

## User-experience-based design of experiments for new product development of consumer electronics and an empirical study / Kuo-Yi Lin, Annie Pei-I Yu, Pei-Chun Chu, Chen-Fu Chien

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### Abstrak

User Experience (UX) has been employed for new product development, yet few systematic approaches have been developed. This study aims to propose a systematic approach, namely, User-experience-based design of experiments (UXDOE) to capture user response and filter design ideas to derive new product design directions. Two empirical studies were conducted with the collaboration of a world leading electronics manufacturing services (EMS) company. The derived results can support the confirmation of the target segments from the perspective of marketing and clarifying key factors. Based on UXDOE, this study investigated the influence of UX on 14 notebook prototypes and wearable product design practices. The result of empirical studies have shown practical viability of the proposed approach. This study filters design ideas of esthetics and indicates several key factors of the products that enables better understanding of UX and preferences across different segments and their evaluation toward various product concepts.