

Kridsada Funkumai 2009: Productivity/Performance Measurement with an Integration of Time-lag Effects Case Application at Rigid Plastic Film Production Plant. Master of Engineering (Industrial Engineering), Major Field: Industrial Engineering, Department of Industrial Engineering. Thesis Advisor: Associate Professor Kongkiti Phusavat, Ph.D. 79 pages.

The purpose of this thesis work was to study key performance measurement in rigid plastic film production plant (RPP) with an integration of mathematics analysis. According to ISO ISO9001 version 2000 requirement 8 was released methods of analysis to general production and design company, the RPP is under that regulation of ISO, this thesis work has enhance existing policy on quality management and internal development to use in further as a requirement Of ISO9001 version 2000 requirement 8. On the other hand, this work has design to carry out the performance and benefit of R&D in point of financial index on new products to end customers.

The data which used to determine the relationship of mathematic models based on balance scorecard frame work. It is 4 parameters in this study; financial perspective, customer perspective, internal process perspective, and innovation and learning perspective. In general before this thesis work carried out the internal relationship in terms of mathematic with time lag analysis. Those parameters have look in single point of view with no inter linkage. Normally, most the top managements have relied on financial data or cost and benefit issues to monitor and control the business with less consideration of other factors such customer analysis, internal process, and innovation and learning. As a results from this research work, it was found crucial factors that able to improve the financial statement of RPP. The results in terms of mathematics index were confirm the believing of management such over time benefit to RPP, labor cost control, maximized production output lead on benefits, and etc. On the quality of work life, it was found the innovation and learning has reflect to company social quality and derived the by positive product of earning before interest and tax (EBIT). In the end, thesis result has capability to be standard tools of quality and control for RPP management.

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Thesis Advisor's signature