

INTISARI

Social manufacturing merupakan sistem industri manufaktur baru terdiri dari berbagai pihak termasuk industri kecil menengah (IKM), *workshop*, penyedia jasa logistik, serta pergudangan dimana para pihak tersebut berkolaborasi membentuk komunitas berbasis jaringan internet dengan produsen untuk tugas *crowdsourcing* atau *outsourcing*. *Social manufacturing* bertujuan untuk mengatasi variasi kebutuhan pesanan yang tersebar dan dalam waktu singkat karena dapat bekerja sama dengan IKM untuk memenuhi pasokan material dan produksi komponen pendukung. Agar dapat mencapai tujuan tersebut diperlukan adanya *real-time monitoring* yang dapat dilakukan dengan adanya pembagian informasi antara IKM dan industri manufaktur besar melalui komunitas yang terhubung dengan jaringan internet.

Penelitian *social manufacturing* dengan teknologi *radio frequency identification (RFID)* dilakukan oleh Marti Widya Sari yang merupakan mahasiswa S3 Teknik Industri UGM. Salah satu komponen penelitian yang memiliki peran besar adalah sistem informasi berupa *website social manufacturing* sebagai tempat pembagian informasi secara *real-time* antara industri manufaktur besar dan IKM. Uji usabilitas terhadap *website social manufacturing* yang sedang dikembangkan perlu dilakukan untuk mengetahui tingkat efektivitas, efisiensi dan kepuasan penggunaan dan fitur *website*. Kesiapan pengguna dalam menggunakan *website* juga perlu dikembangkan agar teknologi baru tersebut dapat sukses diadopsi oleh industri. Pelaksanaan *software training* diharapkan dapat meningkatkan pengetahuan dan kemampuan pengguna dalam menggunakan fitur *website social manufacturing*.

Evaluasi usabilitas *website social manufacturing* dilakukan menggunakan metode *performance measurement*, kuisisioner SUS, dan *Retrospective Thinking Aloud*. Pelaksanaan *software training* kepada pengguna dilakukan menggunakan metode *synchronous training* dengan *concurrent practice* atau latihan langsung tanpa jeda. Penelitian ini bertujuan untuk membandingkan hasil evaluasi usabilitas *website social manufacturing* sebelum dengan sesudah dilaksanakan *software training* dan menemukan korelasi pelaksanaan *software training* tersebut terhadap peningkatan usabilitas *website social manufacturing*. Penelitian dilakukan kepada tujuh responden yang merupakan praktisi industri manufaktur komponen otomotif yang terletak di Kawasan Industri Tangerang, Cikarang, dan Karawang.

Hasil evaluasi usabilitas *website social manufacturing* didapatkan bahwa tingkat efektivitas sebesar 61,33% dan meningkat menjadi 87,02%, tingkat efisiensi 3,40%/detik dan meningkat menjadi 7,30%/detik, dan tingkat kepuasan adalah 47,5 dan meningkat menjadi 64,3 setelah dilaksanakan *software training*. Terdapat korelasi positif dan signifikan peningkatan *computer literacy* dan *computing literacy* pengguna yang diuji pada *software training* terhadap tingkat efektivitas, efisiensi, dan kepuasan *website social manufacturing*.

Kata kunci: *social manufacturing*, evaluasi usabilitas, *software training*, efektivitas, efisiensi, kepuasan, SUS, *computer literacy*, *computing literacy*

ABSTRACT

Social manufacturing is a new manufacturing industry system consist of several stakeholders including small medium enterprises (SME), workshop, logistic and warehouse services provider where all the stakeholders are collaborating to build an internet network-based community with the manufacturer for crowdsourcing and outsourcing job. The purpose of social manufacturing is to resolve dispersed demand requirement variations in short time because of the capability to cooperate with SMEs to fulfil the material supplies and supporting components production. In the order of achieving that purpose, it is required a real-time monitoring that can be done by information sharing between the manufacturer and the SMEs through a community that is connected to the internet.

Research on social manufacturing using radio frequency identification (RFID) technology is conducted by Marti Widya Sari who is student of Industrial Engineering Doctorate Program UGM. One of the crucial components of the research is information system which is website social manufacturing as a real-time information sharing place between the manufacturer an SMEs. Usability testing of the developing social manufacturing website must be conducted to find out the effectivity, efficiency, and satisfaction of the website. User's readiness in using an information system must also be developed so that new technology can be successfully adopted by the industry. Conducting software training is expected to increase user's knowledge and skill in using social manufacturing website's features.

Usability evaluation is conducted using performance measurement method, SUS questionnaire, and retrospective thinking aloud. Software training is conducted to the user using synchronous training method with concurrent practice. The purpose of this research is to compare social manufacturing website usability evaluation results before and after software training is conducted and to find the correlation of the implementation of the software training to the usability improvement. This research is conducted to seven respondents who manage several automotive components manufacturing industry in Industrial Area of Tangerang, Cikarang, and Karawang.

The social manufacturing usability evaluation results that the effectiveness level is 61.33% and it is increased into 87.02%, the efficiency level is 3,40%/s and it is increased into 7,30%/s, and the satisfaction score is 47.5 and it is increased into 64.3 after software training is conducted. There is a positive and significant correlation between the improvement of user's computer literacy and computing literacy that are tested in software training and the improvement of effectiveness, efficiency, and satisfaction level of the website.

Keywords: social manufacturing, usability evaluation, software training, effectiveness, efficiency, satisfaction, SUS, computer literacy, computing literacy