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# INSANIYAT

## Journal of Islam and Humanities

### The Analysis of Data Literacy and Data Quality: Study at Faculty of Administrative Science, Brawijaya University

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#### Abstract

*Publicly funded research must be accessible to the general public in digital format, with or without minimal restrictions. Research also must be reviewed for the accuracy and correctness of the data sources and references used, the accuracy of the concept, and the objectivity of the contents of the paper. This is very closely related to the quality of the research data. Realizing this, the data collected and used in the process—before, during, and after the research—will make researchers and institutions aware of the importance of data literacy. The term data literacy is used in academia to provide a brief description of the ability of individuals to understand basic research concepts, including the quality of research data they possess. Therefore, this study aims to describe the effect of data literacy on research data. This research uses explanatory research with a quantitative approach with 58 respondents from the faculty members of Faculty of Administrative Science, Brawijaya University, Indonesia. The questionnaire was filled out in both digital and printed form. The collected data is proven to be normally distributed, valid, and highly reliable. The variable tests show that Data Literacy has a significant positive relationship with Data Quality. FAS UB lecturers also plan their research data collection method. Their research data are consistent and fit their research topic. This research is expected to contribute to scientific developments regarding data literacy and the quality of research data, which in this case focuses on research activities conducted by lecturers at universities.*

**Keywords:** data literacy, data quality, faculty member, university, Indonesia.

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#### Introduction

Higher education institutions carried out the Three Pillars of Higher Education obligations that were imposed through teaching activities, community service, and various research activities, especially state universities. In the aspect of research in higher education, based



on the official website of the Directorate General of Higher Education on May 6<sup>th</sup>, 2022, the government, through the Ministry of Education, Culture, Research, and Technology, has spent a total of 2.15 trillion rupiah for research funding in 2022 (Prastiwi, 2022). Research activities conducted at Brawijaya University can be reviewed through data uploaded by the Institute for Research and Community Service Brawijaya University, or LPPM UB, on the official website, [lppm.ub.ac.id](http://lppm.ub.ac.id). The following is data on the number of research studies conducted by Brawijaya University for the last three years.

**Table 1**  
**Total Research at Brawijaya University**

Year	Based on Research Funds		Total
	The Ministry of Education, Culture, Research, and Technology	Brawijaya University	
2020	132	198	330
2021	94	218	312
2022	177	222	399
<b>Total</b>	403	638	1041

Source: LPPM UB

Furthermore, as part of the Faculty of Administrative Sciences Brawijaya University (FAS UB), the faculty members cannot be separated from the obligation to carry out the Three Pillars of Higher Education that have been set. Through the activities of student organizations and lecturer research obligations, teaching and community service are carried out as much as possible by adjusting academic norms and the local wisdom of research objects and subjects. Based on data obtained from the Research and Community Service Bureau of the Faculty of Administrative Science Brawijaya University, or BPPM FAS UB, in the last three years, 249 research titles have been conducted with a total fund of more than eight billion rupiah.

**Table 2**  
**Total Research in FAS UB in Three Years**

Research Schemes	Year			Total
	2020	2021	2022	
Professor Grants	9	8	10	27
Doctor-Associate Professor Grants	6	10	13	29
Doctor-non Associate Professor Grants	13	12	10	35
Prominent Research Group Grants	-	9	9	18
International Research Collaboration Grants (ASEAN)	-	5	-	5
Study Groups, Labs and Study Programs Grants	-	9	-	9
Individual Research Grants	-	46	71	117
Dissertation Research Grants	-	9	-	9
<b>Total</b>	28	108	113	249

Source: BPPM FAS UB

Judging from the number of research projects conducted and the funding used as shown in the previous data, in each research implementation there are several specific things that are of concern to the researchers and the institutions that oversee them. This relates to research credibility when published because, based on the concept of “open science,” according to the Organisation for Economic Co-operation and Development (OECD, 2015), research funded by the public must consider open access to the public, which can be in digital format with or without minimal restrictions. Open Science represents a new approach to scientific processes based on collaboration and a new way to share knowledge using digital technologies and new collaborative tools (Directorate-General for Research and Innovation, 2015). Open Science is often defined as an umbrella term that encompasses various movements that aim to remove barriers to the sharing of any kind of output, resource, method, or tool at any stage of the research process.



