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**Premises *Cloud* Translocation on Educational Infrastructure Efficiency: A Variance Analysis in South Kalimantan**

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**Abstract:**

*The abstract must be written in English, Italics, using 12 size Times New Roman fonts, single-spaced. Insert an abstract of 100-250 words, giving a brief account of the most relevant aspects of the paper. The abstract of research paper should contain the purposes, methodology, and findings of the study. Abstract must be written in English, Italics, using 12 size Times New Roman fonts, single-spaced. Insert an abstract of 100-250 words, giving a brief account of the most relevant aspects of the paper. The abstract of research paper should contain the purposes, methodology, and findings of the study. Abstract must be written in English, Italics, using 12 size Times New Roman fonts, single-spaced. Insert an abstract of 100-250 words, giving a brief account of the most relevant aspects of the paper. The abstract of research paper should contain the purposes, methodology, and findings of the study. Abstract must be written in English, Italics, using 12 size Times New Roman fonts, single-spaced. Insert an abstract of 100-250 words, giving a brief account of the most relevant aspects of the paper. The abstract of research paper should contain the purposes, methodology, and findings of the study.*

***Keywords****: first keyword, second keyword, third keyword, fourth keyword, fifth keyword*

1. **INTRODUCTION**

Saat ini, perguruan tinggi menghadapi peningkatan kebutuhan akan penyimpanan *server* untuk mengakomodasi permintaan penyimpanan data yang terus meningkat (Afriyanti, 2022; Rahardja, 2022; Wei & Zhang, 2022). *Server* tidak hanya berfungsi sebagai media penyimpanan, tetapi juga sebagai pusat operasional yang memungkinkan akses cepat dan aman terhadap informasi akademik dan administratif (Purwanti & Zaman, 2016). Dalam lingkungan pendidikan, data sensitif seperti data mahasiswa dan data administrasi harus dijaga dengan ketat, mengingat risiko kebocoran data atau akses yang tidak sah dapat berdampak serius pada integritas institusi (Sarowa et al., 2023; Shishodia & Nene, 2022).

Sebagian besar perguruan tinggi di Kalimantan Selatan saat ini menggunakan *server* fisik, yang memungkinkan institusi memiliki kendali penuh terhadap lingkungan penyimpanan dan dapat mengelola data sesuai dengan kebijakan internal (Isnaini & Solikhatin, 2020; Zhang, 2022). Penggunaan infrastruktur *server* fisik di perguruan tinggi memberikan keuntungan berupa kontrol penuh dan keamanan data yang lebih terjamin; namun, berbagai permasalahan juga muncul (Fachri et al., 2021). Salah satu masalah utama adalah tingginya biaya perawatan dan operasional. *Server* fisik memerlukan perawatan rutin dan pembaruan perangkat keras yang dapat menyedot anggaran secara signifikan (Shvets et al., 2019). Selain itu, biaya tenaga kerja untuk mengelola dan memelihara infrastruktur fisik menjadi beban tambahan yang perlu diperhitungkan. Biaya listrik juga merupakan faktor penting, karena *server* fisik membutuhkan daya besar untuk operasional optimalnya (Liu et al., 2020). Semua biaya ini dapat menjadi beban finansial yang berat bagi perguruan tinggi, terutama dalam konteks tekanan untuk menghemat dan memaksimalkan penggunaan anggaran (Hassan, 2020).

Terlepas dari kelemahan penggunaan *server* fisik, teknologi *cloud* computing menawarkan solusi yang lebih efisien. Dengan adopsi teknologi *cloud*, perguruan tinggi dapat menghemat biaya substansial karena tidak perlu lagi mengeluarkan dana besar untuk pembelian, pemeliharaan, dan pembaruan perangkat keras (Kommeri et al., 2017). elain itu, layanan *cloud* menyediakan model pembayaran berbasis penggunaan (*pay as you go*), yang memungkinkan pengurangan biaya yang tidak diperlukan (Han et al., 2016; Wu & Zhao, 2016). Perguruan tinggi hanya mengakses sumber daya komputasi sesuai kebutuhan mereka (Zhu et al., 2016). Pengelolaan infrastruktur *server* fisik yang rumit dapat diserahkan kepada penyedia layanan *cloud*, yang biasanya memiliki tim ahli yang lebih terampil dan berpengalaman (Guo et al., 2019; Nikulchev et al., 2016). Hal ini memungkinkan perguruan tinggi mengurangi kebutuhan staf internal yang fokus pada pemeliharaan dan pemantauan *server*, sehingga mengurangi beban biaya gaji karyawan.

Dalam mengelola infrastruktur *server* fisik, perguruan tinggi harus memperhatikan efisiensi biaya dan meningkatkan skalabilitas (Sarac, 2020). Penelitian ini mengusulkan model untuk membandingkan biaya infrastruktur *server* fisik dengan layanan dari penyedia *cloud* seperti *Amazon Web Service* (*AWS*), *Azure*, dan *Google* *Cloud*. Selain membandingkan data biaya dari kedua jenis infrastruktur, penelitian ini juga akan mengkaji beban biaya terkait migrasi data dari infrastruktur fisik ke *cloud*. Evaluasi akan dilakukan untuk menentukan apakah biaya awal migrasi sebanding dengan potensi efisiensi dan manfaat lingkungan yang ditawarkan oleh *cloud* *computing*.

