

Assessment of Data Driven Decision on Policy Implementation by Institutional Leaders in Tertiary Institutions in Kogi State

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Abstract

The study highlights the importance of applying data driven decision making among institutional leaders for policy and implementation in educational institutions. It is a routine for both administrators and institutional leaders to have a leadership approach that values decision that can be backed up with verifiable data. The study employed survey research design, questionnaire to elicit information from respondents. Population of the study includes all the institutional leaders in seven tertiary institutions in Kogi State. Simple random sampling technique was used to select five institutions with sample size of one hundred and twelve (112) that includes Vice Chancellors, Rectors and Provost, Heads of Department, Directors and Deans of Faculties in same institutions. Reliability coefficient of 0.70 was obtained using Cronbach Alpha. Simple percentage was used to answer the research questions and Analysis of variance (ANOVA) was used to test the hypotheses at 0.05 levels of significance. The finding shows that most institutional leaders used data-driven decision-making process for policy formulation and implementation and institutional leaders used different sources of data such as students' enrollment data among others for decision-making. The study recommend among others that all data should be upgrade annually to accommodate flexible decision that will enhance effective and efficiency policy formulation and implementation.

Keywords: Data, Decision- making, Data Driven, Policy and Implementation.

INTRODUCTION

Data is important for effective leadership and governance because it grounds decision in evidence, promotes accountability, enables strategic use of resources and drives continuous improvement that will strengthening the institution's impact and

sustainability. Data driven decision making in education has evolved from simple record keeping to complex, technology enabled systems that inform every aspect of teaching, learning and administration process by institutional leaders in the bid to achieve their managerial roles needs to embrace data driven decision for policy making and

implementation (UNESCO 2025) . However, Okume (2021) asserts that data driven decision making is a systematic collection, analysis and application of many forms of data from myriad sources in order to enhance performance while addressing the needs of students and staff. Data driven decision making in education involves using a series of data collection and analytics tools to inform actions within a school environment, anything from teaching strategies, lesson planning to budgeting and staffing (Abubakar, 2018). Appropriate use of data driven decision making among institutional leaders can help them identify and address issues of equity that exist within the school environment and focus on performance that can be leveraged to recognize disparities among different students group and students with special educational needs (Nwoko & Ogar 2025).

Abu (2023) suggests that for institutional leaders to use data driven solutions effectively, the institutions require adequate software, good infrastructure and collaborative work with ICT professionals to ensure they have the requisite data-collection, software, hardware and storage capacity to sustain a data driven decision making model.

Maicibi (2012) defines decision as a choice, a resolution, a judgment, a result arrived at after deliberation cut off or do away with something in favour of another, this shows that a decision is a choice of the most desirable alternative, while he defines decision making as a process to arrive at a decision, the process by which an individual or organization select one best position or

action from several alternatives, in line with Maicibi (2012) view on decision and decision making shows that decision data can be used to select best action from several alternatives to achieve institutional goal.

Hence, data driven decision making can be defined as using facts, metric and data to guide decisions that align with the goals, objectives and initiatives (Adedokun, 2022), this implies that institutional leaders are to armed themselves with data that help them make an informed decisions based on their goals, objectives and initiatives. Adedokun(2022) highlights importance of data in leadership and institutional governance as follows:

Informed Decision Making, this is evident as leaders use data to make evidence based decision, accountability and transparency data helps leaders demonstrate accountability to stakeholders, performance monitoring enable data tracking of institutional performance against goals and benchmark, resource optimization which is data on budget, staffing, and operations that help optimize resource allocation for maximum impact and strategic planning and visioning that include using data to inform long term planning by revealing trends, opportunities and challenges.

Sigalov, Hershkovitz & Cohen (2025) suggests that data can be harvested by a wide variety of methods ranging from students assessment, financial report and inter school surveys, once this data is collected, the institutional leaders can study it. The information can be used to make informed decisions on policies and implementation

that can be used to attain the vision and mission statement of the institution.

Olu (2023) asserts that underlying value of data driven decision making encourages institutional leaders to make choices based on empirical evidence rather than guess work. On the other way financial data can be used to identify areas of waste within school's budget and devise cost saving measures in response. However, Horst (2020), opines that successful use of data driven decision making can be attributed to three factors; effective institutional training, staff skilled in understanding and applying analytics, and leaders committed to evidence based decision making. This implies that the three factors put together will enhance data driven decision making among leaders that will strengthen the institution towards attaining her objectives or goals.

