

KEY SUCCESS FACTORS AFFECTING THE DESIGN OF EXHIBITION BOOTHS

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Abstract

With the deepening of economic globalization, countries around the world continue to strengthen overseas promotion and guidance measures, through overseas exhibitors into the international market to enhance industrial exports and overall industrial competitiveness. The trend of internationalization of commercial activities affects, and participating in international professional exhibitions has become one of the important marketing activities to promote the services and products of enterprises. In recent years, companies from all over the world have joined in expanding the China market. The vast territory of the mainland, each province and city has its own characteristics and differences, limited to the transportation time is too long, advertising costs are too high and other factors, through participation in the exhibition is the most effective way to expand the local market business. The most direct exhibition service enterprises in the exhibition economy have the largest number of booth designs and the most intense competition, which shows that the success of exhibition booth design will affect the performance of the key factors. Based above, this study will assess the key factors taking the exhibition space design of MICE-A case study of the exhibition of China. The results show that “The funding assistance of booth construction”, “Creative ability”, “The rent reduction of booth” and “Design communication and requirements” are the top four important factors in the all factors.

Key Words: MICE, Exhibition booth design, Space design.

Introduction

With the deepening of economic globalization, countries around the world continue to strengthen overseas promotion and guidance measures, through overseas exhibitors into the international market to enhance industrial exports and overall industrial competitiveness. The trend of internationalization of commercial activities affects, and participating in international professional exhibitions has become one of the important marketing activities to promote the services and products of enterprises. Exhibition unique corporate image publicity, new product display, industry information collection. The important functions such as enterprise public relations are recognized by enterprise management and operators. The exhibition industry creates hundreds of millions of dollars of business opportunities around the world every year. A variety of activities, large and small, can be called the most efficient marketing strategy to expand the market. It is also an industry in urgent need of talent in the world. The expertise of exhibition talent is even common in any other industry. Services, traditional industries, science and technology industries, information industries, food industry, construction industry, etc., are gradually in the development of conference and exhibition professionals. To create the exhibition industry hundreds of billions of output value and the demand for professionals.

Corporate Meetings and Awards, Study Travel, Incentive Travel International Institutions, Groups, Societies, etc., Convention Events, Exhibitions. Is taken from the above four types of

exhibition activities, the first acronym MICE. What the general public calls an exhibition is a general term for a commercial event that is expected to bring together a large number of people to communicate.

Taiwan is an island-based country, limited by the island's lack of resources and the small size of the domestic demand market. With the help of a strong industrial base and the government, manufacturers are committed to overseas exhibitions. The fight for trade orders through overseas exhibitors has become one of the dynamics of Taiwan's export and economic growth. Over the years, Taiwan has vigorously developed the MICE industry and actively promoted Taiwan's corporate meetings, incentive tourism, international conferences and exhibition environment and services to the international community. We are committed to attracting international visitors to Taiwan and developing Taiwan into an important destination for MICE in the world (Taiwan Convention and Exhibition Network, 2018).

In recent years, China has changed from a manufacturing power to a consumer power. Companies from all over the world have also joined in expanding the Chinese market. But with the mainland enterprises continue to improve the quality of self-quality and service, coupled with enterprises in various countries this huge consumer market, the mainland has become a master gathered, fierce competition in Taiwan. The mainland is vast, and each province and city has its own characteristics and differences. Limited to factors such as excessive transportation costs and high advertising costs,

participation in exhibitions is one of the most effective ways to expand local market operations (The International Trade Bureau of the Ministry of Economy, 2019).

According to the International Exhibition Industry Association (UFI) 2016 at the "2016 Shanghai Convention and Exhibition Forum - International Convention and Exhibition Industry CEO Summit." The top 15 countries currently account for 80% of the world's indoor exhibition area and the mainland is already ranked second (the top three are the United States, China and Germany). The exhibition industry is booming on the mainland, whether it is the size of the exhibition venues or the number of exhibitions continue to grow.

