

MADURA'S LOCAL WISDOM-BASED PEDAGOGICAL PROJECT MANAGEMENT: THE ROLE OF TRADITIONAL VALUES IN EDUCATION SYSTEM DEVELOPMENT

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Abstract

Integrating local wisdom into education systems is crucial for preserving cultural identity and enhancing educational quality in the modern era. Madura Island possesses traditional values potentially applicable to pedagogical project management. However, the effective utilization of these values in contemporary pedagogical project management remains poorly understood. Existing research predominantly focuses on specific aspects of the curriculum or teaching methods, such as integrating cultural values into learning materials, employing local wisdom-based teaching methods, and adopting learning approaches contextual to Madurese culture. Still, there is a noticeable gap in the literature regarding how Madurese local wisdom values can be systematically operationalized in education project management, including planning processes that involve local stakeholders, implementation that respects local customs, and evaluation methods rooted in local values. To explore how Madurese cultural values can be effectively utilized in pedagogical project management to create a more in-depth and contextually relevant approach, this study employed a mixed-method approach with a sequential explanatory design. The first phase involved a quantitative survey of 230 education stakeholders in Madura using Structural Equation Modeling (SEM). The second phase included in-depth interviews and participatory observations in five schools, analyzed using NVivo 14. SEM

results revealed a significant positive relationship between the integration of Madurese local wisdom values and pedagogical project management effectiveness. Qualitative analysis showed these values strengthen decision-making structures and community commitment to educational projects. This research demonstrates that incorporating Madurese local wisdom values can enhance pedagogical project management effectiveness, making an important contribution to developing a contextualized and sustainable pedagogical project management model. This model has potential applications across various cultural contexts in Indonesia and globally. By adopting this model, education in Madura is expected to be not only more effective but also rich with local cultural values, creating a deep and meaningful learning experience for students.

Mengintegrasikan kearifan lokal ke dalam sistem pendidikan sangat penting untuk menjaga identitas budaya dan meningkatkan kualitas pendidikan di era modern. Pulau Madura memiliki nilai-nilai tradisional yang berpotensi diterapkan dalam manajemen proyek pedagogis. Namun, pemanfaatan nilai-nilai tersebut secara efektif dalam manajemen proyek pedagogis kontemporer masih kurang dipahami. Penelitian yang ada sebagian besar berfokus pada aspek-aspek spesifik kurikulum atau metode pengajaran, seperti mengintegrasikan nilai-nilai budaya ke dalam materi pembelajaran, menerapkan metode pengajaran berbasis kearifan lokal, dan mengadopsi pendekatan pembelajaran yang kontekstual dengan budaya Madura. Meski begitu, terdapat kesenjangan yang mencolok dalam literatur terkait bagaimana nilai-nilai kearifan lokal Madura dapat dioperasionalkan secara sistematis dalam manajemen proyek pendidikan, termasuk proses perencanaan yang melibatkan pemangku kepentingan lokal, pelaksanaan yang menghormati adat setempat, dan metode evaluasi yang berakar pada nilai-nilai lokal. Untuk mengeksplorasi bagaimana nilai-nilai budaya Madura dapat dimanfaatkan secara efektif dalam manajemen proyek pedagogis guna menciptakan pendekatan yang lebih mendalam dan relevan secara kontekstual, penelitian ini menggunakan pendekatan metode campuran dengan desain eksplanatori berurutan. Tahap pertama melibatkan survei kuantitatif terhadap 230 pemangku kepentingan pendidikan di Madura menggunakan Structural Equation Modeling (SEM). Tahap kedua mencakup wawancara mendalam dan observasi partisipatif di lima sekolah, yang dianalisis menggunakan NVivo 14. Hasil SEM mengungkapkan adanya hubungan positif yang signifikan antara integrasi nilai-nilai kearifan lokal Madura dan efektivitas manajemen proyek pedagogis. Analisis kualitatif menunjukkan bahwa nilai-nilai ini memperkuat struktur pengambilan keputusan dan komitmen masyarakat terhadap proyek pendidikan. Penelitian ini menunjukkan bahwa mengintegrasikan nilai-nilai kearifan lokal Madura dapat meningkatkan efektivitas manajemen proyek pedagogis, memberikan kontribusi penting dalam pengembangan model manajemen proyek pedagogis yang kontekstual dan berkelanjutan. Model ini memiliki potensi penerapan di berbagai konteks budaya di Indonesia dan secara global. Dengan mengadopsi model ini, pendidikan di Madura diharapkan tidak

hanya lebih efektif tetapi juga kaya akan nilai-nilai budaya lokal, menciptakan pengalaman belajar yang mendalam dan bermakna bagi siswa.

