

## ***Life Cycle Assessment (LCA) dan Life Cycle Cost (LCC) Pada Industri Jasa Boga Mie Ayam Golongan A2 dan A3***

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### **Abstrak**

Perkembangan industri jasa boga sangat pesat dan tingkat persaingannya semakin tinggi. Hal ini menuntut setiap pelaku usaha mampu meningkatkan dan memperbaiki kinerjanya. Sanitasi, keamanan pangan, penanganan bahan, dan penggunaan energi menjadi aspek penting selain kemampuan operator jasa boga. Penggunaan energi mulai dari aktifitas pengadaan hingga penyajian menuntut adanya penghematan energi dan meminimalkan emisi, limbah, serta bahan sisa. Tingkat penggunaan bahan dan energi dalam proses produksi perlu ditentukan oleh jasa boga. Hal ini dilakukan agar industri jasa boga mampu menekan pemborosan energi dan biaya yang mengurangi keberlanjutan untuk pemeliharaan lingkungan. *Life Cycle Assessment (LCA)* dan *Life Cycle Cost (LCC)* digunakan untuk menilai penanganan bahan baku serta dampak lingkungan yang ditimbulkan dari konsumsi energi pada proses produksi. Metode LCC menghitung biaya pada industri berdasarkan skala usaha. Perbandingan hasil pengukuran masing-masing jasa boga digunakan untuk mengidentifikasi dampak untuk perbaikan. Hasil penelitian menunjukkan setiap porsi mie ayam yang mengkonsumsi energi terbesar yaitu pada industri skala kecil *mobile* sebesar 6,03 MJ, biaya energi terbesar pada industri skala besar permanen sebesar Rp277,419, nilai tambah terbesar pada industri skala menengah tipe semi permanen sebesar Rp4118,29, limbah produksi terbesar pada industri skala besar tipe permanen, dan bahan sisa terbanyak pada industri skala menengah semi permanen. Identifikasi terhadap bahan sisa, produk samping, dan limbah digunakan sebagai pertimbangan untuk perbaikan proses produksi jasa boga. Efisiensi penggunaan energi dan biaya diharapkan berpengaruh signifikan terhadap dampak lingkungan yang ditimbulkan sehingga menciptakan pemeliharaan yang berkelanjutan.

Kata kunci: energi, jasa boga, *Life Cycle Assessment*, *Life Cycle Cost*, penanganan bahan

## **Life Cycle Assessment (LCA) and Life Cycle Cost (LCC) On Food Service Industry of Chicken Noodles Type A2 and A3**

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### **Abstract**

Food service industry has experienced very rapid development with higher level of competition. This condition requires every business person to improve their performance. Sanitation, food security, material handling, and energy use are important aspects other than caterers service capabilities. The use of energy from procurement activities to serving requires energy savings and minimizes emissions, waste, and waste materials. The level of material and energy use in the production process needs to be determined by catering. Therefore, catering industry is able to suppress the waste of energy and cost for environmental sustainability. Life Cycle Assessment (LCA) and Life Cycle Cost (LCC) are used to assess the raw materials handling as well as the environmental impacts of energy consumption in the production process. The LCC method calculates costs on industries based on business scale. A comparison of the measurement of each catering service is used to identify the impact for improvement. The results show that each portion of chicken noodle that consumes the largest energy was in the small-scale mobile industry which was 6.03 MJ, the largest energy cost was in large-scale permanent industry which was Rp277,419, the largest added value was in medium-scale semi-permanent industry which was Rp4118.29, the largest production waste was in large-scale permanent industry, and the highest waste material was in medium-scale semi-permanent industry. Identification of waste materials, by products, and waste are used as a consideration for the improvement of the production process of catering. Energy and cost efficiencies are expected to have a significant effect on the environmental impacts that create sustainable maintenance.

Keywords: energy, catering service, Life Cycle Assessment, Life Cycle Cost, material handling