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Data Article

Unveiling insights: A dataset analysis of Islamic quality management systems in educational institutions toward SDG-aligned education



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ABSTRACT

This article presents data derived from a survey conducted to assess the validity and reliability of a newly developed instrument for Quality Management System items in the context of educational institutions. By analyzing the descriptive statistics, a concise overview of the main characteristics of the data set is provided, which facilitates the implementation and interpretation of the newly developed Quality Management System. Considering the need for quality education highlighted in the United Nations Sustainable Development Goals, organizations need to prioritize quality management, which can be achieved through the implementation of Quality Management Systems. The present data set focuses on Islamic Quality Management Systems in Malaysian educational institutions and includes responses from 35 Islamic private elementary school in different states in Malaysia. This dataset covers a wide range of variables relevant to the education sector and provides valuable insights for education stakeholders and curriculum developers. By aligning with the principles of quality education advocated by the SDGs, these

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findings offer significant opportunities to support educators and improve the quality of education.

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Specifications Table

Subject	Business, Management and Decision Science
Specific subject area	Quality, Quality Management System, Islamic Quality Management System
Type of data	Survey Data Table Figure
How data were acquired	The dataset was created by collecting data using a questionnaire. The constructs for the Islamic Quality Management System instruments were developed using Quranic text mining and previous literature. Rubrics were developed from the constructs of the Islamic Quality Management System developed through Quranic text mining. The questionnaires were distributed to Islamic elementary school in Malaysia. Data collection took place from August to October 2023.
Data format	Raw Analyzed Filtered
Description of data collection	The data was collected through a questionnaire distributed to Islamic elementary school in Malaysia. The sample for this data consists of 35 private Islamic elementary school. Missing values were identified and addressed accordingly. All data were considered valid after the missing values.
Data source location	Country: Malaysia
Data accessibility	With the Article, Mendeley Data DOI: 10.17632/53vd6vmn4k.1 data.mendeley.com/datasets/53vd6vmn4k/1

1. Value of the Data

- The data can be used to explain the implementation of the Islamic Quality Management System in Islamic elementary school in Malaysia
- The data can be useful for education stakeholders and curriculum developers, helping them to fully support educators in aligning with the principles of quality education as proposed by the Sustainable Development Goals (SDGs).
- The data can provide an insight into various aspects of the Islamic Quality Management System and how it can be implemented in education, such as leadership, consistency, relationship management, resource management, zero defects, inspection, decision making and some other aspects.
- Using this data, both academics and practitioners in education will find practical examples of how the Islamic Quality Management System can be applied in education and how it can affect the quality of education and the well-being of students.
- This data can be adapted in future studies as the same survey with similar instruments and items can be conducted in other educational institutions, be it primary, secondary or tertiary. And the survey can also be conducted in other geographical regions, especially in countries adopting Islamic cultures in education.

2. Data Description

The items of the questionnaire were divided into 17 constructs. The sample consists of 35 private Islamic schools in Malaysia. IBM SPSS software was used to analyze the sample data. The

Table 1
Descriptive statistics.

	N	Mean	Std. Deviation
	Statistic	Statistic	Statistic
Faith	35.000	4.664	0.621
Engagement of People	35.000	4.543	0.704
Supervision and Support	35.000	4.476	0.678
Knowledge	35.000	4.441	0.757
Improvement	35.000	4.429	0.726
Process Approach	35.000	4.379	0.762
Relationship Management	35.000	4.376	0.803
Sincerity	35.000	4.336	0.731
Discipline	35.000	4.314	0.778
Customer Focus	35.000	4.300	0.731
Leadership	35.000	4.286	0.837
Decision Making	35.000	4.236	0.767
Resource Management	35.000	4.223	0.991
Wisdom	35.000	4.157	0.884
Consistency	35.000	4.127	0.982
Observation/Inspection	35.000	4.000	1.016
Zero Defect	35.000	3.780	0.850

translated items of the questionnaire can be found in Table 2. The original survey was conducted in Bahasa Melayu. The dataset contains the descriptive statistics of the constructs of Islamic Quality Management System in Table 1, the measurement and operationalization of the items in Table 2 and the reliability and validity for the constructs in Table 3.

