

SUMMARY

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PT XYZ is one of several companies in feedmill industry. Risk potency could be happened inside of its operational process. This study aimed to analyze problems or risks occurred in the plant manufacturing process, measure and evaluate correlation between risks and level of risks also its effect on plant manufacturing process activity, and create some risk mitigation alternative solution in proper plant manufacturing process to increase the efficiency and effectivity in PT XYZ.

SCOR model was used to identify risks and to obtain risk event from the risks happened in PT XYZ. Risk measurement and evaluation was conducted by FMEA fuzzy supported by fishbone diagram. Risk mitigation was done based on professional recommendation result based on risk agent which is become the reason of risk event.

This study result 46 risk events which agreed by the professionals as respondent. Risk event measurement was conducted by FMEA fuzzy by calculating FRPN value. In this FMEA fuzzy, it include three input variable (severity, occurrence, and detection) with five linguistic level (Very Low (VL) to Very High (VH), so that will be obtained 125 (5x5x5) basis combination of fuzzy rules. Then, FRPN was proceed by pareto diagram to see the risk which can be prioritized. Operational risks which has VH category are (1) fire of the whole site (M14) FRPN 884.24, (2) main machine problem (M12) FRPN 882.76, (3) raw material unavailability for production (S3) FRPN 880.07, (4) uncertainty product sales (P2) FRPN 883.12, and (5) feed manufacturing has not meet the standard (M3) FRPN 658.07. While risk event mapping SCOR model resulted that highest and the most operational risks in feedmill industry are (1) major process make with 14 risk event and 8,488.13 FRPN accumulation, (2) source with 12 risk event and 6,942.04 FRPN accumulation, (3) deliver with 9 risk event and 4,519.85 FRPN accumulation, (4) plan with 7 risk event and 4,012.68 FRPN accumulation, dan (5) return with 4 risk event and 2,144.33 FRPN accumulation. Mitigation conducted prefer to VH risks with the RPN range of 800-1000.

Keywords: fishbone, fuzzy FMEA, plant manufacturing process, risiko operasional, SCOR model.

