



The Impact of Educational Management, E-Learning Teaching, and Institutional Climate on Quality of Education in Indonesia

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Abstract

Quality education is a major driver of growth in a country. This study aims to investigate the effect of educational management, e-learning teaching, and institutional climate on the quality of education in Indonesia. The study adopts a quantitative approach to explore the factors behind the quality of education in Indonesia. The study collected primary data through convenience sampling. A sample of 308 students in Indonesian educational institutes participated in the study. Data were analyzed through structural equation modeling. The findings of the study revealed that there is a significant relationship between educational management and the quality of education in Indonesia. Furthermore, the adoption of e-learning methods plays a significant role in enhancing the quality of education. However, the result showed that institutional climate does not significantly affect the quality of education. The educational departments in Indonesia can utilize the study's findings to formulate and implement strategies that support strong management and adoption of digital technologies.

Keywords

e-learning, institutional climate, educational management, and e-learning teaching.

1. Introduction

All educational institutions' top priority is quality education (Umar & Ismail, 2018). It is the responsibility of educational institutions to enhance the satisfaction

of all education stakeholders, including students. Institutes worldwide are adopting modernized management and teaching methods to increase quality (Wang et al., 2019). Studies have discussed the importance of organizational culture and management in quality enhancement in the education sector. Management in every organization plays a critical role in determining the policies, good decision-making, and implementation of strategies to pursue growth (Tumiran, 2018).

Similarly, providing a strong and collaborative climate that supports faculty commitment and satisfaction of students and teachers within the educational sector is deemed highly significant (OECD, 2017). An organizational climate based on personal needs and goals can increase the organization's performance (Al-Kurdi et al., 2020). As the pandemic changed the landscape of education, e-learning methods became prevalent in education. However, the quality of education can only be improved if e-learning providers are able to meet the requirements of the students through engagement and active participation (Encarnacion et al., 2021).

During the pandemic, Indonesian students were dissatisfied with the quality of education as they did not have sufficient experience with e-learning (Kaunang & Usagawa, 2017). In Indonesia, relevant stakeholders have focused on improving the learning and education system to achieve its development goals. Despite the ongoing efforts, Indonesia must revisit its strategies to achieve better results. It is estimated that 70 percent of children in Indonesia were incapable of demonstrating basic literacy skills on the Program for International Students Assessment 2018 (*The Promise of Education in Indonesia*, 2020). Furthermore, compared to other Asian nations and less-developed countries, Indonesia's progress in quality education has been slower (Purnastuti et al., 2015).

Moreover, higher education in Indonesia is unequal, and the quality of distance education is not up to par, as is an absence of collaboration between teachers and students that has reduced the benefits of e-learning techniques as well as negatively affecting the culture and climate of the organization (Tere et al., 2020). Table 1 shows that Indonesia ranks extremely lower as compared to other countries. The global education rank is calculated by incorporating the enrolment level, quality of education across all levels of education, and the skills of graduates (*The Legatum Prosperity Index, 2021, 2021*).

Table 1 Global Education Rank

Country	Rank
Singapore	1
South Korea	2
Australia	9
Philippines	86
Indonesia	88
India	118

Source: The Legatum Institute

Therefore, it is critical to understand the factors behind quality education to successfully implement effective educational practices and policies in Indonesia. The research objectives of the paper are to determine the effect of educational management on education quality in Indonesia, the impact of e-learning methods on educational quality in Indonesia, and to examine the effect of institutional climate on the quality of education. The research aims to provide effective strategies and practices that can be adopted in the Indonesian educational sector to enhance quality and add to the existing literature on quality education in Indonesia.

The paper is organized by first providing a review of the literature in Chapter 2, which has guided the researcher to develop the relevant hypothesis. Chapter 3 covers the research methodology employed in the paper. The findings are examined in Chapter 4, followed by the discussion of the findings in relation to the objectives of the paper and previous studies.