The 21st Century Maritime Silk Road Expo and the 21st Cross-Strait Economic and Trade will be held at the Fuzhou International Convention and Exhibition Center from May 18th to 22nd, 2019. A total of 125 delegations from 80 countries and regions with nearly 1,000 people, as well as 160 domestic and foreign buyers delegations participated in the conference (Figure 1 and 2).

The elements of exhibition design contain many aspects, usually we do a good job of display design from the creative, graphic, spatial, traffic lines, sense of form, technical sense and other six aspects to consider. (Boao Exhibition Design Co., Ltd., 2017)

Exhibition booth design and construction should reflect and strengthen the corporate image, reflecting the spirit of enterprise. Exhibition is not a stall to promote the sale of goods, it

should not only be isolated display of individual products, but to product as a carrier through a comprehensive display of the enterprise as a whole. In addition to the introduction and marketing of the product itself, there is also a wide range of information dissemination, communication, advertising, public relations and consulting. So that the audience in understanding the product at the same time, but also to a certain extent to deepen the impression of the enterprise.

In order to better the exhibition hall design, after the construction of the effect is better, are in need of all aspects of processing. Combining more information to design more creative showrooms has only one clear purpose: to show users.

Therefore, this study focuses on the theme of influence on the design of exhibition booths, and explores the various factors affecting the design of exhibition booths to identify the key success factors in the design of exhibition booths. It is hoped that the results of this study will examine the factors affecting the design of the exhibition booths. Understand the booth form, exhibition style, brand creativity, design communication and requirements. The focus of service, modeling, materials, sound, light, color, budget price considerations, operating processes, construction period and withdrawal time limit, plane sense, space sense, technical sense and other factors, and then identify important key factors, and formulate relevant strategies and improvement programs. With a view to establishing a good exhibition space design, so that exhibition and marketing can be successfully completed and achieve the goal.

Fuzzy analytic hierarchy process

The Analytic Hierarchy Process (AHP) developed by Saaty (1980) has been widely used for multi-criteria decision-making and practical decision-making problems. In spite of its popularity, this method has been criticized for its inability to adequately handle the inherent uncertainty and imprecision associated with the mapping of the decision-maker's perception to exact numbers (Deng, 1999).

In the conventional formulation of the AHP, human's judgments are represented as exact numbers (or crisp, according to the fuzzy logic terminology). However, in many practical cases the human preference model is uncertain. Thus, decision-makers might be reluctant or unable to assign exact numerical values to the comparison judgments. Therefore, a Fuzzy Analytic Hierarchy Process (Fuzzy AHP) is used on each factor to determine the weight of fuzziness of its attributes (Ruoning and Xiaoyan, 1991).

There are several necessary stages for the implementation of the Fuzzy AHP:

1. Establish a hierarchical analysis architecture.
2. Establish a pair comparison matrix.
3. Create a triangular fuzzy number.
4. Establish a fuzzy positive-inverted value matrix.
5. Creates a fuzzy weight for the fuzzy positive-inverted matrix.
6. Fuzzy matrix consistency checking.
7. Calculate α -cut value.

8. Explain fuzzy.
9. Normalization.
10. Level connection.
11. The weight value calculated according to the calculation and sort the factors.

Conceptual model for Evaluating the key factors to affect the design of exhibition booths

This study first used Fuzzy AHP to identify key success factors that affect the design of exhibition booths and to assess the impact of key factors on the design of convention and exhibition booths.

By the literature available exhibition organizers in the location, booth construction subsidies, marketing publicity and booth rent relief and other aspects of the impact is significant. Design units have obvious influence on design communication and requirements, creative ability, design fit, performance experience, etc. The decoration unit has obvious influence on the selection of booth materials, fire regulations, booth form, on-site strain capacity and so on. Exhibitors have obvious influence on booth size, budget, tour line, visitor attraction and so on.

This study questionnaire uses Fuzzy AHP to identify key success factors that affect the design of exhibition booths. Therefore, survey design is designed with conference and exhibition services, the organizers, design units, decoration units, exhibitors and other main projects as the general direction, and make in-depth detailed factors to explore.

