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The Role of Edutainment in Shaping Modern Education in Indonesia: A Literature Review

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Abstract

This study investigates the integration of edutainment as an innovative approach in Indonesian education, emphasizing its potential to enhance student engagement and motivation. Utilizing a Scopus-indexed literature review from 2015 to 2025, the research highlights key trends in edutainment adoption, particularly through advanced technologies like augmented reality (AR), virtual reality (VR), and educational games. The findings reveal that edutainment has significantly improved student participation, especially in STEM subjects, by making learning more interactive and enjoyable. However, challenges persist, including unequal access to technology in rural areas, limited digital infrastructure, and educators' resistance to adopting technology-driven methods. To address these issues, the study recommends enhancing digital infrastructure, providing comprehensive teacher training, and developing culturally relevant and locally produced edutainment resources. These strategies aim to ensure equitable access and sustainable implementation across diverse educational settings in Indonesia. With proper support from policymakers, educators, and stakeholders, edutainment has the potential to transform traditional learning environments into inclusive and future-ready systems that align with the demands of 21st-century education. This study offers critical insights for advancing educational technology and fostering meaningful learning experiences in Indonesia.

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INTRODUCTION

Indonesia's education system encounters numerous problems in fulfilling the requirements of 21st-century educational standards. The primary difficulty is enhancing student involvement and motivation in the learning process, particularly in the technologically advanced digital era (Farah et al., 2014; Azis et al., 2023). Conventional pedagogical approaches prevalent in many Indonesian schools often fail to meet the needs of students

who seek a more engaging and stimulating educational experience. Consequently, a novel approach is required to effectively integrate entertainment and educational components, a concept referred to as edutainment.

Edutainment, which merges entertainment with the education (Makarius, 2017; Feiyue, 2022), has demonstrated significant potential in enhancing student engagement in learning. In edutainment, students engage with the offered material while participating in an enjoyable learning experience. The utilization of technology, including educational games (Bokolas & Panagouli, 2019; Kang et al., 2021; Yang et al., 2021), digital narratives (Hulusic & Rizvic, 2013; Mora Fernández, 2015), and interactive applications (Mora Fernández, 2015; Clini et al., 2017; Almanie et al., 2019), is gaining popularity in Indonesia and is anticipated to enhance the quality of education.

Despite several studies demonstrating the efficacy of edutainment, its application in Indonesia continues to encounter several obstacles. The disparity in technological availability between urban and rural regions and insufficient training for educators in utilizing edutainment-based learning technologies constitute significant barriers. Consequently, additional research is required to comprehend the implementation of edutainment in Indonesia and to identify strategies for overcoming these problems.

This research offers substantial advantages in comprehending the function of edutainment in education within Indonesia. This research primarily aims to investigate the potential of edutainment as a novel method for enhancing student engagement and to assess the effective application of technology within the framework of Indonesian education. This project aims to offer insights for educators, educational technology developers, and policymakers in creating more inclusive, dynamic, and pleasurable educational programs for students.

This research is motivated by the need to address issues within Indonesian education, particularly in developing learning experiences that are more engaging and relevant to the requirements of 21st-century students. Given the swift advancement of technology, this research is pertinent in elucidating the synergy between technology and entertainment for enhanced learning. A comprehensive study of edutainment aims to identify a more effective strategy for enhancing student learning outcomes in Indonesia.

The primary aim of this research is to examine the function of edutainment in Indonesian education and to ascertain the problems and opportunities associated with its implementation. The specific objectives of this study are to analyze the trend of edutainment implementation in Indonesian education from 2015 to 2025; to evaluate the impact of edutainment on student motivation and engagement in the learning process; to identify the primary challenges encountered in the implementation of edutainment in Indonesia, particularly in remote regions; and to offer policy and strategy recommendations to enhance the effective implementation of edutainment in Indonesia.

This study will employ a literature review methodology supplemented by bibliometric analysis to fulfill the research objectives. This literature review will delineate and synthesize findings from articles indexed in Scopus concerning the adoption of edutainment in Indonesia, along with the associated problems and benefits encountered during the implementation process. This study aims to elucidate diverse patterns and trends associated with the utilization of edutainment in Indonesian education, while also clarifying its impact on educational quality.

