# Smart exhibition and modes of "smart +"：A Systematic Literature Review

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**Abstract.** There is a lack of study in the exhibition attenders' adoption of smart exhibition. This article is concerned with the situation of smart exhibition for future study and provides a systematic review of existing research related to the smart exhibition and relevant "smart +" such as smart city or smart community. A systematic review is conducted to analyze the academic articles in CNKI and Emerald databases. The results show that smart exhibition has attracted a global attention in the past five years in terms of the number of published articles. Interdisciplinary research of "smart +" can be added to the study of smart exhibition adoption and acceptance. This paper focuses on different databases including CNKI and Emerald by the title sorted by relevance, which can bring out an analysis problem. The paper is organized in a unique way in the sense that it attempts to find out the most frequently studied smart areas to facilitate the research of smart exhibition and the systematic nature of the review to increase the business value of the method.

**Keywords:** systematic literature review; smart exhibition; "smart +".

## 1. Introduction

Due to the disruption of the global supply chain, value chain during the COVID-19 outbreak, it has confronted the exhibition industry with overall opportunities and challenges, which transforms the mode of promoting investment and trade, industrial upgrading, and economic and trade exchange. It is of critical importance to innovate the exhibition service model and better serve the industrial chain, supply chain and value chain (Bei Hai, 2021). Specifically, when an exhibition is held if it is adopting advanced technical skills applied in the smart exhibition, it may base its answer on the current utilization of a smart exhibition in emerging market. This article reviews the existing research on the implementation of some certain areas in an overall smart way which can be considered to be the main body of a smart exhibition and is to provide an overview and guidelines for various literature reviews of an area of new mode of smart exhibition as well as smart city, smart community, smart village *etc*.

## 2. Research

### 2.1 Relevant Literature of smart exhibition

Scholars and practitioners have long been analyzing and evaluating the mega exhibitions' change. However, the latest change in exhibition industry such as a smart mechanism of applying new technology and offering smart service has become an evident gap in existing researches. There is an evident trend and motivation in upgrading of the smart exhibition industry in America, Germany, China *etc*. which have applied 5G technology into the management of the exhibition. The literature vary from finance, health care, government management which focus on the business world using new methods to do business in a generally acceptable way.

The transformation of the traditional physical exhibition into "smart exhibitions" has brought about a new perspective in the context of epidemic. The smart exhibition utilities backed with the power of Internet have become indispensable in our business world. High technology activities such as digital applications, artificial intelligence, the Internet of things, and big data in the global economy have developed rapidly. Therefore, it is seen that the digitalization process started in the exhibition industry has gained momentum with the COVID-19 pandemic.

## 2.2 Relationship of the sources

The paper not only attaches its importance to the analysis of the relevant sources of smart city, smart home, smart village, smart library etc. to the future of smart mode of life and working for further study from the year 2005 to 2022. The list of of numbers of publications of smart exhibition from 2005 to 2021 in China National Knowledge Infrastructure (CNKI) can demonstrate the development trend of the smart exhibition to some extent as follows:
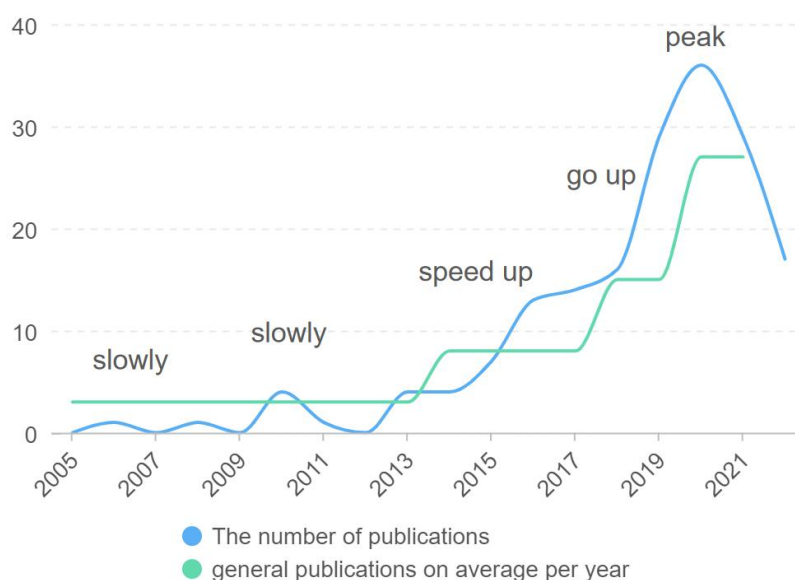