The source for deriving the question items is the use of Quranic text mining to extract the main constructs. Then the dimensions and items are derived from Quranic text mining and previous literatures. The question items then validated through a focus discussion with experts in the field of Islamic Quality Management System and educational experts. The population is 40 private Islamic elementary school in Malaysia that are registered with MUSLEH. MUSLEH is an organization that focuses on Islamic education from primary to secondary education throughout Malaysia. According to the table provided by Krejcie and Morgan (1970) [1], with a population of 40 schools, the sample should be 36 schools. However, only 35 schools fully responded to the survey after 2 rounds of reminders. The response rate of the sample was 97.2 %.

There are two types of factor analysis: exploratory factor analysis and confirmatory factor analysis. In this study, confirmatory factor analysis was applied. Confirmatory factor analysis was used to assess the reliability and validity of the items using the data collected from private Islamic elementary school affiliated with MUSLEH in Malaysia. This method of analysis assesses whether the number of factors and the relationships between the observable variables are consistent with the theoretical predictions. It is important to examine the validity and reliability of the scale to confirm and understand exactly how the constructs are reflected in the observed variables.

The reliability of an instrument is assessed using various measures, including factor loading, Kaiser-Mayen-Oikin (KMO) score, Bartlett's test score, communalities and Cronbach's alpha. In the calculations for Cronbach's alpha, the average covariance is divided by the average total variance. These ratios, as described by respected researchers such as [2–5] should be above 0.6, while the Bartlett's test for sphericity must provide a significant result, usually reported with values of 0.00 or 0.001 [6]. In addition, the Cronbach's alpha value serves as an important indicator, with values below 0.6 being considered unacceptable, while higher values indicate higher reliability [7].

When the study was conducted, it was found that most of the results exceeded the prescribed minimum thresholds. However, a few dimensions did not meet these criteria, with one instrument falling below the required threshold. In particular, the construct for continuous improvement had KMO and Cronbach's alpha values of 0.500 and 0.581, respectively, which were

Table 2
The measurement and operationalization items.

Construct	Items Code	Items
Zero Defect	ZD 1	Identification of defects in educational institutions
	ZD 2	Correction of works and defects
	ZD 3	Efforts in providing basic knowledge and skills (reading, writing and calculating)
	ZD 4	Data of students with basic knowledge and skills (reading, writing and calculating)
	ZD 5	Identification of skills and abilities
	ZD 6	Discipline records
	ZD 7	Environment and program which emphasizes excellencies values and moralities
Consistency	C 1	Quality audit process internal and external
	C 2	Review of quality policy
	C 3	Quality control process
	C 4	Main goal and objective of institution
	C 5	Disciplinary actions
	C 6	Readiness of adapting technology and digital learning
Observation and Inspection	OI 1	Periodic observation throughout educational process
	OI 2	Top management review the discipline and performance records
	OI 3	The financial performance and report been reviewed periodically
	OI 4	Output records are reviewed and documented
Process Approach	PA 1	Educational process inside institution
	PA 2	Interactive learning and two ways communication in classroom
	PA 3	Implementation of planning with assessment
	PA 4	Alignment of schools' activities with school's objectives and goals
Resource Management	RCM 1	Human resource welfare is managed accordingly
	RCM 2	Explanation about job scope and wages
	RCM 3	The efficiency of resources
	RCM 4	Performance assessment towards human resources
	RCM 5	Working cultures and rules
	RCM 6	Job analysis on skills needed
	RCM 7	Development plans of the institution
	RCM 8	Training module and planning
	RCM 9	School's infrastructures
	RCM 10	Safety elements in the institution
	RCM 11	Working environments
Relationship Management	RLM 1	Motivational drive for seeking additional knowledge and skill
	RLM 2	Good relationship with suppliers
	RLM 3	Good relationship with stakeholders
	RLM 4	Good relationship with MUSLEH
	RLM 5	Complaints and feedbacks
	RLM 6	Good relationship with teachers, parents and students
Engagement of People	EP 1	Teamwork in school's operations
	EP 2	Top management communicates about vision and mission of school
	EP 3	Encourage of constructive criticism, compliments and advice when needed
Wisdom	W 1	Gratitude
	W 2	Communication skills
	W 3	Planning based on facts, data and evidences
	W 4	Reflection process and post mortem
Decision Making	DM 1	Decision making references
	DM 2	*Shura* concept
	DM 3	Justification of decisions upon requested
	DM 4	*Tawakkal* concept