This study's problem-solving plan will encompass the collection and analysis of pertinent articles on edutainment in Indonesia, particularly those published within the last five years; an examination of publication trends, keyword frequencies, and the interconnections among principal topics in the edutainment literature; the presentation of significant findings that elucidate the impacts, challenges, and opportunities encountered in the implementation of

edutainment in Indonesia; and the provision of actionable recommendations for the advancement of edutainment-based educational policies and practices in Indonesia.

Research indicates that edutainment can enhance student participation in the learning process. The utilization of edutainment media, including educational games, can enhance students' motivation and participation in studying, particularly in challenging topics like mathematics and science (Goktas & Goktas, 2021). Edutainment significantly enhances the learning experience, rendering it more engaging and pleasant, which can eventually lead to improved student outcomes (Siddiqi et al., 2019). Nonetheless, despite the vast potential of edutainment, certain difficulties must be addressed. Gabriele & Bertacchini (2021) assert that disparities in technological access, particularly in remote regions of Indonesia, continue to impede the implementation of edutainment. Furthermore, opposition from educators familiar with conventional methods constitutes a significant hurdle to the implementation of edutainment in Indonesia. This project aims to investigate the more effective implementation of edutainment technology, particularly within the Indonesian setting, which presents unique problems with access and training. This study especially examines the cultural and infrastructural constraints of edutainment in Indonesia, in contrast to prior assessments that concentrated on interactivity or digital learning in general. The details of the Research Questions (RQ) established to gather relevant information, encompassing:

RQ 1 What are the trends of edutainment integration in education in Indonesia from 2015 to 2025?
RQ 2 How does edutainment affect student motivation and participation in the learning process in Indonesia?
RQ 3 What are the primary obstacles encountered in implementing edutainment in Indonesia, particularly in distant regions?
RQ 4 What policy and strategy recommendations can enhance the effective implementation of edutainment in Indonesia?

METHODS

This study employs a literature review research design utilizing a qualitative technique to investigate and assess the function of edutainment in education in Indonesia. This literature review examines works indexed in Scopus from 2015 to 2025, addressing multiple facets of edutainment deployment in the classroom, its effects on student engagement, and emerging trends and breakthroughs in educational technology applications. The 61 papers were examined. The highest number of documents was released in 2019, totaling 11. The quantity of publications increased significantly from 2018 to 2019, subsequently declined in 2020, and then gradually rose again from 2021 to 2024, culminating in the publication of 10 documents. This research design seeks to collect and synthesize essential results from pertinent literature to furnish a thorough overview of the topic (Siddiqi et al., 2019; Goktas & Goktas, 2021).

Data were gathered via a literature search in the Scopus database with the previously specified keywords. The literature search was performed from 2015 to 2025 to acquire publications addressing the latest trends and discoveries in edutainment in Indonesia. The article search utilized keywords including “edutainment,” “educational technology,” “learning media,” and “Indonesia.” The chosen publications must fulfill the inclusion criteria, specifically those that address the implementation of edutainment in education inside Indonesia from 2015 to 2025 and are published in Scopus-indexed journals.

The article selection procedure is predicated on journal quality, topic pertinence, and the accessibility of material about edutainment within the Indonesian setting. The collected data comprises article titles, authors, abstracts, keywords, and pertinent findings. Subsequently, the data is selected and classified according to the primary theme to enhance

subsequent analysis. Bibliometric analysis methodologies were employed for data analysis utilizing R Studio software, facilitating data visualization and the mapping of links among subjects. Bibliometric analysis is employed to ascertain keyword frequencies, conceptual links, and emerging patterns within the edutainment literature. This method enables researchers to analyze publishing trends, author partnerships, and prevalent topics in the contemporary literature (Biswas et al., 2021; Zhang, 2023).

RESULTS AND DISCUSSION

Overview of Edutainment Implementation Trends in Indonesia

The initial study provides an overview of the trend of edutainment integration in Indonesian education. For instance, the growing acceptance of edutainment across several educational tiers, including primary, secondary, and post-secondary levels. Data illustrating the rise of publications about edutainment from 2015 to 2025 might be incorporated, with the underlying elements driving this trend, including technological advancements and the necessity to transcend conventional teaching methodologies. We examined a total of 61 articles. The highest number of articles, totaling 11, was published in 2019. The publication trend reveals a significant increase from 2018 to 2019, a decline in 2020, followed by a gradual ascent from 2021 to 2024, culminating in the release of 10 documents in 2024. Only six publications emerged from 2015 to 2017, indicating a lack of publishing activity throughout that period. Overall, about 90% of the documents were released between 2018 and 2024. This indicates that research activity has significantly increased in recent years. Statistics regarding the number of edutainment publications from 2015 to 2025 are shown in Figure 1.

