes competitors, government regulations, vendors, consumers.

Management Supports: This refers to the support of the senior managers within an organization in advocating the use of Business Analytics systems and data-driven decision-making throughout the organization's constituent business units.

Organizational Factors: This consists of processes or conditions that contribute to the successful implementation of business analytics in an organization. These include technological infrastructure capabilities, management support, talent management challenges, and environmental factors.

Predictive Analytics: This refers to the practice of extracting information from the existing data set in order to determine patterns and predict future outcome and trends.

Prescriptive Analytics: This refers to the practice of extracting information from the existing data set in order to look at what has happened, why it happened, and what might happen in order to determine what should be done next.

Small and Medium Enterprises: Small and Medium Enterprises are "non-subsidiary, independent firms which employ fewer than a given number of employees" (Maticiuc, 2018). This number is different across national systems, but the most frequent upper limit is 250 employees. Small and medium-sized enterprises (SMEs) play major economic and social roles because they account for about 90 percent of businesses and more than 50 percent of employment worldwide according to the International Finance Corporation (IFC, 2012).

Talent Management Challenges: This refers to the challenges of attracting highly skilled workers, integrating new workers, and developing and retaining current workers to meet the current and future business objectives.

Technological Infrastructure Capabilities: This consist of unified set of reliable technological infrastructure services available to support existing applications and new initiatives, this includes all technologies that are important for the implementation of Business Analytics in an organization.

Diffusion of Innovation Theory

Diffusion of Innovation Theory was developed by Rogers (1983) with the initial aim of describing the elements that impact the process of innovation diffusion and adoption. This theory posits that potential adopters evaluate an innovation based on their perceptions and will make a decision to accept the innovation if they

perceive that it exhibits one or more of five general factors, being relative advantage, complexity, compatibility, trialability and observability. It is a theory of how, why, and at what new ideas and technology spread through cultures, operating at the individual and firm level (Oliveira *et al*, 2011).

Diffusion of Innovation has been the most often cited work dealing with innovation adoption, as can be observed in numerous studies. However, Diffusion of Innovation theory has been criticized as it is biased towards the technological component of the adoption process (Fichman,2000). Even when technological superiority is assured, it does not guarantee the adoption of Information Technological innovation by organizations. This is because other social, organizational and individual factors may impact technological adoption (Segal, 1994).

An Information System adoption model for small business was first developed by Thong (1999), for the reason that the available organizational theories applicable to large organizations may not fit the SME context. Thong developed this model of technological adoption in SMEs to identify four contextual variables relevant to technological adoption, which includes owner-manager, technological, organizational and environmental characteristics. Thong found that small businesses with owner-managers who have innovativeness and technological knowledge are more likely to adopt technologies. As owner-managers have a significant impact on making technological adoption decisions, several studies conducted on SMEs have further included owner-managers' characteristics into the factors that impact on technology adoption (Armstrong and Fogarty, 2009; Chang, Hung, Yen, and Lee, 2010; Ghobakhloo *et al*., 2011).

The above-mentioned factors that are generally crucial in the adoption of technology have been extensively examined in the literature. These factors are significant to the success of technology adoption in the organizational context. However, limited studies have focused on the factors that specifically influence Business Intelligence in the particular context of SMEs. For this reason, there is a need to conduct studies that focus more on Business Analytics in SMEs, based on the assumption that the adoption of Business Analytics in SMEs may follow similar patterns to that of general Information System and Technology.

The Technology-Organization-Environment Framework also known as TOE framework was proposed by Tornatzky and Fleischer (1990), is a theoretical framework that explains technology adoption in organisations and describes how the process of adopting and implementing technological innovations are influenced by technological context, organisational context, and environmental context. This

framework can be viewed as an extension to the Diffusion of Innovation theory to strengthen what has been generally neglected, namely organization and environment, circumstances which add both opportunities and constraints to the technology adoption decision . The Technology-Organisation-Environment framework identifies three aspects of firm context that influence the adoption and implementation of a technological innovation, namely technological, organizational and environmental aspect.

To facilitate an understanding of innovation adoption in organizations, several studies have adopted Technological-Organisation-Environment framework in combination with Diffusion of Innovation to examine the impact of relevant organizational and environmental characteristics including variables such as competitive pressure, selection of vendors, absorptive capacity and organizational resource availability (Ghobakhloo, *et al.*, 2011; Ifinedo, 2011; Tan and Lin, 2012). The Technology-Organization-Environment framework is relatively broad based that can be adapted according to the specifics of a particular domain within Information System. TOE has been used in prior studies to understand adoption factors specific to the Business Analytics domain (Bijker and Hart, 2013; Malladi and Krishnan, 2013). The theoretical foundations for this study are rooted in the empirically tested maturity models, technological and organizational aspects, individual perspectives, as well as environmental characteristics, TOE extends this framework by adding environmental aspect and could be considered as more comprehensive (Low *et al*., 2011). Organizations need to attain the power to combine Business Analytics, business process workflow and, at the same time having employees with the right skills needed for a digital transformation.

From this understanding, the Technology-Organisation-Environment framework is considered as a good fit for this study because Technology-Organisation-Environment has been used in previous empirical studies to understand the extent of Business Analytics usage, adoption, and pervasiveness (Bijker and Hart, 2013; Malladi and Krishnan, 2013).