Fabian (2023) opines that the benefit of institutional leaders using data driven decision making is to allows institutions to discover new opportunities, address ever changing issues and introduce innovation services that can meet students demand. He further asserts that the institutional leaders can use the following data for policy implementation and such data will help the leaders to make an informed evidence based decision, some of the data types commonly used by institutional leaders are :

Quantitative data which includes student performance data, financial data, operational data and survey results; qualitative data which includes stakeholders' feedback, observations and case studies, demographic data which include information on students and staff such as age, gender, ethnicity,

socioeconomic status and language proficiency and Process data which include data on how policies and procedures are being implemented, predictive and analytical data which involve using historical and current data to forecast outcomes such as students success, financial trend or resource needs. This further explained that these types of data are used in policy implementation by institutional leaders to inform them about the current state and progress toward policy goals, highlight gaps and areas needing adjustments. Also to ensure policies are equitable and responsive to the needs of diverse population, likewise to enable monitoring and evaluation for continuous improvement.

The following is the Statement of the Problem

Due to increasing demand for accountability, transparency and performance in tertiary education sector, institutional leaders are pressured to make more informed and strategic decisions. However, the global shift towards data driven decisions making, many institutional leaders still rely on intuition, experience or outdate practices rather than empirical date. This limits the ability of leaders to respond effectively to issues such as declining quality, underfunding students' attrition and inefficient resources utilization. Despite agencies like the National Universities Commission, National Board for Technical Education and National Commission for Colleges of Education have establish framework for performance, the institutional leaders still take decisions that are not data – driven. The integration of data into everyday

leadership decisions remains inconsistent and underdeveloped with many institutions lack the infrastructure, skilled personnel and organizational culture needed to support Data driven decision making (DDDM) approach. This research seeks to fill this gap by evaluating the current state of data driven decision making among institutional leaders in tertiary institutions in Kogi state, identifying how institutional leaders use data for an informed decision and exploring its implication for policy formulation and implementation in tertiary institutions in Kogi State.

The research objectives are:

- i. Examine the extent to which institutional leaders integrate data into their decision making processes in tertiary institutions in Kogi state.
- ii. Identify the source of data used by institutional leaders in decision making in tertiary institutions in Kogi state.

The research questions are as follows:

The following research questions help to guide the study

- i. To what extent do institutional leaders use data to inform their decision-making process in tertiary institutions in Kogi State?
- ii. What are the sources of data commonly used by institutional leaders in tertiary institutions in Kogi State?

The following null hypotheses are postulated:

- i. There is no significant difference on the opinion of respondents on how Institutional leaders integrate data and decision making in Tertiary Institution in Kogi State
- ii. There is no significant difference on the opinion of respondents on sources of data and Institutional leaders' decision making in tertiary institutions in Kogi State.

The methodology of the study

The research design adopted for this study is descriptive survey method. Simple random sampling technique was used to select the Deans of Faculties, Directors of Institutes, Heads of Department and Vice Chancellors of five institutions in Kogi State, Provost of College of Education and Rector of Polytechnic making a total number of One hundred and twelve institutional leaders from five tertiary institutions in Kogi State. A questionnaire tagged: "Data driven decision making among institutional leaders (DDDMIL)" was developed with 5 point likert scale but for the easy comprehension, the 5 point likert scale was group into 3 categories of agree, undecided and disagree simple percentage were used to answer the research questions while Analysis of one way (ANOVA) was used to test the null hypotheses at 0.05 significance level. The instrument was tested for reliability using Cronbach Alpha with 0.70 which indicated that the instrument was reliable.

RESULTS

Research Question one: To what extent do institutional leaders use data to inform their decision making process in tertiary institutions in Kogi State?

Table 1: Institutional leaders' use of data to inform their decision making process in tertiary institutions in Kogi State

