

Encouragement of “Multispace” Design -M Method: Towards new value creation Keio University Professor Yoshiyuki Matsuoka

Between “abundance” and “ease” -The merits and demerits of large scale and complexity

The design to date, has made our living affluent. In order to meet people’s various “abundance” such as; beauty, functionality, and convenience, several characteristics were imputed into products to realize a convenient and comfortable society. To realize such society, design with advanced technology and various functionality are applied to products. As for this method, the large scale and complexity of the structure and system has been proposed.

However, serious side effect lies within this “abundance”. The side effects are the outbreak of problems for “ease” such as safety, reliability, and environmental resistance. The design till today, lets the product grow larger and more complex. As a result, the overgrown products have become difficult to control. The nuclear melt down in Fukushima and failure in aircrafts are one of those examples. Such overgrown products are gradually showing its fragility and are beginning to go out of control. Therefore, it can be said that the present day design is agonized between the “abundance” and “ease”.

Making use of the wisdom from Design Science -The design thinking of multispace

The Design science is studied to solve various design problems including problems formed from producing large scale and complex products. Design science is “an academic discipline focused on the clarification of the laws that govern design as a human act of creativity as well as the systemization of the knowledge used in designing”. Many research results on the mechanism of design thinking in generating new ideas and methodology in developing unique and high quality products have been achieved till now. For further definition on Design science terms, view the online “Design science dictionary” (<http://www.designjuku.jp>)

As one of the achievements in Design science, the “multispace design model” is given. This model generally expresses the design act, and has been used as a framework for design theory (Figure 1.). This model is composed of design thinking and design

knowledge used in that design thinking. The design thinking explains the massive design elements by dividing them into several spaces (multispace) which are value, meaning, state, and attribute. This model preaches the effectiveness of the characteristic of the multispace, especially in designing products with large scale and complex system.

M Method -For the coexistence of “unrestricted thinking” and “rational thinking”

The “M method (multispace design method)” is proposed as a design method based on “multispace design model”. This “M method” is a usable thinking method that can be used in various fields including design, business, planning department, research, and in everyday life (Figure 2.). This trait comes from the point where the user thinks by “being able to adapt to individual approach and facilitate modeling and idea generation through analysis using the perspective of multispace”. This enables the user to conduct both “unrestricted thinking” and “rational thinking” in designing products with large scale structures and systems. The specific characteristics of M method are given below.

1. Organization

- enables the “clarification of the relationships between design elements”
- enables the “distinction between differences in ideas”
- enables the “clarification of the thinking processes”

2. Usability

- can be applied to “diverse domains”
- can be applied to “individual design approaches”
- can be applied to “multi-person collaborations”

3. Ideation

- can generate ideas “to create new values”
- can generate ideas “appropriate to and to create new circumstances”
- can generate ideas “using innovation seeds”

This “M method” has already been applied in designing various effective products from glasses and USB to large scale transportation system, semiconductor production system, and vehicle service system.

Expectation Towards Japan's Manufacturing -For the realization of a new value creation

From here on, the promotion of a larger scale and more complex manufacturing is inevitable. Therefore, the combination of “rational thinking” and the “unrestricted thinking” is important in order to create a more innovative and perfected new value.

Now, a new study called the “design science” is rapidly growing. It is believed that by employing the design thinking of “multispace” (M method), which is based on design science, enables the construction of a unique methodology and the realization of a new value creation which can lead the world.

Figure 1. Multispace Design Model

Figure 2. M Method