

# **Plan for a Multi-Functional Sport and Leisure Facility – Integration of Economic and Architectural Views a Case Study in Hangzhou/China**

Huiyu Liu, Qingdao University, China, liu\_hui\_yu@hotmail.com

---

Keywords: Sport, leisure, economic, architectural, Plan

## **Abstract**

### Research Question / Aim of Paper

With the increasing consciousness of population for health and well-being, more multi-functional sport and leisure facilities have been built. Sport and leisure facilities are irreversible, because they cover many factors can not be reproduced. Therefore, an integration of plans from economic and architectural views before construction is very necessary. The aim of this study was based on a case in China to clarify how to optimize the plan in China with the experiences in Germany from economic and architectural views.

### Theoretical Background

The plan of a sport and leisure facility from economic view should be based on development of a use conception, feasibility analysis, location analysis and market analysis[1,2], competition analysis, risk analysis[3], quality and capacity analysis as well as profitability analysis and economy prognosis[4]. The plan from architectural view includes feasibility analysis, urban land use planning, master plan and object-based spatial structure[5].

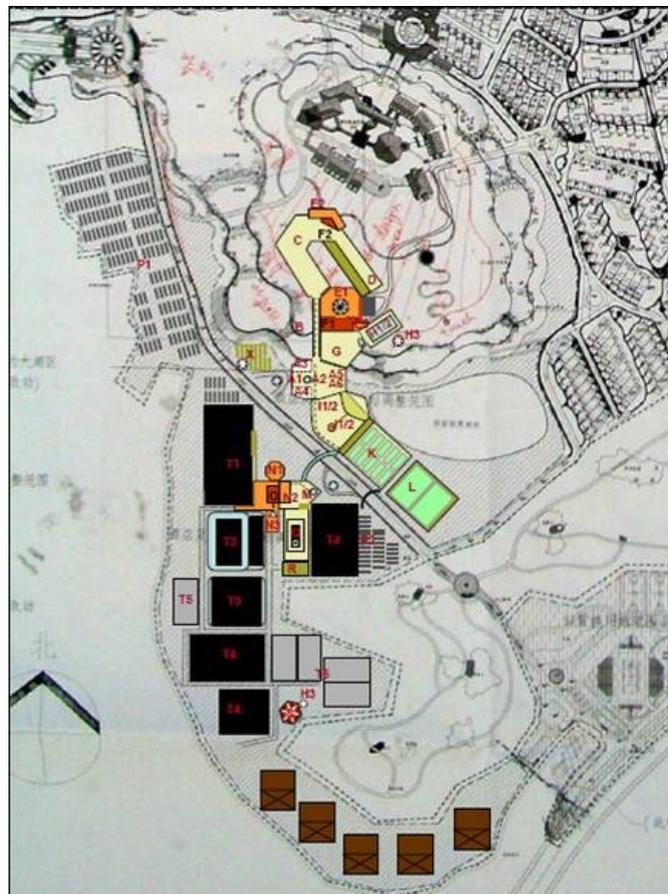
### Methodology / Research Design / Data Analysis

The study was based on a case project of a multi-functional sport and leisure facility in Hangzhou, China. All data were obtained from the primary and secondary data collection. Primary data collection included intensive experts' meetings (hotel experts, building experts, design experts, professors of the sport economics etc.), personal interviews (the investor, directors of government etc.), information collection at conferences (conferences of the investor, the design enterprises and the building contractor) and personal observations from competitors. Secondary data collection included official statistics (population trend, income structure, number of tourists etc.), statistics of federations and other institutions (real estate federation of Hangzhou etc.) and other sources (catalogs of competitors, newspapers, magazines, internet etc.). Following factors were considered in the study from the data: economic background such as location and market conditions, quality and capacity conditions, costing and profitability analysis, risk estimates, architectural background and influential factors such as conflicting aims and guidance problems, transaction costs, planning costs and time,

data availability and validity, cultural and social influences, economic conditions, legal basic conditions.

### Results / Discussion / Implications

The results from economic view showed that the multi-functional sport and leisure facility in the case study should include the following sport and leisure possibilities: tennis, badmintons, table tennis, swimming pools, gulf exercise areas, a 4-star hotel for vacation and conference, leisure center on island and a villa hotel. We also ensured the quantity and the scale of each possibility. From architectural view a master plan has been designed for the project (Fig. 1). It focuses on three aspects: customers, colleagues and resources. By the structural realization it follows the principles: compatibility of trades, arrangement along customers run ways multi-function of the facilities, expandability in different using and modality of utilizations.



From the analysis, we could conclude that an appropriate plan before constructing of multi-functional sport and leisure facilities could utilize the limited resources adequately and minimize the risk of invest failure. Inadequate plan or mistakes in the plan might lead to the invest failure or associated additional high costs. The analysis demonstrated how to plan a multi-functional sport and leisure facility from economic and architectural view in China with the experience from Germany and with the consideration of the characteristics in this country. However, in the practice due to conflicting aims "a perfect solution" does not exist. It concerns a classical optimized

problem, which can be represented theoretically only in complex models and made for a solution accessible. Solution stands by the structure of mutual confidence of the project partners.

Investigation of international projects with cultural characteristics, such as our case study, is new area with little literature and experience. New ideas, visions and creativity are needed, in order to meet the demand of potential consumers. This research work should continue in the future.

## **References**

1. Zimmermann, M.(2002). Standortplanung für Dienstleistungsunternehmen – das Beispiel multifunktionaler Sportanlagen, Wiesbaden: Deutsche Universitäts-Verlag.
2. Woratschek, H. / Zimmermann, M.(1998). Locational Choice of Sport Facilities – Spatial Models in Economic Theory. In Journal of Sport Management, Special Issue 1998, S. 106-132.
- 3.Schulte/Bone-Winkel/Rotte (2002). Grundlagen der Projektentwicklung aus immobilienwirtschaftlicher Sicht. In Schulte/ Bone-Winkel: Handbuch Immobilien-Projektentwicklung, 2.Aufl. Köln: Immobilien Informationsverlag, S.27-90.
4. Litke, H.-D. (2004). Projektmanagement – Methoden, Techniken, Verhaltensweise, München & Wein: Hanser.
5. Sheard, R. (2001). Sports Architecture, London and New York: Spon Press.