ABSTRAK

RICHARD MARK. *Analisis Efisiensi Biaya Produksi Pada Kerupuk Ikan (Studi Kasus UMKM Seven Island)*. Dibimbing oleh MUKDIN MARKUS TURNIP dan BINSAR SIHOMBING

UMKM memiliki peran penting dalam perekonomian nasional karena mampu menyerap tenaga kerja dan mendorong pertumbuhan Produk Domestik Bruto (PDB). Namun, di tengah meningkatnya persaingan antar produk sejenis, pelaku usaha dituntut untuk meningkatkan efisiensi dan daya saing agar dapat bertahan. UMKM Seven Islands, yang bergerak di bidang pengolahan kerupuk ikan, mengalami fluktuasi penjualan dan penurunan produksi dari tahun 2023 ke 2024. Kondisi ini menimbulkan dugaan adanya inefisiensi teknis dalam proses produksi, di mana penggunaan input bahan baku tidak selalu berbanding lurus dengan output yang dihasilkan. Untuk mengukur dan menganalisis tingkat efisiensi produksi, penelitian ini menggunakan metode *Stochastic Frontier Analysis* (SFA) dengan fungsi produksi *Cobb–Douglas* melalui variabel utama bahan baku ikan, tepung, minyak, serta variabel inefisiensi berupa usia usaha dan jumlah tenaga kerja. Hasil estimasi *software* menunjukkan bahwa nilai *technical efficiency* (TE) rata-rata sebesar 0,839 yang berarti UMKM Seven Islands telah beroperasi pada tingkat efisiensi sekitar 83,9% dari potensi maksimum. Sementara itu, nilai *gamma* sebesar 0,981 mengindikasikan bahwa sekitar 98,1% variasi output disebabkan oleh faktor inefisiensi, bukan hanya disebabkan oleh kesalahan acak. Hasil analisis efisiensi teknis kemudian menjadi dasar dalam perancangan *Business Model Canvas* (BMC) yang menggambarkan sembilan elemen model bisnis UMKM. Integrasi antara hasil SFA dan BMC menghasilkan rancangan saran pengembangan yang berorientasi pada efisiensi biaya dan peningkatan daya saing, khususnya melalui optimalisasi penggunaan sumber daya, pengendalian biaya produksi, dan penguatan hubungan kemitraan. Penelitian ini diharapkan dapat menjadi dasar strategis bagi UMKM Seven Islands dalam meningkatkan kinerja dan keberlanjutan usahanya di masa mendatang.

Kata kunci: Efisiensi Produksi, *Stochastic Frontier Analysis, Cobb–Douglas, Business Model Canvas.*

ABSTRACT

RICHARD MARK. *Analysis of Production Cost Efficiency of Fish Crackers (A Case Study of Seven Islands MSME).* Dibimbing oleh MUKDIN MARKUS TURNIP dan BINSAR SIHOMBING.

Micro, Small, and Medium Enterprises (MSMEs) play a crucial role in Indonesia's economy by absorbing labor and contributing significantly to the Gross Domestic Product (GDP). However, increasing competition among similar products requires business actors to improve efficiency and competitiveness to remain sustainable. Seven Islands MSME, a fish cracker producer, has experienced fluctuations in sales and a decline in production from 2023 to 2024. This condition indicates a potential technical inefficiency in the production process, where the use of raw material inputs does not always correspond to the output produced. To measure and analyze the production efficiency level, this study employs the Stochastic Frontier Analysis (SFA) method with the Cobb–Douglas production function, focusing on key input variables such as fish, flour, and oil, as well as inefficiency variables including business age and number of workers. The estimation results from the software show that the average value of technical efficiency (TE) is 0.839, which means that UMKM Seven Islands operates at approximately 83.9% of its maximum potential efficiency. Meanwhile, the gamma value of 0.981 indicates that around 98.1% of the output variation is caused by inefficiency factors rather than random errors. The results of the SFA analysis serve as the foundation for designing the Business Model Canvas (BMC), which represents nine elements of the MSME's business framework. The integration between SFA and BMC produces development recommendations aimed at cost efficiency and competitiveness improvement through resource optimization, cost control, and stronger business partnerships. This research is expected to serve as a strategic foundation for Seven Islands MSME to enhance operational performance and ensure long-term business sustainability.

Keywords: *Production Efficiency, Stochastic Frontier Analysis, Cobb–Douglas, Business Model Canvas.*