Untuk mengidentifikasi efisiensi penggunaan layanan *cloud* dibandingkan dengan infrastruktur *server* fisik, penelitian ini mengembangkan beberapa hipotesis yang diuji melalui analisis varian. Hipotesis ini diharapkan dapat memberikan wawasan mendalam mengenai potensi penghematan biaya, peningkatan efisiensi operasional, dan fleksibilitas skalabilitas yang ditawarkan oleh layanan *cloud*. Hipotesis yang diusulkan adalah sebagai berikut:

1. Biaya total operasional *server* fisik di perguruan tinggi lebih tinggi dibandingkan menggunakan layanan dari *provider*  *cloud* seperti *AWS*, *Azure*, dan *Google* *Cloud*.
2. Mengalihkan infrastruktur *server* dari fisik ke layanan *cloud* akan menghilangkan biaya *CAPEX* (*capital expenditure*) dan mengurangi biaya *OPEX* (*operational expenditure*) yang dikeluarkan oleh perguruan tinggi.
3. Perguruan tinggi yang beralih ke layanan *cloud* dapat mengurangi biaya yang terkait dengan staf yang diperlukan untuk operasional dan pemeliharaan infrastruktur *server* fisik.
4. Biaya dan kompleksitas proses migrasi data dari infrastruktur *server* fisik ke *cloud* *provider* sebanding dengan manfaat jangka panjang berupa penghematan biaya operasional dan peningkatan efisiensi.

Setelah menyampaikan hipotesis yang diusulkan, penelitian ini bertujuan untuk menguji perbedaan antara infrastruktur *server* fisik dan layanan *cloud* dalam hal efisiensi biaya dan skalabilitas. Melalui analisis data yang komprehensif, penelitian ini berupaya memberikan pemahaman mendalam kepada institusi pendidikan mengenai implikasi finansial dari kedua jenis infrastruktur tersebut. Dengan memberikan rekomendasi berbasis bukti, penelitian ini diharapkan dapat membantu perguruan tinggi dalam membuat keputusan strategis yang sesuai dengan kebutuhan mereka.

1. **LITERATURE REVIEW**

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In this section, provide an adequate background of the study and add the current researches to show the gap of the research. The section headings are arranged by Numbers, bold and 12 pt Times New Roman, single spacing. The paragraphs should be single-spacing. The spacing, before or after, is 6pt. In this section, provide an adequate background of the study and add the current researches to show the gap of the research.

**Contextualization:** Establish the broader context of your research area, highlighting its current understanding and potential challenges.

**Research Gap:** Identify a specific knowledge gap within the existing literature that your research addresses.

**Research Objectives:** Clearly articulate the specific goals and questions your research aims to answer.

**B. LITERATURE REVIEW**

Provide an adequate review of the literature. The section headings are arranged by Alphabet, bold, and 12 pt Times New Roman, single spacing. Paragraphs shall be single-spaced with no indent. Provide an adequate review of the literature.

**Theoretical Underpinnings:** Discuss the theoretical framework that grounds your research and its importance to the topic.

**Critical Review of Prior Work:** Synthesize existing research on the chosen topic, critically evaluating its contributions and limitations.

**Justification for Current Research:** Explain how your work builds on past research and fills the identified knowledge gap.

**C. RESEARCH METHODOLOGY**

The Research Methodology section describes in detail how the study was conducted. A complete description of the methods used enables the reader to evaluate the appropriateness of the research methodology.

**Research Design:** Clearly define the type of research conducted (e.g., experimental, case study, meta-analysis).

**Sampling and Participants:** Describe your target population, sampling strategy, and participant characteristics (if applicable).

**Data Collection:** Detail the specific tools and procedures employed for data gathering (e.g., standardized surveys, semi-structured interviews, observation protocols).

**Data Analysis Strategies:** Explain the techniques and methods used to analyze your collected data.

**D. RESULTS AND DISCUSSION**

In the Findings section, summarize the collected data and the analysis performed on those data relevant to the issue that is to follow. The Findings should be clear and concise. It should be written objectively and factually, and without expressing personal opinion. It includes numbers, tables, and figures (e.g., charts and graphs). Number tables and figures consecutively in accordance with their appearance in the text.

**Presentation of Findings:** Systematically present your research results with clarity and organization. Utilize tables, figures, and charts for impactful visualization.

**Interpretation of Results:** Analyze your findings in relation to the research questions and theoretical framework. Discuss the meaning and implications of your data.

**Comparison with Literature:** Compare your findings with relevant existing research, highlighting any convergences or divergences.

**E. CONCLUSION**

The main conclusions of the study should be presented in a short Conclusions section. Do not repeat earlier sections.

**Recap of Key Findings:** Briefly summarize the most significant outcomes of your research.

**Contribution to Knowledge:** Explain how your findings advance the understanding of the research area and address the identified gap.

**Future Research Directions:** Suggest potential avenues for future research based on your findings and the limitations of your study.

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