

CAUSALIDAD DEL ERROR HUMANO EN LA CALIDAD DEL PRODUCTO - ESTUDIO DE CASO

HUMAN ERROR CAUSALITY IN THE QUALITY OF THE PRODUCT - CASE STUDY

Teresa Carrillo-Gutiérrez

Doctora en Ciencias en Ingeniería Industrial, Profesora Investigadora. Facultad de Ciencias Químicas e Ingeniería. Universidad Autónoma de Baja California, Tijuana. Baja California, (México).

E-mail: tcarrillo@uabc.edu.mx ORCID: <https://orcid.org/0000-0001-9674-3586>

Rosa María Reyes Martínez

Doctora en Ciencias de la Salud en el Trabajo, Profesora Investigadora. División de Estudios de Posgrado e Investigación. Tecnológico Nacional de México, Instituto Tecnológico de Cd. Juárez, Ciudad Juárez, Chihuahua, (México).

E-mail: rosyreyes2001@yahoo.com ORCID: <https://orcid.org/0000-0003-4950-5045>

Karina Cecilia Arredondo-Soto

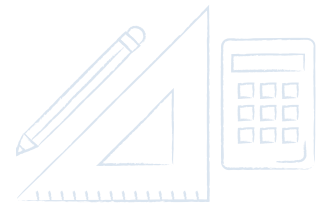
Doctora en Ciencias en Ingeniería Industrial, Profesora Investigadora. Facultad de Ciencias Químicas e Ingeniería. Universidad Autónoma de Baja California, Tijuana. Baja California, (México).

E-mail: karina.arredondo@uabc.edu.mx ORCID: <https://orcid.org/0000-0002-8929-7319>

Maria Marcela Solis-Quinteros

Doctora en Ciencias Administrativas, Profesora Investigadora Facultad de Contaduría y Administración, Universidad Autónoma de Baja California, Tijuana. Baja California, (México).

E-mail: marcela.solis@uabc.edu.mx ORCID: <https://orcid.org/0000-0002-0567-0092>



RESUMEN

El objetivo del estudio es desarrollar una taxonomía de los factores humanos que influyen en los errores humanos y fallas que provocan defectos en la calidad del producto en la industria de manufactura de dispositivos médicos de la ciudad de Tijuana, Baja California, México.

La metodología utilizada se fundamenta en la Teoría del Consenso Cultural de la Antropología Cognitiva. La investigación se desarrolló en cuatro etapas secuenciales con un enfoque de métodos mixtos para la recopilación y análisis de datos. En la etapa I se realizó un estudio contextual de la industria de manufactura por la falta de datos estadísticos publicados, logrando abarcar a 67 empresas. En la etapa II se usó el enfoque cualitativo con el instrumento de investigación llamado listados libres.

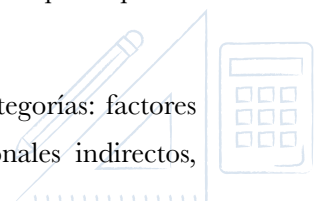
En la etapa III, la técnica de sorteo por montones sucesivos fue aplicada en la recopilación de datos para la clasificación de los elementos del Dominio Cultural. Los modelos estadísticos Análisis Clúster y Escalamiento Multidimensional, se aplicaron para obtener las categorías mutuamente excluyentes y de alto nivel y mediante el Análisis del Consenso Cultural se verificó la existencia de una cultura de la calidad única entre los miembros del grupo de producción y calidad.

En la etapa IV se realizó una evaluación de los conocimientos de los operadores multifuncionales; el instrumento de investigación fue una encuesta con escalas de calificación diseñada a partir de los elementos del dominio cultural descritos en la etapa III. La validez interna de la encuesta y la confiabilidad de los participantes fueron estimadas con el coeficiente Alfa de Cronbach.

El resultado principal fue una taxonomía integrada por cinco categorías: factores técnicos, factores organizacionales internos, factores organizacionales indirectos, factores personales, factores humanos directos.

PALABRAS CLAVE

Confiabilidad humana, Análisis del error, Consenso Cultural, Calidad del producto.



ABSTRACT

The objective of the study is to develop a taxonomy of human factors that influence human errors and failures that cause defects on product quality in medical devices of the manufacturing industry in the city of Tijuana, Baja California, Mexico.

The methodology used is based on the Cultural consensus Theory of Cognitive Anthropology. The research was conducted in four sequential stages with an approach of mixed-methods in order to collect and analyze data. In stage I, a contextual study of the manufacturing industry was carried out due to the lack of published statistical data, reaching 67 companies. In stage II, a qualitative approach was used with the free lists research instrument.