There are a substantial number of factors that could influence Business Analytics Implementation in organizations, Organizational factors consists of processes or conditions that contribute to the successful implementation of business analytics in an organization. These include technological infrastructure capabilities, management support, talent management challenges, and environmental factors. (Chen *et al*., 2012; Singh and Singh 2012; Kaisler *et al*. 2013; Wielki 2013; Goss and Veeramuthu 2013). However, authors are of the opinion that successful implementation of Business Analytics in an organization depends on the existence

of a delicate blend of organizational factors, enablers or key success factors. Among the factors that have been identified by the aforementioned authors and which were selected to guide the current study are: Technological Infrastructure Capabilities, Management Supports, Talent Management Challenges, and Environmental Factors and are considered to be dimensions of organizational factors in this study.

Amit and Bala (2020) conducted a study on business analytics adoption in firms: a qualitative study elaborating technological-innovation-enviromental framework in India. The purpose of the study is to investigate the factors influencing Business Analytics adoption in firms in India. This study employs a qualitative research and uses thematic content analysis of the primary data collected through semi-structured interviews from senior management personnel's in organizations. A total of 24 respondents comprising senior IT, analytics professionals from distinct organizations were taken as sample. The findings identified perceived benefits, organizational data environment, technology assets, and competitive pressure as factors that influences Business Analytics adoption in India. The study finds data quality and human resources competency with Business Analytics skills as specific challenges for organizations in India thereby influencing the determinants or consequences of its adoption in small and medium enterprises. The study shares similarity to the current one with the same dependent variable and independent variables, but differs in scope and location.

Jagger and Aching (2014) conducted an investigation on the interrelation between management support and usage of Computer Integrated Model (CIM) technology by small enterprises in Kisumu East district, Kenya. The researchers determined to assess how management commitment, management openness and management attitude influence computer integration in the Small Enterprises. Descriptive survey design and 295 respondents were used for the study. Analysis was conducted through quantitative and qualitative approaches. The study results indicated that managerial support is essential in application of CIM in the financial forecasting by small enterprises. the study established that readiness of management support acts as a product champion in the process of implementation of Computer Integrated Model in the financial forecasting. The study concluded that if a manager and organization staff has a positive attitude towards embracing implementation of technology, then it influences the organization to adopt it. The study shares similarity with the current one as it has same dependent variables but differs in terms of methodology and industry.

Nnamani and Adaju (2014) examined the effect of environmental factors and organisational performance in Nigeria with focus on Juhel Company Ltd. The survey method was used for the study. The study has a population size of 1,152 out of which a sample size of 297 was selected using Taro Yamane at 5% error and 95% level of confidence. Instrument for data collection was structured Questionnaire. Data were analysed using tables and percentages. Two formulated hypotheses were tested using Pearson's correlation coefficients and Z-test statistical tools. The study revealed that there was unsafe and unhealthy work place environment, poor motivation, lack of innovation, and high cultural interferences. The study investigates both aspect of internal and external environmental factors while the current study focuses on external factors but the scopes differs.

Methodology

This section presents the study design, population of the study, sample and sampling technique, instrument of data collection, validation of the instrument, reliability of the instrument, method of data collection, variable/model specification and data analysis techniques.

Study Design

The design used for this study is survey research method. This method is preferred because it largely focuses on vital facts, beliefs, opinion, demographic information, attitudes, motive and behaviours of correspondent giving response to the research instrument. For this study, quantitative approach was used in analysing the data because it permits measurement of objectives using variables and statistical analysis. The use of survey design will enable the researcher to collect different views of the participants on organisational factors and business analytics implementation as it pretends Small and Medium Enterprises in Makurdi metropolis, Benue State.

The Study Area

The study will focus on organisational factors and business analytics implementation in small and medium enterprises in Benue state. The study area adopted by this study is Makurdi Metropolis. Makurdi is the capital of Benue State in North Central Nigeria. The town was created in 1976, following the Creation of Benue Plateau State. The town is a local trade centre for yams, sorghum, millet, rice, cassava, sesame oil, peanuts(groundnuts), soya beans amongst others cultivated by different tribes within the town. Makurdi is the biggest commercial

town in Benue State and it has many people residing in the town such as civil servants, traders and students. The town also has two universities and many other educational institutions and a good number of small and medium scale enterprises operating in different lines of businesses spread across the length and breadth of Makurdi town.

Population of Study

The population for this study consists of 1,124 registered small and medium scale enterprises in Makurdi metropolis according to statistics obtained from Benue Chamber of Commerce, Industry, Mines and Agriculture (BECCIMA, 2022). The study cover SMEs in Markurdi metropolis as this area has the largest concentration of enterprises, the selected SMEs were also chosen because of high rate of economic activities they are engaged in. The target population for the study consists of owners/managers of SMEs in makurdi metropolis, the breakdown of the population according to the nature of SMEs is presented in the Table 1.

Table 1: Population of Selected SMEs in Makurdi Metropolis, Benue State.