**Figure 1 Open Science**

Source: Gallagher et al., 2020

Open Science is often defined as an umbrella term that encompasses various movements that aim to remove barriers to the sharing of any kind of output, resource, method, or tool at any stage of the research process. As such, open access to publications, open research data, open software sources, open collaboration, open peer-reviews, open notebooks, open educational resources, open monographs, citizen science, or research crowdfunding fall within the boundaries of Open Science. In fact, specifically for the library and information domain, the focus is usually placed on these two movements: Open Research Data and Open Access to scientific publications.

According to the Regulation of the Head of the Indonesian Institute of Sciences Number 5 of 2014 concerning the Scientific Publication Code of Ethics, it can be explained that research must be reviewed for the accuracy and correctness of data sources and references used, the accuracy of the concept, and the objectivity of the contents of the paper. This is closely related to the quality of research data, which, according to The Data Management Association (Ramasamy & Chowdhury, 2020) consists of several dimensions, namely completeness, uniqueness, timeliness, validity, accuracy, and consistency of research data. To ensure that data can be trusted, it is important to understand the dimensions of data quality. The quality of the data can also serve as a gauge of how good the research is and how much the researcher should account for. Realizing this, the data collected and used in the process, namely pre, during, and after the research, will make researchers and institutions aware of the importance of data literacy.



**Figure 2 Data Quality Dimensions**

Source: Ramasamy & Chowdhury, 2020

Henderson and Corry demonstrated that data literacy has become more tangible (Henderson & Corry, 2021). Li, Sinnamon, and Kopak (2022) conducted a study to explore open data portals as data literacy learning environments. The term data literacy is used in academia to provide a brief description of the ability of individuals to understand basic research concepts, including the quality of research data they possess. Just as literacy involves being able to read the written word and understand what has been read, data literacy involves being able to search for, interpret, and communicate data in context. This process itself emphasizes data preservation and data sharing so that existing data can be used repeatedly because the creation and collection of data alone are not enough to ensure that research data is managed optimally because this will also have an impact on the quality of research data.

**Table 3**

Research Data Literacy	Data Management Competences
Identify	Documentation (research environmental, temporal) / Context / From Information Management to Knowledge Management
Scope	Monitoring Process / Extracting Information from Data Models (and People)
Plan	Data Modeling / Meta Data / Standards Development
Store	Data Analysis and Manipulation / Merging, Mashing, Integration
Protect	Data Preservation / Data Security / Access Authentication / Conditions of Use / Data Legislation
Evaluate	Data Appraisal and Retention / Value of Data / Economic Issues
Manage	Complaints and Expectation Management / Coordination of Practice across Institution / Negotiation Skills / Risk & Disaster Management / Contingency / Advocacy, Promotion, Marketing
Provide	Facilitation, Communication / Raising Awareness

**Data Literacy Competencies**

Source: Schneider, 2013

The academic community does not use an appropriate system and, at worst, not have knowledge of quality data management principles (Schumacher & VandeCreek, 2015). In the long term, this can affect the quality of research data due to the focus of researchers who are diverted to things that reduce the essence of the research being carried out. Carlson et al. (2011) and Koltay (2016) explained implicitly that data literacy has a relationship



with data quality. The reduced focus on the essence of research due to the ineffectiveness of researchers' literacy with the data is believed to burden the quality of the results of the research conducted. Within the scope of FAS UB, the ineffectiveness that occurs has the possibility of negatively affecting the existing research process. This research formulates the problem: Is there a significant relationship between data literacy and the quality of research data? This study aims to describe the relationship of data literacy and data quality.

## Method

This research uses explanatory research with a quantitative approach. The quantitative approach is research that is used to test certain theories by examining the relationship between variables (Creswell, 2009). According to Sugiyono (2017) explanatory research is a research method that intends to explain the position of the variables studied and the influence between one variable and another. It is hoped that this research can explain the relationship between the independent and dependent variables in the hypothesis. This study involved two variables, namely the independent variable (X) data literacy and the dependent variable (Y) research data quality.