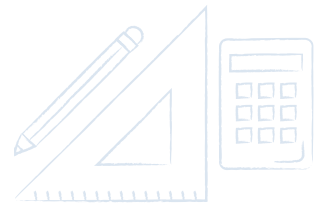
In stage III, the successive pile draw technique was applied in the data collection for the classification of the Cultural Domain elements. The Cluster Analysis and Multidimensional Scaling statistical models were applied to obtain the mutually exclusive and high-level categories and through the Cultural Consensus Analysis, it is verified the existence of a unique quality culture among the production and quality group members.

In stage IV, an evaluation of the knowledge of the multifunctional operators was carried out; the research instrument was a survey with rating scales designed from the elements of the cultural domain described in stage III. The internal validity of the survey and the reliability of the participants were estimated with Cronbach's alpha coefficient.

The main result is a taxonomy made up by five categories: technical factors, internal organizational factors, indirect organizational factors, personal factors, direct human factors.

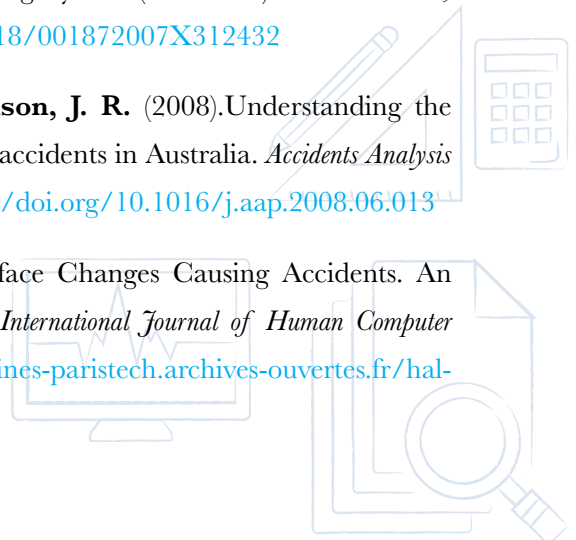
KEYWORDS

Human reliability, Error analysis, Cultural Consensus, Product quality.



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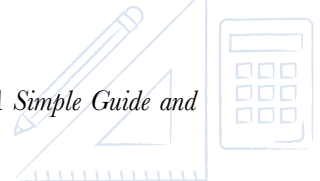
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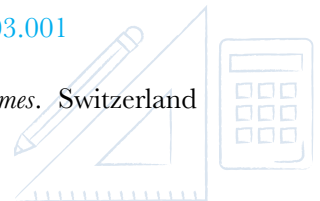
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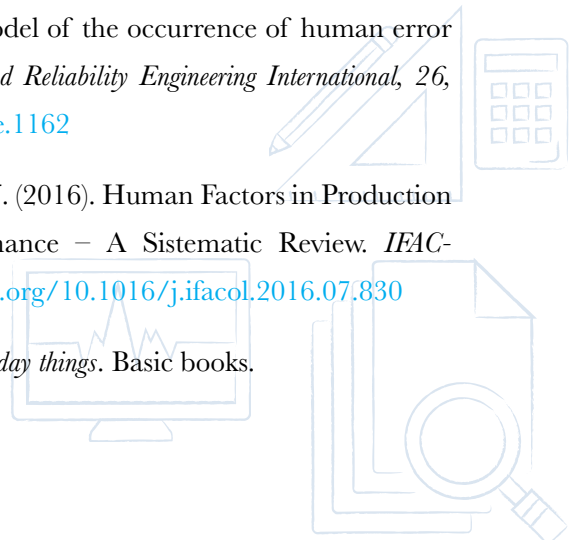


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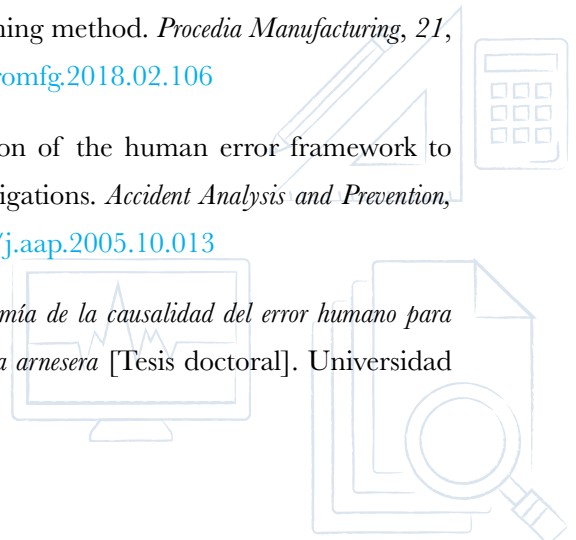
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