2. Literature Review

2.1 Quality Education based on Total Quality Management (TQM)

Quality cannot be defined in a unitary concept and is perceived differently per the stakeholders' criteria. Therefore, quality education is referred to as value generation and addition in education, attaining excellence in learning and the achievement of targeted goals, and meeting the demands of the stakeholders of education (Mukhopadhyay, 2020). TQM in the education sector emphasizes attaining and enhancing quality through a collaborative approach that involves different segments of the educational institutes. The educational processes that need to cooperate to build a high-quality system require the joint effort of the management, organization, interpersonal relations, and material resources (Sallis, 2014). The purpose of applying TQM is to achieve long-term goals of meeting the customers' needs and improving an organization's services (Dahlgaard et al., 1995). A collaborative and innovative system built on the active participation of the employees and students and continuous improvements results in a strong educational culture that satisfies all the concerned stakeholders (Sahney et al., 2004). The elements for a successful introduction of total quality management in educational institutions include the activities of the management, the monitoring of the process, the culture of an organization, and the atmosphere of the educational institutions with a focus on interpersonal relationships (Ravindran & Kamaravel, 2016). If an educational institution is willing to significantly improve and add value to the education system, the guiding tenet of the TQM provides the grounding support to achieve higher quality (Sallis, 2014). The use of TQM theory in education has been extensive and attracted multiple practitioners and theorists. Numerous studies have been conducted to assess the quality of education based on TQM, considering the participation of management, a collaborative environment, strategic planning, a process-oriented approach, and continuous improvement (Sfakianaki, 2019; Taahyadin & Daud, 2018). Therefore, the TQM is used as the grounding philosophy in this study.

2.2 Educational Management

Management is defined as the collection of processes that involve planning, developing, managing, and coordinating physical and human capital to accomplish the goals and objectives of the organization (Tumiran, 2018). The achievement of goals depends on efficient and effective planning and organization by the management. Similarly, in the education sector, the task of management is to implement effective strategies and formulate effective policies for a high-quality education system. It involves strategic decision-making and supervising the resources to achieve educational goals (Reid et al., 2020). Strong educational management that is accountable and transparent is linked with the development of students' personalities and allows the efficient working of the institution to achieve its goals (Spence, 2019). It is stated that to improve education equality, all relevant management must put in a combined effort (Mukhopadhyay, 2020). The management can utilize an empowering strategy as an effective tool to implement policies to enhance quality through improvements in curricula and programs (Romlah et al., 2021). Educational management focuses on improvement and devises new, improvised policies which play a significant role in different elements such as the quality of learning, curriculum, education personnel, and services, including teaching material (Kartini & Kristiawan, 2019). While research has highlighted the importance of good educational management for quality improvement, critics also point out that strict and uncreative management structures can hinder growth in education (Lumby, 2019). Therefore, strong and effective management with good governance can help provide a better learning environment and positively impact student achievement (Sabas & Mokaya, 2015). The following hypothesis is proposed as a result of the literature review:

H1: Educational Management has a significant impact on the quality of education

2.2 Institutional Climate

The approach and manner in which the organization conducts its operations involving the environment and employees make up the institutional climate (Hershberger et al., 1994), and the quality of relationships between the individuals at the educational institution, the collaboration between staff and the support provided in the institution (Collie et al., 2012). As per the principles defined by Moos and Moos (1978), the institutional climate incorporates the goal orientation towards educational excellence, the interpersonal relationships within the school, and the understanding of supported behavior (Moos & Moos, 1978; Shanker et al., 2017). The organizational climate is based on the organization's norms and guides the employees' demeanor. Many studies have assessed the impact of institutional climate on the organization's performance, including the influence on student achievement, the satisfaction of employees and students, and work productivity (Lee et al., 2017). The institutional climate is significantly impacting students' academic achievement (Shanker et al., 2017). A strong and positive institutional

climate affects teachers' performance, productivity, and motivation (Syahril & Hadiyanto, 2018). A positive school climate is linked with high engagement among students, which improves their learning abilities and skills, leading to an improved educational experience; therefore, the following hypothesis is proposed:

