

## ABSTRAK

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### **PERANCANGAN PERMAINAN *LIFE CYCLE ASSESSMENT* DALAM *SUPPLY CHAIN MANAGEMENT***

Skripsi, Fakultas Sains dan Teknologi (2019)

(vii + 92 hal, 34 tabel, 32 gambar, 3 lampiran)

Peraturan Presiden No. 59 Tahun 2017 tentang Pelaksanaan Pencapaian Tujuan Pembangunan Berkelanjutan menunjukkan bahwa *Life Cycle Assessment* sebagai salah satu metode untuk menganalisis data lingkungan sebagai faktor penting. Didapatkan juga fakta bahwa belum ada permainan *Life Cycle Assessment* dan pelajar yang lebih mengerti mengenai *Supply Chain Management* setelah bermain permainan *Beer Game*. Melihat kedua hal tersebut, dibuat permainan *Life Cycle Assessment* dalam *Supply Chain Management* bernama “*Robo Factory*” yang digambarkan sebagai suatu rantai pasok produksi robot dan bertujuan untuk mengedukasi pemainnya mengenai struktur *Supply Chain Management*, tugas dan tanggung jawab dari pemeran *Supply Chain Management*, penilaian dampak terhadap suatu *Life Cycle*, dan jenis-jenis *cost* yang terdapat dalam *Supply Chain Management* serta *Life Cycle Assessment*. Pembuatan permainan ini mengikuti pembuatan permainan *Supply Chain Risk Management* oleh Kujipers pada 2009 yang terdiri dari 1. Konsep Permainan dan Desain Prototipe, 2. Prototipe, Evaluasi, dan Finalisasi Peraturan Permainan, dan 3. Permainan Akhir. Hasil evaluasi permainan akhir menunjukkan bahwa terdapat peningkatan pengetahuan pemain akan keempat tujuan permainan melalui *pre-test* dan *post-test* yang dikerjakan sebelum dan sesudah bermain.

Kata Kunci : *Serious games, life cycle assessment, supply chain management*

Referensi : 34 Referensi (2007-2018)

## **ABSTRACT**

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### **LIFE CYCLE ASSESSMENT IN SUPPLY CHAIN MANAGEMENT GAME DESIGN**

Thesis, Faculty of Science and Technology (2019)

(vii + 92 pages, 34 tables, 32 figures, 3 attachments)

Presidential Regulation No. 59 of 2017 concerning Implementation of Achievement of Sustainable Development Goals shows that Life Cycle Assessment a method for analyzing environmental data as an important factor. There are also facts that currently there is no Life Cycle Assessment game and students who understand more about Supply Chain Management after playing the Beer Game. Looking at these two facts, a game of Life Cycle Assessment in Supply Chain Management called "Robo Factory" is created, which was described as a supply chain for robot production and aimed at educating players about the structure of Supply Chain Management, the role of the Supply Chain Management, impact assessment on a Life Cycle, and the types of costs contained in Supply Chain Management and Life Cycle Assessment. The making of this game followed the framework of the Supply Chain Risk Management game by Kujipers in 2009 which consisted of 1. Concepts of Game and Prototype Design, 2. Prototype, Evaluation, and Finalization of Game Rules, and 3. Final Games. The final game evaluation results shows that there is an increase in players knowledge in the four game objectives through pre-tests and post-tests performed before and after playing.

Keywords : Serious games, life cycle assessment, supply chain management

References : 34 References (2007-2016)