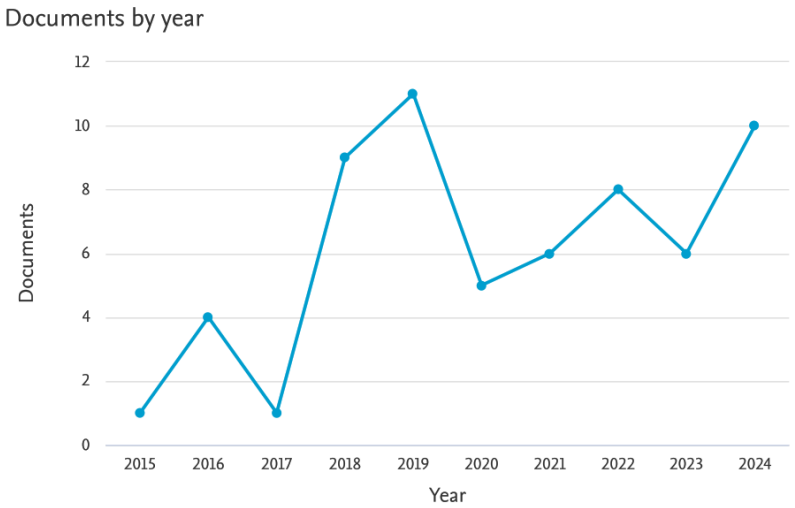

Figure 1 Statistics regarding the number of edutainment publications from 2015 to 2025

Figure 1 demonstrates a general upward trend in edutainment-related publications from 2015 to 2025, with notable peaks in 2019 and 2025, indicating growing academic interest in this field. Despite minor fluctuations, the steady increase highlights the relevance of edutainment as an emerging focus in educational research, driven by advancements in technology and the need for innovative teaching approaches.

The bibliometric study revealed a significant growth in publications about edutainment in Indonesia over the past five years, reaching a zenith in 2019, concurrent with advancements in the educational technology (Siddiqi et al., 2019; Goktas & Goktas, 2021). This tendency is propelled by using digital technology in education, enabling the amalgamation of enjoyment and learning through applications, instructional games, and digital narratives (Qureshi et al., 2021; Jobirovich, 2022; Timotheou et al., 2023).

Influence of Edutainment on Student Engagement and Motivation

This study reveals the beneficial effect of edutainment on student engagement and motivation. Numerous studies demonstrate that edutainment enhances student engagement in learning, mitigates classroom boredom, and fosters increased active participation in educational activities. Information about edutainment tactics and their impacts obtained from survey findings or case studies is listed in Table 1.

Table 1 Information on edutainment tactics and their effects derived from survey findings or case studies

Author	Case Study	Learning Strategy	Effect on Engagement and Motivation
(Loo et al., 2022)	Thirty piano students aged thirteen to fifteen years	Mobile platform for education, local culture integration, asynchronous learning, karaoke concept-based, visual media, and audio support	Enhance local cultural awareness, piano ornamentation proficiency, and student motivation for learning.
(Lim et al., 2015)	Heterosexual men (HSM) who visit entertainment establishments (EEs)	Talk shows, documentary videos, and an interactive platform	Successful in encouraging condom utilization with casual relationships among the target high-risk sexual minority (HSM)
Hariyono, E., et al.	Twenty-nine students in grade XI (high school level).	EGEBLM integrates traditional *Engklek* games with physics education using 4D models, collaborative methodologies, and discovery learning, offering significant educational experiences within the framework of local culture.	EGEBLM significantly enhances students' comprehension of physics ideas and their enthusiasm to study through innovative, enjoyable, and contextually relevant learning based on local culture, supported by statistically validated efficacy.
(Khakim & Sulistyo, 2021)	Visitors to the Bank Indonesia Museum.	Augmented Reality (AR) technology is employed to improve visual detail, interactivity, and immersion experience.	The application of AR improves immersion experience, offers enjoyable virtual interactions, fosters visitor interest, and increases the number of visitors and museum revenue to support the administration and development of new collections.
(Kucuk & Sisman, 2017)	Thirty pre-service educators.	An educational robotics course that is rooted in edutainment, using an active, collaborative	Active engagement, high motivation, and a relevant and pleasant edutainment learning experience.