S/N	Item Statement	Category of Respondents	Strongly agree		Agree		Disagree		Strongly disagree	
			F	%	F	%	F	%	F	%
1.	Institutional decisions in my institution are regularly informed by data.	VC/Rectors/Provost Deans Directors Heads of Dept	32 15 20 30	100% 75% 66.7% 75%	- - 8 10	- - 26.7% 25%	- 5 2	- 25% 6.6%	- - - -	- - - -
2.	Students' performance data is used to inform academic planning.	VC/Rectors/Provost Deans Directors Heads of Dept	32 18 25 20	100% 90% 83.33% 50%	- - - 10	- - - 25%	- 2 5 -	- 10% 16.67% -	- - - 10	- - - 25%
3.	Decisions are made through Dash board or management information system.	VC/Rectors/Provost Deans Directors Heads of Dept	- - 10 15	- - 33.34% 37.5%	7 20 20 -	21.88% 100% 66.66% -	10 - - 25	31.3% - - 62.5%	15 - - -	46.8 2% - -
4.	Decisions on major academic and administrative decision are made on adequate data.	VC/Rectors/Provost Deans Directors Heads of Dept	32 10 20 40	100% 50% 66.66% 100%	- 10 10 -	- 50% 33.34% -	- - - -	- - - -	- - - -	- - - -
5.	Budgeting and resource allocations are guided by analyzed data.	VC/Rectors/Provost Deans Directors Heads of Dept	7 20 25 20	21.88% 100% 83.33% 50%	25 - 5 20	78.12% - 16.67% 50%	- - - -	- - - -	- - - -	- - - -
6.	Decisions are made through data provided by stakeholders.	VC/Rectors/Provost Deans Directors Heads of Dept	10 - - 10	31.25% - - 25%	- 20 10 -	- 100% 33.34% -	22 - 20 30	68.75% - 66.66% 75%	- - - -	- - - -

Response to item 1 reveals that 32 (100%) of the Vice-Chancellors, Rectors and Provosts agreed that institutional decisions are made in their various institutions using data, while 15 deans representing (75%) were in agreement to the item statement, however 5 Deans representing (25%) were in disagreement but 20 Directors representing (66.7%) and 8 of the Directors (26.7%) agreed to the item statement while 2 out of the Directors representing (6.6%) disagreed to the item statement, in the same vein 30 Heads of Department representing (75%) and 10 Heads of Department representing (25%) were in agreement to the item

statement. Invariably all the respondents have different opinion on the item statement.

In response item 2 that reveals that students' performance data is used for academic planning both the Vice Chancellors, Provosts and Rectors with Deans of Faculties representing (50% to 100%) response were in positive affirmation to the item statement, however some of the Vice-Chancellors, Rectors and Provosts, Deans, Directors and Heads of Department representing (10%-

25%) have different view as their response were in negative affirmation to the item statement. Going by the respondents response on items 3,4,5 and 6 where no respondent has less than 71.4% in respect of agreement that data is used by most institutional leaders in their decisions , This is evident in the positive response from respondents on how institutional leaders use data to inform their decision- making process in tertiary institutions in Kogi State

Table 2: Research Question two: What are the sources of data commonly used by institutional leaders in tertiary institutions in Kogi State?

S/N	Item Statement	Category of Respondents	Strongly agree		Agree		Disagree		Strongly disagree	
			F	%	F	%	F	%	F	%
7.	I frequently use students' enrollment data to support institutional planning.	VC/Rectors/Provost	10	31.25%	22	68.75%	-	-	-	-
		Deans	20	100%	-	-	-	-	-	-
		Directors	20	66.66%	10	33.34%	-	-	-	-
		Heads of Dept	20	50%	20	50%	-	-	-	-
8.	Staff workload and performance data are used regularly for decision making.	VC/Rector/Provost	20	62.5%	12	37.5%	-	-	-	-
		Deans	10	50%	10	50%	-	-	-	-
		Directors	20	66.66%	10	33.34%	-	-	-	-
		Heads of Dept	40	100%	-	-	-	-	-	-
9.	Financial budgetary reports are used for institutional governance.	VC/Rectors/Provost	18	56.25%	14	43.75%	-	-	-	-
		Dean	20	100%	-	-	-	-	-	-
		Directors	15	50%	15	50%	-	-	-	-
		Heads of Dept	25	62.5%	15	37.5%	-	-	-	-
10.	Internal audit reports are considered during strategic planning.	VC/Rectors/Provost	17	53.125%	15	46.857%	-	-	-	-
		Deans	15	75%	5	25%	-	-	-	-
		Directors	30	100%	-	-	-	-	-	-
		Heads of Dept	25	62.5%	15	37.5%	-	-	-	-
11.	ICT usage reports and online learning analytics are used in academic decision making.	VC/Rectors/Provost	19	59.38%	13	40.62%	-	-	-	-
		Deans	15	75%	5	25%	-	-	-	-
		Directors	20	66.66%	10	33.34%	--	-	-	-
		Heads of Dept	27	67.5%	13	32.5%	-	-	-	-
12.	Stakeholder's survey report inform leadership decisions.	VC/Rectors/Provost	28	87.5%	4	12.5%	-	-	-	-
		Deans	16	80%	4	20%	-	-	-	-
		Directors	30	100%	-	-	-	-	-	-
		Heads of Dept	20	50%	20	50%	-	-	-	-

In response to item 7, it was revealed that institutional leaders frequently used students enrollment data to support institutional planning 10 (31.25%) of the Vice-Chancellors, Rectors and Provost strongly agreed and 22 (68.25%) agreed respectively to the item statement, while 33.34% to 100% of the Deans, Directors and Heads of Department are in positive affirmation to the item statement .