(*continued on next page*)

Table 2 (*continued*)

Construct	Items Code	Items
Knowledge	K 1	Succession plans
	K 2	Curriculum contents
	K 3	Learning cultures
	K 4	Lifelong learning
	K 5	Assessment process in school
	K 6	Assessment outcomes
	K 7	Databases and websites
Supervision and Support	SS 1	Reflection and critiques
	SS 2	Supervision from each unit
	SS 3	Review of work evidences
Customer Focus	CF 1	Information delivered to customers
	CF 2	Provision of services as requested by customers
Leadership	L 1	Leading by example *(Qudwah Hasanah)*
	L 2	Experience, qualifications and skills of top management
	L 3	*Taqwa* concept in leadership
	L 4	Involvement of top management in resource management, welfare, infrastructure, quality and risk management
	L 5	Implementation of the strategic plan by top management
Sincerity	S 1	Sincerity element in school
	S 2	Responsibility element in school
	S 3	Integrity and honesty element in school
	S 4	Confidentiality and work ethics
Discipline	D 1	Self-discipline and *muhasabah*
	D 2	Task-discipline and timeline progress
	D 3	Team-discipline and *amal jamaie*
Faith	F 1	Integrating faith elements in the school's operations
	F 2	Relationship with Allah
	F 3	Relationship with mankind
Improvement	I 1	Improvement of school management
	I 2	Improvement planning on personnel's skills

below the minimum threshold. Although these values are suboptimal, they do not fall into the unacceptable range. The study [8] suggests that values above 0.5 can be considered satisfactory and acceptable.

As for the KMO value, Kaiser originally proposed a baseline criterion of 0.50 for factorability, suggesting that at least one common factor underlies the observed variables [9–11]. Multiple factors may contribute to the observed low scores, with this study attributing the problem to the limited number of items within the continuous improvement construct, which includes only two items. This limitation affects the values of Cronbach's alpha, as alpha tends to increase with the number of items, highlighting its sensitivity to the number of items [12–14]. In addition, a larger number of variables may increase the potential for interrelationships between variables, which may lead to a higher KMO value if these interrelationships are robust.

The construct of continuous improvement, which forms the final section of the questionnaire, contains a limited number of items due to two main considerations. First, the researcher aims to minimize the number of questions to avoid respondent reluctance. Second, the researcher carefully selected appropriate items for inclusion in the construct and reduced them to two items following a rubric format that emphasizes comprehensiveness.

3. Experimental Design, Materials, and Methods

The survey was a cross-sectional study designed to obtain a snapshot of the current state of educational and quality management practices in Islamic elementary school. To develop the questionnaire items, an approach combining the analysis of Quranic text mining with findings from previous literature was used. This ensured that both traditional Islamic teachings and con-

Table 3
The summary of validity and reliability of items.