The measurement scale used in this study to measure the level of answers to the questionnaire made by the author is a five-point Likert Scale. According to Darmawan (2014), the Likert Scale is used to measure a person's attitudes, opinions, and perceptions of social phenomena. The population used in this study were all lecturers at the Faculty of Administrative Sciences, Brawijaya University. The method used in sampling is a non-probability sampling technique with a purposive sampling technique. The non-probability sampling technique is a sampling technique that does not provide equal opportunities for each element or member of the population to be selected as a sample (Sugiyono, 2017). The reason for using this sampling technique is because of the possibility of not giving each individual the same opportunity to be used as a sample.

Purposive sampling is a sampling technique in which the determination of the sample is carried out with certain considerations (Sugiyono, 2017). The selection of samples with this technique aims to obtain sample results that are logically considered to represent the population. Requirements to become respondents in this study are that lecturers at the Faculty of Administrative Sciences, Brawijaya University, who have conducted research at least three times. This is so that the data obtained from the respondents is not biased because the respondents already have research data.

In this study, a questionnaire was used to collect data from predetermined respondents. The questionnaire contains questions and statements regarding data literacy and research data quality. The questionnaire is a closed one in which a list of answers has been provided using 5-point Likert scale. At the stage of distributing the questionnaires, two methods were used: digitally via Google Form and using printed media by distributing questionnaires directly to the research location. This activity was carried out over a span of two weeks, starting on Monday, August 29, 2022, and ending on Friday, September 9, 2022.

Data analysis is proposed to test the hypothesis and determine the relationship between the independent variable (X) and the dependent variable (Y). Descriptive analysis is used as material for interpreting data to obtain an overview of the problem by collecting, compiling, and classifying the obtained data. The data to be analyzed is the demographic data of the respondents obtained from the results of the frequency distribution.

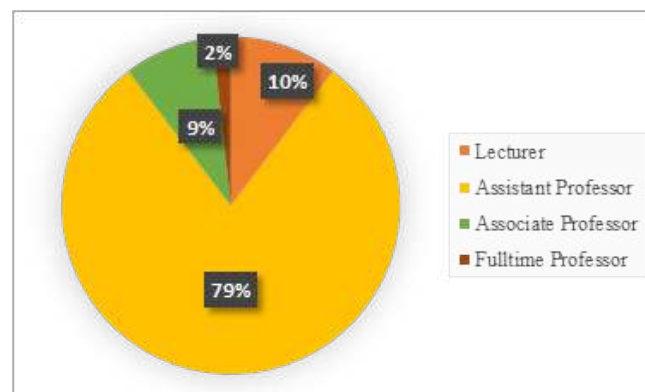
A validity test is used to measure the legitimacy or validity of a questionnaire (Ghozali, 2016). The data requirements that can be said to be valid are that the significant value of two-tailed must be below 0.05, and the r-count must be greater than the r-table. The reliability test is an index that can provide an indication of how much the results of a study

can be trusted. The reliability of questions is shown when a construct is said to be reliable if it gives a Cronbach-alpha value greater than 0.70 (Ghozali, 2016). A normality test was conducted to test whether the distribution of the dependent variable, independent variable, or both in the regression model was normal or not (Ghozali, 2016). The method used to test whether the data are normally distributed or not is to pay attention to the distribution of data (points) on the diagonal axis of the graph and make a decision based on whether the data spreads around the diagonal line and follows the direction of the diagonal line or if the histogram shows a normal distribution pattern. It can also be tested using the Kolmogorov-Smirnov test and the Shapiro-Wilk test. Linear regression is used for hypothesis testing in this research.