Survey design structure to provide related services to the organizers, ex-

hibitors to participate in the exhibition's pre-consideration and preparation. The interaction of the design unit, the process of building the manufacturer in the exhibition, and the third key factor of the research on the development of the service project provided by the construction division.

The program architecture of this research hierarchical analysis is divided into four levels on Figure 2.

An important consideration in terms of the quality of the ultimate decision relates to the consistency of judgments that the decision maker demonstrated during the series of pair-wise comparisons.

Saaty (1980) proposed consistency index (CI) and consistency ratio (CR) to verify the consistency of the comparison matrix:

$$C.I. = \frac{\lambda_{\max} - n}{n - 1} \quad (1)$$

where n is the number of items.

$$C.R. = \frac{C.I.}{R.I.} \quad (2)$$

where $R.I.$ is the random index, which is the consistency index of a randomly generated pair-wise comparison matrix.

Results and Discussions

The survey design of this study was completed by a total of 20 experts in sampling. After analyzing the consistency of each survey, 18 valid surveys were obtained. Then use the hier-

archical analysis to integrate the expert questionnaire design data analysis, and finally by the weight value analysis. The second layer results (Table 1, Figure 4) are described, and the third layer results (Figure 5~8) are shown:

As shown in Table 1, the value of the consistency index ($C.I.$) is 0.01 and the consistency ratio ($C.R.$) is 0.01. Both $C.I.$ and $R.I.$ values are much smaller than 1, which indicates that the degree of consistency is acceptable.

Figure 4 shows the analysis of the expert questionnaire, learned that the impact of the exhibition booth design of the key success factors are the most important "Exhibition organizers". This is because the exhibition organizers provide important related services in terms of location, booth construction subsidy, marketing promotion and booth rent reduction, which is the factor that makes the exhibition a success.

In Figure 5, we can found that the funding assistance of booth construction is the most important factor comparing with Venue, Marketing publicity and The rent reduction of booth. Above results implies that the exhibition organizers encourage exhibitors from various countries to actively organize groups to participate in exhibition activities, expand opportunities for contact with professional buyers, further win orders and expand international market share, they will subsidize exhibitors' booth construction costs.

As for the results of local fuzzy weight of the sub-criteria for Design units (Figure 6), it is found that Creative ability is greater than other factors. At the level of hierarchy with Decora-

tion unit (Figure 7), we can see Booth form is the most important factor.

Figure 8 shows that Budget is more important than Booth size, Tour line and Visitor attraction.

Conclusion

This study uses fuzzy hierarchical analysis to assess the key factors taking the exhibition space design of MICE-A case study of the exhibition of China. The results show that the weight values of the second layer of factor indicators are multiplied by the different weight values of the third layer of each indicator. The weighting value of all the series factors obtained, the weight ratio of the four key factors affecting the design of exhibition booths, "subsidy for booth construction funds", "creative ability", "rent reduction of booths" and "design communication and requirements".

References

- Deng, H. (1999). Multicriteria analysis with fuzzy pairwise comparisons. *Int. J. of Approximate Reasoning*, 21, 215-231.
- The International Trade Bureau of the Ministry of Economy (2019), *An Overview Report on the Development of China's Convention and Exhibition Industry*.
- Taiwan Convention and Exhibition-Network (2018). *Exhibition industry survey to participate in the exhibition industry scale assessment*.
- Ruoning, X. and Xiaoyan, Z. (1991). Extension of analytic hierarchy process in fuzzy environment, *Fuzzy Sets and Systems*, 52, 251-257.
- Saaty, T. L. (1980). *The Analytic Hierarchy Process*, 9th ed. New York: McGraw Hill.
- Boao Exhibition, 2019/10/03. <https://kknews.cc/design/axx3rzx.html>
- Special International Pavilion Exhibition Hall Design, 2019/10/03. <https://kknews.cc/design/rr6lj84.html>
- 2016 Shanghai Convention and Exhibition Forum - Ceo Summit of the International Convention and Exhibition Industry.



Figure 1. The 21st Century Maritime Silk Road Expo.