H2: Institutional climate has a significant impact on the quality of education

2.3 E-learning Methods

With the adoption of digital technologies in education during the pandemic, the concept of e-learning became more popular than ever. It opened new doors for high-quality and accessible education for all (Nurmukhametov et al., 2015). E-learning learning methods are innovative web-based systems based on electronic and digital technologies (Rodrigues et al., 2019). The goal of the adoption of e-learning methods is to support an interactive and collaborative learning environment for the students. Furthermore, research has highlighted that e-learning techniques can be used to align the resources of educational institutes, both human and physical, to meet the objectives (Chow & Croxton, 2017). Studies have found that by adopting and implementing e-learning platforms, the quality of courses improves and provides students with a better learning process (Oproiu, 2015). However, for the successful adoption of e-learning to enhance quality, students and teachers must be efficient in the utilization of technology (Salehudin et al., 2021). Dron and Anderson (2016) discussed the importance of e-learning in education for future generations. They argue that e-learning is a student-centered approach that can be applied socially and technically to enhance learning and the quality of education. E-learning is becoming more integrated and authentic, which can change the education landscape (Dron & Anderson, 2016). Furthermore, e-learning improves the quality of practical training and supports knowledge sharing and transfer leading to higher quality in the education system (Oproiu, 2015). As per the existing literature, the following hypothesis has been formulated for the two variables:

H3: E-Learning methods have a significant impact on the quality of education

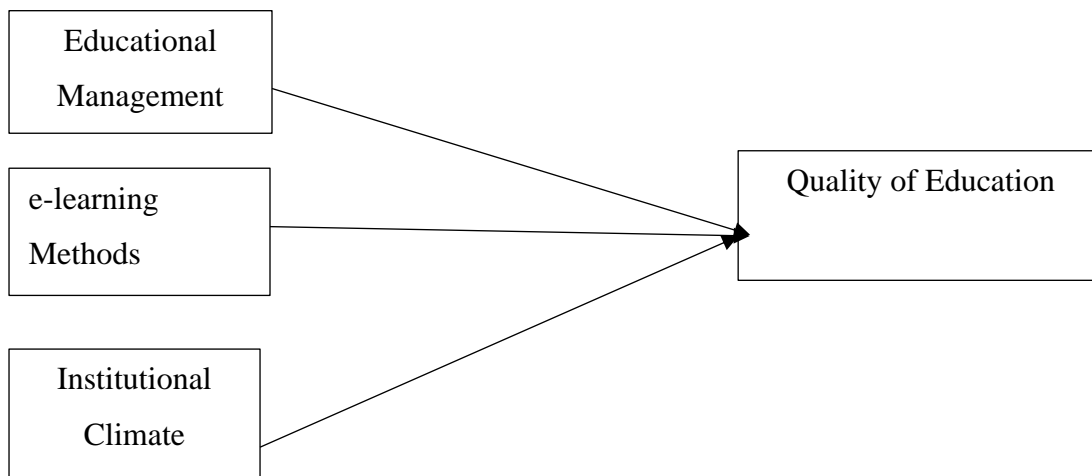


Figure 1 Theoretical Framework

3. Method

The research methodology is carefully designed in terms of the aim and objectives of our study. The data was data collected from students in Indonesian educational institutions. The students were enrolled in Intermediate, Bachelor, Master, or any other degree program. The data collection process comprised a survey-based approach and adopted a quantitative research method. The survey questionnaire was designed to collect data from the students through convenience sampling in Indonesian educational institutions. The first section of the survey collected the participants' demographic details. The second portion of the survey included questions on the constructs in the study, education quality, educational management, e-learning methods, and institutional climate. The questionnaire was designed using a five-point Likert scale. The questionnaire was distributed to 330 students. Data were analyzed using SPSS and AMOS v.24 for structural equation modeling (SEM).

3.1 Questionnaire Design

A survey-based method in quantitative research design is extensively applied to acquire a large sample of data to be collected from a target population and deemed suitable. Likert-scale questionnaires for data collection in research are widely used; hence, this study adopted the same questionnaire design. Comprehensive research on the variables aided the development of the questionnaire for data analysis. After a comprehensive process of reviewing various relevant research articles, the items and scale were selected. Seven items were selected to measure education quality, and the instrument was adopted from the literature (Grammatikopoulos et al., 2015). Five items were chosen to measure e-learning methods (Keshavarz et al., 2022). Five items were chosen for institutional climate from the existing scale (Syahril & Hadiyanto, 2018). Lastly, seven items were used to measure educational management (Purwadhi, 2019). After thorough consideration and useful remarks from the experts, the questionnaire was compiled using scales finalized from these widely referenced articles.

