

ABSTRAK

Apriyanto, 2024. Evaluasi Kinerja Situs Web My Dispendik Dinas Pendidikan Kabupaten Jember Menggunakan Framework Cobit 5 Domain Mea Dengan Pendekatan Analisis Sebab-Akibat. Tugas Akhir. Program Sarjana. Program Studi Teknik Informatika. Universitas Muhammadiyah Jember.

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Penelitian ini bertujuan untuk mengevaluasi kinerja, stabilitas, dan tata kelola situs web resmi My Dispendik Dinas Pendidikan Kabupaten Jember (<https://mydispendik.jemberkab.go.id>). Evaluasi ini didasarkan pada adanya keluhan pengguna terkait stabilitas sistem dan hasil pengujian awal yang menunjukkan skor performa rendah. Metodologi yang digunakan mengintegrasikan kerangka kerja COBIT 5 khususnya domain MEA (*Monitor, Evaluate, and Assess*) dengan pendekatan Analisis Pengujian Hubungan Sebab-Akibat (*cause-effect analysis*). Pengumpulan data dilakukan secara interdisipliner melalui survei kuesioner daring kepada lebih dari 1.000 pengguna aktif (operator sekolah, kepala sekolah, dan guru), wawancara mendalam dengan tim administrator IT, serta pengujian teknis objektif menggunakan alat bantu GTmetrix.

Hasil analisis teknis berbasis COBIT 5 MEA menunjukkan bahwa situs web My Dispendik memiliki stabilitas visual dan struktur halaman yang sangat baik, dibuktikan dengan nilai *Structure Score* sebesar 98%, *Largest Contentful Paint* (LCP) sebesar 1,1 detik, dan *Cumulative Layout Shift* (CLS) sebesar 0. Kendati demikian, *Performance Score* secara menyeluruh masih berada di kategori moderat yaitu sebesar 65%. Masalah utama terletak pada efisiensi pemrosesan skrip, di mana waktu muat penuh (*Fully Loaded Time*) membengkak hingga 21,5 detik yang dipicu oleh durasi eksekusi JavaScript pada *Main Thread* selama 19,4 detik, ukuran total halaman sebesar 1,69 MB, serta belum optimalnya kebijakan penyimpanan *cache*. Analisis sebab-akibat menegaskan bahwa inefisiensi aset digital dan antrean skrip ini memicu keluhan lambatnya akses oleh pengguna di lapangan. Penelitian ini merekomendasikan tindakan optimasi teknis berupa kompresi gambar (migrasi ke format WebP), minifikasi skrip (HTML/CSS/JS), penerapan *caching* yang agresif, integrasi *Content Delivery Network* (CDN) untuk mencegah risiko *server overload*, serta restrukturisasi navigasi menu seluler. Secara tata kelola, pengelola disarankan menerapkan standardisasi pengawasan berkelanjutan guna memastikan keandalan, keamanan privasi data, dan efisiensi layanan administrasi pendidikan di Kabupaten Jember.

Kata Kunci: Analisis Hubungan Sebab-Akibat, COBIT 5 MEA, GTmetrix, Kinerja Situs Web, My Dispendik, Stabilitas Sistem.

ABSTRACT

Apriyanto, 2024. Performance Evaluation of the Jember Regency Education Office's "My Dispendik" Website Using the COBIT 5 MEA Domain Framework and a Cause-and-Effect Analysis Approach. Undergraduate Thesis. Undergraduate Program. Informatics Engineering Study Program. University of Muhammadiyah Jember.

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This study aims to evaluate the performance, stability, and governance of the official My Dispendik website of the Jember Regency Education Office (<https://mydispendik.jemberkab.go.id>). This evaluation is driven by user complaints regarding system stability and preliminary tests indicating low performance scores. The methodology integrates the COBIT 5 framework, specifically the MEA (Monitor, Evaluate, and Assess) domain, with a Cause-Effect Analysis approach. Data collection was carried out through an interdisciplinary method, including an online questionnaire survey distributed to more than 1,000 active users (school operators, principals, and teachers), in-depth interviews with IT administrators, and objective technical testing using GTmetrix.

The technical analysis results based on COBIT 5 MEA reveal that the My Dispendik website possesses excellent visual stability and page structure, evidenced by a Structure Score of 98%, a Largest Contentful Paint (LCP) of 1.1 seconds, and a Cumulative Layout Shift (CLS) of 0. However, the overall Performance Score remains moderate at 65%. The primary bottleneck lies in script processing efficiency, where the Fully Loaded Time stretches to 21.5 seconds, heavily triggered by a 19.4-second JavaScript execution duration on the Main Thread, a total page size of 1.69 MB, and unoptimized caching policies. The cause-effect analysis confirms that digital asset inefficiency and script congestion directly cause the slow loading times complained about by field users. This research recommends technical optimization measures, including image compression (migrating to WebP format), script minification (HTML/CSS/JS), aggressive caching, and Content Delivery Network (CDN) integration to mitigate server overload risks, as well as mobile navigation menu restructuring. From a governance perspective, the website administrators are advised to implement standardized continuous monitoring to ensure reliability, data privacy security, and efficiency in educational administration services within Jember Regency.

Keywords: Cause-Effect Analysis, COBIT 5 MEA, GTmetrix, My Dispendik, System Stability, Website Performance.