Figure 2. The 21st Cross-Strait Economic and Trade.

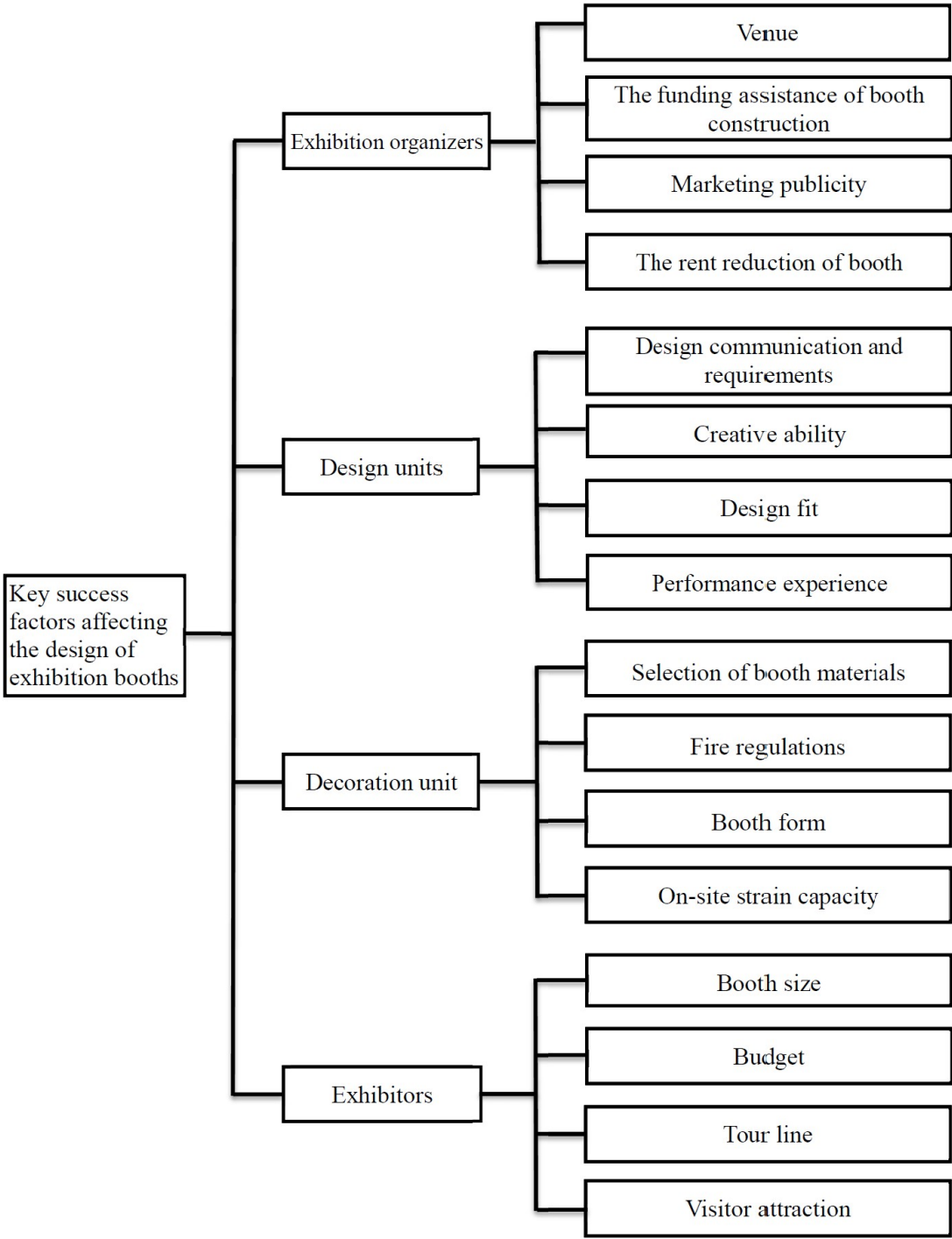


Figure 3. Hierarchical factor architecture diagram

Table 1: The weight value of main criteria

The name of the second layer of facet indicator	Weights	Ranking
Exhibition organizers	0.32	1
Design unit	0.28	2
Decorative unit	0.21	3
Exhibitors	0.19	4

The consistency ratio of the second layer of facet indicators is C.I.=0.01 and C.R. = 0.01.