Nature of Business	Population
Service Enterprise	**250**
Agro-Allied Enterprise	**182**
Manufacturing Enterprise	**200**
Computer/IT Enterprise	**170**
Trading Enterprise	**322**
Total	**1,124**

Source: Benue State Chamber of Commerce, Industry, Mines and Agriculture BECCIMA (2023)

Sample and Sampling Technique

In order to determine the sample size for the study, Taro-Yamane (1967) formula for calculating sample size for finite population was be adopted. The formula was adopted for this study because it's simple and less complicated and provides accurate result of the necessary sample size that will be adequate for the research study. The formula is given as

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = Sample size

N = Population of study
e = Level of significance
1 = Constant
Thus,

$$n = \frac{1124}{1 + 1124(0.05)^2}$$

$$n = \frac{1124}{1 + 1124(0.0025)}$$

$$n = \frac{1124}{1 + 2.81}$$

$$n = \frac{1124}{3.81}$$

$n = 295$ (Sample Size of the Study)

The Sample size derived for this study, using Taro Yamane formula will be two hundred and ninety (295). However, the two hundred and ninety-five elements were chosen using random sampling techniques so as to increase the sampling precision for the study.

The Bowley's (1964) population allocation formula was employed in determining the sample size per each subsector of SMEs. The formula is stated as follows:

$$nh = \frac{n \times Nh}{N}$$

Where: nh = sample size per sector
N = total sample size
Nh = total population size

Service Enterpises $nh = 295 \frac{\times 250}{1124} = 66$

Agro-Allied Enterprises $nh = \frac{295 \times 182}{1124} = 48$

.

Manufacturing Enterprises $nh = \frac{295 \times 200}{1124} = 52$

Computer/IT Enterprises $nh = \frac{295 \times 170}{1124} = 45$

Trading Enterprises nh = $\frac{295 \times 322}{1124}$ = 84

Total = 66 + 48 + 52 + 45 + 84 = **295**

The SMEs to be studied in each business nature was sampled using systematic random sampling technique. This technique ensures that every member of the population group are represented in the study.

Instrument of Data Collection

The data for this study was collected with the aid of questionnaire using five-point Likert scale (Strongly agree, Agree, Undecided, Disagree, strongly disagree). The questionnaire allows for large amount of information from a number of people in a short time period and the result of the questionnaire can be easily and quickly quantified by the researcher to answer research questions. The questionnaire will be divided into two sections (A and B). Section A contains information on the respondent personal data, while Section B contains information on organisational factors and Business Analytics implementation in Benue State.

Validation of the Instrument

Validity refers to the extent to which a test measures what it is supposed to measure. Validity remains a relevant criterion for evaluating sufficiency and efficiency of the criterion measured. The researcher made use of the content and face validity for this study. Using the face validity approach, the researcher presented a draft copy of the research instrument to supervisor and experts in analytics to ascertain the validity of the questionnaire items. Secondly the researcher made use of content validity which focused on the conceptualization and operationalization to ensure that all concepts were covered.

Reliability of the Instrument

Reliability is concerned with the consistency of an instrument whether it measures what it seeks to. It is the degree to which a test or an instrument is consistent in measuring whatever it purports to measure. To achieve this, a pre- test of the questionnaire was carried out in order to evaluate the relevance and proper understanding of the research questions. A pilot test was considered necessary in order to determine the willingness of the respondents and to ascertain the reliability as a quality criterion is to minimize errors and give stable result of data collection. To achieve this, a pilot test was conducted on fifty (50) SMEs in Makurdi to test the reliability and consistency of the measurement instrument using Cronbach

Alpha coefficient analysis. This was carried out in an interval of two weeks. Cronbach Alpha coefficient analysis was used because the study adopted a five-point Likert Scale. SPSS version 23 was used to calculate the Cronbach Alpha coefficient, the result is presented in Table 3.

Table 3: Reliability Test Result

Variables	Cronbach's Alpha
Technological Infrastructure Capabilities	0.988
Management Support	0.989
Talent Management Challenges	0.992
Environmental Factors	0.988
Business Analytics Implementation of SMEs	0.995
Average Reliability	**0.992**

Source: Researcher's Computation, 2023.

The result of the reliability test of the research instrument shows that Cronbach Alpha value for the questionnaire is 0.992. This means that the questionnaire was reliable enough for the conduct this study as opined by Pallant (2007), that a Cronbach Alpha of 0.7 percent and above imply that the data is reliable and can be used for analysis.

Method of Data Collection

For the purpose of this study, primary data was employed. The data was collected with the aid of a questionnaire. The questionnaire was administered to the respondent with the aid of trained research assistant.

Variable/Model Specification

The model employed for this study is multiple regression model which involves the dependent variable (Business Analytics Implementation), and the independent variable (Organisational Factors). Therefore, the following model was used to test the formulated hypothesis is as follows:

$BAI = f(OF) = f(TIC, MS, TMC, EF)$……..(1)

Where

BAI = Business Analytics Implementation of SMEs

OF = Organisational Factors

TIC = Technological Infrastructure Capabilities

MS = Management Support

TMC = Talent Management Challenges

EF = Environmental Factors

The regression Model is thus given as:

$BAI = \beta 0+\beta 1TIC+\beta 2TMS+\beta 3TMC+\beta 4EI+\varepsilon$……(2)

$\beta 0$ = intercept of the regression line (constant)

$\beta 1-\beta 4$ = parameters

ε = error term

Data Analysis Techniques

The data was analysed with the use of both descriptive and inferential statistics method. Descriptive analysis was used for data presentation and analysis of demographic information and research questions, while inferential statistics techniques was used to evaluate the effect of independent variable on the dependent variables. Multiple Regression analysis with the aid of statistical package for social Science (SPSS) version 23 was used to analyse hypotheses and determine the relationship between dependent variable (Business Analytics Implementation) and independent variable (Organisational Factors).

