PROJECT REPORT
DOMAIN-DATA
ANALYTICS
AIRLINES DATA ANALYTICS FOR AVAITION
IBM-Project-55587-1669182348

1. **INTRODUCTION**
   1. Project Overview
   2. Purpose
2. **LITERATURE SURVEY**
   1. Existing problem
   2. References
   3. Problem Statement Definition
3. **IDEATION & PROPOSED SOLUTION**
   1. Empathy Map Canvas
   2. Ideation & Brainstorming
   3. Proposed Solution
   4. Problem Solution fit
4. **REQUIREMENT ANALYSIS**
   1. Functional requirement
   2. Non-Functional requirements
5. **PROJECT DESIGN**
   1. Data Flow Diagrams
   2. Solution & Technical Architecture
   3. User Stories
6. **PROJECT PLANNING & SCHEDULING**
   1. Sprint Planning & Estimation
   2. Sprint Delivery Schedule
   3. Reports from JIRA
7. **CODING & SOLUTIONING (Explain the features added in the project along with code)**
   1. Feature 1
   2. Feature 2
   3. Database Schema (if Applicable)

1. INTRODUCTION:

1.1 PROJECT OVERVIEW

The airport codes may refer to either the IATA airport code, a three-letter code that is used in passenger reservation, ticketing and baggage-handling systems, or the ICAO airport code which is a four-letter code used by ATC systems and for airports that do not have an IATA airport code.

1.2 PURPOSE

To provide better Airline and AirPort services and to avoid delays in Air Travel across different locations at Municipality level. The aim is to provide airports, airlines, and the travelling public with a neutral, third-party view of which airlines are delivering on their promise to get passengers from Point A to Point B on-time.

2. LITERATURE SURVEY

2.1 Existing problem

So why is attrition such a problem? Among the most common reasons for turnover in the contact centre are:

● **Inappropriate candidate selection for the role and the culture:** Regardless of industry, survey after survey finds employers complaining about how difficult hiring is. When organizations are unable to identify individuals who will do their job well within their specific organization, attrition skyrockets.

● **Employee disengagement:** Employees who aren't engaged are more likely to leave. One Gallup survey found that organizations whose employees reported high engagement had 25% to 65% less attrition than their peers.

● **Low job satisfaction:** Employee satisfaction is directly linked to attrition, both in the short-term (immediately after hire) and the long-term.

● **Excessive pressure and stress:** Workplace stress in America is estimated at over $300 billion annually, and some experts estimate that up to 40% of turnover is due to stress.

● **Inflexible working environment:** Employees who are unable to balance their professional and personal lives, including taking time off for doctor's appointments and to care for children, are more likely to search out other, more flexible, employers. In fact, one survey reported by the Society for Human Resource Management found that a majority of employees (78%) said a flexible work arrangement would allow them to live a healthier life, while 86% said they would be less stressed.

● **No career growth or development opportunities:**
Global Talent Monitor's report on workforce activity shows that the lack of future career development remains a key driver of employee attrition — 40% of departing employees say it led them to be dissatisfied with their jobs, Gallup reports.

● **Lack of recognition:** More than 65 percent of employees report they don't feel recognized at work, according to Human Resources Today, and this fuels attrition.

● **Abusive calls:** One researcher found that agents can average up to 10 hostile encounters a day, which takes a toll on morale and encourages employees to leave the organization. On their own, each of these factors has a significant impact on attrition. Together, they magnify the challenge contact centres face in keeping attrition at a manageable level.

2.2 Reference :

1. https://skift.com/2014/10/14/3-biggest-challenges-facing-the-global-aviation-industry/ (Transport, Airlines- 3 Biggest Challenges Facing the Global Aviation Industry Samantha Shankman, Skift- Oct 14, 2014 12:00 pm)

2. https://www.eaa.org/en/eaa/aviation-advocacy-and-safety/aviation_advocacy/top-aviation-issues

3. https://www.weforum.org/agenda/2016/07/four-threats-to-aviation-security-and-four-responses/ (Written by Anja Kaspersen, Former Head of Geopolitics and International Security, World Economic Forum)