Fig. 1: The number of publications concerning smart exhibition or exhibition hall from 2005 to 2022 in CNKI

Seen from Fig.1, smart exhibition develops slowly at an early stage and develops stably in the past five years and is close to the peak in the year of 2020.The number of publications on average is 3 from 2005-2009, 3 from 2010-2013, 8 from 2014-2017, 15 from 2018-2019 and 27 from 2020-2022.

Furthermore, the list of of numbers of academic papers of smart exhibition from 2005 to 2021 in CNKI can demonstrate the development trend of the smart exhibition to some extent.

As the smart exhibition is still in its infancy, the literature of using the key words smart exhibition is not abundant. There are 1075 articles (71.5%), 270 book part (18.0%), 110 earlycite articles (7.3%) and 48 case studies (3.2%) from 2005 to 2022 sorted by relevance in the title, abstract and body in Emerald database seen from Fig.2.
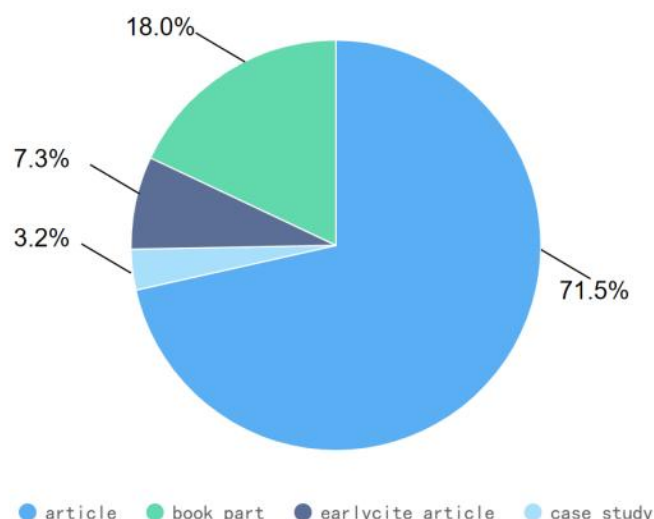
Fig. 2: Article classification by research method adopted for smart exhibition in Emerald database from 2005-2022

## 3.   Group Source Analysis

The paper tries to provide Group Source from Emerald database by using various searching methods including citations from 2005-2022 as follows:
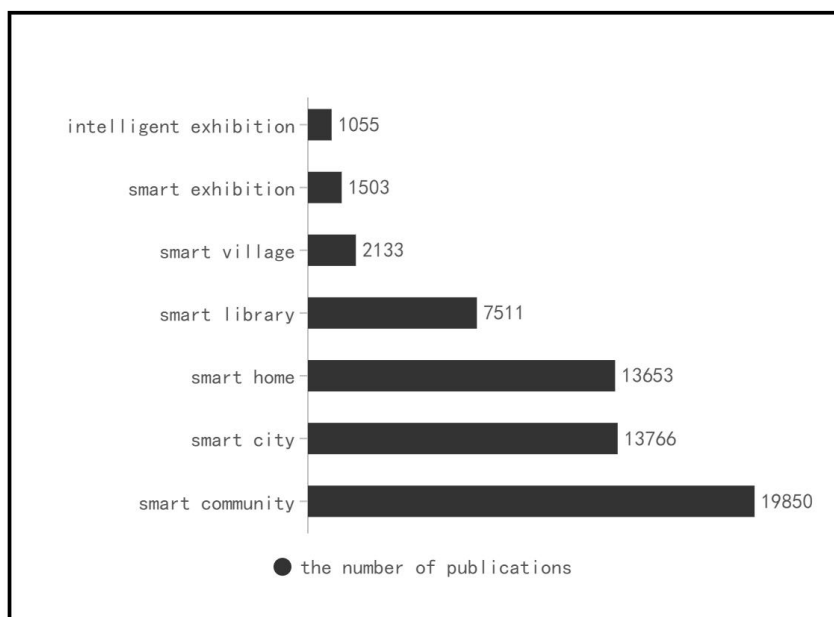


Fig. 3 List of Sources from Emerald database sorted by the title

Seen from Fig. 3, the smart exhibition is still in its infancy and can have a promising future. In addition, the paper also focuses its attention on the relevant of smart community, smart city, smart home, smart library, smart village *etc.* to the future of smart mode of life and working for further study.