Decision rule

If the standard error of bi[$S(bi)>\frac{1}{2}bi$] we accept the null hypothesis, that is, we accept that the estimate bi is not statistically significant at the 5%(0.05) level of significance. If the standard error of bi [$S(bi)<\frac{1}{2}bi$] we reject the null hypothesis, in other words, we accept that the estimate bi is statistically significant at the 5%(0.05) level of significance.

Results and Discussion

This section presents data collected from the respondents, analysis of results, test of hypotheses and discussion of findings.

Data Presentation and Analysis

A total of 315 copies of the questionnaire were distributed to the respondents and 288 (representing 91%) were filled and returned while 27 (representing 9%) were not returned.

Demographic Characteristics of Respondents

The age distribution of the respondents as presented in Table 4 indicates that 51(17.7%) respondents were from 18-27years, and 60 (20.8%) were 28-

37years, 94 (32.6%) were 38-47years, 52 (18.0%) were from 48-57years and 31(10.8%) were 58 and above.

The educational qualification of the respondents indicates that 31 (10.8%) have FSLC,72 (25.0%) have SSCE, 92 (31.9%) have ND/NCE qualification while 60 (20.8%) have HND/Degree qualifications and 33 (11.5%) have postgraduate qualifications. This indicates that majority of the participants were literate and have knowledge on organizational factor and business analytics implementation in Benue State.

Finally, the distribution of the respondents by experience showed that 58 (20.1%) respondents have experience from 1-5 years, 50 (17.4%) have 6-10years experience, 78 (27.1%) have 11-15years experience, 46 (16.0%) have16-20years experience, and 42 (14.6%) have experience from 21-25years, also 14 (4.9%) respondents have experience from 26years and above.

Table 1.0: Demographic Attributes of Respondents

Attributes	Frequency	Percentage%
Age		
18-27years	51	17.7
28-37years	60	20.8
38-47years	94	32.6
48-57years	52	18.1
58 years and above	31	10.8
Total	**288**	**100**
Educational Qualification		
FSLC	31	10.8
SSCE	72	25.0
OND/NCE	92	31.9
HND/DEGREE	60	20.8
Postgraduate	33	11.5
Total	**288**	**100**
Years of Experience		
1-5 years	58	20.1
6-10 years	50	17.4
11-15 years	78	27.1
16-20 years	46	16.0
21-25 years	42	14.6
26 years and above	14	4.9
Total	**288**	**100**

Source: Field Survey, 2023

Descriptive statistics of research variables

i. Response on Technological Infrastructure Capabilities

The response collected from the respondents on item 1,2,3,4,5 and 6 were presented using mean score and standard deviation. The result in Table 2.0 indicates that the respondents agreed with all statements on technological infrastructure capabilities influence the implementation of business analytics implementation in Benue State except item 4. The mean score ranges from 2.34 to 3.11 as 2.50 is the cut-off point.

Table 2.0: Respondent view on Technological Infrastructure Capabilities (n=288)

Item	Mean	Std. Deviation	Decision
Our organization utilize ICT tools such as social media in our operations.	3.11	1.10	Significant
We use cloud enabled tools to store and manage our data in our organization.	2.94	1.27	Significant
In entering and cleaning of data we use Excel to prepare our data for analysis in our organization.	2.81	1.30	Significant
We use Google Analytics to track and get insight of visitors' tour website.	2.34	1.12	Insignificant
Our organization uses analytics software to analyze our data.	2.86	1.39	Significant
In presenting and communicating reports our organization uses charts, maps, and tables for data visualization.	2.94	1.26	Significant

Source: Field Survey, 2023

ii. Respondents view on Management Support

The response collected from the respondents on item 1, 2, 3,4 and 5 were presented using mean score and standard deviation. The result in Table 3.0 indicates that the respondents agreed with all the statements, which shows that Management Support Influences Business Analytics Implementation in Benue State. The mean scores ranges from 2.66 to 2.80 and they are above the 2.50 cut-off point.

Table 3.0: Respondents view on Management Support (n=288)

Item	Mean	Std. Deviation	Decision
Our organization advocates for the use of business analytics system in our constituent business units.	2.75	1.182	Significant
In our organization we use data for decision-making.	2.80	1.257	Significant

Our organization has a clear distinct goal for business analytic system.	2.66	1.072	Significant
We have a budget for business analytics system in our organization.	2.68	1.100	Significant
Our organization partners with other industry to help us leverage Analytics.	2.75	1.251	Significant

Source: Field Survey, 2023

iii. Respondents view on influence of Talent Management Challenge on Business Analytics Implementation.

The response collected from the respondents on item 1, 2, 3, 4 and 5 were presented using mean score and standard deviation. The result in Table 4.0 indicates most of the respondent disagree with the statement that Talent Management Challenges influences Business Analytics Implementation. The mean score ranged from 2.32-2.51 and all but item 2 are below the 2.50 cut-off point.

