



**PROCESS REDESIGN TO INCREASE THROUGHPUT  
AND IMPROVED PRODUCT FLOW OF MOULD  
PRODUCING IN SMALL INDUSTRY**

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“I declared that this thesis is the result of my own work except the ideas and summaries which I clarified their sources. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any degree”

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## **ABSTRACT**

Small and Medium Enterprise (SMEs) plays an important role in Malaysia economic growth. By 2020, manufacturing sectors which is one of the major sector in SME are predicted to achieve total production up to RM120 billions. Therefore, to ensure the production can reach the target, production rate of a SME should be consistent. PNI Noor Indah Sdn. Bhd is a SME company which is producing bakeware including decorative nozzles. Decorative nozzle is one of the highest-demand product produce by this company. However, the process to produce this product is fully manual and tedious. Therefore, the main objective of this project is to redesign the process to increase throughput and improved product flow. For that purpose, the current processes involved for decorative nozzle production are observed. Improved jig design for punching and rolling processes is proposed to reduce time and raw material wastes. Improved process layout is then suggested based on these improved processes. Improved layout is then simulated using DELMIA Quest. The simulation results are compared with the current production in terms of production rate and reduce raw material waste. The production rate of the improved layout shows an increase of 5% from the current layout adopted by the company. Therefore, this shows that the implementation of new process design is able to improve the production rate of production line.