### Results and Discussions

Respondents in this study were lecturers of the Faculty of Administrative Sciences, Brawijaya University, who consisted of various positions, namely Lecturer, Assistant Professor, Associate Professor, and Full-time Professor. Through data collection that was carried out through Google Forms and printed questionnaires that were distributed, we obtained a total of 58 respondents with the following characteristics:

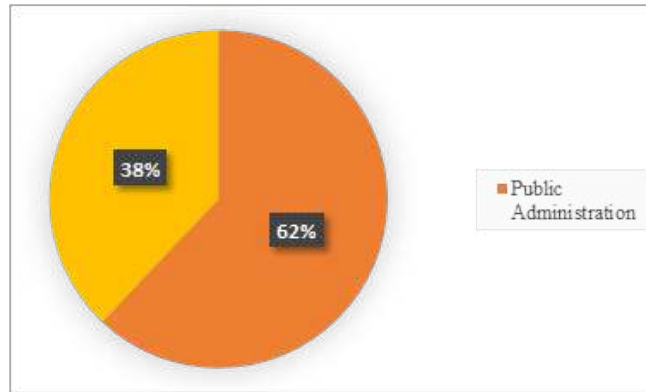
Respondents in this study were lecturers of the Faculty of Administrative Sciences, Brawijaya University, who consisted of various positions, namely Lecturer, Assistant Professor, Associate Professor, and Full-time Professor. Through data collection that was carried out through Google Forms and printed questionnaires that were distributed, we obtained a total of 58 respondents with the following characteristics:



**Figure 3 Job Positions**

Source: Author Fieldwork, 2022

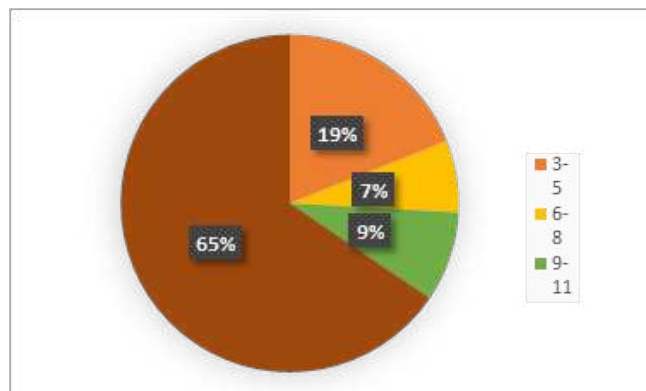
From Figure 3, regarding the characteristics of the respondents based on their positions, it can be seen that the respondents consisted of 6 Lecturers with a percentage of 10%. Then, for respondents with positions as Assistant Professor are 46 respondents with a percentage of 79%. For respondents with the position of Associate Professor, there were 5 people with a percentage of 9%, and the last criterion for respondents as Fulltime Professor was 1 respondent with a percentage of 2%.



**Figure 4 Department of Respondents**

Source: Author Fieldwork, 2022

From Figure 4, it can be seen that the respondents consisted of two majors, namely the Department of Public Administration and the Department of Business Administration. For respondents majoring in Public Administration, there were 36 people with a percentage of 62% and 22 people from the Business Administration department with a percentage of 38%.



**Figure 5 Frequency of Research**

Source: Author Fieldwork, 2022

From Figure 5 above, it can be seen that there were 11 respondents with a 19% percentage. Then for respondents with a total of 6–8 researches consisting of 4 respondents with a percentage of 7%. For respondents with a total of 9–11 researches, there were 5 respondents with a percentage of 9%, and the last criterion for respondents was respondents who had more than 12 researches, with a total of 38 people and 65% of the total respondents.

In the 25 items in the questionnaire filled in by respondents to variable X. Variable X questions relate to data literacy issues, revealing several characteristics of the data variation, with the following details:

**Table 4**  
**Frequency Distribution of Variable X**

No.	Code of Items	Frequency										Mean
		5		4		3		2		1		
		F	%	F	%	F	%	F	%	F	%	
1	X1	43	74.14%	14	24.14%	0	0%	1	1.72%	0	0%	4.71
2	X2	43	74.14%	15	25.86%	0	0%	0	0.00%	0	0%	4.74