## 4.  Research

### 4.1 Research Topic

The research topic of this study is that the exhibition attenders' adoption of the smart exhibition concerning how to address the issue of smart exhibition construction and management. It has become a hot research topic as the debates arise that concerns the development of the smart home, community, city, hospital and library *etc*. Therefore, measuring the acceptance of technology-related category is integral to the study of exhibition attenders' adopting the smart exhibition. As the smart exhibition is still in its infancy, it has a long way to achieve the peak.

### 4.2 Research Methodology

Following our study purpose, a systematic literature review method was conducted to probe into existing scholarly articles on the smart exhibition and the similar intelligent systems in a certain space such as smart city, smart community, smart village and smart home *etc*. This study aims to understand the factors associated with smart exhibition behavior during/post-COVID-19 pandemic (Naveed Ahmad, *et al.,* 2022).

This time frame was conducted appropriately due to the technology innovation and utilization evidence of relevant articles for the last three years. Additionally, we search for peer-reviewed articles in English and Chinese in the following databases including Emerald, CNKI as academic publication searching sources.

### 4.3 Research Evaluation

The research evaluation of the study is an inevitable trend in the development of the era of big data. The introduction of scientific research evaluation is of critical importance for the study in the thesis. As in the process of doing research about the smart exhibition, it is not so easy to find the correct scientific means and methods of research evaluation for its measurement. The stability and reliability of the main results may be influenced by the choices of using different databases, languages and publication date of the research *etc*.

First and foremost, CNKI data is the major research database in China. Now China is seeing a fast development of smart exhibition compared with most of the countries outside China and have many academic journals about the smart exhibition, intelligent exhibition and relevant technology utilization in Chinese. Furthermore, the thesis also gives a systematic review of authentic databases that are mainly popular in the Western world. One the one hand, the existing factor is that Emerald database lacks journals, books and case study about smart exhibition. On the other hand, there is abundant literature of smart mode of life and working including smart city, smart home, smart community, smart village *etc*.

All in all, according to the particular situation of the study, it is necessary to provide a more comprehensive and precise utilization of the research evaluation of the thesis by different measurement for a criterion.

## 5.  Thesis Statement

In the context of technological progress, the study attempts to seek the answer to how the exhibition industry adapts to the demand of the new era and the transformation of the role of smart exhibition in the ever-changing global economic situations. Debates arise regarding the smart exhibition as follows: Should exhibitions be responsible not only for developing physical trade such as export and import and retail consumption but also for digital application which can promote the people's way of doing business? What elements do digital infrastructure constitute in the process of developing the smart exhibition? Is the digital realm that offers smart services to be considered inevitable path of enhancing the smart exhibition attenders' experience? Must exhibition ensure the

safety of this new environment? What factors influence exhibition attenders' adoption of the smart exhibition?

## 6. Literature Review

This research was conducted based on the procedures of systematic reviews in social science, proposed by Petticrew and Roberts (2008). Systematic reviews are defined as literature reviews that stick closely to "a set of scientific methods that explicitly aim to limit systematic error (bias), mainly by attempting to identify, appraise and synthesize all relevant studies (of whatever design) in order to answer a particular question (or set of questions)" (Petticrew & Roberts, 2008,).

In this study, according to the literature, the exhibition makers should enable new ICT (Information Communication Technology) service, virtual reality/ augmented reality (VR/AR) *etc.* applied to an exhibition that provides online trade or the combination of online and offline business.

As one of the factors that influences the innovation in technology in smart home, city, community, transportation, campus etc., the adoption of the smart way of life has been paid more and more attention in the broader sphere of business and management in recent years. A large number of researchers have conducted research studies in exploring the technology application in exhibition industry such as AI, Internet, big data, the things of Internet. Therefore, it is important to take inventory of the work related to smart exhibition and new smart way of life and working in some other relevant areas through a systematic literature review and identify key research themes, evaluation, source analysis and thesis statement. In doing this, we can integrate extant knowledge and provide the main findings with regard to smart exhibition adoption for further research.

## Funding

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