User as Designer: A Design Model of User Creativity Platforms

Chia-Ling Chang\textsuperscript{a*} and Ding-Bang Luh\textsuperscript{b}

\textsuperscript{a} Department of Creative Product Design and Management, Far East University, Tainan, Taiwan
\textsuperscript{b} Department of Industrial Design, National Cheng Kung University, Tainan, Taiwan

Abstract  In recent years, with the rising of the open innovation notion, "user creativity orientation" has become a focus in new product development. Products that facilitate user’s creativity can be viewed as a creativity platform. The intangible software industry has developed over the years to meet users' creativity, while research and relevant discourses on physical products are still lacking. This study proposes a design model of platforms to satisfy user creativity for physical products, called User Creativity Platforms (UCPs). The model includes eight steps: (1) explore user's creativity needs, (2) classify functionality of the product, (3) develop primary and secondary components, (4) design a creativity-friendly interface, (5) prototype components, (6) examine UCP product features, (7) evaluate user’s design experience, and (8) assess the potential creativity of the user’s outcomes. According to the proposed model, a set of assembly toys with UCP features was developed. Using kindergarten children as subjects and employing professional designers and preschool teachers as evaluators, the developed UCP product not only satisfied users’ creativity needs but also distinguished design outcomes of children from those with existing toys in the same category. The proposed model is feasible and effective and can expand the level of design from pure product design to a creativity platform and experience design, thus creating new design value, assisting industries in developing platform products, and meeting the users’ needs for self-accomplishment. This article introduces the concept of a user creativity platform and proposes a feasible and effective design model for enterprises and designers to raise the values of the function and creativity of products. The platform can develop products that exceed other products of the same category and can allow users to enjoy the fun of designing on their own.

Keywords: creativity-oriented, user design, creativity platform, design model, toy

1. Introduction

User-centered design is an approach to design in which the process is based on information about the people who will use the product. Norman (1988) proposed the term "user-centered design" to describe design based on the needs of the user. "Universal design" (Story, Mueller, & Mace, 1998) is the concept of designing all products and the built environment to be aesthetic and usable to the greatest extent possible by everyone, regardless of their age, acquaintance, or status in life. Based on the concept of user-centered design and universal design, designers should take into consideration the physical states and cognitive ability of users in the initial phase of development. Additionally, designers should be tolerant to both functional and operational user fault, allowing for an easy-to-use and satisfactory user experience of the products and the user interface. However, lately, the wide variety of available information has sparked much creativity in the new generation of users. In fact, users are more interested in "the experience gained