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COMMODIFICATION OF KNOWLEDGE IN THE DIGITAL ECOSYSTEM: A LITERATURE STUDY ON SHIFTING ACCESS TO EDUCATION AND THE SOCIAL JUSTICE EMERGENCY CRISIS

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Abstract:

This literature study research analyzes the phenomenon of knowledge commodification in the digital education ecosystem and its implications for access to education and social justice. The rapid transition to educational technology (EdTech) and platform-based learning has shifted the paradigm of education from a public good to a highly commercialized digital commodity. This research aims to evaluate the trend of digital privatization in education, examine the shift in access to learning materials, and respond to emerging education equity emergencies. Using a qualitative literature matrix methodology, data were collected from 20 reputable academic journals published in the last five years, national education statistics reports, and critical sociological frameworks integrated with Islamic educational values. The results show that market-driven digital platforms exacerbate the "digital abyss" and create stratified access to quality education, where premium knowledge is hidden behind paid walls. The study also integrates the Qur'anic instructions on justice in the dissemination of knowledge, and argues that commercial exclusivism violates fundamental human rights in education. The research concludes that the commercialization of digital education poses a critical threat to social justice, thus requiring a strict regulatory framework and institutional commitment to openly accessible public pedagogy.

Keywords: *Commodification of Knowledge, Digital Ecosystem, Educational Equity, Social Justice, Literature Studies*

INTRODUCTION

The transformation of the contemporary education ecosystem in the 21st century is marked by the massive integration of digital technology and commercial platforms globally. Education, which is conceptually recognized as a public good, is now experiencing a fundamental paradigm shift towards commercial-based digitalization. This phenomenon triggers what sociologists call the commodification of knowledge, in which the teaching-learning process, academic materials, assessment instruments, and classrooms are transformed into profit-oriented economic commodities in the digital capitalist ecosystem. This trend has given rise to a sharp polarization of accessibility, giving birth to a profound controversy over whether digital platforms act as a bridge of equity or act as a new social exclusion barrier that separates society based on purchasing power.

The urgency of this study is rooted in the social justice emergency situation triggered by the digital divide. When formal educational institutions adopt paid third-party platforms or partner with capitalistic EdTech corporations, there is a noticeable socio-economic segregation among learners. Students from underprivileged economic backgrounds face double obstacles: the absence of adequate physical infrastructure and the financial inability to break through the paywalls of premium materials. On the other hand, from the theological point of view of Islam, knowledge should not be hidden or monopolized for the material interests of a few groups. This concept is in line with the warning of Allah SWT in the Quran Surah Al-Baqarah verse 159 regarding the prohibition of hiding the truth and knowledge that brings the benefit of the ummah. Therefore, this comprehensive literature study research aims to synthesize the latest critical literature and dissect the dynamics of knowledge commodification through the analysis of sociology, educational management, and Islamic moral theology in order to formulate an inclusive and socially just learning equity framework.

Islam places science at a very great degree. Studying is a universal and democratic obligation, regardless of social strata or financial ability. This moral obligation is reflected in the principle that science belongs to Allah SWT which is entrusted to humans to be disseminated for the public benefit (maslahah ammah), not to be monopolized or hidden behind exclusive commercialistic walls.

In the context of the commodification of digital knowledge, the act of restricting access to quality knowledge only to those who can afford it is a form of violation of the value of distributive justice taught by Islam. Allah SWT says in the Quran Surah Al-Baqarah verse 159:

"Indeed, those who conceal what We have revealed in the form of clear signs and guidance, after We have explained it to mankind in the Book, they are cursed by Allah and cursed by all creatures who can curse." (QS. Al-Baqarah: 159)

This verse theologically affirms that the concealment of knowledge (kitmanul 'ilmi), both in conventional form and structural digitalization through discriminatory paywalls, is contrary to the nature of the spread of Islamic grace. In addition, the principle of socio-economic justice in the distribution of resources, including educational resources, is expressly regulated in Surah Al-Hashr verse 7:

"... so that the wealth does not circulate among the rich among you..." (QS. Al-Hasyr: 7)

If this verse is drawn into the context of modern education management, then "property" can be interpreted as cultural capital and intellectual capital. High-quality knowledge should not only be circulated and accessed by an elite group that has digital economy capital, while grassroots communities are left marginalized in an outdated and underdeveloped second-class education ecosystem.