4. http://www.eurocontrol.int/articles/environmental-issues-aviation

5. http://www.tts.com/blog/challenges-for-the-airline-industry/

6. http://www.openjawtech.com/7-challenges-airlines-2018/(7 Challenges for Airlines in 2018 -September 18, 2017/)

7. http://airlines.iata.org/analysis/the-future-of-the-airline-industry (IATAGLOBAL29 August 2017)

8. http://www.processwaregroup.com/en/blog/how-to-beat-the-5-deal-breaker-challenges-in-airline-catering(Nov 4, 2016 12:03:45 PM-Posted By Filipe Janela)

9. http://www.goldenexpo.com.cn/web/en/News/info-18.html

10. http://www.academia.edu/27461079/Some_current_issues_in_airline_catering(Tourism Management 1994 15 (4) 295-305)

2.3 Problem Statement Definition:

I am an employee. I am trying to collect and analyse the data sets with a proper understandablilty and process, implement for further analyses.But I am unable to collect the proper datasets and procceed to net steps. It is because of the improper datasets collected which may have some missing values , false values or null values.This makes me to feel to maintain the proper records of datasets further to

process the implementation of attiriton analytics.

3 . IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas

An empathy map is a collaborative tool teams can use to gain a deeper insight into their customers. Much like a user persona, an empathy map can represent a group of users, such as a customer segment. The empathy map was originally created by Dave Gray and has gained much popularity within the agile community.
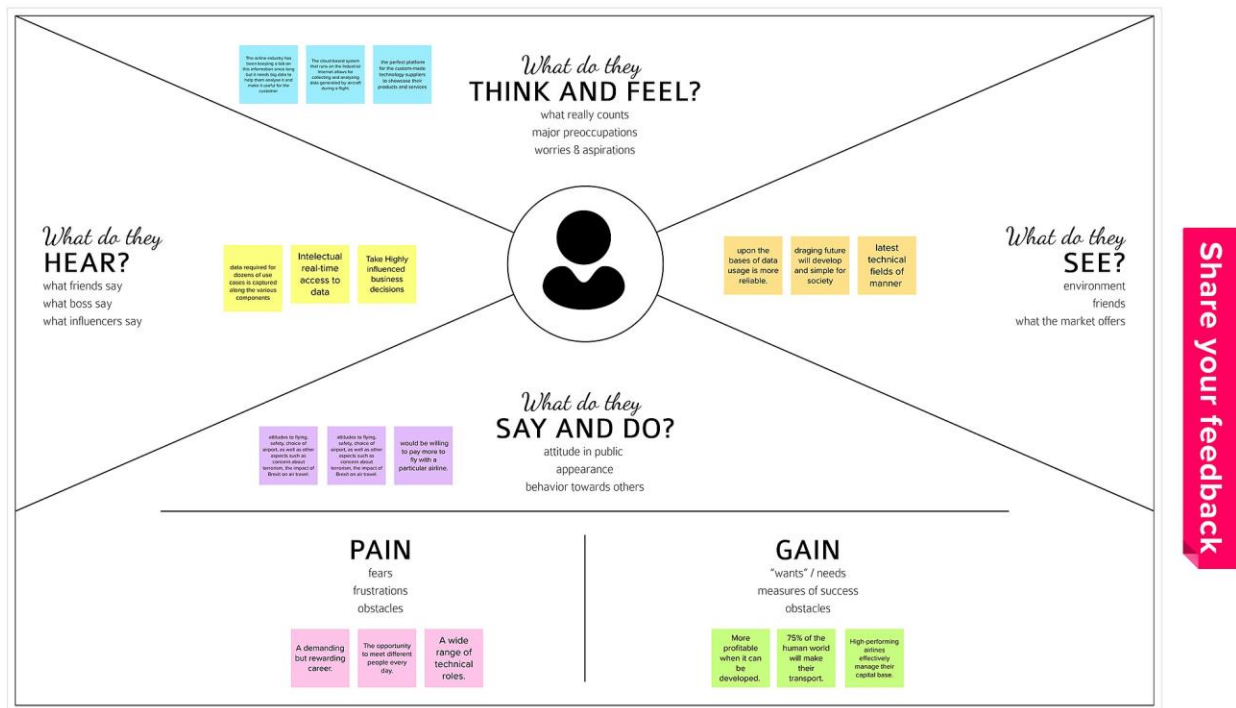

3.2 Ideation & Brainstorming

Ideation is the process of forming ideas from conception to implementation,most often in a business setting. Ideation is expressed via graphical, written, or verbal methods, and arises from past or present knowledge, influences, opinions, experiences, and personal convictions. Ideation is often closely related to the practice of brainstorming, a specific technique that is utilized to generate new ideas. A principal difference between ideation and brainstorming is that ideation is commonly more thought of as being an individual pursuit, while brainstorming is almost always a group activity.

