**CHAPTER-1**

**INTRODUCTION**

* 1. **MOTIVATION**

We have seen long queues in the supermarket that takes most of the time. While shopping consumers face many problems like worrying that amount of money brought is not sufficient, incomplete information about of the items. Other than this they have to select the best product out of thousands of products. Also, want to revolutionize the entire shopping mechanism in the supermarket and attract number of customers reduce the labor cost.

**1.2 PROBLEM DEFINITION**

An innovative product with societal acceptance is the one that aids the comfort, convenience and efficiency in everyday life. Purchasing and shopping at big malls is becoming daily activity in metro cities. There will be rush at these malls on holidays and weekends. People purchase different items and put them in trolley. After completion of purchases, one needs to go to billing counter for payments. At billing counter the cashier

Smart Shopping System prepare the bill using bar code reader which is very time consuming process and results in long queue at billing counter.

In this Project, we are implementing a system “RFID Based Automatic Shopping Cart” being developed to assist a person in everyday shopping in terms of reduced time spent while purchasing. The main objective of proposed system is to provide a technology oriented, low-cost, easily scalable, and rugged system for assisting shopping in person.

**1.3 OBJECTIVE OF THE PROJECT**

* The main objective of this project is to provide a technology oriented, low cost, easily scalable, and rugged system for assisting shopping in person.
* The RFID powered electronic shopping cart is built to enhance the overall shopping experience for electronics store consumers.
* Upon placing an item in the shopping cart, the consumer can access an array of product information.

**1.4 LIMITATIONS OF PROJECT**

* Items put into a smart shopping cart (with RFID reading capability) can be automatically read and the billing information can also be generated on the smart cart.
* Customers do not need to wait in long queues at checkout. Smart shelves that are also equipped with RFID readers are able to monitor all stocked items and send item status updates to the server.
* When items become sold out, the server can notify employees to restock. It becomes easy for the store to do inventory management as all items can be automatically read and easily logged.

**1.5 ORGANISATION OF DOCUMENTATION**

**1.5.1 Feasibility Study**

Preliminary investigation examines project feasibility; the likelihood the system will be useful to the organization. The main objective of the feasibility study is to test the Technical, Operational and Economical feasibility for adding new modules and debugging old running system. All systems are feasible if they are given unlimited resources and infinite time. There are aspects in the feasibility study portion of the preliminary investigation:

* Technical Feasibility
* Operation Feasibility
* Economic Feasibility

**Technical Feasibility**

The technical issue usually raised during the feasibility stage of the investigation includes the following:

* Does the necessary technology exist to do what is suggested?
* Do the proposed equipment‘s have the technical capacity to hold the data required touse the new system?
* Will the proposed system provide adequate response to inquiries, regardless of the number or location of users?
* Can the system be upgraded if developed?
* Are there technical guarantees of accuracy, reliability, ease of access and data security?

**Operation Feasibility**

The operational feasibility includes User friendly, reliability, security, portability, availability and maintainability of the software used in the project.

**Economic Feasibility**

Analysis of a project costs and revenue in an effort to determine wheather or not it is logical and possible to complete.

**CHAPTER-2**

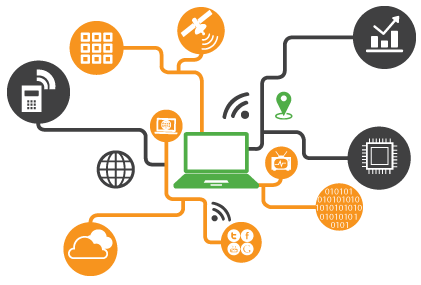
**LITERATURE SURVEY**

**2.1 INTRODUCTION**

Internet of Things can connect devices embedded in various systems to the internet. When devices/objects can represent themselves digitally, they can be controlled from anywhere. The connectivity then helps us capture more data from more places, ensuring more ways of increasing efficiency and improving safety and IoT security.

IoT is transformational forces that can help companies improve performance through IoT analytics and IoT Security to deliver better results. Businesses in the utilities, oil & gas, insurance, manufacturing, transportation, infrastructure and retail sectors can reap the benefits of IoT by making more informed decisions, aided by the torrent of interactional and transactional data at their disposal.

**IoT**



**Fig. 2.1 Architecture of IoT**

The Internet of things (IoT) is the [inter-networking](https://en.wikipedia.org/wiki/Internetworking) of physical devices, vehicles buildings, and other items [embedded](https://en.wikipedia.org/wiki/Embedded_system) with [electronics](https://en.wikipedia.org/wiki/Electronics), [software](https://en.wikipedia.org/wiki/Software), [sensors](https://en.wikipedia.org/wiki/Sensor), actuators, and [network connectivity](https://en.wikipedia.org/wiki/Internet_access) that enable these objects to collect and exchange data. In 2013 the Global Standards Initiative on Internet of Things (IoT-GSI) defined the IoT as "the infrastructure of the information society." The IoT allows objects to be sensed or controlled remotely across existing network infrastructure, creating opportunities for more direct integration of the physical world into computer-based systems, and resulting in improved efficiency, accuracy and economic benefit in addition to reduced human intervention.

When IoT is augmented with sensors and actuators, the technology becomes an instance of the more general class of [cyber-physical systems](https://en.wikipedia.org/wiki/Cyber-physical_system), which also encompasses