

## INTISARI

Perkembangan teknologi informasi dan komunikasi yang sangat pesat mendorong pergeseran model industri menjadi industri berbasis pada proses digitasi dan integrasi, dikenal sebagai Revolusi Industri 4.0. Tujuan penerapan Industri 4.0 bagi manufaktur adalah untuk meningkatkan produktivitas melalui peningkatan monitor dan kontrol proses produksi, produktivitas tenaga kerja, pengurangan persediaan, pengurangan *time to market*, perbaikan perencanaan produksi, pengurangan biaya perawatan, pengurangan *down time* mesin, dan pengurangan biaya pemeliharaan kualitas. Penelitian ini bertujuan untuk mengkaji kesiapan penerapan Industri 4.0 pada departemen produksi sektor industri makanan dan minuman sebagai studi kasus. Kajian menggunakan pendekatan model *Smart Industry Readiness Index* (SIRI) yang meliputi faktor manusia, organisasi, dan teknologi. Penelitian dilanjutkan dengan penyusunan rencana tindak lanjut perbaikan dengan metode analisis *Prioritisation Matrix* untuk mendapatkan prioritas berdasarkan urutan *Impact Value* yang menunjukkan perolehan manfaat setiap dimensi. Hasil penelitian berdasarkan perhitungan *Impact Value* melalui pengukuran *Cost Efficiency Factor*, *Key Performance Indicators Factor*, dan penilaian *Proximity Factor* jika dibandingkan dengan *best in class* industri pada *Prioritisation Matrix* menghasilkan urutan prioritas perbaikan yang dilengkapi dengan rencana program tindak lanjut sehingga dapat digunakan sebagai pedoman terstruktur bagi perusahaan untuk penerapan Industri 4.0. Pada studi kasus kali ini, urutan perbaikan yang memberikan manfaat paling tinggi ke paling rendah adalah *Shop Floor Automation*, *Enterprise Connectivity*, *Facility Connectivity*, *Shop Floor Intelligence*, *Facility Automation*, *Workforce Learning and Development*, *Strategy & Governance*, *Vertical Integration*, *Leadership Competency*, *Shop Floor Connectivity*, *Facility Intelligence*, *Enterprise Intelligence*, *Enterprise Automation*, *Horizontal Integration*, dan dimensi yang terakhir adalah *Inter-/Intra- Company Collaboration*.

**Kata kunci:** Industri 4.0, Kesiapan Industri 4.0, *Smart Industry Readiness Index* (SIRI), Analisis *Prioritisation Matrix*.

## **ABSTRACT**

*The very rapid development of information and communication technology has pushed the industrial model to shift to an industry based on digitization and integration processes, known as the Industrial Revolution 4.0. The purpose of implementing Industry 4.0 for manufacturing is to increase productivity through increased monitoring and control of production processes, labor productivity, inventory reduction, time to market reduction, production planning improvements, maintenance costs reduction, machine down time reduction, and quality maintenance costs reduction. This study aims to examine the readiness of the application of Industry 4.0 in the production department of the food and beverage industry sector as a case study. The study uses the Smart Industry Readiness Index (SIRI) model approach which includes human, organization, and technology factors. The research continued with the preparation of a follow-up plan for improvement using the Prioritisation Matrix analysis method to obtain priorities based on the order of Impact Value which shows the benefits of each dimension. The results of the study based on the calculation of Impact Value through Cost Efficiency Factor, Key Performance Indicators Factor, and Proximity Factor when compared to the industry's best in class in the Prioritisation Matrix resulted in a priority order for improvement that was equipped with a follow-up program plan, so it could be used as a structured guideline for companies to application of Industry 4.0. In this case study, the order of improvements that provide the highest benefit to the lowest is Shop Floor Automation, Enterprise Connectivity, Facility Connectivity, Shop Floor Intelligence, Facility Automation, Workforce Learning and Development, Strategy & Governance, Vertical Integration, Leadership Competency, Shop Floor Connectivity, Facility Intelligence, Enterprise Intelligence, Enterprise Automation, Horizontal Integration, and the last dimension is Inter-/Intra-Company Collaboration.*

**Keywords:** *Industry 4.0, Industry 4.0 Readiness, Smart Industry Readiness Index (SIRI), Prioritisation Matrix Analysis*