Application of Lean Manufacturing to Minimize Production Cycle Time in the Aluminum Furniture Division

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Abstract	The production process efficiency is the company's ability to produce optimal output using available resources. When carrying out the production process of aluminium furniture, PT Rajawali Perkasa Furnitur (RPF) has a significantly long cycle time, which results in low efficiency or can be said to be experiencing wastefulness. Through the implementation of lean manufacturing using Value Stream Mapping (VSM) and Process Activity Mapping (PAM) methods, this study aims to minimize the cycle time. The production process of aluminium furniture includes (1) cutting, (2) bending, (3) assembly, (4) leveling, (5) QC, (6) Treatment, (7) powder coating, (8) weaving, (9) touch up, (10) inspect, and (11) packaging. The total cycle time for these processes is 13.431 seconds. Based on the research, it is found that there are 3 non-value-added activities, namely 2 activities in the weaving process and 1 activity in the packaging process. The elimination of these 3 activities results in a reduction of the cycle time by 464 seconds to 12.967 seconds.
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