Table 4.0: Respondent view on Talent Management Challenge (n=288)

Item	Mean	Std. Deviation	Decision
Our organization recruits highly skilled worker (experts) for data analytics.	2.47	1.370	Insignificant
We integrate and develop new workers for data analytics in our organization.	2.51	1.380	Significant
We retain current workers to that the organizations goal of business analytics.	2.37	1.273	Insignificant
Our analytics team express complex idea in simple ideas to decision makers.	2.35	1.159	Insignificant
Our analytic team has an excellent communication skill.	2.32	0.962	Insignificant

Source: Field Survey, 2023

iv. Respondent view on influence of environmental factors on business analytics implementation in Benue State.

The response collected from the respondents on items 1, 2, 3, 4 and 5 were presented using mean scores and standard deviation. The result in Table 5.0 indicates that the respondents agreed with most of the statements on the influence

of environmental factors on business analytics implementation in Benue State. The mean scores ranged from 2.35-2.94 and most are above 2.50 cut-off except item 2 and 5.

Table 5.0: Respondent view on Environmental factors (n=288)

Item	Mean	Std. Deviation	Decision
Our customers interact with us vai ICT tools such as social media.	2.91	1.258	Significant
Our Analytic team are guided by data protection laws and ethical use of analytics.	2.35	1.132	Insignificant
Our organization protects privacy of our Stakeholders.	2.94	1.280	Significant
Our suppliers make decisions through data.	2.69	1.286	Significant
Data analytic vendors assist our organization in forming analytic team.	2.43	1.304	Insignificant

Source: Field Survey 2023

iv. Respondent view on Business Analytics Implementations in Benue State

The response collected from the respondents on item 1,2,3,4 and 5 were presented using mean scores and standard deviation. The result in Table 6.0 indicates that the respondents agreed with all the statements which shows that they are all business analytics implementation indictors. The mean scores ranged from 3.23-3.41 and they were all above the 2.50 cut-off point.

Table 6.0: Respondent view on Business Analytics Implementations (n=288)

Item	Mean	Std. Deviation	Decision
The implementation of business analytics enables organization in reporting of historic data.	3.27	1.344	Significant
Business analytics usage by organization promote investigation of why problem occurred.	3.34	1.360	Significant
Implementations of business analytics enhances monitoring of performance.	3.23	1.361	Significant
The use of business analytics helps organization in forecasting and making future predictions.	3.36	1.306	Significant
Business analytics implementation helps organization in strategic formulation and planning.	3.41	1.401	Significant

Source: Field Survey 2023

Regression Analysis Result

The result of the regression analysis was presented in model summary, analysis of variance and regression coefficient tables.

i. Model summary

The result from Table 7.0 shows that coefficient of determination (R square) explains the variation in the dependent variable due changes in the independent variable. The R square value of .929 is an indication that there was 92.9% variation in business analytics implementation in Benue State, due to differences in Technological Infrastructure Capabilities, Management Support, Talent Management challenges and Economic factors at 95% confidence interval. Also, the value of R (.964) indicated that there was strong relationship between the studied variables.

Table 7.0: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.964[a]	.929	.928	.3577

a. Predictors: (Constant), Environmental Factors, Management Support, Talent Management Challenges, Technological Infrastructure Capabilities

Source: Field Survey, 2023.

ii. Analysis of Variance (ANOVA)

The result from the ANOVA statistics in Table 8.0 indicates that the processed data, which is the population parameter, had a significance (p-value) level of .000 which is less than 5%. This implies that technological infrastructure capabilities, management support, talent management challenges and environmental factors significantly affect business analytics implementation in Benue State, Nigeria. The significant value was less than 0.05 which indicates that the model was statistically significant (F=948.825, P=.000<0.05).

Table 8.0: Analysis of Variance(ANOVA)

	Sum of Squares	df	Mean Square	F	Sig.
Regression	485.642	4	121.410	948.825	.000[b]
Residual	36.980	281	.205		
Total	522.622	288			

Source: Field Survey, 2023

iii. Regression coefficients

The result of Table 9.0 indicated that a unit change in technological infrastructure capacity will influence business analytics implementation in Benue State positively by 105.8%, a unit change in management support will positively influence business analytics implementation in Benue State by 29.2%, a unit change in talent management challenges will negatively influence business analytics implementation in Benue State by 27.5%, and a unit change in the environmental factor will have no influence business analytic implementation in Benue State ($p>0.05$). The p-value of the variables are: technological infrastructure capabilities (.000), management support (.001), talent management challenges (.002), and environmental factor (.989) this shows that technological infrastructure capability has the most significant effect among all the variables, management support and talent management challenges were significant with p-value less than 0.05, the environmental factor were insignificant with p-value greater than 0.05. The study also revealed the coefficients of the variables were as follows: Technological infrastructure capacities (.957), management support (.250), talent management challenges (-.245), Environmental factor (-.002).

Table 9.0: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std.Error	Beta	t	Sig
(Constant)	.200	.061		3.259	.001
Technological Infrastructure Capabilities	1.058	.121	.959	8.755	.000
Management Support	.292	.087	.250	3.340	.001
Talent Management Challenges	-.275	.090	-.245	-3.052	.002
Environmental Factors	-.002	.153	-.002	-.014	.989

a. Dependent Variable: Business Analytics Implementation

Source: Field Survey, 2023.