Author	Case Study	Learning Strategy	Effect on Engagement and Motivation
		approach and instructional practice.	
(Lasala Jr, 2024)	Biology students in the seventh grade are currently studying the subject of ecosystems.	Quasi-experimental methodologies, game-based activities, and GBA.	Enhances pupil engagement, conceptual comprehension, and effectiveness as a learning strategy.
(Nurhayani et al., 2019)	Ninety female adolescents in Banjarbaru, South Kalimantan	Booklet, Video, and quasi-experimental design	Substantially enhanced knowledge, attitudes, behaviors, and hemoglobin levels among female adolescents, with statistical results indicating $p < 0.005$.
(Sundjaja et al., 2017)	Sixty-three respondents, all social media users, predominantly of productive age, had at least a bachelor's degree, and primarily reside in Java.	Museum of Facebook Fan Pages	Social media facilitates the marketing and branding of museums with constrained resources.
Ningsih T., et al.	Students in innovative educational institutions utilize edutainment methodologies for character development.	Activity modalities: Qur'anic recitation and memorization, multilingual instruction, computer literacy, experiential outdoor education, leadership and entrepreneurship development, engagement with native speakers.	Facilitates the development of religious, responsible, creative, ecologically aware, autonomous, and communicative traits in pupils, rendering the learning process more enjoyable and successful in character formation.

The use of interactive media, such as educational games and digital stories, significantly improves student engagement with difficult topics. The incorporation of such media enhances learning and cultivates a more dynamic and inspiring educational atmosphere, encouraging students to engage actively and investigate intricate subjects.

Advancements in Edutainment-based Learning

The subsequent data to be presented pertains to the varieties of innovations that arise in the application of edutainment-based learning media. This encompasses the utilization of technology, including mobile applications, e-learning, and the implementation of augmented reality (AR) and virtual reality (VR) in education. Demonstrate the application of these innovations in Indonesia to enhance educational quality. Technological advances in edutainment are listed in Table 2.

Table 2 Technological advancements in edutainment

No	Technology Employed
1	Mobile visual media platform and audio.
2	Talk shows, a documentary DVD, an interactive platform
3	Dimensional model, collaborative methodology, and experiential learning.
4	Augmented Reality (AR)
5	Educational robotics

No	Technology Employed
6	Game-Based Activities, GBA
7	Booklet and video
8	Social Media Platforms: Facebook

The application of AR and VR technology in edutainment in Indonesia is expanding, with various research indicating that this technology facilitates the comprehension of abstract topics for pupils (Almaiah et al., 2020). The utilization of mobile applications enabling students to access educational content flexibly is on the rise. Game-based learning apps have demonstrated efficacy in enhancing high school students' comprehension of physics and mathematics concepts (Alamri et al., 2020; Maulida et al., 2022; Anggoro et al., 2025).

Policy and Strategy Recommendations for Enhancing Edutainment Implementation in Indonesia

The successful integration of edutainment within Indonesia's educational framework encounters numerous obstacles, especially concerning technology infrastructure, teacher readiness, and the accessibility of culturally pertinent content. The research indicates that these issues require focused policy interventions and strategic initiatives to maximize the potential of edutainment as an educational tool. This section summarizes the primary challenges faced in the implementation of edutainment and offers policy and strategic ideas to address these impediments. This set of recommendations seeks to promote the equitable and effective integration of edutainment in Indonesian schools, particularly in remote and underserved regions, by concentrating on the enhancement of technological infrastructure, the improvement of teacher training, the development of culturally relevant content, and the acquisition of sustainable funding. A review of policies and strategic recommendations to improve the implementation of edutainment in Indonesia is presented in Table 3.

Table 3 Overview of policy and strategic recommendations for improving edutainment implementation in indonesia

Aspect	Research Findings	Policy/Strategy Recommendations
Limited Technological Infrastructure in Remote Areas	A restricted number of educational institutions possess the requisite infrastructure to facilitate edutainment, particularly in remote and disadvantaged regions.	The government ought to spend resources to enhance technological infrastructure in schools, especially in remote regions, to provide fair access to educational technology throughout Indonesia.
Teacher Preparedness and Professional Development	A significant number of educators are insufficiently equipped to employ edutainment technologies owing to inadequate training and a deficiency in technological proficiency in pedagogy.	A thorough and continuous teacher training program is essential, emphasizing both technical competencies and the efficient integration of edutainment into curriculum-aligned teaching practices.
Lack of Culturally Relevant and Locally Developed Edutainment Content	Numerous current edutainment resources are either imported or overly generalized, lacking alignment with Indonesia's	Cooperation among the government, content creators, and educators is crucial for producing culturally pertinent edutainment that embodies Indonesia's local culture and

