

Internship Project

Report on

**Employee Appreciation Based On Customer Satisfaction  
Using IBM Cognitive Services**

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ACADEMIC YEAR: 2021-2022

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## CHAPTER 1

### INTRODUCTION

#### 1.1 OVERVIEW

Employee satisfaction is a distinct measurement, and it is often related to how you've developed your company culture, your pay, your services, the work itself, the people you've hired, and more. The customers play a role (especially if they have frequent contact with the employee), but most of employee satisfaction is dependent on you as a company.

Customer satisfaction, however, is dependent on essentially two things: the quality of your products/service, and the employees that handle their needs. There may be other, minor factors that play a role, but the primary drivers are your products/services, and your employees.

Our customers are the most important part of what we do. Organizations center on serving their customers and providing the best product and/or service. These are the things that keep customers coming back and help build loyalty. There are many other important aspects to running an organization, but when it comes to customer satisfaction, the next most important aspect of our organizations are our employees, and research supports that the happier they are, the happier our customers tend to be.

#### 1.2 PURPOSE

The way you treat your employees is the way they treat your customers. According to a recent article, creating an employee recognition culture can increase employee retention by up to 31%. Employee recognition is the process of showing appreciation for an employee's achievements, actions, and contributions. In big companies (Amazon/Swiggy/Uber) appreciation is given to the employees based on the customer feedback or satisfaction (chat process/ voice process). Analyzing all the feedback of each customer towards an employee's work manually is a tedious job.

## CHAPTER 2

### LITERATURE SURVEY

Feelings derived from the fulfillment of one's wishes, expectation and need is termed as satisfaction. The business has also concept of satisfaction. By receiving more than or equal than expectation one feels good and motivated, that state is his satisfaction(Allen and American Society for, 2004). Customer when pays for the product purchased he makes a standard about the performance of that product. The product performing better than the expectation generates loyal customers. The satisfaction of customers is necessary for a successful organization but the value for employee satisfaction is there to achieve the vision and mission(Banker et al., 2000). The Banker also emphasized that non-financial measures play the game of your goodwill and produce the long term benefits for the organizations. The services sector specially should take good care of the employee satisfaction. In such industry customers interact directly with employees and employee behavior, attitude turns the customer to retain or to leave. And the researches have proved that satisfied employee can satisfy the customer.

Research has focused the link between employee satisfaction and customer satisfaction. Business success is the ultimate result of the employee satisfaction but it is reflected in customer satisfaction .Goedegeburre said the concept as satisfaction mirror which reflects the satisfaction levels at both ends. Successful organizations can maintain their advantage only by satisfying the employees and then motivating towards continuous improvement. The internal customers are the employees of some organization and there is definitely need to satisfy the internal customer if external is to be retained and satisfied. Service profit chain is undertaken by many studies and the workings provide documented evidence between employee satisfaction and customer satisfaction. They also contributed about impossibility of the loyal customer without loyalty of employee. The customer can only be retained and loyal by providing them a service satisfying them.

## CHAPTER 3

### THEORITICAL ANALYSIS

#### 3.1 HARDWARE AND SOFTWARE DESIGNING

##### HARDWARE DESIGNING:

The hardware required for the development of this project is:

- i. Processor : Intel® Core™ i5-9300H
- ii. Processor speed : 2.4GHz
- iii. RAM Size : 8GB DDR
- iv. System Type : X64-based processor

##### SOFTWARE DESIGNING:

The software required for the development of this project is:

- v. Desktop GUI : Anaconda Navigator
- vi. Operating System : Windows 10 (and other high version)
- vii. Frontend : HTML, CSS
- viii. Programming Language : PYTHON
- ix. Cloud Computing Service : IBM Cloud Services

## CHAPTER 4

### EXPIREMENTAL ANALYSIS

#### 4.1 ANALYSISORINVESTIGATIONMADEWHILEWORKING

The main objective of this guided project is to appreciate the employee work based on analysis of customer feedback. We are designing an application where the HR/ user can upload the feedback report of all the employees. The analysis of each employee report is displayed on the Web application in the form of Bar charts.

#### TONE ANALYSER

The IBM Watson® Tone Analyzer uses linguistic analysis to detect emotional and language tones in written text. Watson Tone Analyzer can analyze tone at both the document and sentence levels.