Keywords: *Cultural Integration, Education Project Management, Madurese Local Wisdom*

Introduction

Entering the era of globalization, the importance of preserving and integrating local wisdom into the education system is increasingly recognized as a key strategy for maintaining cultural identity while enhancing the quality of education (Sandoval-Rivera, 2020). Indonesia, with its diverse cultural wealth, has significant potential to develop educational models rooted in traditional values. Madura Island, as one of the regions with a strong cultural heritage, offers a unique perspective on the development of local wisdom-based education (Abroriy, 2020).

Madurese local wisdom, reflected in various aspects of the lives of its people, has proven to contain noble values that are relevant to modern education. Concepts such as “abhantal shahadat, asapo’ iman, apajung Allah” (pillowed by the Shahada, blanketed by faith, and sheltered by Allah) describe a philosophy of life that emphasizes the importance of spirituality and ethics in daily life (Hefni, 2013). These values have the potential to be integrated into education project management, creating a more holistic and contextualized approach.

Several schools have integrated local wisdom into their education curriculum (Widodo & Priyanto, 2022). It is based on the belief that local wisdom values are recognized as foundational elements for individual and community growth (Prihatmojo et al., 2024). However, efforts to integrate local wisdom into the formal education system still face several challenges. A lack of understanding of how to operationalize traditional values in the context of modern education project management is often a major obstacle (Muslim & Kawakip, 2022). In addition, the pressure to adopt global education models without considering the local context can threaten the sustainability and relevance of the education system for local communities (Hernawan et al., 2021).

Previous research has highlighted the importance of integrating local wisdom into education project management. Sumarni et al. (2020) explored the effectiveness of a local wisdom-based learning model in Central Java, finding that this approach improved students’ conceptual understanding and problem-

education. It produces graduates who possess not only academic knowledge but also strong character and a solid cultural identity (Marwiyah, 2020).

Madurese local wisdom values that can serve as concrete examples include “Buppa’, Babbu’, Guru, Rato” (Father, Mother, Teacher, King). This expression reflects a traditional hierarchy of respect and authority in Madurese culture, emphasizing the importance of honoring parents, teachers, and leaders. Another example is “Ajjâ’ ajjârèng pote tolang, etembang pote mata” (Better to lose white bones than to lose white eyes), which reflects the Madurese people’s strong values of honor, dignity, and courage.

Existing research predominantly focuses on specific aspects of the curriculum or teaching methods, such as integrating cultural values into learning materials, employing local wisdom-based teaching methods, and adopting learning approaches contextual to Madurese culture. However, there is a noticeable gap in the literature regarding how Madurese local wisdom values can be systematically operationalized in education project management, including planning processes that involve local stakeholders, implementation that respects local customs, and evaluation methods rooted in local values (Sukadari et al., 2023). Addressing this gap could provide deeper insights into creating more culturally relevant and effective education management strategies, thereby facilitating the comprehensive incorporation of local wisdom across various aspects of education management.

The importance of management aspects in education projects cannot be overlooked. Good planning ensures that education projects are in line with local needs and contexts, effective implementation ensures that educational goals are achieved by optimally utilizing local resources, and comprehensive evaluation ensures that projects have the expected impact and can be improved for the future. Thus, integrating Madurese local wisdom values in education project management can provide a more holistic and relevant framework for improving the quality of education in the area.

The novelty of this study lies in its attempt to develop an education project management model that comprehensively integrates Madurese traditional values into each phase of the project. By developing a model that systematically incorporates these values, this study seeks to fill gaps in existing research, which often focuses narrowly on curriculum or teaching methods without addressing a holistic management approach. The findings are expected to contribute to a more contextualized and sustainable education management model in Madura, offer insights for similar initiatives in other parts of Indonesia, and

solving skills. In South Sulawesi, Nurjannah and Alfian (2021) demonstrated that integrating Bugis-Makassar cultural values into the school curriculum led to significant improvements in student engagement and academic achievement. Meanwhile, Widodo and Hastuti (2022) conducted a comparative study in three provinces in Indonesia, revealing that schools adopting local wisdom-based management practices showed higher levels of program sustainability and stronger community-school relationships. In addition, Astuti (2024) also highlights the importance of local values in enhancing character development and leadership skills.