3.3 Proposed Solution
Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description

1.	Problem Statement (Problem to be solved)	a. Aviation Industry Plays An Vital And Major Role In The Creating Of Wealth And Employment For The Economy And Social Respectively.
		b. Industry seems to be a need for focused approach on finding possible ways to explore the forceable aviation issues and challenges.
		c. It make the transport with their find happiness of the persons who are all travel by their property.
		d. Industry make to aviate the transport with their fine aspects of airlines.
2.	Idea / Solution description	a. The use of sustainable biofuels has to be inforced as they are good alternative power supplies such as solar.
		b. Aviation safety should be improved by better knowledge about passengers.
		c. Co-operate on security concerns, in the physical and cyber domain, makes everyone stronger.
3.	Novelty / Uniqueness	a. Safety on serious notes is the only challenge which is not treated on the grounds of competition as the governments and different stac-holders of industry.
4.	Social Impact / Customer Satisfaction	b. Aviation industry brings the people together like families, friends and business collegue.
		c. It also creates a platform where people meet to share ideas with each other.

5.	Business Model (Revenue Model)	a. Due to the fact of being the fastest mode of travel, aviation industry is being used as a preferred mode of travel and thus creating a large chunk of revenue for economy. a. Asia is one of the regions where the air travel is being used by many residents for the first time to travel abroad and thus aviation industry has more opportunities to generate more revenues and jobs for the region.
6.	Scalability of the Solution	a. Based on the airlines data analytics thus the aviation industry will make and develop their transport into biggest aspects for their upcomes of the way of revenue.

3.4 Problem Solution Fit :

4. REQUIREMENT ANALYSIS

4.1 FUNCTIONAL REQUIREMENTS:

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Data collection	1. Collecting data from company administration 2. Collecting data from company database
FR-2	Representation of data	3. Presenting data in excel sheets
FR-3	Analysing data	1. Performing various visualization techniques 2. Creating dashboards,stories,graphs,charts,etc.
FR-4	Preparing reports	1. Analysing the results from the data analysis performed. 2. Preparing reports 3. Taking necessary action if required.

4.2 NON FUNCTIONAL REQUIREMENTS:

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The analysis platform should provide the capacity to perform the task safely.
NFR-2	**Security**	The data must be maintained in a secured manner

NFR-3	**Reliability**	The data analysis performed must be consistent and be trustworthy to take necessary actions when required.
NFR-4	**Performance**	To perform analysis,the data analytics platform must have a good performance criteria.
NFR-5	**Availability**	The collected data or the performed analysis must be available whenever required.
NFR-6	**Scalability**	It must be scalable since the data size may vary at any me.

5.   PROJECT DESIGN

5.1 DATAFLOW DIAGRAMS:

A data-flow diagram is a way of representing a flow of data through a process or a system. The DFD also provides information about the outputs and inputs of each entity and the process itself. A data-flow diagram has no control flow — there are no decision rules and no loops.