Aspect	Research Findings	Policy/Strategy Recommendations
	unique cultural and contextual requirements.	addresses students' particular requirements.
Limited Funding for Production and Distribution of Edutainment	Financial limitations impede the creation and dissemination of high-quality, culturally pertinent edutainment content, particularly in marginalized areas.	Establish sustainable funding structures, such as public-private partnerships (PPP), to support the production and distribution of pertinent edutainment resources, enabling accessibility for all schools, irrespective of geography.

Trends in the Implementation of Edutainment in Indonesia

The rising volume of publications about edutainment over the past five years indicates a growing interest and recognition of the significance of new methodologies in Indonesian education. The integration of edutainment has gained significance alongside technological advancements, particularly in addressing the substantial obstacles in enhancing teaching quality across several educational levels. This movement is motivated by the necessity to tackle the shortcomings of conventional learning approaches, which occasionally fail to accommodate diverse student learning styles.

The utilization of digital technology in education significantly influences students' engagement with instructional materials. The implementation of educational applications and interactive games in Indonesian classrooms demonstrates significant potential to enhance student motivation and engagement. This technology enhances access for students to engage in enjoyable learning experiences while simultaneously enabling teachers to create diverse instructional approaches tailored to student needs (Bieliková et al., 2009; Gasonpan & Temdee, 2010; Haeruman et al., 2022; Rizvic et al., 2019; Alhajaji et al., 2020).

Furthermore, the adoption of edutainment strategies in Indonesia reveals a notable emphasis on aligning educational practices with 21st-century skills, such as critical thinking, creativity, and collaboration. Studies have shown that edutainment fosters a more inclusive learning environment by bridging gaps between traditional and modern pedagogical techniques, allowing students with different cognitive and emotional needs to actively participate in learning processes (Ningsih et al., 2021; Yum, 2022). This shift is particularly relevant in addressing regional disparities in education quality, where edutainment-based interventions have proven effective in engaging students from under-resourced schools. However, challenges such as technological infrastructure, teacher readiness, and the digital divide remain critical concerns that require systemic solutions to ensure equitable access and sustainable implementation of edutainment practices across diverse socio-economic contexts in Indonesia.

Influence of Edutainment on Student Engagement and Motivation

This study's primary finding is that edutainment enhances student involvement and motivation in the learning process. Numerous analyses indicate that students engaged in edutainment-based learning exhibit increased activity in lesson participation and heightened interest in the subject matter presented. This aligns with the findings of (Nawi et al., 2020), which indicated that over 70% of students experienced heightened interest in learning following the utilization of edutainment media, including educational games and interactive learning films.

The primary benefit of this method is its capacity to ignite students' curiosity and mitigate the monotony frequently associated with traditional education. Edutainment media, including games and digital narratives, facilitate deeper and more pleasurable learning experiences for students, hence enhancing their recollection and comprehension of the information presented (Rizvic et al., 2019; Mao & Zhang, 2021; Mariotti, 2021).
Nonetheless, although edutainment can enhance learner engagement, its efficacy is significantly contingent upon the quality and pertinence of the employed media. If the content delivered via the edutainment platform does not align with the curriculum or cater to learners' requirements, the anticipated beneficial outcomes may be diminished or even unattainable (Almaiah et al., 2020). Consequently, a curriculum is required that facilitates the successful and efficient implementation of edutainment.

Moreover, the influence of edutainment on student engagement and motivation extends beyond immediate classroom participation, fostering long-term positive attitudes toward learning. Research indicates that students exposed to edutainment-based learning environments are more likely to develop self-directed learning habits and exhibit sustained interest in subjects even outside formal educational settings (MacKinnon & Archer-Kuhn, 2023). This outcome underscores the potential of edutainment not only as a tool for academic improvement but also as a catalyst for lifelong learning. However, challenges persist in maintaining the balance between entertainment and educational objectives, as overemphasis on the former could compromise the depth and rigor of subject matter comprehension. Addressing these concerns requires a collaborative approach among educators, content developers, and policymakers to ensure the development of edutainment resources that are both engaging and pedagogically sound.