In the context of Madura, Fauzi et al. (2023) analyzed the implementation of pesantren values in public school management, finding improvements in student discipline and teacher work ethic. Furthermore, Hasan (2020) also noted that the integration between Madurese local culture and Islamic principles into the education context enhances character development and promotes a positive social environment. At the international level, Gómez-Zermeno (2020) conducted a study in Mexico, revealing that educational projects integrating indigenous peoples' traditional knowledge resulted in higher levels of community participation and better learning outcomes. Similarly, Nakashima and Krupnik (2018), in their research in Alaska, demonstrated that integrating traditional ecological knowledge into the science curriculum can enhance the relevance of education for indigenous students. While these studies provide valuable insights, gaps remain in understanding how Madurese indigenous values can be systematically operationalized throughout the entire education project management cycle, from planning to evaluation.

Recent research has also shown that a local wisdom-based approach to education management can enhance the effectiveness and sustainability of education projects (Latifah et al., 2023). A study conducted by Azizah and Widjajanti (2022) in East Java demonstrated how integrating local values into the curriculum and school management can improve students' learning motivation and community involvement in education. These findings suggest that incorporating traditional values not only enriches the educational experience but also fosters stronger connections between schools and their communities.

In the context of Madura, several initiatives have demonstrated the potential of using local wisdom in educational development. For example, the "Pesantren Based on Local Wisdom" program, implemented in several boarding schools in Madura, has successfully combined traditional values with modern

enrich the global discourse on culture-based education development.

Method

This research adopts a mixed-method approach with an explanatory sequential design, combining quantitative and qualitative methods to gain a deeper understanding of the phenomenon under study (Creswell & Creswell, 2022). The first phase involved a quantitative survey of 250 education stakeholders in Madura at the junior and senior secondary school levels, including principals, teachers, school committees, and local education officials. A stratified random sampling technique was used to ensure fair representation from the four districts in Madura (Ethics, 2017). The survey instrument was developed based on the validated Cultural Values Scale (CVS) (Yoo et al., 2011) and adapted to the Madurese context. Quantitative data were analyzed using Structural Equation Modeling (SEM) to identify the relationships between local wisdom variables and elements of education project management (Hair, 2019).

The second phase involved collecting qualitative data through semi-structured, in-depth interviews with 20 key informants selected via purposive sampling (Patton, 2022). Informants included traditional leaders, religious leaders, education practitioners, and academics with expertise in Madurese culture and education management. Interviews were conducted both face-to-face and online, following protocols developed based on the results of the quantitative analysis (Brinkmann, 2012). Additionally, participatory observations were carried out in five schools selected based on specific criteria to observe the application of local wisdom values in education project management practices (Merriam, 2016).

Qualitative data were analyzed using a thematic analysis approach with NVivo 14 software to identify emerging patterns and themes (Braun & Clarke, 2012). To enhance credibility, data and method triangulation were performed, along with member checking with key informants (Miles & Jozefowicz, 2010). Furthermore, the results of the quantitative and qualitative analyses were integrated using the joint display technique to provide a comprehensive understanding of the phenomenon under study (Guetterman et al., 2015).

Ethical considerations were of paramount importance, with approval obtained from the university ethics committee and informed consent secured from all participants. Data confidentiality was maintained through the use of pseudonyms and secure storage, in compliance with GDPR (General Data Protection Regulation) guidelines (Osterman Research, 2017). To address

potential researcher bias, critical reflexivity and peer debriefing were conducted with an independent research team (Ratnaningtyas, 2022).

The validity and reliability of the study were strengthened through pilot testing of the survey instrument and the use of inter-rater reliability in qualitative analysis (Tashakkori & Teddlie, 2002). Additionally, the mixed-method approach was employed to enhance construct validity and provide a more comprehensive understanding of the findings. Sensitivity analysis was also conducted to test the robustness of the quantitative results (Venkatesh et al., 2016).

The study's validity and reliability were enhanced through pilot testing of the survey instrument, inter-rater reliability in qualitative analysis, and mixed methods to strengthen construct validity. The survey was developed based on a comprehensive literature review and expert consultations to ensure content validity. It was then pilot-tested on a sample similar to the target population to assess question clarity, ease of understanding, and survey length. Feedback and statistical analysis, including Cronbach's alpha, identified issues such as ambiguous questions and response options. Necessary revisions were made to refine the survey, ensuring it accurately measured the intended constructs and was user-friendly. This process improved the quality of the data collected for the main study.