3.2 Data Collection Process

The target population of this study is students in Indonesian educational institutes. Convenience sampling is utilized to collect data from the target population. The study's objectives were explained to the educational management and students. The researcher guided the students in completing the questionnaire and was allowed to raise any concerns regarding the questions. Participants were informed about the confidentiality of their data, and the researcher took informed consent. A total of 330 questionnaires were distributed to Indonesian educational institutions. Out of the 330 questionnaires, the researcher had to discard 22 due to incomplete data.

4. Results

4.1 Respondents' Demographic

The data was collected from students currently enrolled in Indonesian educational institutes. Out of 308 respondents, 176 male students and 148 female students responded with a percentage of 54% and 46%, respectively. 32% of the respondents were below the age of 25, whereas 40% of the respondents were within the age group of 26-30. 23% of the respondents fall under the age range of 31 to 35. Only 12 students were enrolled in another degree program.

Similarly, data was collected for the degree program of these students. Out of 324 students, 157 are enrolled in a bachelor program, with a percentage of 49%. 23% of the respondents comprise intermediate students. Master students represent 25% of the student sample surveyed. Twelve students, 4% of the total responses, were enrolled in another degree program.

4.2 Validity, Reliability, and Measurement Model Tests

Table 2 shows the results of both validity tests. The table results show that the threshold of AVE is > 0.5 ; therefore, we can conclude that there is adequate convergence as the AVE values are above 0.5. Correspondingly, constructs were observed to be discrete in terms of divergent validity. The MSV values were lower than the AVE scores; consequently, good discriminant validity was founded.

Table 2 Discriminant and convergent validity

	CR	AVE	MSV	EDM	INSC	ELT	EDQ
EDM	0.787	0.749	0.325	0.891			
INSC	0.812	0.743	0.498	0.882	0.780		
ELT	0.802	0.819	0.391	0.780	0.722	0.835	
EDQ	0.759	0.695	0.449	0.704	0.673	0.718	0.714

EDM= Education management, INSC= Institutional climate, ELT= E-Learning teaching, EDQ= Educational quality

Table 3 represents the test results for KMO and Barlett's Test. The p-value for Barlett's Test of Sphericity is less than 0.05, confirming enough correlations for factor analysis. The results confirmed that the sample is adequate as the value is above 0.6.

Table 3 KMO and Barlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.963
Bartlett's Test of Sphericity	Approx. Chi-Square	13974.043
	Df	276
	Sig.	.000

4.3 Descriptive Results

Descriptive statistics, including the data for normality and outliers, are shown in Table 4. The results show that data is normally distributed and there is no outlier in the data.

Table 4 Descriptive Variables

	N	Min	Max	Mean	SD	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
EDM	308	1.00	5.00	3.2542	1.04918	-.355	.139
INSC	308	1.00	5.00	3.3188	1.20899	-.279	.139
ELT	308	1.00	5.00	3.2935	1.15883	-.258	.139
EDQ	308	1.00	5.00	3.3307	.97419	-.248	.139
Valid N (listwise)	308						

EDM= Education management, INSC= Institutional climate, ELT= E-Learning teaching, EDQ= Educational Quality

4.4 Model Fitness

The Confirmatory Factor Analysis was conducted to validate the structure of the factors in our study. The results are shown in Table 5, which shows that the IFI value is 0.944 and the CFI value is 0.991. Both values are greater than 0.90, and the RMSEA value is 0.06, less than 0.08. The values of CFA indicators confirmed that the model developed is fit and precise.

Table 5 Confirmatory Factor Analysis

CFA Indicators	CMIN/DF	GFI	IFI	CFI	RMSEA
Threshold Value	≤ 3	≥ 0.80	≥ 0.90	≥ 0.90	≤ 0.08
Observed Value	1.472	0.731	0.944	0.991	0.060

Figure 2 displays the confirmatory factor analysis model for specifying the relationship between the latent factors and their observed variables.

