

ANALISIS PEMBOROSAN PADA PROSES PRODUKSI WINGKO  
MENGGUNAKAN *VALUE STREAM MAPPING* DENGAN KONSEP *LEAN*  
*MANUFACTURING*

(Studi Kasus IKM HAYU, Pandak, Kabupaten Bantul)

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INTISARI

IKM Hayu merupakan industri kecil menengah yang memproduksi berbagai produk seperti wingko sebagai produk utama, bakpia, yangko, dan kue kering. Proses produksi wingko di IKM Hayu masih kurang efektif dan efisien karena adanya beberapa pemborosan seperti produk cacat, tumpukan bahan setengah jadi, waktu tunggu dan wingko kadaluarsa. Penelitian ini bertujuan untuk menganalisis pemborosan yang ada di IKM Hayu, mereduksi pemborosan yang ada dengan usulan perbaikan, dan merencanakan *future state mapping* serta menghitung *Process Cycle Efficiency* (PCE) setelah perbaikan. Penelitian dilakukan dengan pengukuran waktu siklus tiap prosesnya. *Tools* yang digunakan yaitu *process activity mapping* (PAM) untuk mengidentifikasi kegiatan yang termasuk *value added time* (NVA), *non value added time* (NVAT), *non value added but necessary* (NNVA), dan *supply chain response matrix* (SCRM) untuk mengetahui stok fisik harian. Selanjutnya, untuk mengidentifikasi penyebab pemborosan menggunakan *fishbone diagram*.

Berdasarkan hasil identifikasi, pemborosan proses produksi wingko yaitu (1) *defect*, berupa wingko gosong, (2) wingko kadaluarsa, karena produksi yang berlebih, (3) *waiting*, diakibatkan karena ketidakseimbangan lintasan produksi, dan (4) penumpukan WIP, pada proses pencukilan, pengupasan testa, penimbangan, pemanggangan, dan pengemasan. Rencana perbaikan yang diusulkan yaitu pendisiplinan pekerja dan SOP yang jelas di IKM Hayu, menghilangkan waktu tunggu yang disengaja agar mengurangi tumpukan WIP, mereparasi kompor agar menyala seragam, menambah satu tenaga kerja pada proses pemanggangan, serta mencatat jumlah *pack* wingko yang didistribusikan ke toko dan mencatat berapa jumlah wingko yang terjual agar dapat dilakukan peramalan (*forecasting*) berdasarkan *history data* dan dihitung *safety stock* nya. Pada *future state mapping*, jumlah tumpukan WIP berkurang sehingga *leadtime* menjadi 5,391 hari, NVAT menjadi 37,225 detik, dan PCE meningkat menjadi 0,113%.

**Kata kunci:** *Value stream mapping*, *Lean Manufacturing*, Pemborosan, *Process activity mapping*, *Supply chain response matrix*, *Fishbone diagram*.

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**ANALYSIS PRODUCTION PROCESS OF WINGKO WITH VALUE  
STREAM MAPPING AND LEAN MANUFACTURING CONCEPT  
(Case Study IKM HAYU, Pandak, Kabupaten Bantul)**

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**ABSTRACT**

IKM Hayu is a small and medium industry that produces various products such as wingko as the main product, bakpia, yangko, and pastries. The process of wingko production in IKM Hayu is still less effective and efficient because of some waste such as defects, work in process, waiting, and expired wingko. This study aims to analyze the waste in IKM Hayu, reduce the existing waste with proposed improvements, and plan future state mapping and calculate Process Cycle Efficiency (PCE) after improvement. The research was conducted by measuring the cycle time of each process. The tools used are process activity mapping (PAM) to identify activities including value added time (NVA), non value added time (NVAT), non value added but necessary (NNVA), and supply chain response matrix (SCRM) to determine days physical stock. Next, to identify the causes of waste using fishbone diagrams.

Based on the results of the identification, the waste of wingko production process is (1) defect, which is scorched wingko, (2) expired wingko, because of overproduction, (3) waiting, because of imbalance of the production line, and (4) stack of WIP, in the process of prying, stripping of testa, weighing, baking, and packaging. The proposed improvement plan is discipline of workers and SOP at IKM Hayu, eliminating deliberate waiting times to reduce the WIP stack, repairing stoves, adding one worker at the baking process, and recording the number of wingko distributed to the store and recording how many wingko sold so forecasting can be done based on data history and calculated for safety stock. In the future state mapping, the number of WIP stacks decreased so that the leadtime was 5.391 days, NVAT became 37.225 seconds, and PCE increased to 0.113%.

**Keywords:** *Value stream mapping, Lean Manufacturing, Waste, Process activity mapping, Supply chain response matrix, Fishbone diagram.*

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