



UNIVERSITI  
TEKNOLOGI  
MARA

# THE DOCTORAL RESEARCH ABSTRACTS

Volume: 11, Issue 11

April 2017

## ELEVENTH ISSUE

INSTITUTE of GRADUATE STUDIES

IGS Biannual Publication



**Name :** RUSMADIAH BIN ANWAR

**Title :** CHARACTERIZING A SYNTACTIC PATTERN OF FORMGIVING IN DESIGN THINKING PROCESS

**Supervisor :** ASSOC. PROF. DR. SHAHRIMAN ZAINAL ABIDIN (MS)  
ASSOC. PROF. DR. ING. OSKAR HASDINOR HASSAN (CS)

Design in a creative way involves a high degree of enigmatic and mystery especially at the early stage of a project. On the whole, conventional industrial design investigation faced with numerous of dilemma especially on the design methodology. The unclear design approach practiced among the creative designers comes to the technical hitches to introduce a new product design. The challenge of current trends in design research and point out some of their activities, such as the gap between aesthetic and technical need, and the chasm between ambiguous and quantified in design practice. In line with the awareness of high-quality aesthetic appeal in industrial product development, therefore, exist a need to revamp this uncertainty design activity (form structuring) for more accurate and being understood during the decision-making in product synthesis. This need together with the enhanced understanding and ability to handle visual product form, necessitate structuring throughout the creative process. In order to deal with these problems, it is recommended to develop a research guideline on the observation setup procedure. These promises to improve the ecological validity over the empirical design research methodology include the possible sampling required. The main goal of the analyzes is to formulate a methodology for analyzing qualitative data in an objective way. The design practice was analyzed through empirical design studies to uncover the design thinking approaches and their standpoint on design solutions throughout formgiving process. The results also discussed the solution to both initial problems of design activities. Through the empirical framework of in-vitro design protocol, a descriptive model of the nature and

workings of the ablation design as a subject is identified. The framework consists of two main control experiment phases; design protocol analysis, concerning the behaviour of designer during design episode; and meta-analysis, related to the characterizing stage of form syntactic related to the activity of organization and structure of visual product form. The result through circumstantial evidence from both approaches revealed that there is a consistency character that emerge the product perceptual experience during formgiving processes. The insight seeking and form element ordering during design episode has exposed the divergentconvergent of Ablution Function Mean Analysis thinking among designer generates a significant visual surface features of the form structure. Based on the meta-analysis results, the formgiving presentation confirmed the intuition conceptually presented a strategic plan of aesthetic influence through the conceptual and embodiment design. While the representation of syntactic pattern through Dual-Trace Explicit Implicit has aesthetically determined the existing of intuitive gestalt interplay during the creation of form structure. As the main contribution of this work is: (1) the creation of core empirical method relates to *research for design* as ‘possible versus feasible’ through explicit-implicit strategy; (2) conducted research relates to *research into design* as ‘specific versus holistic’ through the determination of talent, intuition and form syntactic; and (3) presented research relates *research through design* as ‘global versus detailed’ through the establishment of variables between design perceptual and behaviour.