5.2 SOLUTION AND TECHNICAL ARCHITECTURE:
Based on the complexity of the deployment, a solution architecture diagram may actually be **a set of diagrams documenting various levels of the architecture**. The diagram relates the information that you gather on the environment to both physical and logical choices for your architecture in an easily understood manner.
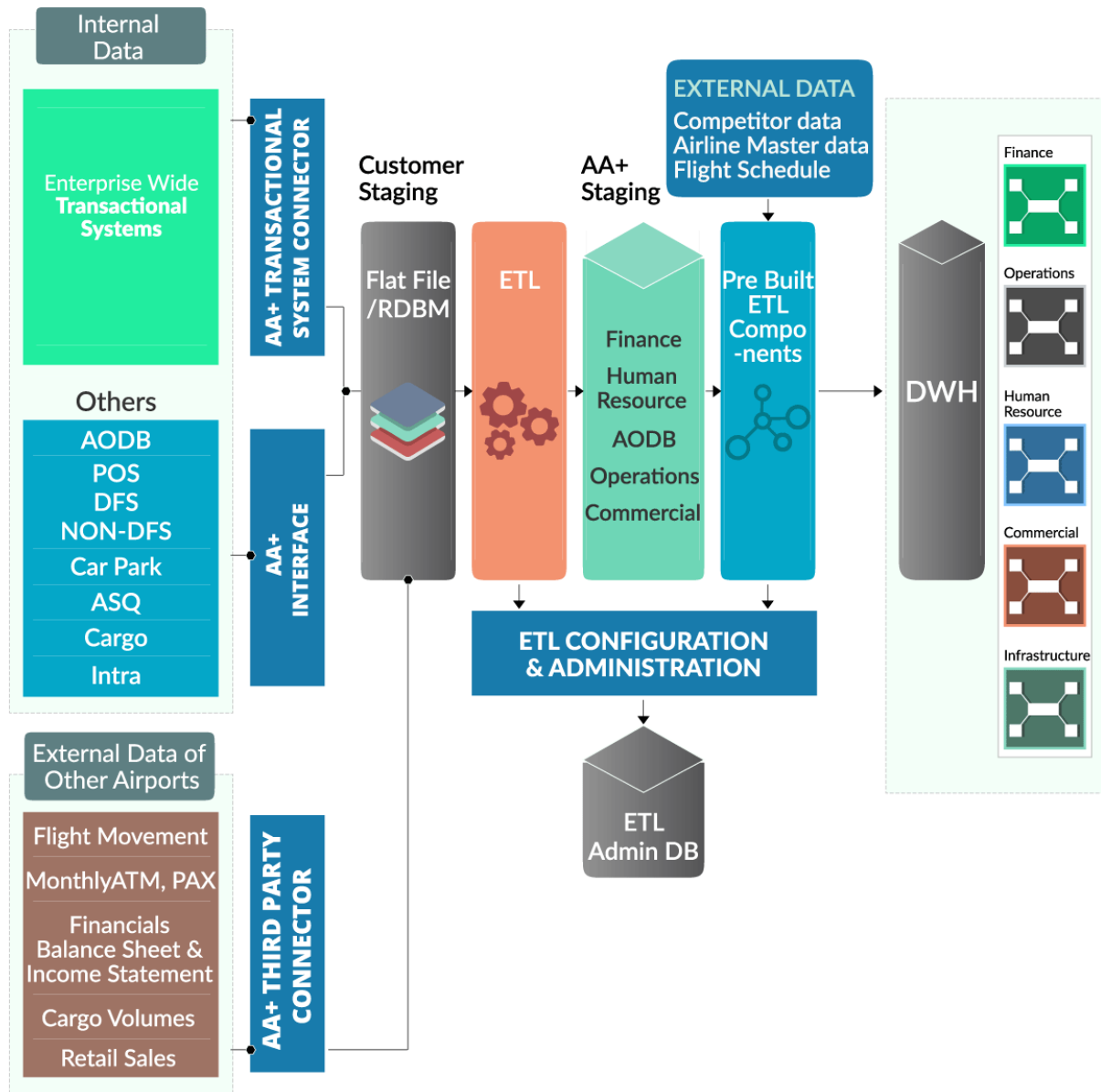
5.3 USER STORIES:

> **CUSTOMER(SUPPORT ROLE WORKERS):**

As a user, I collect the required information about the corporate employee from the higher officials or from the office administration. As a user, I can also get the employee details through the company database. As a user, I segregate the data in a representable form which is used for the further steps.

> **CUSTOMER(DATA ANALYST):**

As a user, I analyse the data through visualization. As a user, I analyse the data

through dashboards As a user, I analyse the data in the form of stories,graph,reports,etc. As a user, I finally represent the results gained from the data analytics.

> **HR:**

As a user , I can prepare reports from the data analysis process. From the reports, I can take necessary actions which results in employee attrition.