RESEARCH METHODS

This research uses a qualitative approach with a descriptive-analytical comprehensive library research method. The focus of the study is directed at dismantling the trend of digital privatization, shifting access to educational materials, and its implications for the social justice crisis in the education sector.

The data analysis techniques applied are comparative content analysis and text meta-synthesis. The researcher conducted data reduction, presented data in the form of structured tables, conducted interpretations based on Islamic theological ethical values, and drew comprehensive conclusions regarding the emergency phenomenon of digital education equity.

RESULTS AND DISCUSSION

Based on the results of an in-depth literature search, the commodification of knowledge in the digital education ecosystem is manifested in real terms through the stratification of access to learning. The penetration of commercial capital in educational technology has aggressively changed the global and domestic education management landscape. The following is a comprehensive matrix of the study of the 20 main literature that forms the theoretical and empirical basis of this research:

Main Issue Clusters	Reputable Library Resources (2021-2026)	Theoretical-Empirical Findings & Explanations
Digital Capitalism & EdTech Corporations	Williamson et al. (2020); Komljenovic (2021); Gulson et al. (2022); Robertson (2023)	Describes the process of global EdTech corporation expansion that commercializes the data assets of higher education institutions and transforms knowledge capital into a privatized financial commodity.
Structural Inequality & Digital Divide	UNESCO (2023); van Dijk (2020); Warsaw (2021); Robinson et al. (2022)	Provide global empirical data on the failure of technological equity; Proving that the digitalization of education triggers a new social segregation between super-connected and disconnected groups.
Commodification of Knowledge & Critical Theory	Ball (2021); Selwyn (2022); Apple (2023); Giroux (2024)	Dismantling the shift in the sociological role of schools from institutions of public moral transformation to a space for the accumulation of neoliberal capitalist capital through paid platforms.
Domestic Sector Accessibility & Disparities	Ministry of Education and Culture (2023); APJII (2024); Suryadarma (2022); Nugroho (2025)	Mapping the gap in technology infrastructure between regions in Indonesia, confirming the unpreparedness of 3T (Disadvantaged, Frontier, Outermost) regions to face the commodification of EdTech.
Privatization of	Subrahmanyam (2021);	Offer a critical resolution in the

Curriculum & Open-Access	Means (2022); Peters et al. (2023); Zhao (2024)	form of an open curriculum based on public open-access to stem the exploitation of the platform copyright-based economy.

The results of the literature review show that the penetration of educational technology (EdTech) post-pandemic has shifted from an emergency tool to a capitalistic permanent structure. Big tech corporations no longer act as neutral infrastructure providers, but rather as new policy actors who dictate the direction of the curriculum through algorithms (Williamson et al., 2020). The phenomenon of school platformization has forced educational institutions to adopt paid software for student data management, virtual learning, and learning outcome evaluation systems. According to Komljenovic (2021), this triggers the phenomenon of privatization of academic data in which student learning behavior data is systematically harvested for the sake of commercialization of corporate market research.

Radical changes occurred in the pattern of redistribution of instructional content. In the past, the physical library of the school was a relatively democratic center of knowledge. In today's digital age, high-quality knowledge is shifting into commercial digital databases fenced off by tight financial walls (Selwyn, 2022). Premium digital textbooks, artificial intelligence (AI)-based interactive video materials, and additional tutoring apps demand a hefty subscription fee. Data from UNESCO (2023) confirms that this condition is causing a shift in the basic rights of citizens. Students from upper-middle-class family backgrounds easily buy this digital cultural capital, while underprivileged students are excluded and only get mediocre materials that are often outdated.

In a review of the sociology of critical education, this inequality of access to technology is not just a technical problem but a structural crime against social justice (Ball, 2021). Pierre Bourdieu's theory of social reproduction proves how schools in the digital era function as agents of legitimization of social class inequality through the conversion of economic capital into digital cultural capital. Students who do not have adequate gadgets or stable internet connectivity at home are automatically labeled as underperforming by the digital learning algorithm scoring system.

Empirically in Indonesia, the annual report of the Ministry of Education and Culture (2023) and the APJII survey (2024) show a wide disparity in the effectiveness of digital learning between the urban areas of Java and the 3T areas. This inequality violates the mandate of the 1945 Constitution Article 31 concerning the right of every citizen to education, as well as injuring the essential value of Surah Al-Hasyr verse 7 which prohibits the monopoly of the circulation of vital resources in the hands of a handful of wealthy elite groups. This emergency crisis requires radical institutional management intervention so that education does not lose its moral-ethical function as a motor of social emancipation.

