

EVALUASI KESAN (KANSEI ENGINEERING-BASED SYSTEM FOR AGROINDUSTRY) PADA SISTEM KERJA UMKM MAKANAN DAN MINUMAN MENGGUNAKAN METODE FMEA (FAILURE MODE AND EFFECT ANALYSIS)

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INTISARI

KESAN (*Kansei Engineering-based System for Agroindustry*) merupakan sistem penilaian kenyamanan kerja mengacu pada kuantifikasi beban kerja berdasarkan pemodelan parameter verbal dan non-verbal. Pengembangan KESAN saat ini perlu diuji coba ke sistem kerja UMKM sebagai tahap demonstrasi prototipe. Tujuan pengujian yaitu untuk mengidentifikasi risiko potensi kegagalan KESAN yang dapat menurunkan kepercayaan pengguna terhadap sistem. Pengujian dilakukan dengan uji penerimaan pengguna menggunakan metode FMEA (*Failure Mode and Effect Analysis*). FMEA merupakan teknik yang digunakan untuk mengidentifikasi dan menghilangkan potensi kegagalan yang diketahui dari sistem sebelum hal tersebut sampai ke konsumen. Potensi kegagalan diukur melalui nilai *severity*, *occurrence*, dan *detection* yang menghasilkan nilai RPN (*Risk Priority Number*). Hasil penelitian menunjukkan potensi kegagalan KESAN terbagi menjadi 3 level kegagalan yaitu *functionality level*, *usability level*, dan *pleasure level*. Prioritas penyebab potensi kegagalan KESAN yaitu 1) Penjelasan luaran kurang informatif dan tidak ada rekomendasi tindakan; 2) Tidak ada rangkuman rekaman data; 3) *Error handling* saat pengisian data tidak berfungsi; 4) Tata letak tampilan tidak nyaman dilihat. Prioritas penyebab potensi kegagalan dipilih berdasarkan nilai RPN tertinggi pada setiap level kegagalan yang diidentifikasi. Hasil penentuan prioritas penyebab potensi kegagalan kemudian dijadikan fokus perbaikan KESAN guna mencegah kegagalan tersebut sampai ke pengguna.

Kata kunci: FMEA, *kansei engineering-based system*, RPN

EVALUATION OF KESAN (KANSEI ENGINEERING-BASED SYSTEM FOR AGROINDUSTRY) ON FOOD AND BEVERAGE SMES WORK SYSTEM USING FMEA (FAILURE MODE AND EFFECT ANALYSIS) METHOD

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ABSTRACT

KESAN (Kansei Engineering-based System for Agroindustry) is a work ergonomic assessment system that refers to the quantification of workload based on modeling of verbal and non-verbal parameters. The current KESAN development needs to be tested in the SMEs work system as a prototype demonstration stage. The purpose of testing is to identify the risk of KESAN failures potential that can reduce user trust in the system. Testing is done by user acceptance test using the FMEA (Failure Mode and Effect Analysis) method. FMEA is a technique used to identify and eliminate potential failures that are known from a system before it reaches the consumer. Potential failures are measured through severity, occurrence, and detection values which produce an RPN (Risk Priority Number) value. The results showed that the potential of KESAN failures was divided into 3 potential failure levels, namely functionality level, usability level, and pleasure level. The priority of failure potential causes are 1) Explanation of output is less informative and there are no action recommendations; 2) There is no summary of data records; 3) Error handling when data filling is not functioning; 4) The layout of the display is not comfortable to see. The priority of failure potential causes are chosen based on the highest RPN value at each failure level identified. The results of determining the priority of failure potential causes are then used as the focus of KESAN repairs to prevent these failures from reaching the user.

Keywords: FMEA, kansei engineering-based system, RPN