Advancements in Edutainment-Based Learning

The implementation of innovation in edutainment-focused learning media demonstrates significant potential for enhancing educational quality. With the advancement of technology, particularly in augmented reality (AR) and virtual reality (VR), numerous studies have demonstrated that these technologies may render complex concepts more tangible and readily accessible to pupils. The application of augmented reality (AR) and virtual reality (VR) in edutainment offers an immersive and interactive educational experience, enhancing students' comprehension of abstract concepts, such as physics and biology (Zorica, 2014; Nam & Choi, 2023; Lorenzis et al., 2024).

In Indonesia, despite the initiation of this technology's implementation, its adoption remains constrained. Urban schools may possess superior access to this technology; yet rural schools continue to encounter significant obstacles due to inadequate infrastructure and technological access. This underscores the significance of ensuring equitable access to education and technology across Indonesia, enabling the optimal utilization of edutainment across all societal strata (Zhang & Li, 2023).

In addition to AR and VR, advancements in artificial intelligence (AI) and machine learning have further enriched the scope of edutainment-centric educational media. AI-powered adaptive learning platforms can personalize the educational experience by analyzing individual student needs and adjusting content delivery accordingly, ensuring that learning remains engaging and tailored (Huang, 2022; Khalifa & Albadawy, 2024). Such innovations hold significant promise for addressing learning disparities in diverse classrooms. However, the successful implementation of these technologies hinges on addressing systemic challenges, such as teacher training in digital pedagogy and the development of culturally relevant content that resonates with Indonesia's diverse student population. Bridging these gaps will not only enhance the technological sophistication of edutainment but also ensure its alignment with national educational goals.

Policy and Strategy Recommendations for Enhancing Edutainment Implementation in Indonesia

The primary obstacle to implementing edutainment in Indonesia is the disparity in access to technology, particularly in remote regions. This study reveals that a limited percentage of schools possess sufficient infrastructure to facilitate edutainment-based learning material. Zhang & Li (2023) report that this discrepancy intensifies the educational disparity between urban and rural regions, hence obstructing the equitable deployment of edutainment across Indonesia.

Moreover, opposition from educators who prefer conventional teaching techniques is a barrier to the adoption of edutainment. A considerable number of educators lack confidence in utilizing technology or believe that current pedagogical methods are sufficiently successful. Consequently, enhanced training and support for educators are essential for the effective utilization of instructional technology (Handican & Nasution, 2023; Varlakova et al., 2023).

Another significant obstacle lies in the lack of culturally relevant and locally developed edutainment resources, which hinders the effective engagement of diverse student populations across Indonesia. Many edutainment tools available today are either imported or developed with a generalized approach, often failing to consider the unique cultural, linguistic, and contextual needs of Indonesian learners (Mitake et al., 2019; Hariyono et al., 2022). This issue underscores the importance of fostering local innovation in educational technology, encouraging collaboration among educators, content developers, and government stakeholders to create edutainment resources that reflect Indonesia's rich cultural heritage (Pérez et al., 2020; Najm et al., 2022). Additionally, sustainable funding mechanisms are crucial to bridge financial constraints that limit the production and dissemination of such resources, particularly in underserved regions (Robinson et al., 2021).

To address these difficulties, an educational strategy must be established that facilitates the equitable creation and dissemination of edutainment. The government must allocate resources and establish facilities to enhance technological infrastructure in schools located in distant locations, in addition to offering sufficient training for educators in the utilization of technology for instruction. This method will enhance educational quality and cultivate 21st-century competencies in Indonesian students, including digital literacy, critical thinking, and creativity. Furthermore, it is essential to consistently evaluate the efficacy of edutainment in enhancing student learning results. By aggregating additional data and engaging more educational institutions, we can attain a more profound comprehension of how edutainment can be enhanced within the framework of Indonesian education.

Additionally, effective policy interventions must prioritize collaboration between governmental bodies, the private sector, and educational institutions to ensure the sustainability of edutainment initiatives. Public-private partnerships (PPPs) can play a crucial role in funding technological advancements and developing scalable edutainment solutions tailored to Indonesia’s diverse educational contexts (Rahmawati et al., 2019). Moreover, professional teacher development programs should incorporate not only technical training but also pedagogical strategies that align with edutainment-based learning. Research indicates that educators who receive comprehensive training are more likely to adopt innovative practices and integrate technology effectively into their teaching (Chonkaew et al., 2016; Shephard & Pookulangara, 2022). Continuous feedback loops between policymakers, educators, and researchers are also vital to refine and adapt policies that respond to emerging challenges, ensuring that edutainment remains an integral and equitable component of Indonesia’s educational transformation.