3	X3	43	74.14%	15	25.86%	0	0%	0	0.00%	0	0%	4.74
4	X4	25	43.10%	28	48.28%	4	7%	1	1.72%	0	0%	4.33
5	X5	22	37.93%	32	55.17%	4	7%	0	0.00%	0	0%	4.31
6	X6	35	60.34%	23	39.66%	0	0%	0	0.00%	0	0%	4.60
7	X7	41	70.69%	16	27.59%	1	2%	0	0.00%	0	0%	4.69
8	X8	30	51.72%	25	43.10%	3	5%	0	0.00%	0	0%	4.47
9	X9	31	53.45%	27	46.55%	0	0%	0	0.00%	0	0%	4.53
10	X10	35	60.34%	21	36.21%	2	3%	0	0.00%	0	0%	4.57
11	X11	20	34.48%	35	60.34%	3	5%	0	0.00%	0	0%	4.30
12	X12	17	29.31%	31	53.45%	9	16%	1	1.72%	0	0%	4.10
13	X13	18	31.03%	27	46.55%	11	19%	2	3.45%	0	0%	4.05
14	X14	24	41.38%	23	39.66%	10	17%	1	1.72%	0	0%	4.19
15	X15	29	50.00%	22	37.93%	5	9%	2	3.45%	0	0%	4.34
16	X16	27	46.55%	26	44.83%	4	7%	1	1.72%	0	0%	4.36
17	X17	31	53.45%	22	37.93%	5	9%	0	0.00%	0	0%	4.45
18	X18	26	44.83%	28	48.28%	4	7%	0	0.00%	0	0%	4.38
19	X19	37	63.79%	18	31.03%	3	5%	0	0.00%	0	0%	4.59
20	X20	12	20.69%	30	51.72%	12	21%	3	5.17%	0	0%	3.90
21	X21	20	34.48%	20	34.48%	9	16%	8	13.79%	0	0%	3.91
22	X22	41	70.69%	15	25.86%	2	3%	0	0.00%	0	0%	4.67
23	X23	17	29.31%	20	34.48%	14	24%	4	6.90%	2	3%	3.79
24	X24	20	34.48%	30	51.72%	7	12%	1	1.72%	0	0%	4.19
25	X25	13	22.41%	23	39.66%	20	34%	1	1.72%	0	0%	3.83
Total Mean												4.16

Source: Author Fieldwork, 2022

The item with a low score lies in item X23 “I publish research data that I have on a certain platform”, it was found that 17 respondents answered strongly agree, 20 respondents answered agree, 14 respondents answered neutral, 4 respondents answered disagree, and 2 other respondents answered strongly disagree. Then for item X25 “I present research data that I have in various types of formats”, it was found that 13 respondents answered strongly agree, 23 respondents answered agree, 20 respondents answered neutral, 1 respondent answered disagree, and no respondent answered strongly disagree. The next item that has the lowest mean is item X20 “I store research data with a certain system”, 12 respondents answered strongly agree, 30 respondents answered agree, 12 respondents answered neutral, 3 respondents answered disagree, and no respondent answered strongly disagree.

The item with the highest value lies in item X2 “I plan the method of collecting data that I use in research” and X3 “I plan the location of collecting data that can be used in research”. On these two items, 43 respondents answered strongly agree, 15 respondents answered agree, and no respondents answered neutral, disagreed, or strongly disagreed. Then the next item with the highest score is in item X1 “I plan the type of data that I will use in research,” there were 43 respondents who answered strongly agree, 14 respondents answered agree, one respondent answered disagree, and 0 respondents answered neutral and strongly disagree. The data literacy results show that respondents have data literacy competencies as stated by Scheiner (2013), especially in terms of planning such as methods and locations of search, as well as the type of data they will use. However, they tend not to store data in various formats, or specific systems.

**Table 5**  
**Frequency Distribution of Variable Y**

No.	Code of Items	Frequency										Mean
		5		4		3		2		1		
		F	%	F	%	F	%	F	%	F	%	
1	Y1	18	31%	35	60%	5	9%	0	0%	0	0%	4.22
2	Y2	24	41%	28	48%	6	10%	0	0%	0	0%	4.31
3	Y3	26	45%	24	41%	7	12%	0	0%	1	2%	4.28
4	Y4	24	41%	21	36%	12	21%	0	0%	0	0%	4.19
5	Y5	14	24%	28	48%	13	22%	2	3%	0	0%	3.95
6	Y6	12	21%	33	57%	12	21%	0	0%	0	0%	4.00
7	Y7	16	28%	29	50%	11	19%	0	0%	1	2%	4.02
8	Y8	24	41%	29	50%	5	9%	0	0%	0	0%	4.33
9	Y9	28	48%	28	48%	2	3%	0	0%	0	0%	4.45
10	Y10	22	38%	33	57%	3	5%	0	0%	0	0%	4.33
11	Y11	33	57%	22	38%	3	5%	0	0%	0	0%	4.52
12	Y12	26	45%	28	48%	4	7%	0	0%	0	0%	4.38
13	Y13	21	36%	29	50%	6	10%	1	2%	0	0%	4.21
Total Mean											4.25	