Test of hypotheses

Test of hypothesis one

$H0_1$ Technological infrastructure capabilities have no significance effect on business analytics implementation among small and medium enterprises in Benue State, Nigeria.

To test hypothesis one, the strength was measured by the calculated p-value=.000 at a significant level (α) of 0.05. Since the computed p-value is less than the significance level (α) of 0.05 ($p<0.05$), the null hypothesis was rejected. The result implies that technological infrastructure capabilities have influence on the extent to which business analytics is implemented among small and medium enterprises in Benue State, Nigeria.

Test of hypotheses two

$H0_2$: Management support has no significance effect on business analytics implementation among small and medium enterprises in Benue State, Nigeria.

To test hypothesis two, the strength was measured by the calculated p-value=0.01 at a significant level of 0.05. Since the computed value is less than the significance level (α) of 0.05 ($p<0.05$), the null hypothesis was rejected. The result implies that management support has influence on the extent to which business analytics is used among small and medium enterprises in Benue State, Nigeria.

Test of hypothesis three

$H0_3$: Talent management challenges have no significance effect on business analytics implementation among small and medium enterprises in Benue State, Nigeria.

To test hypothesis three, the strength was measured by the calculated p-value=0.02 at a significant level (α) of 0.05. Since the computed p-value is less than the significance level (α) of 0.05 ($p<0.05$),the null hypothesis was rejected. This result implies that talent management challenges have influence on the extent to which business analytics is implemented among small and medium enterprises in Benue State, Nigeria.

Test of hypothesis four

$H0_4$: Environmental factors have no significance effect on business analytics implementation among small and medium enterprises in Benue State, Nigeria.

To test hypothesis four, the strength was measured by the calculated p-value=.989 at a significant level (α) of 0.05. Since the computed p-value is greater than the significance level (α) of 0.05 ($p>0.05$),the null hypothesis was accepted. This result implies that environmental factors have no influence on the extent to which business analytics is used among small and medium enterprises in Benue State, Nigeria.

Discussion of Findings

Effect of technological infrastructure capabilities on business analytics implementation among selected small and medium enterprises in Benue State, Nigeria.

The result of the multiple regression analysis show that hypothesis one is significant, it indicates that technological infrastructure capability has the most significant effect among all the variables, the strength was measured by the calculated p-value=.000 was less than (α) of 0.05, thus null hypothesis was rejected. (Zhu *et al* 2006) emphasize that organization that have strong supportive data- related infrastructures are better positioned to extensively use Business Analytics. Supportive Business Analytics infrastructure requires the integration of underlying data, and can be considered a complex undertaking and better data infrastructure capability reflects an organizational readiness and ability to use Business Analytics (Elbashir, Collier and Sutton, 2011).

Furthermore, respondents indicate that organization that utilize ICT tools such as social media in their operations, cloud enabled tools to store and manage their data, entering and cleaning of data with Excel for analysis, analytics software to analyze data and presenting and communicating reports via data visualization exhibits greater Business Analytics implementation among Small and Medium Enterprise in Benue State, Nigeria.

Effect of management support on business analytics implementation among selected small and medium enterprises in Benue State, Nigeria.

The P-value on the regression analysis for $H0_2$ shows that management support (.001), were significant with p-value.001 less than α 0.05,thus the null hypothesis was rejected. And it is therefore inferred that management support does have a significant influence on Business Analytics implementation in Small and Medium Scale Enterprises in Benue State, Nigeria.

This is consistent with the findings that management support was highly ranked as a critical success factor (CSF) for Business Analytics by Bijerker and Hart (2013). However, while management support is important to successful Business Intelligences adoption, Sami, Noor and Hassan (2018) revealed that support of management is an essential factor in motivating adoption of technologies, management should support adoption of any technology as it could enhance production and work processes.

Moreover, respondents indicate that Management advocates for the use of business analytics system in its constituent business units, uses data for decision-

making, with a clear distinct goal for business analytic system, budget for business analytics system and partners with other industry to leverage Analytics has greater influence in Business Analytics implementation.

Effect of talent management challenges on business analytics implementation among selected small and medium enterprises in Benue State, Nigeria

The regression analysis for $H0_3$ was .002 less α 0.05 were significant, thus the null hypothesis was rejected. And it is therefore inferred that talent management support does have a significant influence on implementation of Business Analytics. The result agrees with Yeoh and Koronois (2010) which indicates that professionals who have required set of skills, particularly the analytical capabilities required to derive value out of the large sets of unstructured data are rare (Davenport and Patil, 2012: McAee and Brynjolfsson, 2012).

Furthermore, respondents indicate that organization that integrate and develops new workers for data analytics has a significant influence on the extent business analytics implementation in Small and Medium Enterprises in Benue State Nigeria.

Effect of Environmental Factors on business analytics implementation among selected small and medium enterprises in Benue State, Nigeria.

The regression analysis for $H0_4$ gave a p-value=.989 which is greater than (α) of 0.05,the null hypothesis was accepted. This result implies that environmental factors have no influence on the extent to which business analytics is used among small and medium enterprises in Benue State, Nigeria.

