ABSTRACT

The increase in the number of applicants for the Indonesian Gold Generation Scholarship (IGGS), averaging 21.7% per year, presents challenges in website performance management. An initial audit using Google Lighthouse found that 2 out of 14 tested pages, Home and About Us, showed low performance scores of 75-77 on desktop and 69 on mobile, categorizing them as "Needs Improvement." The primary issue was large, unoptimized image sizes. This study aims to optimize website performance by implementing Image CDN and Lazy Loading. Testing was conducted using Google Lighthouse, with the median score from five test runs used as the final result to reduce score variability. The findings indicate that the combination of Image CDN and Lazy Loading provided optimal improvements, with performance scores reaching 98-99 on desktop and 90-93 on mobile, classified as "Good." The optimization successfully reduced image sizes by up to 97.6%. All pages achieved scores above 90, demonstrating the effectiveness of the optimization techniques in enhancing IGGS website performance.

Keywords: *Image CDN, Lazy Loading, Website Optimization, Website Performance, Google Lighthouse*