Source: Author Fieldwork, 2022

The item with the lowest score is in item Y5 “I believe that the research data I have can be used at another time,” it obtained 14 respondents who answered strongly agree, 28 who answered agree, 13 respondents who answered neutral, 2 respondents who answered disagree, and 0 respondent who answered strongly disagree. Furthermore, the next item that has the lowest value is item Y6 “I believe that the research data I have is unique.” It was found that 12 respondents answered strongly agree, 33 respondents answered agree, 12 respondents answered neutral, and 0 respondent answered disagree and strongly disagree. The next item with the lowest value is item Y7 “I believe that the research data I have has no duplication,” with 16 respondents answering strongly agree, 29 respondents answering agree, 11 respondents answering neutral, and 0 respondents answering disagree and 1 respondent answering strongly disagree.

The item with the highest score is item Y11 “I believe the research data I have is consistent.” It was found that 33 respondents strongly agreed, 22 respondents agreed, and 3 respondents answered neutral. The next item, Y9 also has the highest value “I believe that the research data I have is in accordance with the scope of the research.” From this item, it was found that 28 respondents answered strongly agree, 28 respondents answered agree, and 2 respondents answered neutral. Disagree and strongly disagree have 0 respondent. The next item that has the highest value is item Y12 “I believe that I use appropriate research methods to obtain accurate research data.” It was found that 26 respondents answered strongly agree, 28 respondents answered agree, and 4 respondents answered neutral.

The research data quality results show that respondents are confident that the research data obtained is consistent, valuable, and of course use appropriate research methods to obtain accurate research data. This data shows that the quality of data that obtain by the respondent are valid and accurate, relevant and can support their research. However, respondents were not confident that the research data they had would be of use in the future or in other time. They are also not confident that their research data is unique, nor are they confident that their

research data is not duplicated. With a total of 58 respondents, the validity test is started by determining the value of the r-table with an alpha of 5%. With these conditions, it was found that the r-table value was 0.259. If the r-count is greater than the r-table, then the research item is considered valid. However, if the r-count is less than the r-table, the item will be considered invalid and erased. The results of the validity test of all of the items in the variables, which were processed using SPSS version 29, are explained below.

**Table 6**  
**Validity of the Items**

Item	r-count	Sig (2 tailed)	r-table	Validity
X1	.522**	<.001	0.259	Valid
X2	.665**	<.001	0.259	Valid
X3	.654**	<.001	0.259	Valid
X4	.516**	<.001	0.259	Valid
X5	.626**	<.001	0.259	Valid
X6	.539**	<.001	0.259	Valid
X7	.545**	<.001	0.259	Valid
X8	.619**	<.001	0.259	Valid
X9	.509**	<.001	0.259	Valid
X10	.770**	<.001	0.259	Valid
X11	.569**	<.001	0.259	Valid
X12	.638**	<.001	0.259	Valid
X13	.628**	<.001	0.259	Valid
X14	.527**	<.001	0.259	Valid
X15	.540**	<.001	0.259	Valid
X16	.661**	<.001	0.259	Valid
X17	.690**	<.001	0.259	Valid
X18	.726**	<.001	0.259	Valid
X19	.578**	<.001	0.259	Valid
X20	.507**	<.001	0.259	Valid
X21	.419**	.001	0.259	Valid
X22	.496**	<.001	0.259	Valid
X23	.355**	.006	0.259	Valid
X24	.679**	<.001	0.259	Valid
X25	.555**	<.001	0.259	Valid
Y1	.717**	0.007	0.259	Valid
Y2	.739**	0.000	0.259	Valid
Y3	.546**	0.000	0.259	Valid
Y4	.535**	0.000	0.259	Valid
Y5	.471**	0.000	0.259	Valid
Y6	.753**	0.000	0.259	Valid
Y7	.485**	0.000	0.259	Valid
Y8	.642**	0.000	0.259	Valid
Y9	.698**	0.000	0.259	Valid
Y10	.731**	0.000	0.259	Valid