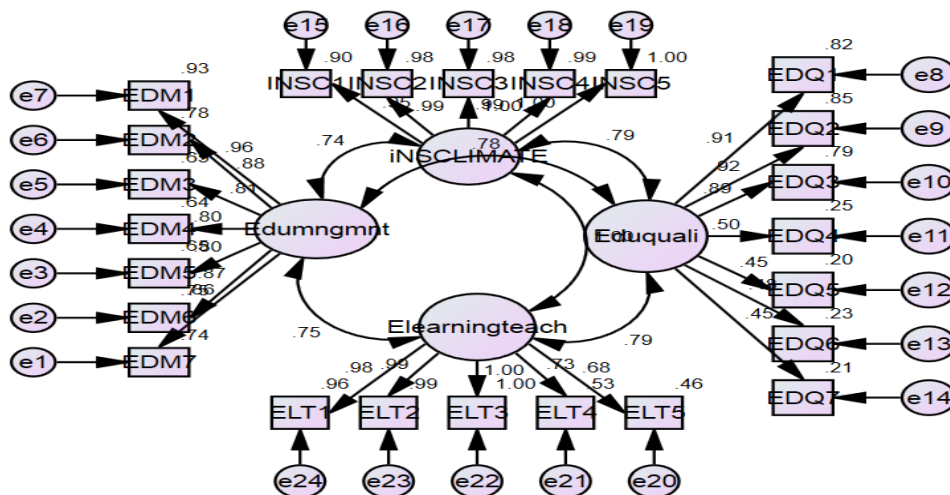


Figure 2 Measurement Model

4.5 Rotated Component Matrix

Table 6 shows that the values of the matrix are between the range of 0.60 to 0.90 and no variable has more than one significant cross-loading. Every item indicates each construct well, EDM, INSC, ELT, and EDQ.

Table 6 Rotated Component Matrix

	Component			
	1	2	3	4
EDM1		.795		
EDM2		.772		
EDM3		.726		
EDM4		.698		
EDM5		.701		
EDM6		.822		
EDM7		.821		
INSC1	.839			
INSC2	.853			
INSC3	.852			
INSC4	.845			
INSC5	.849			
ELT1			.845	
ELT2			.844	
ELT3			.849	
ELT4			.764	
ELT5			.783	
EDQ1				.786
EDQ2				.777
EDQ3				.764
EDQ4				.822
EDQ5				.819
EDQ6				.814
EDQ7				.817

4.6 Structural Equation Modelling (SEM)

Structural equation modeling is carried out to test the hypotheses proposed in the study, which is useful and robust in analyzing multivariate casual relationships. The results of the SEM are presented in Table 7. The first hypothesis measured the educational management impact on the quality of education. The hypothesis is accepted as $p < 0.05$ and the association is positive. A unit increase in education management will increase educational quality by 14.4%. The second

hypothesis tested the association between institutional climate and educational quality. Table 7 indicates that the hypothesis will be rejected as $p=0.83$ and $p>0.05$. Quality of education is significantly affected by e-learning techniques, as evidenced by $p=0.02$, $p<0.05$. A unit increase in e-learning techniques will increase educational quality by 16.4%. Thus, hypothesis 3 is accepted as well.

Table 7 Structural Equation Modelling

Effects	Hypothesized Path	B	S.E	P value	Conclusion
<u>Direct Effects</u>					
Hypothesis 1	EDM→ EDQ	.144	.048	0.01	Accepted
Hypothesis 2	INSC→ EDQ	-.248	.088	0.83	Rejected
Hypothesis 3	ELT→ EDQ	.164	.050	0.02	Accepted

EDM= Education management, INSC= Institutional climate, ELT= E-Learning teaching, EDQ= Educational quality