Findings and Discussion

This study aims to explore how Madurese cultural values can be effectively utilized in pedagogical project management, particularly within educational institutions that emphasize both local wisdom and systematic instructional planning. By investigating how these values intersect with modern pedagogical frameworks, the research seeks to identify strategies for culturally grounded and community-relevant education project planning.

Research Findings

To develop a more in-depth and contextually relevant understanding, this study employed a mixed-method approach with a sequential explanatory design, beginning with quantitative data collection and analysis followed by qualitative exploration. This methodological framework allows for the initial identification of patterns and relationships through statistical analysis, which are then enriched and interpreted through qualitative insights. The combination of both methods ensures a more comprehensive picture of how Madurese local

wisdom influences the effectiveness of pedagogical project management.

Quantitative Analysis

In this study, various statistical methods were used to analyze the relationship between the integration of Madurese local wisdom values and the effectiveness of pedagogical project management. A descriptive analysis was conducted to summarize key aspects of the collected data. Of the 250 respondents contacted, 230 provided valid responses, resulting in a high response rate of 92%. This strong participation enhances the validity of the research findings by ensuring good representation of the population under study.

Table 1. Descriptive Statistics of Respondents

Category	Number of Respondents	Percentage (%)
Total Sample	250	100
Active Respondents	230	92
Inactive Respondents	20	8

Structural Equation Modeling (SEM) was used to analyze the relationship between the integration of Madurese local wisdom values and the effectiveness of education project management. The results showed a path coefficient (β) of 0.68 with a p value <0.001 , indicating a significant positive relationship. The level of model fit was also high with CFI of 0.95 and RMSEA of 0.05, indicating that the SEM model used was very good at representing the data.

Table 2. Structural Equation Modeling Results

Free Variable	β (Path Coefficient)	Significance (p)	CFI	RMSEA
Integration of Madurese Local Wisdom	0.68	< 0.001	0.95	0.05

Correlations between local wisdom dimensions and project management elements were analyzed using SPSS. The results show that each dimension of local wisdom has a significant positive correlation with the elements of project management, namely planning, implementation, and evaluation. For example, the value of “Bhuppa’-Bhabhu’-Ghuru-Rato” has a very strong correlation with project planning ($r = 0.72, p < 0.01$).

Table 3. Correlation between Local Wisdom and Project Management Elements

Dimensions of Local Wisdom	Planning (r)	Implementation (r)	Evaluation (r)
<i>Bhuppa'-Bhabhu'-Ghuru-Rato</i>	0.72**	0.65**	0.58**
Abhantal shahadat, asapo' iman	0.68**	0.70**	0.63**
Rampa' naong beringin korong	0.61**	0.73**	0.69**
** p < 0.01			

Confirmatory factor analysis was conducted to identify the most influential dimensions of Madurese local wisdom in education project management. The three main values found were: “*Bhuppa'-Bhabhu'-Ghuru-Rato*”, “*Abhantal syahadat, asapo' iman*”, and “*Rampa' naong beringin korong*”. The factor loadings for these three dimensions were 0.85, 0.82, and 0.79 respectively, indicating that these three values have significant contributions in the model.

Table 4. Confirmatory Factor Analysis Results

Dimensions of Local Wisdom	Factor Loading
<i>Bhuppa'-Bhabhu'-Ghuru-Rato</i>	0.85
<i>Abhantal shahadat, asapo' iman</i>	0.82
<i>Rampa' naong beringin korong</i>	0.79

Sub-group analysis was conducted to compare the effectiveness of local wisdom integration between schools in rural and urban areas in Madura. The results show that schools in rural areas are more effective in integrating local wisdom values compared to schools in urban areas. The mean integration of local wisdom for schools in rural areas is 4.2, while in urban areas it is 3.8. This difference is statistically significant with a t-value of 3.45 and $p < 0.01$.

Table 5. Sub-Group Analysis

School Location	Mean Integration of Local Wisdom	t-value	p-value
Rural	4.2	3.45	< 0.01
Urban	3.8		

To ensure the reliability and validity of the research results, a reliability analysis was conducted. Cohen's kappa value of 0.85 indicates a very strong level of agreement between researchers in qualitative analysis. In addition, Cronbach's alpha of 0.88 indicates that the local wisdom scale used has high internal reliability, so it can be trusted and consistent in its measurement.

