

# Smart technologies in tourism: a study using systematic review and grounded theory

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**Abstract** - Tourism that uses smart technology and practices to boost resource management and sustainability while growing their businesses' overall competitiveness is known as smart tourism. Information and communication technologies (ICTs) have had a profound impact on the tourism industry, and they continue to be the key drivers of tourism innovation. ICTs have fundamentally changed the way tourism products are developed, presented, and offered, according to the literature. Any empirical studies or experiments must be focused on accepted or formed hypotheses. In this regard, grounded theory measures were used for interpretation, while a systematic review was performed to assess the research scope from current studies and works. The main goal of the study is to investigate and propose long-lasting and stable smart technologies for implementing smart tourism. Grounded theory is a concept that uses methodical rules to gather and dissect data in order to construct an unbiased theory. Fewer studies on smart technology in tourism have been conducted, with a majority of them concentrating on IoT, virtual and augmented reality, big data, cloud computing, and mobile applications. In either case, there is space for further investigation into this important field of study. As a result, this paper is a vital first step toward a clearer understanding of how smart technology can be applied to the tourism industry. The number of available research work on smart technologies in tourism were fewer from the selected journals and conference proceedings, which led to the accessibility of lesser data for analysis.

**Keywords** - *IoT, smart technology, smart tourism, systematic review, tourism*

## I. INTRODUCTION

The tourism industry has been significantly affected by information and communication technologies (ICTs), and they continue to be the primary drivers of tourism innovation. Literature shows that information and communication technologies (ICTs) have radically changed the way tourism products are made, viewed, and offered [1]. The tourism industry's technical impact affects not only the manufacturers, but also the customers. The advancement of ICTs has explicitly denoted improvements in tourists' attitudes, which is central to the entire discipline of ICTs adoption in tourism. Clearly, ICTs' enormous popularity is shaping tourists' attitudes towards mobile apps, thus improving users' experiences [2]. Indeed, the broad reach of ICTs' involvement in tourism has sparked considerable debate among academics. It is also claimed that the internet has influenced the transformation of best operations and strategic practices in the tourism industry

[3]. Certainly, this is because the internet facilitates access to information to every corner of the globe. It is inevitable to admit that the application of ICTs in tourism is an important component in the supply chain [4].

Smart tourism is defined by a particular destination, attraction or tourist itself, depending on its technological abilities. Increased use of smart technology in their operations, from payment methods to interactive activities, is modernized in many destinations. Smart tourism ultimately aims to increase resource management efficiency and maximize competition [5]. Smart Tourism's European capital defines a clever destination as: "A destination that facilitates access to products, services, spaces and experiences from the tourism and hospitality sector via ICT instruments. It's a healthy social and cultural environment that is based on the social and human capital of the city. It also implements innovative, smart solutions and promotes the development and connectivity of companies."

It is explained in [2] in further detail: 'Smart Tourism Destinations take advantage of: (1) Technology embedded environments; (2) Responsive processes at micro and macro levels (3) End-user devices in multiple touch-points; and (4) Engaged stakeholders that use the platform dynamically as a neural system.'

Taking into account the available literature at the time of writing, researchers have provided their own definition of smart tourism as below.

'Smart tourism is the act of tourism agents utilizing smart technologies and practices to enhance resource management and sustainability, whilst increasing the businesses overall competitiveness'.

With various types of ICTs being created on a daily basis, the world continues to go digital. These ICTs use powerful operating systems like iOS12, Android, and others that are now common on modern mobile technologies. Indeed, getting access to mobile web or "apps" opens up a slew of new possibilities [6]. The notion that innovations are becoming smarter and use of wearable devices has recently emerged in academic discourse and within the tourism industry. Wearable technical technologies are expected to have a huge impact on people's interactions with their environments, despite their youth [7]. However, there is a scarcity of studies on the use of smart technologies in tourism in academic literature. As a result, this paper provides an interesting opportunity to further research on the use of smart technologies in tourism.

## II. RESEARCH METHODOLOGY

Any research or scientific study must be conducted based on acceptable or formed theories. In that sense, grounded theory steps have been followed for the analysis