

UNIVERSITI TEKNOLOGI MARA

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

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of the requirements for the degree of
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AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

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 divergent-convergent 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.

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

In Malaysia, the industrialization was recorded as the early 1780s, originated from the east coast (Kelantan and Terengganu) west coast (Melaka). The existence this pre-industrial directly refers to the merchandising activity among local, especially for the traditional craftwork including the clay based (ceramic) product (Ibrahim, 2013). On the professional aspect, in 1967, *Universiti Teknologi MARA* (formerly known as *Institut Teknologi MARA*) under the School of Applied Arts and Architecture, become the only school of design thought in Malaysia during that era (in Ibrahim, 2013, p. 2). From that time onward, the design activities aggressively grow as its nature locally and internationally. However in Malaysia, for over 40 years, the major debate in practicing design towards pursuing to applied art. Even the “creative people” including the industrial designer claim what they do in art and design as research, it still not considered as research (Bayazit, 2004). These statements measure the levels of agreement or disagreement with this report.

The term “Applied” mean, a side of artifact’s utilitarian, on the other view becoming as artistic (Findeli, 2001). He also reported that even *Hochschule für Gestaltung (HfG)* in Germany develop a new direction for artistic dimension whereas they increase and emphasizing the scientific content, especially with the contribution of the human and social sciences. With an agreement of HfG historical reference (New Bauhaus) as written by Morris (in Findeli, 2001: 7), design act to be a kind of semiosis, parallel between the syntactic, semantic and pragmatic dimension of sign and, respectively, artistic, scientific and technology as a new dimension of design. Their idea clearly stated that ‘creative people’ for current practice has moved from “applied aesthetics” to “applied (human and social) science.”

The art and design have been thought separately from the mainstream (art and science) ever since 1967 but, Frayling (1993/4) refuse to agree that as a conceptual statement, it is only an institutional accident. He stands still and contends that doing science is much more like doing design. All argument above stated that researcher as ‘the practitioner.’ Given fact that, all activity such research, writing, doing science,