Table 6. Validity and Reliability

Measurement	Value
Inter-rater reliability (Cohen’s kappa)	0.85
Internal reliability (Cronbach’s alpha)	0.88

The analysis indicates that the integration of Madurese local wisdom values significantly enhances the effectiveness of education project management. Values such as *Bhuppa’-Bhabhu’-Ghuru-Rato*, *Abhantal Syahadat*, *Asapo’ Iman*, and *Rampa’ Naong Beringin Korong* play vital roles at every stage of project management, from planning to evaluation. Schools in rural areas showed a greater ability to incorporate these values compared to those in urban areas. These findings are supported by robust SEM analysis and the high validity of the measurement instruments used.

Qualitative Analysis

The qualitative analysis, based on in-depth interviews with 20 key informants and participatory observations in five schools in Madura, yielded rich and detailed findings. The main themes that emerged from the thematic analysis can be grouped into three broad categories: the implementation of local wisdom values, challenges in implementation, and the impact on the effectiveness of education projects. These findings highlight both the potential benefits and obstacles of integrating cultural values into education management.

In terms of the implementation of local wisdom values, the “*Bhuppa’-Bhabhu’-Ghuru-Rato*” principle (hierarchy of respect) significantly influenced the decision-making structure of education projects. Eighteen out of 20 informants (90%) emphasized that applying this principle improved efficiency in decision-making and community acceptance of the projects. A school principal said, “By applying *Bhuppa’-Bhabhu’-Ghuru-Rato*, we were able to mobilize support from different layers of the community more quickly and effectively.” Observations in three of the five schools showed that project meetings where this principle was applied were 30% faster and achieved a higher level of consensus.

The value of “*Abhantal syahadat, asapo’ iman*” (spirituality) was found to strengthen the motivation and commitment of the project team. A total of 16 informants (80%) reported that integrating this value into project management

increased team members' sense of responsibility and dedication. A senior teacher explained, "When we start each stage of the project with a collective prayer and spiritual reflection, there is a noticeable increase in team spirit and perseverance." Observational data showed a 25% reduction in the absence rate of project staff in schools that actively implemented this value.

The principle of "Rampa' naong beringin korong" (community cooperation) was highly effective in encouraging community participation in education projects. All 20 informants (100%) highlighted the importance of this value, with 17 (85%) providing concrete examples of its successful implementation. Observations in five schools showed an average 40% increase in the involvement of parents and community members in school activities where this principle was applied. One community leader commented, "Rampa' naong beringin korong makes the community feel ownership and responsibility for the success of the education project in our village."

However, the implementation of these local wisdom values is not without challenges. Thirteen informants (65%) reported difficulties in reconciling traditional values with the demands of modern education. A local education official explained, "Sometimes there is a conflict between the traditional hierarchical approach and the need for more democratic and inclusive decision-making in the modern education context." Additionally, 8 informants (40%) highlighted a lack of understanding of how to operationalize local wisdom values within contemporary project management. Observations in two schools revealed difficulties in translating abstract values into concrete project management protocols.

Despite these challenges, the positive impact of integrating local wisdom on project effectiveness is clear. A total of 16 informants (80%) believed that local wisdom-based approaches increase the sustainability of education projects. Observational data supports this claim, showing a 35% higher sustainability rate for initiatives that explicitly integrate local values compared to those that do not. A local academic noted, "Projects rooted in Madurese wisdom have greater staying power because of their resonance with community identity and values."

The qualitative findings also revealed the need for capacity building. A total of 15 informants (75%) stressed the importance of specialized training for education project managers on how to operationalize local wisdom in modern management practices. An education office head stated, "We need to bridge the gap between traditional knowledge and contemporary project

management skills through an integrated training program.”

Participatory observations also revealed significant differences in implementation between regions. Schools in rural areas of Madura demonstrated 40% more local wisdom-based practices compared to urban schools. However, urban schools showed 25% more innovation in adapting traditional values to a modern educational context.

Overall, the qualitative data reinforced and deepened the understanding of the crucial role of local wisdom in education project management in Madura. These findings underline the significant potential of culture-based approaches in improving the effectiveness and sustainability of education projects. Moreover, the findings highlight areas that require further attention and development to optimize the integration of local wisdom in modern education project management practices.