6. PROJECT PLANNING AND SCHEDULING

6.1 SPRINT PLANNING ND SCHEDULING:

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority
Sprint-1	Collecting and preparing datasets	USN-1	As a user, I collect the required information about the corporate employee from the higher officials or from the office administration.	2	low
Sprint-1		USN-2	As a user, I can also get the employee details through the company database.		High
Sprint-1		USN-3	As a user, I segregate the data in a representable form which is used for the further steps.	1	high
Sprint-2	Data visualization	USN-1	As a user,I analyse the data through visualization	2	medium
Sprint-2		USN-2	As a user, I analyse the data through dashboards		high
Sprint-2		USN-3	As a user, I analyse the data in the form of stories,graph,reports,etc.		low
Sprint-3	Data analysing	USN-1	As a user, I finally represent the results gained from the data analytics using python	2	high
Sprint-3		USN-2	Through python,I can calculate the attrition results		medium
Sprint-4	Reporting the results	USN-1	As a user , I can prepare reports from the data analysis process	1	medium
Sprint-4		USN-2	From the reports, I can take necessary actions which results in employee attrition.		low

6.2 SPRINT DELIVERY SCHEDULE:

Sprint	Sprint Start Date	Sprint End Date (Planned)	Sprint Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint 1	24 Oct 2022	29 Oct 2022	29 OCtober 2022	05 Novembet 2022
Sprint 2	31 Oct 2022	05 Nov 2022	05 November 2022	06 November 2022
Sprint 3	07 Nov 2022	12 Nov 2022	08 November 2022	09 November 2022
Sprint 4	14 Nov 2022	19 Nov 2022	11 November 2022	14 November 2022

7.CODING AND SOLUTIONING

7.1 FEATURE 1:

In this project , we have done visualization by considering several criterias like

> age
> gender
> department
> business travel
> number of companies worked
> monthly income, etc.

Considering all this during the visualization process makes it more accurate to exactly identify the root caue for the attrition of the employees.

7.2 FEATURE 2:

The dataset is also understood by various factors to consider the missing or unnecessary values in it. Python is used inorder to make the process quite easy and visualisation is also performed using python.Random forest classifier is used in training and testing the datasets which yields almost 97% of accuracy.

8.   TESTING

8.1 TESTCASES:

        A test case is a set of actions performed on a system to determine if it satisfies software requirements and functions correctly.A test case is a document, which has a set of test data, preconditions, expected results and postconditions, developed for a particular test scenario.

        In this project the system is tested and trained based on the empoyees attrition.

> What are all the conditions which lead to employee attrition?
> Which factor is more responsible for the attrition to occur?
> What are the root causes which lead to the attrition?
> How to retain talented employees?
> What necessary steps to be taken to avaoid these conditions?

8.2 USER ACCEPTANCE TESTING:

        User acceptance testing (UAT), also called application testing or end-user testing, is a phase of software development in which the software is tested in the real world by its intended audience.UAT is often the last phase of the <u>software testing</u> process and is performed before the tested software is released to its intended market. The goal of UAT is to ensure software can handle real-world tasks and perform up to development specifications.

In UAT, users are given the opportunity to interact with the software before its official release to see if any features have been overlooked or if it contains any <u>bugs</u>. UAT can be done in-house with volunteers, by paid test subjects using the software or by making the test version available for download as a free trial. The results from the early testers are forwarded to the developers, who make final changes before releasing the software commercially.UAT is effective for ensuring quality in terms of time and software cost, while also increasing transparency with users.

9. **RESULTS**

9.1 PERFORMANCE METRICS:

1. **Attrition status by age :**

> visualization performed by column chart

> Age by status = 92%

2. **Employee count by department :**

Visualization performed by bar chart

Employee count by department wise

> Human resource = 17%

> R&D = 89%

> Sales = 60%

3. **Attrition based on business travel :**

Visualization performed by waterfall chart percentage by business travel

> Non-travel =25%

> Travel frequently =75%

> Travel rarely =35%

> Sum=100%

4. **Attrition based on department ,job role ,education &marital status:**

Visualization performed by line & column chart percentage by

Department wise

i. Human resource =15%

ii. R&D =85% **iii.** Sales

=45% **iv.** Education =69%

v. Job role =100% **vi.**

Marital status

> Male =80%

> Female =20%

1. **Attrition based on salary hike percentage :**

> Visualization performed by pie chart

> Salary hike percentage (overall) =95%(based on department wise)