Key success factors affecting the design of exhibition booths

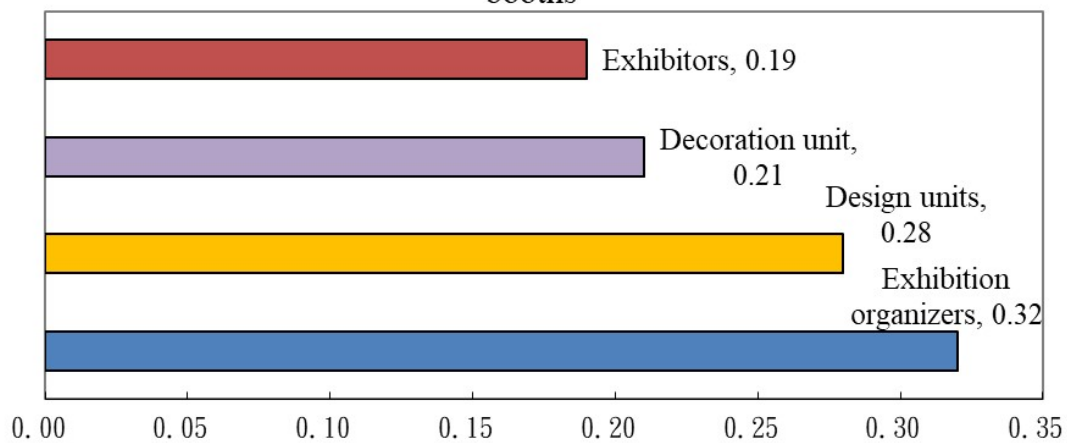


Figure 4. Fuzzy weight of the pair-wise comparisons in the main criteria.

Exhibition organizers

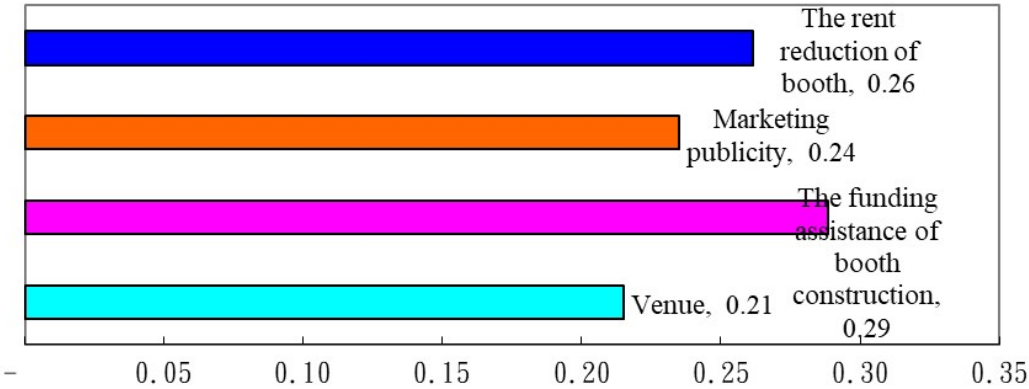


Figure 5. Local fuzzy weight of the sub-criteria for Exhibition organizers.