Watson Tone Analyzer can analyze tone at both the document and sentence levels. You can use the service to understand how your written communications are perceived and then to improve the tone of your communications. Businesses can use the service to learn the tone of their customers' communications and to respond to each customer appropriately, or to understand and improve their customer conversations.

#### NODE-RED

**Node-RED** is a [flow-based](#) development tool for [visual programming](#) developed originally by [IBM](#) for wiring together hardware devices, [APIs](#) and [online services](#) as part of the [Internet of Things](#).<sup>[2]</sup>

Node-RED provides a [web browser](#)-based flow editor, which can be used to create [JavaScript](#) functions. Elements of applications can be saved or shared for re-use. The runtime is built on [Node.js](#). The flows created in Node-RED are stored using [JSON](#). Since version 0.14, [MQTT](#) nodes can make properly configured [TLS](#) connections.<sup>[3]</sup>

## CHAPTER 5

### FLOWCHART

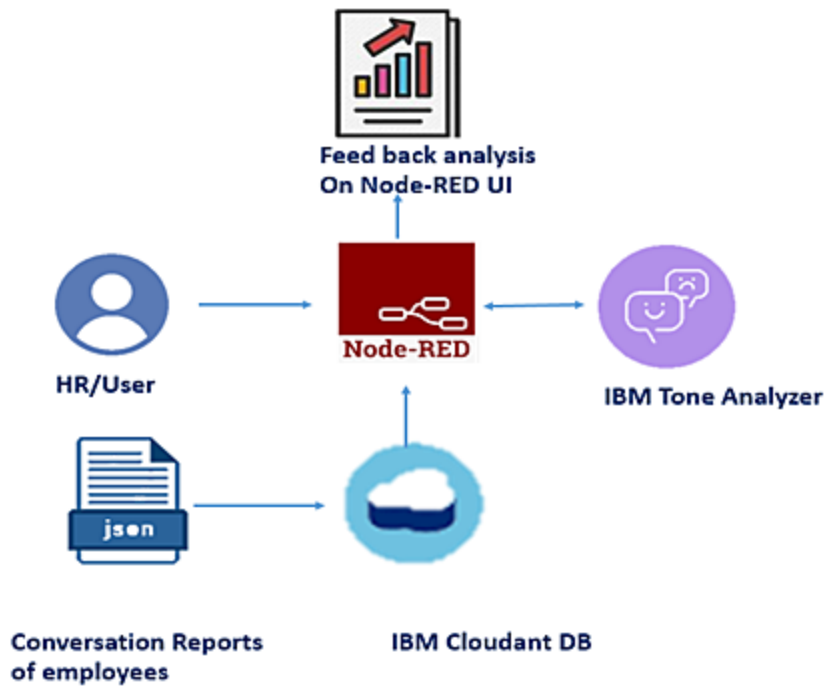


Figure 5.1: Flowchart of the Project

### Project Flow

1. Create IBM Services
  - Create Tone Analyzer Service
  - Create Node Red Service
2. Upload Feedback Data to Cloudant DB

- Launch Cloudant DB
- Create Database
- Create Feedback Documents

### 3. Node-Red Application Building

- Configure Employee Selection Dashboard
- Fetch the Documents from DB
- Parse the DB output
- Add and Configure Tone Analyser Node
- Parse Tone Analyser output
- Display the Analyser
- Save the Sentiment in DB