2. **Based on No.of companies worked:**

Visualization performed by stocked column chart

No. of companies worked based on attrition **i.**

Human resource =15%

ii. R&D =65% **iii.**

Sales =35%

1. **Visualization based on monthly income groups :**

Visualization performed by scatterplot chart

>   Monthly income percentage = 100%

2. **Prediction based on employee working groups :**

Visualization performed by network chart employee working groups

> percentile =75%

DASHBOARDS:

1. **Attrition based on department by age department (visualization performed by bar chart)**

> Human resource =17%

> R&D =89%

> SALES =60%

> OVERALL =91%

2. **Analysis based on job involvement in daily rate :**

Visualization performed by heat plot chart job involvement

> percentage =99%

3. **Based on attrition :**

> Visualization performed by scatterplot

> Attrition percentage =66%

> Business travel =99%

4. **Calculating the employee performance :**

Visualization performed by column chart

> No.of companies worked =59%

> Performance rating =84%

1O.ADVANTAGES &DISADVANTAGES

ADVANTAGES:

- > It brings to fore the cause of employee disengagement.
- > Enables HR managers develop long-term strategies to reduce attrition
- > Competitive measures to enhance company brand image
- > Develops and shapes drills that benefit both the management and the employees
- > Enhanced work culture
- > When employers do not fill up the vacant position, departmental workflows can be changed. The company can assign new duties to the rest of the employees and shift resources allocated for that position within the organization.
- > When employees leave the company voluntarily, labor costs on the company reduce that can be allocated in other areas. Labor costs refer to the wages of those employees, along with appraisals and bonuses.
- > Organizational culture improves if the employees that are troublesome and negatively impact the company culture leave through attrition.
- > When some employees retire or resign, this can be considered a fresh start for the company, and the current employees can be offered new opportunities or new positions can be created that would add to the productivity of the company.
- > If underperforming employees leave the company, this can pose a positive impact on the company's productivity. Underperforming employees often hinder their work efficiency and influence other employees if they are hired at important positions. Through attrition, the company becomes able to solve this problem without turnover or layoffs.

One of the known facts about attrition is it cannot be eliminated from the company. It is a part of every organisation as employees are free to leave the organisation. However, through attrition analysis, one can only reduce the rate of employee exits.

DISADVANTAGES:

When employees leave the organization it is a loss to the company, the team and the individuals. Employees are the backbone of any organization and their departing may lead to

lot of various losses to company on different aspects. The disadvantages can be

1. **Decreased overall performance:**

   The whole business process is affected when an employee leave the organization. It is even more risky when this happen all of a sudden.There is no time to train the new employee who is to take over the job and the whole team gets affected. It can directly be seen in an overall decrease of performance of the team.Sometimes this may even lead to drastic change in customer relationship. Customers connect with employees in an organization and those leaving all of a sudden may lead to doubts in customer's minds as well.

2. **Daily task management:**

   Sudden attrition may lead to difficulty in managing daily tasks. Even large organization struggle to manage their task when employees leave jobs, getting small information and managing daily tasks become difficult as they cannot be managed by small current team which is left behind. Organization generally have notice period to ensure there is a smooth transition but attrition states otherwise, employees who leave suddenly leads to unmanageable daily routines.

3. **Increased cost:**

This has to be the highest disadvantage to a company when employees leave their jobs. There is increased cost associated with every level of the process – **losing and paying the previous employee, hiring a new one, training cost for the new employee**.Research shows that these costs are way more than the losses incurred in managing and missing out on work.

4. **Lack of knowledgeable employees:**

   This goes without saying when employees leave an organization they take with them the experience they have gained overtime. With organizations which has high attrition rate the average years of experience of employees is really low. This result in low performance, lack of loyalty and cluelessness on what company has been through.Older employees with their years of experience can take over critical matters which can never be trusted with these new employees.Even with employees who have experience are hired they may suffer at taking care of critical business matter as they are new to company's policies, culture and current employees.