The successful integration of edutainment in Indonesia's educational system faces significant challenges, particularly in remote areas where technological infrastructure is limited. The long-term impact of improving technological infrastructure will not only bridge the digital divide between urban and rural regions but also enable more equitable access to educational opportunities. This will ensure that all students, regardless of their location, can benefit from edutainment-based learning (Bikar et al., 2021). In this context, the government should allocate resources to enhance technological infrastructure in schools, especially in remote regions. Moreover, teacher readiness remains a crucial issue, as many educators lack the necessary training and confidence to incorporate edutainment technologies into their teaching. A comprehensive and ongoing teacher training program is essential, focusing not only on technical competencies but also on the effective integration of edutainment into curriculum-aligned teaching practices (Handican & Nasution, 2023).

Additionally, the development of culturally relevant content is crucial. Many available edutainment tools are either imported or generalized, often failing to address the diverse cultural and contextual needs of Indonesian learners (Mitake et al., 2019). Thus, collaboration among the government, content developers, and educators is crucial for producing locally relevant content that resonates with Indonesian culture (Tyas & Suyanta, 2020). Furthermore, the establishment of sustainable funding mechanisms, such as public-private partnerships (PPPs), can facilitate the production and distribution of high-quality edutainment resources, ensuring accessibility for all schools, regardless of geographic location (Rahmawati et al., 2019). In addition, international examples, such as the successful integration of technology in education in countries like South Korea, provide valuable insights for Indonesia (Vitytė, 2016; Segura & Jordan, 2023). Public-private partnerships in these countries have demonstrated effective strategies for overcoming infrastructure challenges and increasing access to educational technology. Indonesia can benefit from these models by fostering similar collaborations. Lastly, continuous evaluation of the efficacy of edutainment should be prioritized, with feedback loops from educators, students, and policymakers to ensure that the strategies remain relevant and effective in the long run (Chonkaew et al., 2016).

CONCLUSION

This study highlights the substantial importance of edutainment as an innovative teaching method in Indonesia, demonstrating its effectiveness in enhancing student engagement and motivation. A literature analysis spanning 2015 to 2024 reveals significant advancements in edutainment, facilitated by emerging educational technologies, including educational games, mobile applications, and augmented reality (AR) and virtual reality (VR). Edutainment offers an engaging and dynamic educational experience; nonetheless, it faces challenges such as unequal access to technology and resistance from educators to innovative teaching approaches.

Nevertheless, this research has specific limitations. The research predominantly utilizes secondary data from published literature, which may insufficiently represent the dynamic evolution of edutainment technology in real-time educational settings. There is less research directly examining the impact of edutainment on academic achievement and cognitive outcomes over time in Indonesian schools, particularly in rural or remote areas. The research assessment neglects to account for cultural inequalities in the reception of edutainment throughout different regions of Indonesia, which may affect its efficacy and implementation.

The results of this study demonstrate that, despite these limitations, edutainment possesses significant potential to transform education in Indonesia. Policies must prioritize bridging the digital gap by ensuring equitable access to technology in all schools,

particularly in rural and underserved regions. This will exert the most impact. Teacher education programs must be revised to provide comprehensive, ongoing training that equips educators with the necessary abilities to effectively utilize edutainment products in their classrooms. Generating local content is essential for ensuring that edutainment is culturally pertinent and effectively engages students' attention. Further research is required to ascertain the impact of edutainment on student achievement over time across various educational institutions and to determine the contributions of different stakeholders in its efficacy. Future studies should employ mixed-method designs to assess edutainment's long-term effects on learning achievement and creativity, providing a clearer understanding of its sustained benefits in diverse educational settings.

CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest.

AUTHOR CONTRIBUTIONS STATEMENT

Psn took the conceptualization, methodology, and formal analysis of the study and was also responsible for drafting the original version of the manuscript. Meanwhile, IK, LSR, and JAY acted as key advisors, offering valuable insights and feedback throughout the research process. Together, all authors worked on refining the manuscript and provided their final approval, ensuring its precision and scholarly rigor.

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