Y11	.563**	0.000	0.259	Valid
Y12	.590**	0.000	0.259	Valid
Y13	.547**	0.000	0.259	Valid

Source: Author Fieldwork, 2020

Table 6 shows that all of the items in Data Literacy (X) and Data Quality (Y) are valid with most of the items' significance numbers less than 0.001, and the r-count of all the items has a bigger value than the r-table. The validity of a research study relates to the extent to which the outcomes observed among the study participants accurately reflect the actual findings among comparable individuals who were not part of the study (Patino & Ferreira, 2018). Validity also pertains to the degree to which an instrument accurately assesses the intended construct. In this study, it means that all of the items accurately assess Data Literacy and Data Quality constructs.

Besides validity, the reliability of instruments needs to be measured. The reliability can be measured using Cronbach's Alpha value. The Cronbach's Alpha value of the instrument used in this research is 0.944. It means the reliability of this research is excellent and can be used in other research.

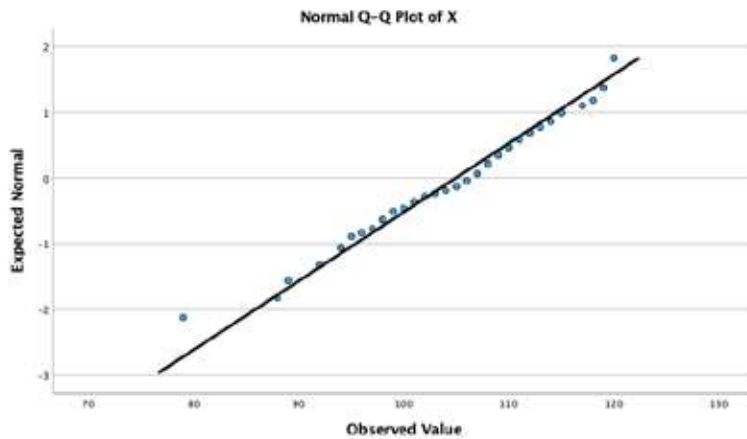
**Table 7**  
**Normality Test**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
X	.084	58	.200*	.972	58	.194
Y	.073	58	.200*	.970	58	.154

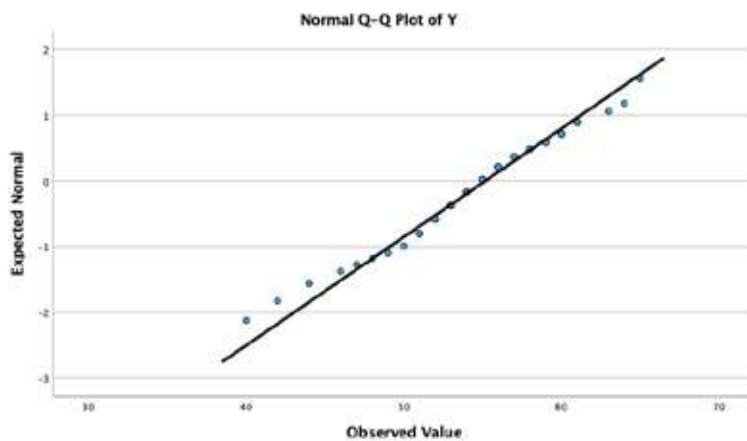
\*. This is a lower bound of the true significance.  
a. Lilliefors Significance Correction

Source: Author Fieldwork, 2022

Two normality tests are used in this research: Kolmogorov-Smirnov and Shapiro Wilk. From Table 7, it can be seen that the significance values in Kolmogorov Smirnov of variable X (Data Literacy) and variable Y (Data Quality) are 0.200, respectively. It means that the data is normally distributed. Similar to Kolmogorov-Smirnov, the Shapiro-Will test value is normally distributed with a significant value of 0.194 for Data Literacy and 0.154 for Data Quality



**Figure 6 Q-Q Plot of X**  
Source: Author Fieldwork, 2022



**Figure 7 Q-Q Plot of Y**  
Source: Author Fieldwork, 2022

From Figure 6 and Figure 7, it can be interpreted that the data that has been tested forms a plot that regularly approaches the diagonal line that is formed. This indicates that the existing data passes the normality test and can proceed to the next test, which is the hypothesis test.

