شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

HANAA ALY

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

HANAA ALY

AIN SHAMS UNIVERSTY

Faculty of Engineering

Design and Production Engineering

Establishing Integrated Product Design and Development System

A Thesis Submitted in a Partial Fulfilment of Requirements of the Degree of Master of Science in

Mechanical Engineering

(Design and Production Engineering)

By

Alshimaa Ayman Elsaid

Bachelor of Science in Mechanical Engineering

(Design and production Engineering)

Faculty of Engineering, Ain Shams University, 2013

Supervised By

Prof. Dr. Mohamed Hazem Abdellatif

Dr. Eng. Ahmed Badrelden ALhamaky

Cairo-(2020)

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Date:28 November 2020

Statement

This Thesis Submitted in a Partial Fulfilment of Master of Science in Mechanical Engineering, Faculty of Engineering, Ain Shams University.

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Thesis Summary

Establishing Integrated Product Design and Development System

Within the knowledge Economy century all nations competing to innovate new technologies leading to an introduction of robust, economic and quality products. The relation between the different domains affecting such capability was given in an integrated system to lead to the above results. The first domain is the Business environment it was analyzed to lead to the pre-feasibility of the product creation. The second domain is market analysis, segmentation taking into consideration customer needs and competition. The third domain to study in the proposed system is the managerial readiness of the product developing company including main managerial functions and the necessity of implementing the organizational change techniques if necessary. Then moving to the fourth domain in which product concepts and robust quality design were analyzed considering the design innovative methodologies, theories, techniques, and relevant software. The production processes and quality techniques to assure producing with the required quality and price levels were given at the fifth domain. Finally, the necessaries of product distribution, service and after the market were given at the last domain, post-launch domain. The system was supported by the related internet enablers and the latest software via hyperlinks. The above model was implemented in Egypt and leading to considerable results as seen in table 1.

Table1-1 Model Implementation results

Criteria	New Model	Traditional way
Analyzing business factors	Yes	No
Resources availability check	Yes	No
Market analyzing	Yes	Yes
Integrated loop between business and market domains	Yes	No
Company managerial readiness	Yes	Yes
Concept generation phase	Yes	No
Concept selection & testing phase	Yes	No
Information integration within all domains	Yes	No
Easy accessible to data needed	Yes	No

Keywords : Economy century, integrated system , Design, Managerial readiness

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