## CHAPTER 6

## RESULT

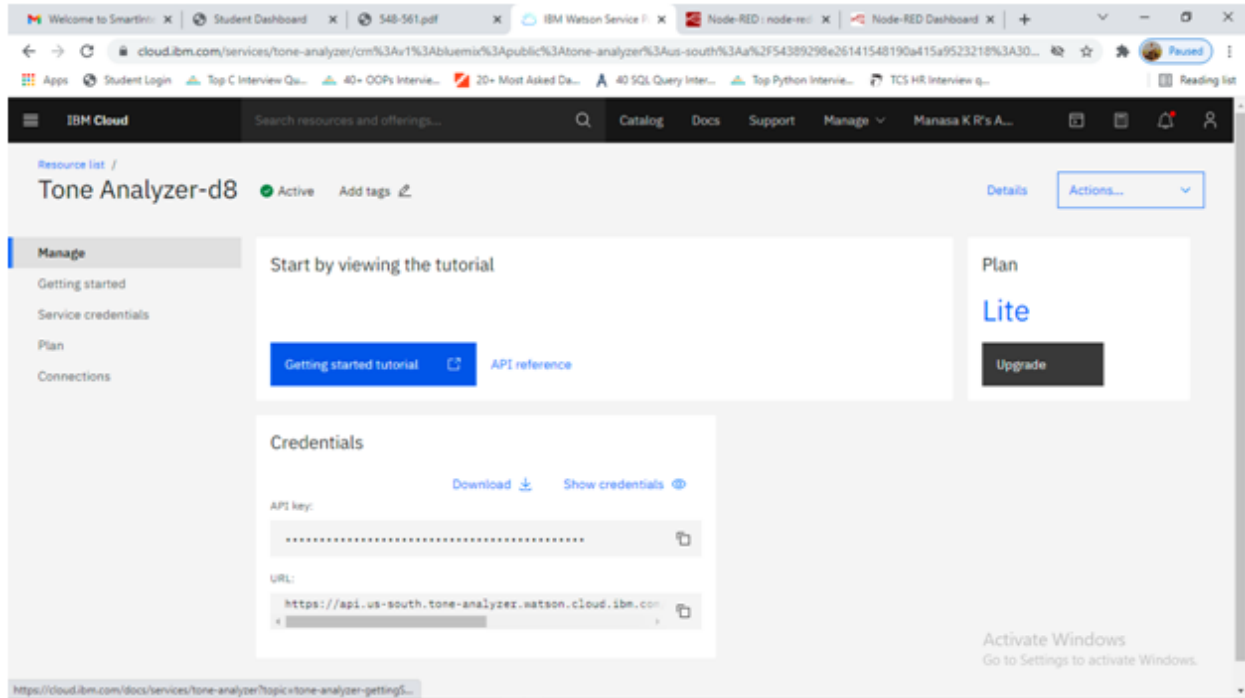


Figure 6.1: Tone-Analyser Service

## Employee appreciation based on customer satisfaction using IBM cognitive service

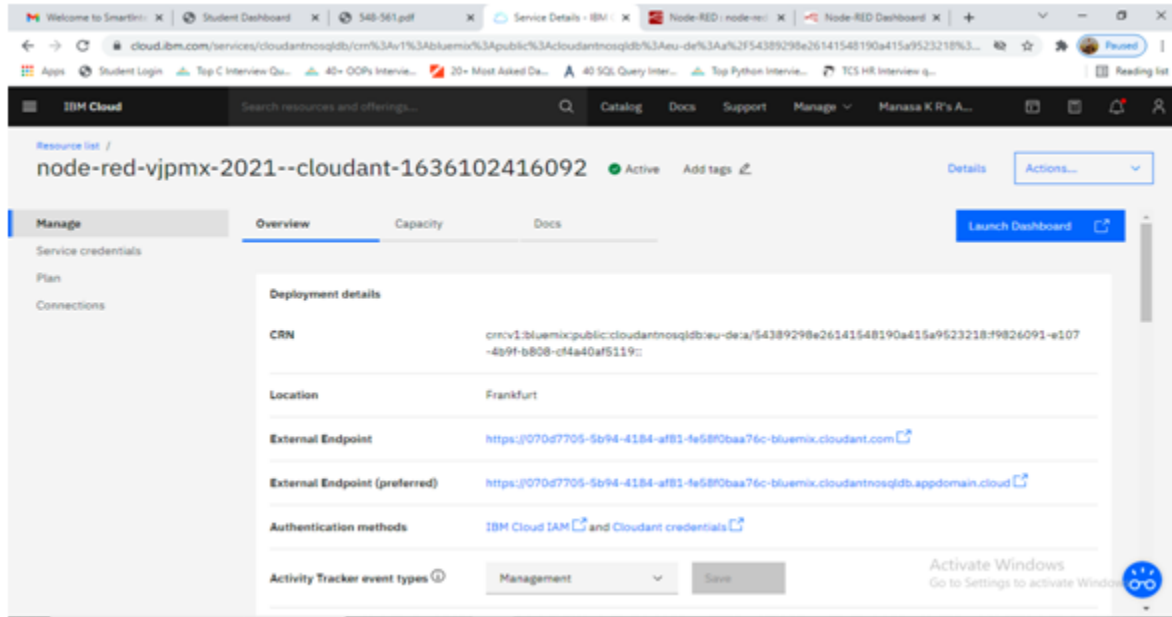


Figure 6.2: Node-Red Service

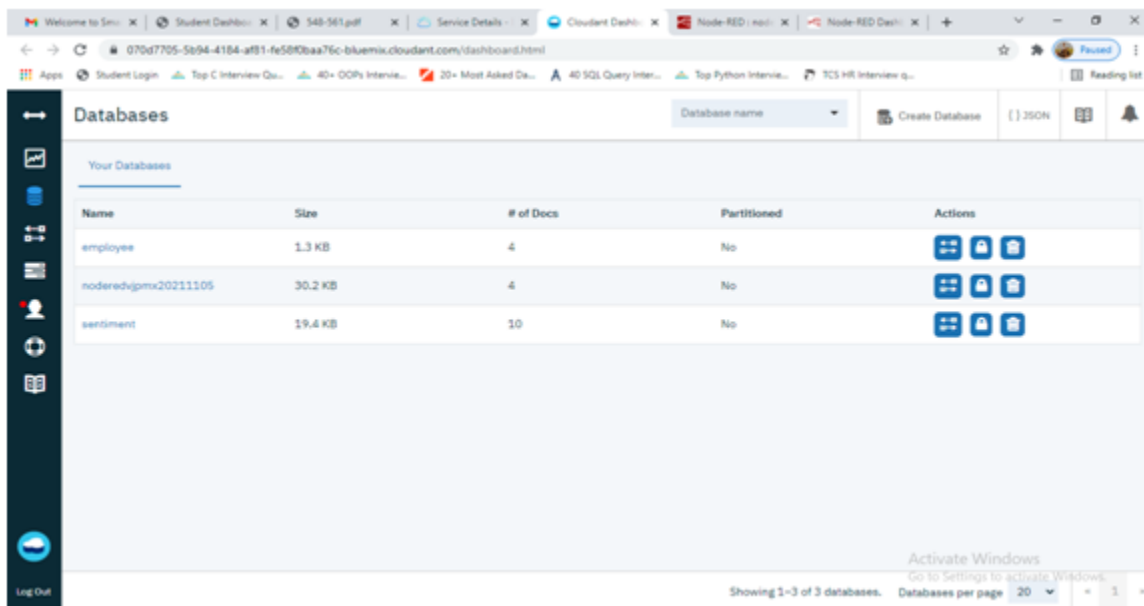
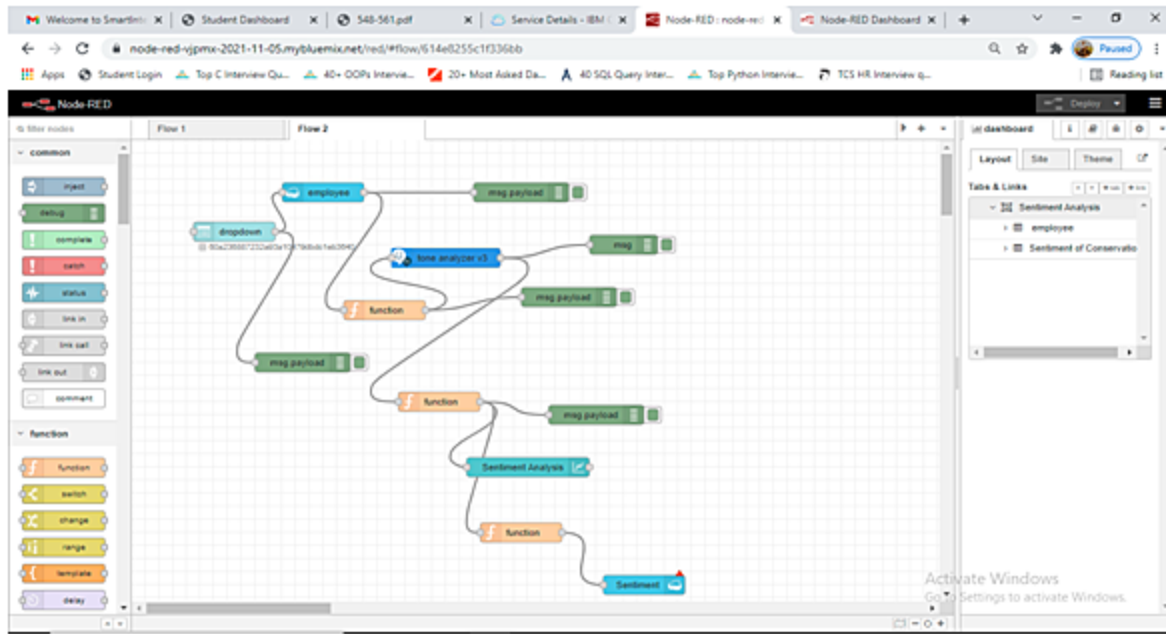
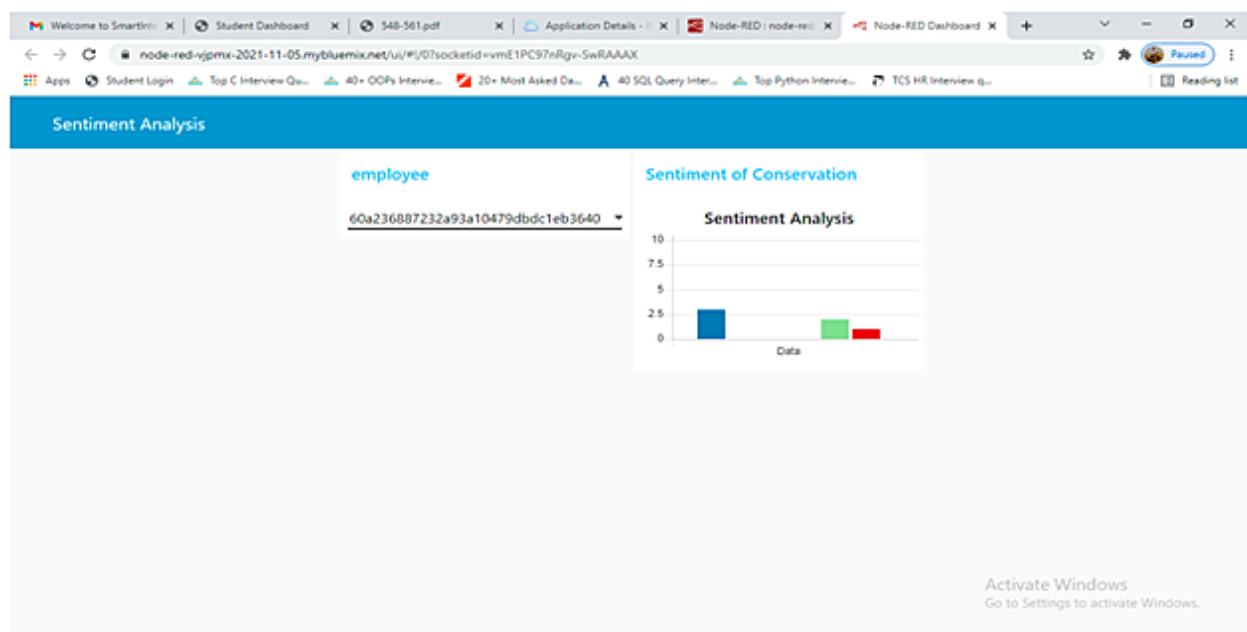


Figure 6.3: Cloudant Database Screen

## Employee appreciation based on customer satisfaction using IBM cognitive service



### Figure 6.4: Back-End Flow using Node-Red app



### Figure 6.5: Display of Employee Analysis

## **CHAPTER 7**

### **CONCLUSION**

Customer satisfaction, problem solving capacity and quality of service plays a top priority. This study is to find the relation between the employee satisfaction based on the reward and customer satisfaction based on the loyalty. Based on the data analysis it is decided that, there is significant relation between the employee and customer satisfaction. Also, there is no significant difference between two variables, i.e., employee reward satisfaction and customer loyalty satisfaction.