

## Management studies to develop the smart cities on real life situations by using IoT

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### Abstract

We developed the management activities to study the current scenario of IOT usage in Public Transport Management. It trades and organizations usages are for automobile accommodations to promote or interconnect to community. Maximum industries try to promote to bull marketplace by deliberately employing a commercial in the car/other vehicle accommodations, to broaden the chance to see to spectators. One of the most important developments of PM Modi government is development of Smart Cities. The key area of study is IOT. In terms of context, the study focuses on Public Transport of Smart Cities with management sytem.

**Key words:** Public Transport, Management, smart cities, IoT.

### 1. Introduction:

Lately it understood at automobile accommodations may be considerable additional than impartial sedentary spaces obtained when to come aimed at the automobile. Innovative knowledges remain existence applied to alter normal car accommodations hooked on keen car accommodations, generating innovative commercial replicas & flattering unique of chief fundamentals in smart cities [1]-[5]. This scheme offers a new methodology that incorporates IoT in bus accommodations; ornamental the method data is showed community finished presentation canopies. The data in focus comprises cardinal sign-age publicity, community statements (or) additional data regarding the events nearby [6].

The chief issues allied to car accommodations at India strategy:

1. Suddenly ticket inspection.
2. Disposed to belongings owing to vast crowd.
3. Inside and outside very rush.
4. Ticket balance is not possible.
5. Sensual beating.

## **2. Need and Significance of study**

One of the most important development agenda of PM Modi-led government is development of Smart Cities. Around 100 cities are selected for this visionary initiative. And one of the most important components of the Smart City is the Transport and Mobility system [7]-[10]. The current situation of the Public Transport Management using outdated systems and processes is terrible. A lot can be achieved if latest technologies are used. The public Transport systems could then become suitable for the Smart City's infrastructure requirements.

With this backdrop, the study is expected to make the following significant contributions to the existing knowledge:

- Understand the opportunities and challenges for use of IOTs in the current scheme of things.
- To develop a comprehensive model using the IOTs for Public Transport Management in Smart Cities.

These contributions are expected to benefit both academicians and policy makers and government agencies [11].

## **3. Scope of the study**

In terms of concept, the key area of study is IOT. In terms of context, the study focuses on Public Transport of Smart Cities [12]-[15].

The conceptual model adopted for the study is as under:

Included in the scope of the study is a recommendation. The objective is to develop a comprehensive model using the IOTs for Public Transport Management in Smart Cities.

Primary data will be gathered from 400 passengers of Public Transport. Additionally, primary data will be collected by interviewing Depot Managers and Drivers [16].

## **4. Factors presented to attempt eradicate aforementioned issues:**

- Electricity
- TVM
- Charging port
- Information for Bus/ Cars details are given the slot
- Map for traveling route in car/bus

## **Number of seats and fare details**

Vehicle accommodations are a chief offering the transportation facilities to community. This scheme is the upgradation of car accommodations by addition several structures to car accommodation [17]. The place & data are showed in chief features measured; to efficiently1 interconnect pertinent data to the goal spectators. Also, the application of devices, statistics analytics may be created that defines the traveller road flow, therefore offering beneficial data for community passage earners.

**i. Public transport provider**

It sees keen automobile accommodations as a chance to offer improved facility to travellers regarding data about entrance eras in cars & their position on chart [18].

**ii. Businesses & Institutions**

Numerous trades and organizations usages are for automobile accommodations to promote or interconnect to community. Maximum industries try to promote to bull marketplace by deliberately employing a commercial in the car accommodations, to broaden the chance to see to spectators [19].

**iii. Outdoor media companies**

Car accommodations must a fascinating commercial classical; chiefly constructed and handled by personal outside television organizations, which arrive hooked on lasting hire contract metropolises (or) transport companies. A suitable outline demographics and benefits of travel accommodation travellers may be beneficial to healthier monetize the aforementioned ordinal signage promotional [20].

**iv. Commuter**

Mentions for somebody are by means of the transport accommodation. Keen transport accommodation focuses to offer travellers a good knowledge although to come at transport [21].

**v. Future scope**

Here “IoT” equipment eases connection with condition for numerous features the complicated shareholder for example, outside television corporations regulate how several contents is exhibited in altered bus accommodations crossways urban after a dominant centre. It comes after such executions comprise effective apprising of commercials to safeguard that data spreads the appropriate goal viewers [22].

**5. Research Objectives**

In the context of the study, we have set the following objectives for the research:

- 1 To study the current advancements in IOT technologies for Public Transport
- 2 To study the current scenario of IOT usage in Public Transport Management
- 3 To take inventory of prevailing technologies for Public Transport Management
- 4 To study the opportunities and challenges in the application of IOT in PTS
- 5 To suggest a comprehensive model using the available IOTs for Public Transport Management in Smart Cities

## 6. Results and Discussions

The rationale for the selection of the above objectives along with a plan for their achievement is given below [23]:

**Table 1: Objective, rationale and plan for achievement**

Sr. No.	Objective	Rationale for selection	Plan for achievement
1	To study the current advancements in IOT technologies for Public Transport	The study will improve the domain knowledge on IOTs in PT	Secondary research
2	To study the current scenario of IOT usage in Public Transport Management	The study will help understand the current scenario and help make suggestions to improve it	Secondary research
3	To take inventory of prevailing technologies for Public Transport Management	The understanding of current technologies will help understand the challenges and opportunities	Section I of the questionnaire along with Hypothesis H1
4	To study the opportunities and challenges in the application of IOT in PTS	This will help make recommendations for a comprehensive model	Section II and III of the questionnaire along with Hypothesis H2 and H3
5	To suggest a comprehensive model using the available IOTs for Public Transport Management in Smart Cities	This is the core objective of the study to suggest a comprehensive model	Section IV of the questionnaire along with Hypothesis H4

## 7. Conclusion

To translate these objectives into actionable research following hypotheses were set:

Ho1 - There are no significant problems with existing technologies for Public Transport Management

Ha1 - There are significant problems with existing technologies for Public Transport Management

Ho2 - There are no significant opportunities for the use of IOT in PTS of SCs

Ha2 - There are significant opportunities for the use of IOT in PTS of SCs

Ho3 - There are no significant challenges for the use of IOT in PTS of SCs

Ha3 - There are significant challenges for the use of IOT in PTS of SCs

Ho4 – There will be no significant increase in number of passengers due to proposed model using IOT in PTS

Ha4 – There will be significant increase in number of passengers due to proposed model using IOT in PTS

### • Research Questions

As a corollary to the above-mentioned objectives and hypotheses, the present study attempts to focus upon the following research questions –[24]-[25]

RQ1 – What are the current advancements in IOT technologies for Public Transport?

RQ2 – What is the current scenario of IOT usage in Public Transport Management?

RQ3 – How is the prevailing technology used by the PTM performing?

RQ4 – What are the opportunities and challenges in the application of IOT in PTS?

RQ5 – Can there be a model using IOT in PTS for smart cities?

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