This disagree with previous study of Masrek *et al.* (2009) findings that organization facing competitive pressures and environment uncertainties "engage in greater sensing and search" activities to better understand both their internal activities as well as those of the market place. The sensing and searching may be helped through the strategic use of Business Analytics. Malladi and Krisjnan (2020) assert that organizations operating in competitive environments have higher information Technology in its use.

The study examined the effect of organizational factors on the extent to which business analytics is implemented among small and medium enterprises in Benue State, Nigeria. The study revealed the following findings:

1) Technological infrastructure capabilities have an influence on business analytics implementation among small and medium enterprises in Benue State, Nigeria (P=0.000< 0.05).

2) Management Support has an influence on Business Analytics Implementation among small and medium enterprises in Benue State, Nigeria (P=0.001<0.05).
3) Talent Management Challenges has an influence on Business Analytics Implementation among small and medium enterprises in Benue State, Nigeria (P=0.002<0.05).
4) Environmental factors do not have any significant effect on Business Analytics Implementation among small and business enterprises in Benue State, Nigeria (P=0.989>0.05).

Conclusion

The study was carried out to examine the effect of organizational factors on business analytics is implementation among small and medium enterprises in Benue State, Nigeria. The findings of the study showed that technological infrastructure capabilities have the most influence on extent of business analytics implementation among small and medium enterprises in Benue State, Nigeria. Organizations wishing to further implement Business Analytics should consider its Technological Infrastructure Capabilities for improvement, strengthening or expansion.

Management support is a necessary ingredient for Business Analytics implementation, measures such as setting goal, budgeting and advocating for business analytics system influences the extent of business analytics implementation among small and medium scale enterprises in Benue State, Nigeria.

The study revealed that Talent Management such as integrating and developing new workers for data analytics in our organization influences the extent of business analytics implementation in small and medium enterprise in Benue State Nigeria. However, the study concluded that economic factor has no significant influence on the extent of business analytics implementation among small and medium enterprises in Nigeria.

Recommendations

Based on the findings of this study, the following recommendation are made:

i. The Government should put in place policies that provides Technological Infrastructure frameworks such as access to internet for small and medium enterprise in Nigeria, this will impact positively on the nation's economy, considering the significant role business analytics play in helping

businesses in making right decisions, improve profitability and to remain competitive.

ii. Managers/owners of small and medium enterprises must support, develop and execute strategies to adapt to technological changes for successful implementation of business analytics systems in their organizations in order to remain competitive.

iii. The academia should provide the manpower need by training more business analytics professionals and data scientists to fill the gap for successful implementation of business analytics in small and medium enterprises.

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APPENDIX A: QUESTIONNAIRE

SECTION A: Respondents Characteristics

Age (years): 18-27 [ ], 28-37 [ ], 38-47 [ ], 48-57 [ ], 58 and above [ ]

Highest Educational Qualification: FSLC [ ], SSCE [ ], OND/NCE [ ], HND/Degree [ ], Postgraduate [ ]

Experience (years): 1-5 [ ], 6-10 [ ], 11-15 [ ], 16-20 [ ], 21-25 [ ],
26 and above [ ]

The following key(s) represents options

Key: SA=Strongly Agree, A= Agree, U=Uncertain, D=Disagree, SD=Strongly Disagreed

		SA	A	U	D	SD
	Technological Infrastructure Capabilities					
1	Our organization utilize ICT tools such as social media in our operations.					
2	We use cloud enabled tools to store and manage our data in our organization.					
3	In entering and cleaning of data we use Excel to prepare our data for analysis in our organization.					
4	We use Google Analytics to track and get insight of visitors tour website.					
5	Our organization uses analytics software to analyse our data.					
6	In presenting and communicating reports our organization uses charts, maps, and tables for data visualization.					
	Management Support					
1	Our organization advocates for the use of business analytics system in our constituent business units.					
2	In our organization we use data for decision-making.					
3	Our organization has a clear distinct goal for business analytic system.					
4	We have a budget for business analytics system in our organization.					
5	Our organization partners with other industry to help us leverage Analytics.					
	Talent Management Challenges					
1	Our organization recruits highly skilled worker (experts) for data analytics.					
2	We integrate and develops new workers for data analytics in our organization.					
3	We retains current workers to that the organizations goal of business analytics.					
4	Our analytics team express complex idea in simple ideas to decision makers.					
5	Our analytic team has an excellent communication skill.					
	Environmental Factors					
1	Our customers interact with us vai ICT tools such as social media.					
2	Our Analytic team are guided by data protection laws and ethical use of analytics.					
3	Our organisation protects privacy of our stakeholders.					
4	Our suppliers makes decisions through data.					
5	Data analytic vendors assist our organisation in forming analytic team.					
	Business Analytics Implementation					
1	The implementation of business analytics enable organization in reporting of historic data.					
2	Business analytics usage by organization promote investigation of why problem occurred.					
3	Implementations of business analytics enhances monitoring of performance.					
4	The use of business analytics helps organization in forecasting and making future predictions.					