Table 7. Key Findings from Interviews

Aspects	Findings	Number of Informants	Percentage
Implementation of “Bhuppa’-Bhabhu’-Ghuru-Rato”	Improve decision-making efficiency and community buy-in	18	90%
Implementation of “Abhantal shahadat, asapo’ iman”	Strengthen project team motivation and commitment	16	80%
Implementation of “Rampa’ naong beringin korong”	Encouraging community participation in education projects	20	100%
Concrete example of success “Rampa’ naong beringin korong”	Provide specific examples of implementation	17	85%
Challenge: Aligning traditional values with modernization	Reporting difficulties in aligning values	13	65%
Challenge: Operationalizing local wisdom values	Highlighting the lack of understanding in practical application	8	40%
Impact on project sustainability	Ensure increased project sustainability	16	80%
Specialized training needs	Emphasizing the importance of local wisdom-based project management training	15	75%

Notes: (1) Observations showed a 25% reduction in the absenteeism rate of project staff in schools that implemented «Abhantal syahadat, asapo> iman». (2) An average 40% increase in parental and community involvement in schools that implemented «Rampa> naong beringin korong». (3) The sustainability rate is 35% higher for projects that integrate local values. (4) Rural schools show 40% more local wisdom-based practices than urban schools. (5) Urban schools show 25% more innovation in adapting traditional values to modern contexts.

Discussion

The study highlights the significant role of Madurese local wisdom in enhancing the effectiveness of education project management, while also revealing the complexities and challenges involved in its implementation. The findings demonstrate how traditional values, such as hierarchy of respect, spirituality, and community cooperation, can be effectively integrated into modern management practices. These insights contribute to a deeper understanding of the potential benefits and obstacles of culture-based approaches in achieving optimal educational outcomes. Integration of Local Wisdom in Project Management

The strong positive correlation between the integration of local wisdom values and project management effectiveness ($\beta = 0.68$, $p < 0.001$) suggests that a culture-based approach has significant potential for enhancing education project performance. This finding aligns with Sumarni et al. (2020), who demonstrated the effectiveness of a local wisdom-based learning model. However, this study expands that understanding by showing that the benefits of local wisdom extend beyond pedagogical aspects to include overall project management.

The implementation of the “Bhuppa’-Bhabhu’-Ghuru-Rato” principle in decision-making structures—reported by 90% of informants to increase efficiency. It illustrates how traditional hierarchical values can be harmonized with modern management practices. This finding enriches the discussion on adapting traditional values to contemporary organizational contexts, as explored by Widodo and Hastuti (2022) in their comparative study.

Spirituality and Team Performance

The positive effect of “Abhantal syahadat, asapo’ iman” on team motivation and commitment (80% of informants reported improvement) highlights the importance of the spiritual dimension in project management. This is in line with research by Fauzi et al. on the implementation of pesantren values in public school management (Fauzi et al, 2023). The findings also broaden the understanding of the role of spirituality in the work environment, adding a new dimension to the existing literature on values-based management.

Community Participation and Project Sustainability

The effectiveness of the “Rampa’ naong beringin korong” principle in enhancing community participation (100% of informants highlighted its importance) suggests that the values of gotong royong can be a powerful catalyst for community involvement in education projects. This reinforces Nurjannah and Alfian’s findings on improved student engagement and academic achievement through the integration of local cultural values (Nurjannah, S., & Alfian, 2021). Furthermore, the 40% increase in parental and community engagement demonstrates the significant potential of local wisdom-based approaches in building stronger school-community relationships.

Implementation Challenges

The difficulty in reconciling traditional values with the demands of modernization (65 per cent of informants reported) underscores the complexity of integrating local wisdom into the formal education system. This is in line with the findings of Ramdani et al. (2022) on the challenges in implementing local wisdom-based education. However, this study provides a new perspective with a specific focus on project management, pointing out areas where further innovation and adaptation are needed.

Regional Differences in Implementation

The finding that rural schools exhibit 40% more local wisdom-based practices compared to urban schools reflects the complexity of implementing culture-based approaches in various contexts. This adds nuance to Hidayatullah and Rasyid’s study on the use of Madurese as a medium of instruction, suggesting that geographical and socio-cultural factors influence the level of adoption of local wisdom in education (Hidayatullah & Rasyid, 2021).

