

Strengthening Key Performance Indicators and Quality Assurance in Research in Ugandan Universities: A Case Study of Islamic University in Uganda.

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Organizers: East African Higher Education Quality Assurance Network (EAQAN).

c/o Inter-University Council of East Africa (IUCEA).



Key Performance Indicators

- Key Performance Indicators (KPIs) are measurable values or metrics that are used to evaluate how effectively a university or an organization achieves its goals.
- Research KPIs are developed within the universities' vision, mission, objectives, goals, strategic plan, values, etc.
- Research KPIs should be able to generate and produce Quality oriented research to take universities at another level.

Key Performance Indicators

- KPIs are usually selected according to the **SMART** concept (Specific, Measurable, Attainable, Relevant and Time-bound)
- In order for KPIs to be implemented there should clearly defined and measurable guidelines and criteria.
- In the process of implementing the KPIs both internal and external quality assurance measures should be considered.

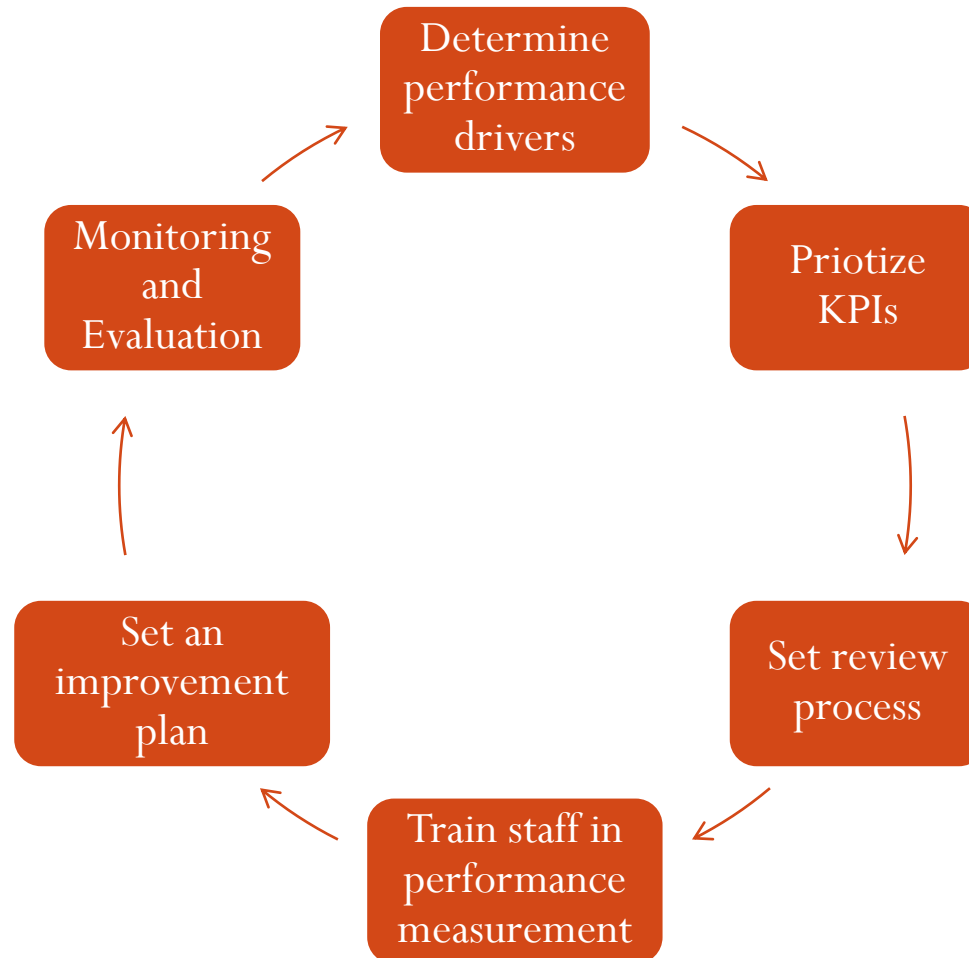
Key Performance Indicators

- KPIs in universities can be used goals in the following aspects;
 - Teaching
 - **Research**
 - Community engagement
 - International outlook

Key Performance Indicators

- Research KPIs should be in conformity with standards that guide higher education;
 - Institutional Quality Assurance Standards
 - National Quality Assurance Standards
 - Regional Quality Assurance Standards
 - International Quality Assurance Standards
- To effectively implement research Key Performance Indicators there should be total involvement of all key stakeholders.

Continuous Improvement Cycle of KPIs



Quality Assurance

- Quality Assurance in education is ensuring stakeholders that the education offered by the universities is “fit for purpose”.
- Quality Assurance requires funds. So, there should heavy investment in education if quality assurance and quality education are to be realized.