**Table 8**  
**Hypothesis Test**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1010.352	1	1010.352	52.103	<.001 <sup>b</sup>
	Residual	1085.924	56	19.391		
	Total	2096.276	57			
a. Dependent Variable: Y (Data Quality)						
b. Predictors: (Constant), X (Data Literacy)						

Source: Author Fieldwork, 2022

Fitting the model after considering its inaccuracy improves variable prediction. F-ratio higher than 1 yields an efficient model. The above table shows 52.103, which is good. The results of the calculations of linear regression in Table 9 show that the significance



number, or p-value, is less than 0.001. The equation between the independent variables (Data Literacy) and the dependent variable (Data Quality) is statistically significant. It means that variable X, or Data Literacy, is significantly related to variable Y, or Data Quality.

**Table 10**  
**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.694 <sup>a</sup>	.482	.473	4.40358
a. Predictors: (Constant), X (Data Literacy)				

Source: Author Fieldwork, 2022

The  $R^2$  of the model is 0.482. It means that the model is good predictor of dependent variable because Data Literacy explains 48.2% of Data Quality. The rest of 51.8% is affected by another factor. Therefore, the model is satisfactory.

**Table 9**  
**Coefficients Value**

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1 (Constant)	8.868	6.441			1.377	.174
X (Data Literacy)	.441	.061	.694		7.218	<.001

a. Dependent Variable: Y (Data Quality)

Source: Author Fieldwork, 2022

The null hypothesis is rejected if the significance level is less than 0.05. If the significance level is greater than 0.05, then the null hypothesis is not rejected. If a null hypothesis is rejected, it indicates the presence of a significant effect or influence. However, if a null hypothesis fails to be rejected, it indicates the absence of any significant impact. For this situation, the understanding will be as follows. There are significant changes in Data Quality due to Data Literacy because the significance value is less than 0.001. With 1 unit increase in Data Literacy, the Data Quality will increase by 0.441 unit (B value). Therefore, the analysis can be interpreted that Data Literacy has a significant positive relationship with Data Quality.

The dependent variable, "Data Quality," and the items in it are both influenced by the independent variable, "Data Literacy," and the items in it. FAS UB lecturers have a tendency to present data in a less diverse format and refrain from obliging themselves to publish their research on a particular platform. Based on the results of the data processing that has been carried out and comparisons with the specified hypotheses, the existing conditions can be explained as follows: Respondents have a positive tendency towards data literacy, starting

from the stages of data planning, data identification, coverage/scope data, data storage, data protection, data evaluation, data management, and data provision. These results are in line with Carlson et al. (2011) and Koltay (2016). They explained that one of the skills that can be obtained from data literacy skills is the ability to ensure that the data's quality is maintained. In the meantime, Koltay elaborated on how data literacy and data quality are interconnected and dependent upon one another.

### **Conclusion**

According to the results of the variable tests that have been carried out, the existing conditions can be explained as Data Literacy having a significant positive relationship with Data Quality. In addition, FAS UB lecturers plan the method of collecting data that they use in research in advance. Their research data are also consistent and in accordance with the scope of their research topic. With these results, we hope that the research outputs produced by respondents who are members of the FAS academic community can be useful for the research targets that have been determined and are able to help fulfilling the Three Pillars of Higher Education (education, research, and community service).

Among the various ways of providing research data for publications, FAS UB lecturers are deemed necessary to provide data through a particular system. The system is a website, application, or link that can be used openly or with restrictions. This is intended to make it easier for other researchers and the lecturers themselves to read the history of research that has been carried out and to process and reuse the data that has been collected. Existing data can become a valuable organizational memory for future needs.

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