Implications for Capacity Building

The need for specialized training for education project managers (75% of informants emphasized its importance) indicates an important gap in professional development. Targeted training and capacity-building initiatives are required for better practice of integration between local wisdom based pedagogy and education system (Herdina et al., 2023). This highlights the need for integrated training programs, combining traditional knowledge with modern project management skills, an area that has not been widely explored in the existing literature.

Sustainability and Innovation

The 35% increase in the sustainability of projects integrating local values demonstrates the long-term potential of local wisdom-based approaches. However, the finding that urban schools show 25% more innovation in adapting traditional values illustrates the complex dynamics between tradition and modernization. This extends the discussion started by Gómez-Zermeño on the integration of traditional knowledge in educational projects (Gómez-Zermeño, 2020), adding the dimension of innovation and urban adaptation.

This research provides strong evidence of the potential and challenges in integrating Madurese local wisdom into education project management. The findings not only enrich the theoretical understanding of the role of culture in education management but also highlight the need for a more nuanced and contextualized approach in its implementation. Practical implications of this study include the need for the development of project management models that systematically integrate local wisdom, training programs that combine traditional knowledge with modern management skills, and differentiation strategies for implementation in urban and rural areas. Further research is needed to explore the specific mechanisms through which local wisdom values can be operationalized in different stages of education project management, as well as to develop more robust metrics to measure their impact on long-term education outcomes.

The results of this study reveal the significant role of Madurese local wisdom in improving the effectiveness of education project management. The integration of values such as “Bhuppa’-Bhabhu’-Ghuru-Rato” and “Abhantal syahadat, asapo’ iman” improved project efficiency, team motivation and community participation, demonstrating the potential of traditional values in modern management. However, challenges such as aligning traditional values with modernization and regional differences highlight the need for specialized training and tailored approaches. The findings enrich the theoretical understanding of cultural values in education management and offer practical insights for developing integrated project management models and training programs in the context of Islamic culture.

Conclusion

Based on the research results and discussion presented, it can be concluded that the integration of Madurese local wisdom in education project

management has a significant positive impact on project effectiveness and sustainability. Traditional values such as “Bhuppa’-Bhabhu’-Ghuru-Rato”, “Abhantal syahadat, asapo’ iman” and “Rampa’ naong beringin korong” were shown to improve decision-making efficiency, strengthen team motivation and encourage community participation in education projects. Quantitative analysis showed a strong positive correlation between the integration of local wisdom and project management effectiveness, while qualitative data revealed substantial improvements in community engagement and project sustainability.

However, the study also identified significant challenges in implementation, especially in aligning traditional values with the demands of modernizing education. The differences in implementation between rural and urban areas point to the need for a more nuanced and contextualized approach. The need for capacity building, particularly in the form of specialized training for education project managers on operationalizing local wisdom, emerged as a critical finding.

In conclusion, although the integration of Madurese local wisdom in education project management shows great potential for improving the effectiveness and relevance of education, its implementation requires a careful and planned approach. It requires the development of project management models that systematically integrate local values, as well as strategies that consider contextual variations between urban and rural areas. This research paves the way for further exploration of how local wisdom can be effectively operationalized in the various stages of education project management, with potentially far-reaching implications for the development of culture-based education in Indonesia.

Based on research on “Madura Local Wisdom-Based Education Project Management,” several important recommendations were identified to optimize the integration of local values in the education system. First, schools in Madura are encouraged to incorporate traditional values such as Bhuppa’-Bhabhu’-Ghuru-Rato (respect), Abhantal syahadat asapo’ iman (spirituality), and Rampa’ naong beringin korong (togetherness) into the curriculum and daily activities. This can be done through the development of appropriate learning materials and activities that support these values.

In addition, teachers and principals need to be trained to understand and apply these local values in the context of modern education. This training should include project management techniques and strategies to actively

involve the community. Partnerships with community leaders and parents are essential to support culturally appropriate education projects. It is also important to develop clear operational guidelines to assist schools in practically implementing these local values. To raise awareness, promotional campaigns through media and community activities can foster pride in local culture and support active participation.

Continuous evaluation and follow-up research are needed to measure the long-term impact of this integration and to adjust the approach accordingly. Finally, this successful model can be applied in other parts of Indonesia to create a more inclusive education system that is relevant to the local cultural context. By adopting these recommendations, education in Madura is expected to be not only more effective but also rich with local cultural values, creating a deep and meaningful learning experience for students.

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