5. **Create a Negative image:**

It is not just that employees are looking for job, even organizations are on the outlook of qualified professionals. When any company has high attrition rate it negatively impact the brand of the organization.Recruiters' state that they find it difficult to map qualified candidates to the organization, as candidates opts out fearing the attrition rate. The reasons may vary but a negative image work against the organization.

6. **Employee development:**

Many organizations have various employee development plans and higher attrition rate means losing out on it.Employee development plans takes time and huge investments. When there is disturbance within the organization due to employees leaving the organization it affects the development process for all.The money invested on the employee who leave is wasted; also it affects others who have to jump in to fill in for the lost employee affecting their career plan and growth.These plans are structured and require dedication and time to reach the goals.

11.   CONCLUSION

          The study on attrition analysis highlighted, so many factors which will help to the employees. The study was conducted among 3000 approx employees and collected information through structured questionnaire and the project was carried out in a good manner and has met the expectations of the organization. The main objectives of a program to reduce a attrition in a corporate and to find the reason for the same. So that employees are better equipped to do this job for increase a salary and employees should satisfied with career development opportunity from the corporate side too.

12.   FUTURE SCOPE

          Further enhancement can be made by preserving the datasets prior in need.Several other methods can be implemented for analysing the datasets.Performing attrition anaytics in every corporate will help to achieve a better prfit to the organization and the better environment which exists within the organization.

13.   APPENDIX

SOURCE CODE:

Index :

```
<!DOCTYPE html
<!-- Code by CodeWithNepal - codewithnepal -->
<html lang="en">
<head>
```

```html
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Login Form validation using HTML CSS & JS | CodeWithNepal</title>
<link rel="stylesheet" href="style2.css">
<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/5.15.3/css/all.min.css"/>
<script type="sript2.js"></script>

</head>
<body>
  <div class="wrapper">
    <header>Login Form</header>
    <form action="#">
     <div class="field email">
      <div class="input-area">
       <input type="text" placeholder="Email Address">
       <i class="icon fas fa-envelope"></i>
       <i class="error error-icon fas fa-exclamation-circle"></i>
      </div>
      <div class="error error-txt">Email can't be blank</div>
     </div>
     <div class="field password">
      <div class="input-area">
       <input type="password" placeholder="Password">
       <i class="icon fas fa-lock"></i>
       <i class="error error-icon fas fa-exclamation-circle"></i>
      </div>
      <div class="error error-txt">Password can't be blank</div>
     </div>
     <div class="pass-txt"><a href="#">Forgot password?</a></div>
     <input type="submit" value="Login">
    </form>
    <div class="sign-txt">Not yet member? <a href="#">Signup now</a></div>
  </div>


  <script src="script.js"></script>
```

```
</body>
</html>>
```

Script Jss. :

```
const form = document.querySelector("form")
eField = form.querySelector(".email"),
eInput = eField.querySelector("input"),
pField = form.querySelector(".password"),
pInput = pField.querySelector("input");


form.onsubmit = (e)=>{
  e.preventDefault(); //preventing from form submitting
  //if email and password is blank then add shake class in it else call specified function
  (eInput.value == "") ? eField.classList.add("shake", "error") : checkEmail();
  (pInput.value == "") ? pField.classList.add("shake", "error") : checkPass();


  setTimeout(()=>{ //remove shake class after 500ms
    eField.classList.remove("shake");
    pField.classList.remove("shake");
  }, 500);


  eInput.onkeyup = ()=>{checkEmail();} //calling checkEmail function on email input keyup
  pInput.onkeyup = ()=>{checkPass();} //calling checkPassword function on pass input keyup


  function checkEmail(){ //checkEmail function
    let pattern = /^[^ ]+@[^ ]+\.[a-z]{2,3}$/; //pattern for validate email
    if(!eInput.value.match(pattern)){ //if pattern not matched then add error and remove valid
class
      eField.classList.add("error");
      eField.classList.remove("valid");
```

```javascript
      let errorTxt = eField.querySelector(".error-txt");
      //if email value is not empty then show please enter valid email else show Email can't be
blank
      (eInput.value != "") ? errorTxt.innerText = "Enter a valid email address" : errorTxt.innerText =
"Email can't be blank";
    }else{ //if pattern matched then remove error and add valid class
      eField.classList.remove("error");
      eField.classList.add("valid");
    }
  }


  function checkPass(){ //checkPass function
    if(pInput.value == ""){ //if pass is empty then add error and remove valid class
      pField.classList.add("error");
      pField.classList.remove("valid");
    }else{ //if pass is empty then remove error and add valid class
      pField.classList.remove("error");
      pField.classList.add("valid");
    }
  }


  //if eField and pField doesn't contains error class that mean user filled details properly
if(!eField.classList.contains("error") && !pField.classList.contains("error")){
window.location.href = form.getAttribute("action"); //redirecting user to the specified url
which is inside action attribute of form tag
  }
};
```