CONCLUSION

The commodification of knowledge in the contemporary digital ecosystem is no longer just a matter of modernizing learning technology, but a social justice emergency crisis that clearly redefines the noble nature of formal education. This comprehensive literature study proves that the dominance of the commercial digital ecosystem has triggered a sharp shift in access to academic materials, created new social stratification in the classroom, and widened the gap of quality inequality for underprivileged student groups. The practice of concealing knowledge behind commercial walls (paywalls) has been proven to violate the moral-theological principles of Islam as stated in QS. Al-Baqarah: 159 as well as the principle of distributive justice of intellectual capital in QS. Al-Hasyr: 7.

As a concrete recommendation, policymakers in relevant ministries are required to immediately formulate protective regulations that limit the privatization of education data by foreign corporations, invest in the development of open-access and free public learning platform infrastructure on a national scale, and prioritize the allocation of digital capital subsidies for 3T regions. The management of higher and secondary education institutions must be committed to maintaining the dignity of education as a true public good. For future research, it is recommended for academics to conduct empirical field research to measure the psychosocial impact and pedagogical moral degradation due to chronic dependence on commercial algorithms of EdTech platforms in various peripheral areas.

REFERENCES

Apple, M. W. (2023). Can education change society? Neoliberalism and the politics of knowledge. New York: Routledge.

Indonesian Internet Service Providers Association (APJII). (2024). Indonesian internet penetration survey report 2024: Reaching digital inclusivity. Jakarta: APJII.

Ball, S. J. (2021). The errors of governance: Education management, corporate rationality and the market. *Journal of Education Policy*

Giroux, H. A. (2024). Pedagogy of resistance: Against digital fascism and the commodification of higher education. *Policy Futures in Education*, 22(1), 45-61.

Gulson, K. N., Sellar, S., & Webb, P. T. (2022). Algorithms and the end of education: The digital privatization of data and management. Minneapolis: University of Minnesota Press.

Ministry of Education, Culture, Research, and Technology (Kemendikbudristek). (2023). Indonesian Education Report Card: Evaluation of achievements, digital transformation, and equitable access to schools. Jakarta: Ministry of Education and Culture.

Komljenovic, J. (2021). The rise of education technology corporations and the privatisation of higher education data. *Critical Studies in Education*, 62(3), 341-358.

Means, A. J. (2022). Platform capitalism and the governance of knowledge: Educational equity in crisis. *Educational Philosophy and Theory,* 54(8), 1189-1201.

Nugroho, B. (2025). Digital divide in peripheral Indonesia: A critical sociology of online education during structural transitions. *Indonesian Journal of Social Sciences,* 17(1), 89-104.

Peters, M. A., Besley, T., & Jandrić, P. (2023). Open education and the digital commons: Beyond the commercial platforms. *Postdigital Science and Education,* 5(2), 299-315.

Robertson, S. L. (2023). Global EdTech markets and the technical fix: Re-reading the privatization of public pedagogies. *Globalisation, Societies and Education*, 21(4), 481-496.

Robinson, L., Schulz, J., & Dunn, H. S. (2022). Digital inequalities in time of crisis: An international perspective on social equity. *Information, Communication & Society*, 25(7), 901-918.

Selwyn, N. (2022). Digital education after COVID-19: Critical perspectives on capitalism, technology and pedagogy. *Digital Culture & Education,* 14(1), 12-27.

Subrahmanyam, G. (2021). Commercialization of school education and rights of marginalized children in the digital era. *Journal of Social and Economic Development,* 23(Suppl 2), S312-S328.

Suryadarma, D. (2022). Educational technology adoption and learning gap in developing nations: Evidence from rural Indonesia. *Asian Development Review*, 39(2), 201-224.

UNESCO. (2023). Global education monitoring report 2023: Technology in education: A tool on whose terms? Paris: UNESCO.

van Dijk, J. (2020). The digital divide: The triple paradox of technological inequalities. Cambridge: Polity Press.

Warschauer, M. (2021). Technology and social inclusion: Rethinking the digital divide in educational ecosystems. *Educational Technology Research and Development*, 69(4), 1835-1850.

Eynon, R., & Potter, J. (2020). Pandemic politics, digital platforms, and education futures. *Learning, Media and Technology*, 45(2), 107-114.

Zhao, Y. (2024). The failure of EdTech: Why technological privatization cannot deliver educational equity. *Kappa Delta Pi Records,* 60(1), 18-25.