5	Business analytics implementation helps organization in strategic formulation and planning.

APPENDIX B: RELIABILITY RESULT

Scale: ALL VARIABLES

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.992	.993	5

Item Statistics

	Mean	Std. Deviation	N
Technological Infrastructure Capabilities	2.643	1.2870	50
Management Support	2.560	1.2526	50
Talent Management Challenges	2.232	1.2554	50
Environmental Factors	2.508	1.2969	50
Business Analytics Implementation	3.084	1.4332	50

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Technological Infrastructure Capabilities	10.384	26.599	.993	.989	.988
Management Support	10.467	27.014	.987	.981	.989
Talent Management Challenges	10.795	27.172	.969	.967	.992
Environmental Factors	10.519	26.506	.992	.990	.988
Business Analytics Implementation	9.943	25.549	.955	.946	.995

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
13.027	41.434	6.4369	5

APPENDIX IV: DESCRIPTIVE ANALYSIS RESULT

Frequency Table

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-27years	51	17.7	17.7	17.7
	28-37years	60	20.8	20.8	38.5
	38-47years	94	32.6	32.6	71.2
	48-57years	52	18.1	18.1	89.2
	58years and above	31	10.8	10.8	100.0
	Total	288	100.0	100.0	

Education Qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	FSLC	31	10.8	10.8	10.8
	SSCE	72	25.0	25.0	35.8
	OND/NCE	92	31.9	31.9	67.7

	HND/DEGREE	60	20.8	20.8	88.5
	Postgraduate	33	11.5	11.5	100.0
	Total	288	100.0	100.0	

Years of Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5years	58	20.1	20.1	20.1
	6-10years	50	17.4	17.4	37.5
	11-15years	78	27.1	27.1	64.6
	16-20years	46	16.0	16.0	80.6
	21-25years	42	14.6	14.6	95.1
	26years and above	14	4.9	4.9	100.0
	Total	288	100.0	100.0	

Descriptive Statistics

Technological Infrastructure Capabilities

	N	Mean	Std. Deviation
Our organization utilizes ICT Tools such as social media in operations.	288	3.11	1.10
We use cloud enabled tools to store and manage our data in our organization.	288	2.94	1.27
In entering data we use excel to prepare our data for analysis in our organization.	288	2.81	1.30
We use google analytics to track and get insight of visitors in our website.	288	2.34	1.12
Our organization uses analytics software to analyze our data.	288	2.86	1.39
In presenting and communicating reports our organizations uses chart etc for data visualization	288	2.94	1.26
Valid N (listwise)	288		

Management Supports

	N	Mean	Std. Deviation
Our organization advocates for the use of business analytics system in our constituent business units	288	2.75	1.182
In our organization we use data for decision making	288	2.80	1.257
Our organization has clear distinct goals for business analytics system.	288	2.66	1.072
We have a budget for business analytics system in our organization.	288	2.68	1.100
In our organization partners with other industry to help leverage Analytics.	288	2.75	1.251
Valid N (listwise)	288		

Talent Management Challenges

	N	Mean	Std. Deviation
Our organization recruits highly skilled worker(experts) for data analytics.	288	2.47	1.370
We integrate and develop new workers for data analytics in our organization.	288	2.51	1.380
We retain current workers to that the organizations goal of business analytics.	288	2.37	1.273
Our analytics team express complex ideas in simple idea for decision making.	288	2.35	1.159
Our analytics team has an excellent communication skill.	288	2.32	.962
Valid N (listwise)	288		

Environmental Factors

	N	Mean	Std. Deviation
Our customers interacts via ICT tools such as social media.	288	2.91	1.258
Our analytic team are guided by data protection laws and ethical use of analytics.	288	2.35	1.132
Our organization protects privacy of our stakeholders.	288	2.94	1.280
Our suppliers make decisions through data.	288	2.69	1.286

Data analytics vendor assist our organization in forming analytics team.	288	2.43	1.304
Valid N (listwise)	288		

Business Analytics Implementation			
	N	Mean	Std. Deviation
Implementation of business analytics enables organization in reporting of historic data.	288	3.27	1.344
Business analytics usage by organization promote investigation of why the problem occurred.	288	3.34	1.360
implementation of business analytics enhances monitoring of performance.	288	3.23	1.361
Use of business analytics helps organization in forecasting and making future predictions.	288	3.36	1.306
Business analytics implementation helps organization in strategic formulation and planning.	288	3.41	1.401
Valid N (listwise)	288		

APPENDIX V: REGRESSION RESULT

Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Environmental Factors, Management Support, Talent Management Challenges, Technological Infrastructure Capabilities[b]	.	Enter

a. Dependent Variable: Business Analytics Implementation

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.964[a]	.929	.928	.3577

a. Predictors: (Constant), Environmental Factors, Management Support

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	485.642	4	121.410	948.825	.000[b]
	Residual	36.980	281	.128		
	Total	522.622	288			

a. Dependent Variable: Business Analytics Implementation

b. Predictors: (Constant), Environmental Factors, Management Support, Talent Management Challenges, Technological Infrastructure Capabilities

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.200	.061		3.259	.001
	Technological Infrastructure Capabilities	1.058	.121	.959	8.755	.000
	Management Support	.292	.087	.250	3.340	.001
	Talent Management Challenges	-.275	.090	-.245	-3.053	.002
	Environmental Factors	-.002	.153	-.002	-.014	.989

a. Dependent Variable: Business Analytics Implementation

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N

Predicted Value	1.272	5.616	3.316	1.2874	288
Residual	-.6159	.7038	.0000	.3553	288
Std. Predicted Value	-1.588	1.786	.000	1.000	288
Std. Residual	-1.722	1.967	.000	.993	288

Charts