Style :

```css
@import
url('https://fonts.googleapis.com/css2?family=Poppins:wght@400;500;600&display=swap')
*{
  margin: 0;
  padding: 0;
  box-sizing: border-box;
  font-family: "Poppins", sans-serif;
}
```

```css
body{
  width: 100%;
  height: 100vh;
  display: flex;
  align-items: center;
  justify-content: center;
  background-image: url("flight.jpg");
  background-repeat:no-repeat;
  background-size:cover ;
}
::selection{
  color: #fff;
  background: #3853bf;
}
.wrapper{
  width: 380px;
  padding: 40px 30px 50px 30px;
  background: #fff;
  border-radius: 5px;
  text-align: center;
  box-shadow: 10px 10px 15px rgba(0,0,0,0.1);
}
.wrapper header{
  font-size: 35px;
  font-weight: 600;
}
.wrapper form{
  margin: 40px 0;
}
form .field{
  width: 100%;
  margin-bottom: 20px;
}
form .field.shake{
  animation: shake 0.3s ease-in-out;
}
@keyframes shake {
```

```css
  0%, 100%{
    margin-left: 0px;
  }
  20%, 80%{
    margin-left: -12px;
  }
  40%, 60%{
    margin-left: 12px;
  }
}
form .field .input-area{
  height: 50px;
  width: 100%;
  position: relative;
}
form input{
  width: 100%;
  height: 100%;
  outline: none;
  padding: 0 45px;
  font-size: 18px;
  background: none;
  caret-color: #5372F0;
  border-radius: 5px;
  border: 1px solid #b f;
  border-bottom-width: 2px;
  transition: all 0.2s ease;
}
form .field input:focus,
form .field.valid input{
border-color: #5372F0;
}
form  .field.shake  input,
form   .field.error  input{
border-color: #dc3545;
}
.field .input-area i{
```

```css
  position: absolute;
  top: 50%;
  font-size: 18px;
  pointer-events: none;
  transform: translateY(-50%);
}
.input-area .icon{
  left:  15px;
  color: #b f;
  transition: color 0.2s ease;
}
.input-area .error-icon{
  right: 15px;
  color: #dc3545;
}
form input:focus ~ .icon,
form .field.valid .icon{
color: #5372F0;
}
form .field.shake input:focus ~ .icon,
form .field.error input:focus ~ .icon{
color: #b f;
}
form input::placeholder{
  color: #b f;
  font-size: 17px;
}
form .field .error-txt{
  color: #dc3545;
  text-align: left;
  margin-top: 5px;
}
form .field .error{
  display: none;
}
form .field.shake .error,
form .field.error .error{
```

```
  display: block;
}
form .pass-txt{
  text-align: left;
  margin-top: -10px;
}
.wrapper a{
  color: #5372F0;
  text-decoration: none;
}
.wrapper a:hover{
  text-decoration: underline;
}
form input[type="submit"]{
  height: 50px;
  margin-top: 30px;
  color: #fff;
  padding: 0;
  border: none;
  background: #5372F0;
  cursor: pointer;
  border-bottom: 2px solid rgba(0,0,0,0.1);
  transition: all 0.3s ease;
}
form input[type="submit"]:hover{
  background: #2c52ed;
};
```

Demo link : https://drive.google.com/file/d/1vVRkPbId6E9Fb5RtWDCoF7fWpI3aHNsy/view?usp=sharing

Github link :

https://github.com/IBM-EPBL/IBM-Project-55587-1669182348/