However, item 8 which has staff workload and performance data are regularly used in decision making has all the respondents responding in positive affirmation to the item statement with a percentage range of 33.34% to 100%..

Analysis of variance (ANOVA) of respondents on how institutional leaders integrate data and decision making in tertiary institutions in Kogi State

Table three: Institutional leaders integrate data and decision making in tertiary institutions in Kogi State

Source of variance	Sum of square	DF	Mean square	F-value	Sig (p-value)0.002
Between groups	46.967	2	23.484	6.863	
Within groups	263.487	110	2.395		
Total	310.454	112			

The result in table 3 indicates that the calculated the calculated significance value (p-value)=0.002 which is less than the alpha level of 0.05, the null hypothesis is rejected. This showed that there is a significant difference among the respondents response.

In response to item 9 where respondents had up to 37.5% to 100% in agreement that financial reports and internal audit reports are used in decision making and institutional governance. While responses to item 11 and 12 revealed that all the respondents are in positive affirmation to the item statement respectively.

Results: The results were based on the hypothesis formulated for the study.

Hypothesis one: There is no significant difference on the opinion of respondents on how Institutional leaders integrate data and decision making in Tertiary Institution in Kogi State

Hypothesis two: There is no significant difference on the There is no significant difference on the opinion of respondents on sources of data and institutional leaders decision making in tertiary institutions in Kogi State.

Table 4: Analysis of variance of no significant differences on the opinion of respondents on sources of data and institutional leaders' decision making in tertiary institutions in Kogi State

Source of variance	Sum of square	DF	Mean square	F- ratio	Sig. (p-value)
Between groups	23.128	2	9.536	29.34	<.001
Within groups	35.760	110	0.325		
Total	58.888	112			

Table 4 shows that the one –way ANOVA revealed significant difference among the respondents as $(f\ 2, 110)=29.34, p<.001$, since the p-value is less than 0.05 level of significance, the null hypothesis is rejected. This indicates that significant differences

The Discussion of Findings

The finding agrees with research question one that there is no significant difference on how institutional leaders use data to inform their decision making process in tertiary institutions in Kogi State. All the respondents accepted that institutional leaders use data for decision. This is in line with Abel (2023) which asserts decision is part of the functions of a leader and therefore institutional leaders has to select from the best alternative options when making decision with available and adequate data. In the same vein, Adenubi & Oyenuga (2025) that application of data driven decision will help institutional leaders to develop realistic institutional goals, policies and strategic plan. It also reveals that students' performance in academic planning and staff workload and performance is regularly used for decision-making. This is in line with Okume (2021) who observes that data-driven decision- making is a systematic collection, analysis and application of many forms of data from pyramid sources in order

exist among the mean of the groups.. This concludes that there is significant difference in the opinion of respondents on the sources of data and institutional leaders' decision making in tertiary institutions in Kogi State.

to enhance performance while addressing the needs of students and staff.

The findings from the second research question shows that all institutional leaders agrees that data from students' enrollment, financial report and internal audit report is used by the institutional leaders in decision making process. This agreed with the view of Fabian (2023) that the institutional leaders can use the following data for policy implementation and such data help the leaders to make informed evidence based decision. Also Bentayyao (2025) agrees that data informed decisions strengthen policy effectiveness that are responsive to actual needs of the institution. Invariably, data informed decisions – making will help institutional leaders to be transparency and accountable to all stakeholders.

Conclusion

The study concludes that institutional leaders make use of data in all their decision in order to enhance effectiveness in their policies formulation and implementation that will grow the institutions as data-driven decision-

making has become an important tool in management of tertiary institutions by

Recommendations

The study recommends that all institutional leaders should adopt data for all decision in policy formulation and implementation for better effectiveness. Also recommend that

relying on accurate, timely and relevant data.

data should be upgraded annually to enhance policy implementation. The source of data used should be used fairly to achieve decision reach.

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