

DESIGN APPLICATION HONDA MOTOR SALES FORECASTING USING LEAST SQUARE METHOD (CASE STUDY: PT. HD MOTOR 99 GRESIK)

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ABSTRACT

Every company has always made a work plan for determining sales targets. However, during this time sales target for the future is not objective because its still based on management intuitive and is still influenced by the opinions or feelings of the maker. Therefore a system is needed that can help management to decide future sales target more objectively, so that the determination of the sales target can be more accountable and more groundless.

This research applies time series forecasting model by Least Square method to estimate the rate of motorcycle sales period of one month to come. Data were processed using historical data of sales of motor PT. HD MOTOR 99 Gresik period January 2013 - August 2015.

System testing performed four times, each composition test using different amounts of training data. Then it will be compared with the actual sales data to determine the best forecasting results and gain the smallest value forecasting error with *Mean Absolute Deviation* (MAD). Based on the results of system testing showed that the amount of data used affects the forecast error (MAD). The best forecast error found in the third test using 3 months training data which has MAD value at 5.055. In the testing of margin error obtained value of MAPE (*Mean Absolute Percentage Error*) of the test data is good enough for 5%.

Keywords: *Least Square, Sales Forecast, MAD, MAPE*

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