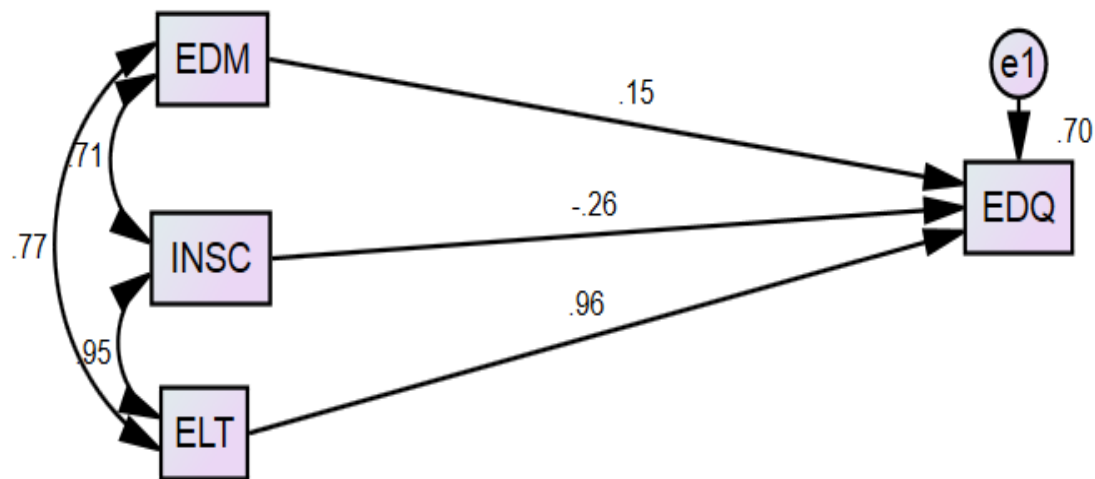


Figure 3 Structural Equation Modelling

5. Discussion and Conclusion

The research aimed to evaluate the factors that influence the quality of education in Indonesia. The study's findings showed that educational management plays a significant role in enhancing the quality of education. Similarly, a study on management and leadership in the education sector states that managers and leaders are responsible for providing innovative solutions that enhance the educational institution's quality (Sauphayana, 2021). Collaboration with institutional stakeholders and engagement with educational personnel can establish a high-quality institution. Educational management revamped the policies and regulations in Indonesia, which resulted in the improvement of school participation and increased effectiveness of decision-making (Damanik & Aldridge, 2017). Another study elaborated that management practices such as fostering partnerships with stakeholders, increasing the welfare of teachers, motivating students to participate in extracurricular programs and assessing the learning

hours, and building students' character are gaining popularity in Indonesia to enhance the quality of education (Jawas, 2017). However, the lack of implementation of strong management within educational institutions results in poor academic performance (Bandur, 2018). Educational management must be efficient within the government and the schools (Sofa et al., 2012). A lack of skilled management in schools negatively affects effective decision-making and participation. Likewise, supportive and effective management in educational institutions plays a role in the planning and implementation of strategies (OECD, 2017). The second hypothesis of this study evaluated the role of institutional climate on quality of education. The study found that there is no significant association between the two variables. Existing literature has elaborated that institutional climate plays a major role in improving the quality of education (Syahril & Hadiyanto, 2018). The Organization of Economic Cooperation and Development evaluated the performance of various schools and found that organizational climate was the main factor that caused the difference in educational institution performance (OECD, 2017).

On the other hand, few studies have found no significant relationship between the school climate and the quality of education or a negative relation between the two (Bear et al., 2014; Boulifa & Kaaouachi, 2015). Our study revealed a significant impact of e-learning methods on the quality of education. Similarly, studies have shown that the adoption of digital technologies in education is to improve the learning experience for both the teachers and students and transform the teaching methods leading to an improvement in the quality of education (Tarman, 2016; Tarman & Chigisheva, 2017). A study conducted in Saudi Arabia revealed that collaboration between students and instructors has improved due to the implementation of e-learning methods which has improved educational performance as a whole (Alhabeeb & Rowley, 2017).

The study has confirmed the significance of adopting e-learning methods and effective educational management to improve the quality of education. The study provides insightful information for utilization by the educational department in Indonesia and the faculty and students in Indonesian educational institutions. Innovation in the educational system should be focused on to enhance quality. The study has only considered students in Indonesian educational institutions; therefore, the findings cannot be generalized to other countries. Future research can use a qualitative or mixed-method design to explore the associations, and other elements, such as teachers' education, can be considered to evaluate the quality of education.

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