No.	Dimension	No. of Item	KMO	Cronbach's Value	df	Sig.	Bartlett's Test of Sphericity Approx. Chi Square
1.	Zero Defect	7	0.541	0.720	21	.000	88.410
2.	Consistency	6	0.720	0.841	15	.000	100.626
3.	Observant/Inspection	4	0.715	0.633	6	.001	22.551
4.	Process Approach	4	0.690	0.733	6	.000	33.095
5.	Resource Management	11	0.712	0.873	55	.000	200.441
6.	Relationship Management	6	0.692	0.738	15	.000	46.799
7.	Engagement of People	3	0.612	0.659	3	.001	15.623
8.	Wisdom	4	0.562	0.689	6	.000	31.969
9.	Decision Making	4	0.710	0.749	6	.000	38.189
10.	Knowledge	7	0.718	0.750	21	.000	101.936
11.	Supervision and Support	3	0.642	0.736	3	.000	27.301
12.	Customer Focus	2	0.500	0.711	1	.001	11.805
13.	Leadership	5	0.630	0.673	10	.000	38.145
14.	Sincerity	4	0.564	0.816	6	.000	65.024
15.	Discipline	3	0.733	0.897	3	.000	61.772
16.	Faith	3	0.705	0.816	3	.000	33.060
17.	Improvement	2	0.500	0.581	1	.004	8.281

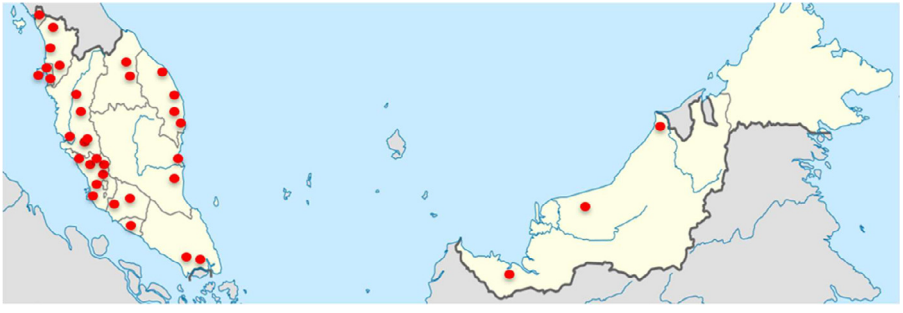


Fig. 1. Schools' location on Malaysian map.

temporary educational principles were considered. The questionnaire was then subjected to a rigorous validation and verification process involving experts from the fields of education and quality management through focused group discussions organized by the researcher. The final questionnaire comprised 78 rubric questions covering 17 constructs relevant to aspects of education and quality management (Fig. 1).

The figure above shows the sample of Islamic private elementary schools that responded to the survey.

This dataset holds considerable potential for various stakeholders. First, researchers and scholars in the field of Islamic quality management can use this dataset to corroborate their findings or extend their studies. They can use the validated tools to conduct further research and thus contribute to the advancement of knowledge in this field. In addition, practitioners and professionals in organizations implementing Islamic Quality Management Systems can benefit from the dataset by using the validated instruments to assess and improve their systems, which in turn will indirectly improve institutional performance. They can optimize the dataset by examining correlations between constructs or conducting longitudinal studies to track changes in quality management practices over time. By sharing this validated dataset with the broader community through publications or online repositories, it can maximize its impact and foster collaboration and innovation in the field of Islamic quality management.

Limitations

Although the survey data can shed light on how the Islamic Quality Management System can be implemented in educational institutions, our data only covers elementary school. We believe that future researchers could further improve the dataset, especially by expanding the population.

Ethics Statement

The authors confirm that we have read and followed the ethical requirements for publication in Data in Brief. Ethical approval from the Institutional Research Board is not required for the study because the study involved only one group of individuals within an organization and the research was approved by the head of the organization's quality department. Each participant was informed that their responses would be included in a research project and consented to this by completing the questionnaire. To protect the privacy of the participants, all data collected was anonymized. Identifying information, such as names and personal details, was replaced by unique codes to ensure confidentiality.

CRediT Author Statement

Nur Hanisfatin Rushami Zien: Writing, Conceptualization, Methodology, Data Analysis. **Nurul Azma Abu Bakar**: Editing, Reviewing. **Rohaizah Saad**: Editing, Reviewing.

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Data Availability

Islamic Quality Management System in Educational Institutions Dataset (Original data) (Mendeley Data).

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Supplementary Materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.dib.2024.110343.

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