Attributes of KPIs

Key Performance Indicators should be;

- Relevant
- Measurable
- Easy to understand and use (simple)
- Attainable
- Comparable
- Verifiable
- Cost effective
- Allow innovation
- Statistically valid
- Timely

Objectives of the study

- 1) To understand the roles of Key Performance Indicators in maintaining the quality of research in Islamic University in Uganda.
- 2) To examine the differences in perception of staff on KPIs adopted in research by Islamic University in Uganda.
- 3) To examine the relationship between Key Performance Indicators variables used in maintaining quality in research in Islamic University in Uganda.

Methods

- The study population was on 380 staff in 2 campuses of the Islamic University in Uganda.
- A sample of 180 staff both academic and non-academic; 128 and 52 staff respectively, and 138 male and 42 females.
- Both quantitative and qualitative approaches were used.
- A Key Performance Indicator and Quality Assurance Questionnaire (KPI_QA) was designed.
- Validity and reliability tests were conducted to determine the adequateness of the instrument.
- The study adopted both descriptive and inferential statistics to analyze and also interpret the findings for the study.

KPIs considered

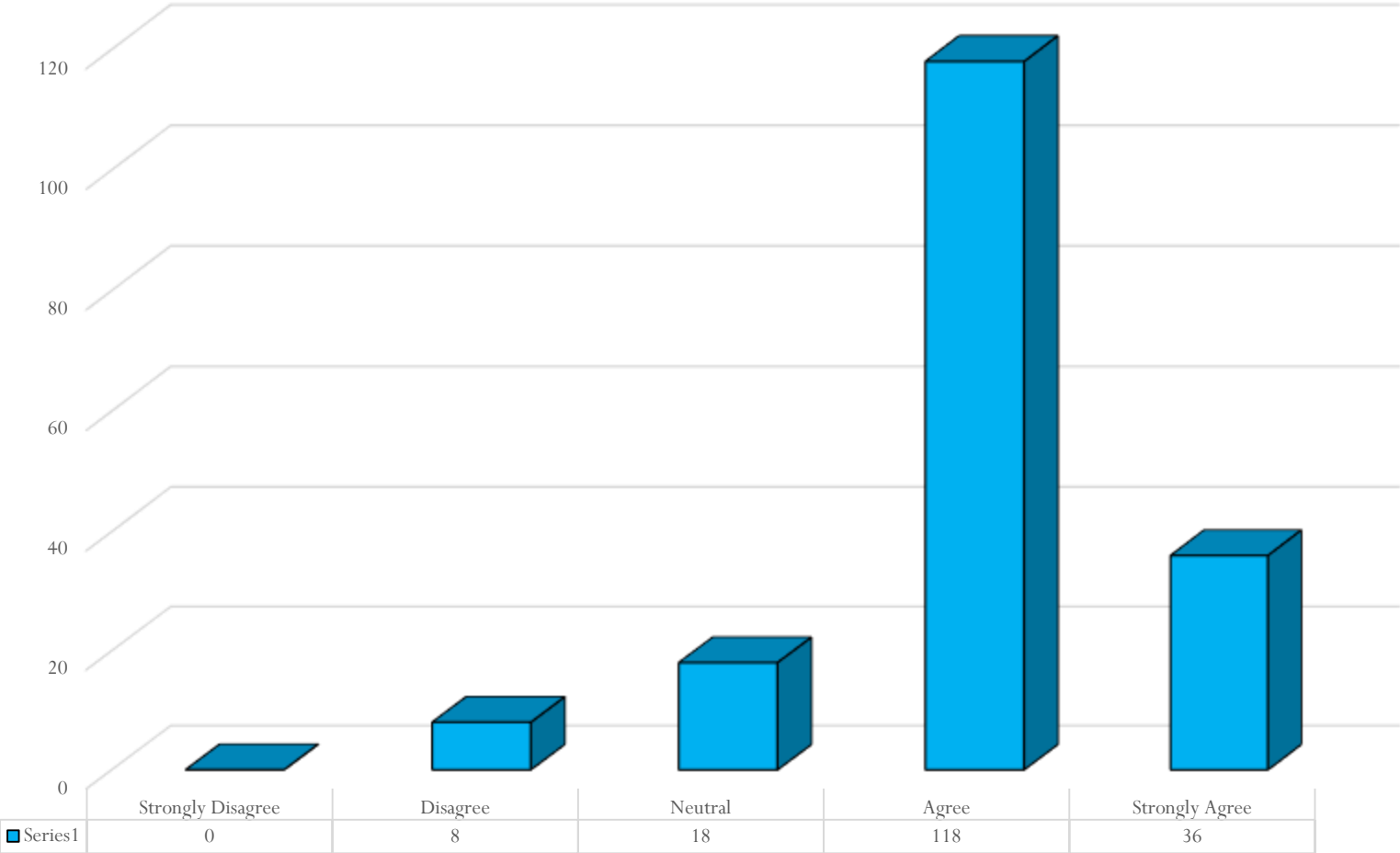
- Number of students enrolled at the University
- Amount of funds allocated for research activities at the University
- Number of research facilities available for research
- Number of research scholarly activities conducted in faculties and departments at the University
- Number of qualified staff to conduct/ supervise research at the University
- Number of students who succeed in conducting research
- Number of publications made from researched work
- Number of patents made out of research
- Number of prototypes made out of research
- Number of products made out of research

