DESIGNING KEY PERFORMANCE INDICATORS OF SUPPLY CHAIN PERFORMANCE DIGITALIZATION (CASE STUDY: PT X)

FINAL PROJECT REPORT

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PADANG
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A final project report submitted in fulfillment of the requirement for the award of the degree of Bachelor Degree in Industrial Engineering Department, Faculty of Engineering, Andalas University

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ABSTRACT

Rapid technological developments helped bring an increased level of business competition by improving the performance of supply chain management system. PT X was a company that incorporated with Danone Group and it focused on implementing digitalization of supply chain planning to improve the performance. PT X required to identify the indicator for measuring supply chain performance digitalization. This study aims to identify the priority weights of KPI and contribute with an evaluation framework analysis of each KPI based on priority weight for future supply chain performance using Supply Chain Operation Reference (SCOR) model approach. Data collecting is obtained by interviews and questionnaires given to the experts. Based on data processing using Analytical Hierarchy Process (AHP) for calculating the weight for each level in SCOR model approach, there are 24 Key Performance Indicators (KPIs) consist of plan process has 7 KPIs, source process has 4 KPIs, make process has 4 KPIs, deliver process has 5 KPIs. return process has 4 KPIs. Overall, KPIs with the highest priority is on plan and source process such as forecasting accuracy automation (0.192), planning process reinforcement (0.131), supplier reliability (0.079), strategy supply (0.065), and planning data integration (0.047), efficiency production schedule (0.038), machine performance (0.035), delivery lead time and relevant information (0.034). These KPI's are calculated based on the priority weight and it can be measured for supply chain performance digitalization.

Keyword: Digitalization, Supply Chain Performance, SCOR, AHP

ABSTRAK

Perkembangan teknologi yang pesat turut membawa peningkatan tingkat persaingan usaha dengan meningkatkan kinerja sistem manajemen rantai pasok. PT X *adalah perusahaan yang tergabung dalam* Danone Group *dan fokus pada implementasi digitalisasi perencanaan rantai pasokan untuk meningkatkan kinerja.* PT X *perlu mengidentifikasi indikator untuk mengukur digitalisasi kinerja rantai pasok. Penelitian ini bertujuan untuk mengidentifikasi bobot prioritas KPI dan berkontribusi dengan analisis kerangka evaluasi masing-masing KPI berdasarkan bobot prioritas untuk kinerja rantai pasok masa depan dengan menggunakan pendekatan model* Supply Chain Operation Reference (SCOR). *Pengumpulan data diperoleh dengan wawancara dan kuesioner yang diberikan kepada para ahli. Berdasarkan pengolahan data menggunakan* Analytical Hierarchy Process (AHP) *untuk menghitung bobot tiap level pada pendekatan model SCOR, terdapat 24* Key Performance Indicator (KPI) *terdiri dari* plan process *memiliki 7 KPI,* source process *memiliki 4 KPI,* make process *memiliki 4 KPI,* deliver process *memiliki 5 KPI,* return process *memiliki 4 KPI. Secara keseluruhan, KPI dengan prioritas tertinggi adalah pada proses perencanaan dan sumber seperti otomatisasi akurasi peramalan dengan bobot total (0,192), penguatan proses perencanaan (0,131), keandalan pemasok (0,079), pasokan strategi (0,065), dan integrasi data perencanaan (0,047), efisiensi jadwal produksi (0,038), kinerja mesin (0,035), waktu pengiriman dan informasi yang relevan (0,034). KPI ini dihitung berdasarkan bobot prioritas dan dapat digunakan untuk pengukuran kinerja* supply chain digitalization.

Kata Kunci*: Digitalisasi, Kinerja Supply Chain, SCOR, AHP*