Fundamental Research for Planning of Harmonica-type Display Booth Design Guide

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Abstract: At exhibitions, diverse innovation on the design is required in order to bring visitors to your booth among the many exhibitors. The aim of this report is to propose a design guide for effective exhibition in small-scale harmonica-type booths, particularly for small- to medium-sized companies. In order to do this, we first of all studied exhibit arrangement patterns at actual exhibitions. Next, we obtained an understanding of visual recognition through walking tests using eye-mark recorders. The results of both of these clarified the relationship between frequency of fixation and exhibition patterns and led us to the proposal for harmonica-type booths for exhibits.

Key words: harmonica-type display booth design, eye-mark recorders, exhibitions

1. Introduction
Exhibitions and trade shows are events that are organized as platforms for presenting products, advertising, business meetings and transactions and are a direct, reciprocal information medium for “senders” and “receivers” that share the same location and time [1]. Many exhibitors at exhibitions require diverse innovation on the design front in order to bring visitors to their booths. However, most small-scale booths for small- to medium-sized companies use the rental system provided by the organizer and the sales representatives themselves just line up the products and explanatory panels making it the case that many booths are not utilized to their full potential.

Based on such a backdrop, this research aims to obtain basic data in order to extract components for evaluation and propose a design guide based on a fact-finding survey regarding booths and exhibit apparatus at exhibitions.

2. Study of Booth Composition of Harmonica-type Booths
Physical factors regarding booth design are pinpointed as booth composition and the relationship between the receiver and the dimensions and position of exhibit equipment and psychological factors are pinpointed as visual recognition, and survey and analysis of these 2 factors was conducted. Specifically, a factual investigation of the survey subjects described below was conducted and, by sampling the composition of exhibit equipment and exhibits, and it clarity how a visitor is watching the booth.

Object of Survey: International Optical Fair (Tokyo Big Sight)
Survey Dates: 1st – 3rd October, 2008
Survey Method: Photos / video / observation
Eligible Booths: 23 glasses and glasses part manufacturers
range of view in the horizontal direction from the aisle of a harmonica-type booth while the receiver is walking past the booth (Figure 4).

3. Understanding of Visual Recognition of The Receiver in Hamonica-type Booths

In order to understand receiver visual recognition characteristics in harmonica-type booths, an experiment with 5 testers using eye-mark recorders was conducted. The survey object was the same as above. The subjects wore a complete set of equipment in a bag on their backs and walked the aisles of the harmonica-type booths. From the images taken by the eye-mark recorders of the 5 testers observed items were sampled and measurements of frequency of fixation and fixation duration were taken for each observed item. Using the EMR analysis system EMRdFactory, fixation points were plotted from the VTR data that was recorded with the eye-mark recorders and as a result of aggregation of observed items limited to exhibits and exhibit equipment, high results with the order of products, wall panels and company signs were obtained for both frequency of fixation and fixation duration. This also matches with the sampled harmonica-type booth main exhibit elements.

Further, the frequency of fixation was surveyed for each booth (Figure 5) and the combinations of display patterns of the 23 companies were compared. As a result of this, the booths of Company B and Company V had a high frequency of fixation (more than 25 times) and had the same booth display pattern with products positioned both at the front and back and wall panels displayed in a U-shape (Figure 2). In addition, the display pattern of booths with low frequency of fixation (less than 13 times) had the characteristics of not having products positioned at the front and not having wall panels.

4. Proposals For a Design Guide for Harmonica-type Booth Design and Future Challenges

In the design of harmonica-type booths, it was understood that exhibit display patterns are important. The first areas that receivers see are the fronts of booths and the wall in the direction of movement. In order to respond to the receiver’s line of flow regarding walls, it is desirable to display exhibits on both sides. Further, as it is
2.1 Exhibition Display Pattern Samples
We sampled the composition elements of the booths of the 23 companies that were the subjects for our survey. As a result of this, products, wall panels and company signs were sampled as main elements and it was understood that there were 6 patterns in display positions for products and 4 patterns in display positions for wall panels. Company signs were divided into 2 types: parapet signs and wall signs. Classifications of 2 patterns of existing and non-existing for parapet signs and 3 patterns for wall signs were made (Figure 1). As a result of this, it was possible to understand the following trends as the present status of display patterns in harmonica-type booths.

① Product display positions are mostly at the front and back.
② Wall panel display positions are mostly U-shaped or non-existent.
③ Around half of harmonica-type booths display standard parapet signs and, other than this, company signs are display on the back wall.

2.2 Classification of Exhibit Display Patterns
As a result of comparing the display patterns of exhibits of each of the 23 companies, a number of booths with the same combinations were observed. It was understood that 5 out of the 23 companies had almost the same composition: a display pattern of (A) products at the front or (D) products at the front and back, (C) U-shaped wall panels, (A) existence of parapet signs, (C) non-existence of wall signs (Figure 2). In addition, many booths that did not display a parapet sign did not position products at the front and, in these cases, the display position of products was at the sides. From this fact, it was understood that this was done with the intention of drawing visitors into the interior of the booth.

2.3 Relationship Between Booth and Receiver in Harmonica-type Booths
Regarding the relationship between the receiver in a harmonica-type booth aisle and booth dimensions and receiver observation tendencies, in analysis using the basic data regarding the vision of Henry Dreyfuss [2], it was found that the most suitable visioning position is 2.4m in the case of an aisle of 3m when standing in the aisle looking straight into a harmonica-type booth. However, the results of observation showed that, in reality, the distance when looking at each booth from the aisle is less than 1m and, from this distance, it was understood that one must raise one’s eyes exceeding a suitable range in order to see the parapet where company signs are displayed (Figure 3). Further, it was understood that almost nothing other than the front of the booth and the wall facing the direction of the line of flow enters the
to arrange exhibits other than small products in the front portion which has the highest frequency of fixation, it is desirable to display products. Company signs are easier to see when positioned on the back wall rather than in the parapet position. Here, we will make exhibit proposals for harmonica-type booths by type of contents.

(1) Proposal 1: When exhibiting products
In the case of being able to exhibit products, they should be displayed at the front so that they can be seen from the aisle. Furthermore, it is important to display wall panels on both sides so that, whichever direction the receiver comes from, they will be in the view and this will draw interest and attention to the booth (Figure 6).

(2) Proposal 2: When not Exhibiting Products
In the case of being unable to exhibit products, as exhibits such as wall panels and visuals are the main elements, it is considered effective to exhibit using the entire wall surface. Nothing should be positioned in the front portion of the booth and by not having a parapet sign, a feeling of spaciousness is achieved in the booth and visitors can be led into the booth and provided with detailed information or can engage in business meetings. Further, because there are no exhibits to obstruct the walls, information displayed on walls catches attention easily and it is considered that this will facilitate the drawing of interest and attention. In addition, it is considered that it is effective to make good use of the floor (Figure 7).

We believe that the demand requirement for the design guide that we present here is high, but we have not actually achieved verification of the proposals. As a future challenge, we are hoping to obtain even more quantitative visual recognition data by CG, etc. visualization of booths designed according to these guidelines and by conducting simulations using eye-mark recorders.

5. References