Design units

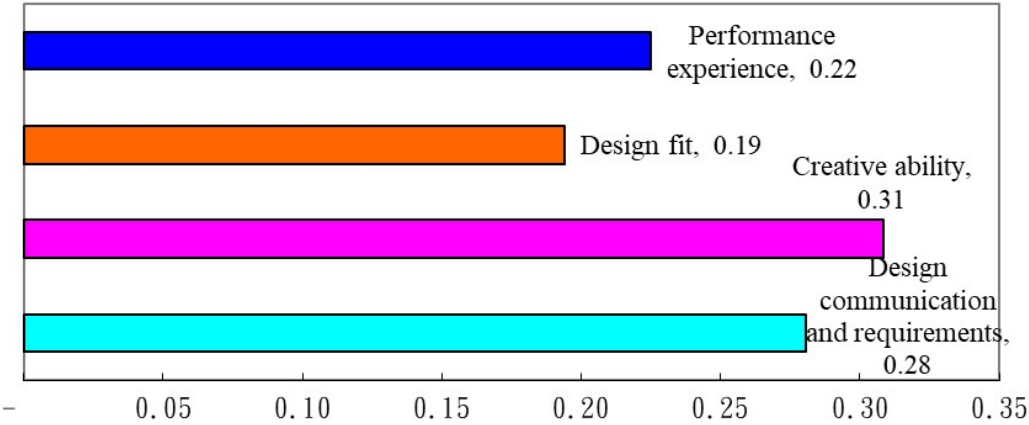


Figure 6. Local fuzzy weight of the sub-criteria for Design units.

Decoration unit

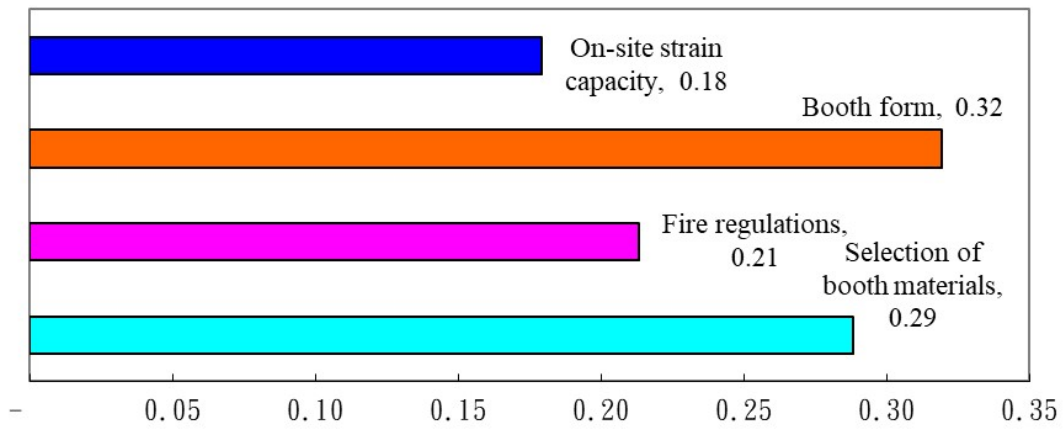


Figure 7. Local fuzzy weight of the sub-criteria for Decoration unit.

Exhibitors

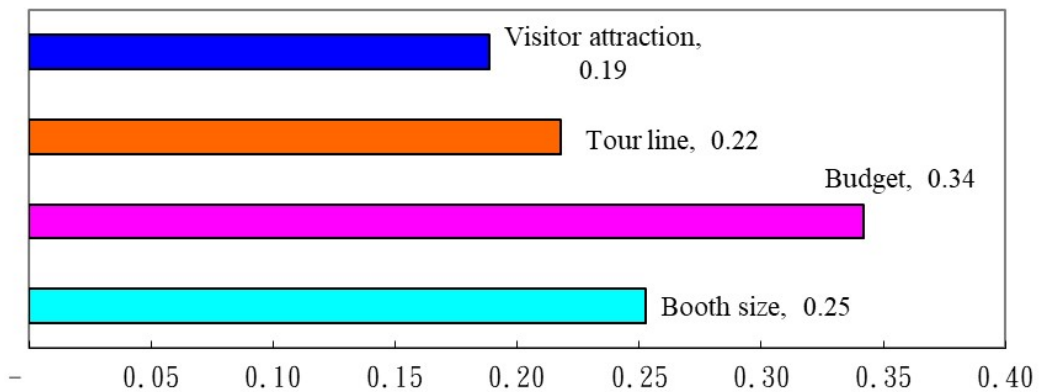


Figure 8. Local fuzzy weight of the sub-criteria for Exhibitors.