Results

Scale value	Scale	f	%	SD
1.00 – 1.90	Strongly Disagree	0	0.00	0
2.00 – 2.90	Disagree	8	4.4	.36
3.00 – 3.90	Neutral	18	10.0	.40
4.00 – 4.90	Agree	118	65.6	.35
5.00 – 5.90	Strongly Agree	36	20.0	.38

F = frequency, % = percentage

Role of Research KPIs in Universities



Results

Variable(s)	SS	df	Mean Square	F	Sig	Partial Eta Squared (η^2)
Category (Admin/ Academic)	.187	1	.165	.788	.325	.006
Gender	.784	1	.124	3.798	.263	.011
Qualification	8.231	5	1.797	8.536	.011	.241
Campus	.362	3	.362	1.360	.121	.013
Classification (Science/ Arts)	.123	1	.124	.589	.348	.009
Error	29.881	141	.186			

Cont...

- From the results of the factorial ANOVA it was discovered that there is statistically significant difference in perception of staff as regards the role of KPIs in respect to their qualifications (partial eta squared, $\eta^2 = .241$).
- There was no statistically significant difference in perception of staff on key performance indicators in terms of the category of staff, gender, campus, and their classification.

Cont...

- The results from Scheffe indicated that staff with lower qualification had lower perceptions on the role of Key Performance Indicators in maintaining the quality of research at the university (IUIU). In other words, Scheffe's results as regards to qualification differed from other results in terms of category of staff, gender, campus and classification of the staff.

Results

Item(s)		Factor Loading	
		F1	F2
1.	Enrolment of students at the University	.88	
2.	Funding of research activities at the University	.81	
3.	Research facilities available at the University	.79	
4.	Faculty/ department research scholarly activities at the University	.78	
5.	Staff to conduct/ supervise research at the University	.75	
6.	Students' success in conducting research at the University	.70	
7.	Publishing researched work		.86
8.	Patenting ideas got out of research		.78
9.	Making of prototypes		.70
10.	Making products out of research		.66

Note: F1 = Key Performance Indicator (inputs), F2 = Key Performance Indicators (Output)

Cont...

- Results from factor analysis indicate that the components of the questionnaire were categorized into two; (a) key performance indicator (input) and key performance indicators (output). The KPIs - input are those that are being invested in or observed during research whereas key performance indicator – outputs are those that are expected to be observed after the research has been conducted.

Results

	1	2	3	4	5	6	7	8	9	10
1	-									
2	.48*	-								
3	.16	.78***	-							
4	.58**	.68**	.69**	-						
5	.28*	.60**	.38*	.48*	-					
6	.13	.75**	.58**	.55**	.66**	-				
7	.44*	.70***	.74***	.50**	.60**	.46*	-			
8	.21*	.66**	.43*	.55**	.56**	.51**	.48*	-		
9	.09	.45**	.38*	.48*	.43*	.36*	.19	.10	-	
10	.11	.80***	.51*	.58**	.65**	.60*	.17	.26*	.12	-

* $p < .05$, ** $p < .01$, *** $p < .001$

1 = Total enrolment, 2 = Funding, 3 = Research facilities, 4 = Faculty scholarly activities, 5 = Quality of staff, 6 = Students' success in research, 7 = Publish, 8 = Patent, 9 = Prototype, and 10 = Products

Cont...

- It is observed that there is no significant relation discovered between enrolment and research facilities ($r = .16$, $p > .05$), students' success in research ($r = .13$, $p > .05$), prototype ($r = .09$, $p > .05$), and research products ($r = .11$, $p > .05$) sub-dimension. Also, there is no significant relationship between publishing and prototype ($r = .19$, $p > .05$), and research product ($r = .17$, $p > .05$). Other insignificant relationships were between patenting and prototype ($r = .10$, $p > .05$), and patenting and products ($r = .12$, $p > .05$).

Strengthening KPIs in UIU

- Set measurable and attainable KPIs.
- Set up adequate facilities to support research.
- Increase funding to research and its support activities.
- Attract research grants and also compete for them.
- Start university journals in all departments to publish researched work.
- Staff and students to publish in high profile journals.

Cont...

- Employ quality staff to undertake or guide others in conducting research (professors).
- Increase on the volumes of research, publications, prototypes and products got through research.
- Admit students who merit university programs and can also do research.
- Improve on the university policy that guides research, publications and innovations.
- Increase scholarly activities at the universities.

Cont...

- Avail adequate resources to do research (books, e-resources, library, etc.).
- Motivate staff and students to do research.
- Benchmark good practices from other universities.
- Patents all ideas got through research.
- Make prototypes to conceptualize research ideas.
- Make products from all research ideas got
- Establish effective processes of implementing KPIs

Thank you