

# AI-Driven Employee Surveys and Sentiment Analysis for Engagement Measurement

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**Abstract:** Artificial Intelligence (AI) is an unbiased technique to read the minds of employees and identify factors influencing job satisfaction. Traditional employee surveys though valuable, often suffered from certain limitations like low response rates, biases and time consuming analysis. Addressing key areas like work culture, social belongingness, rewards, recognition, growth, training and development with an empathetic and proactive approach can help us study employee sentiments and give a deeper insight for an unbiased real time predictive analytics. The collected data can empower organizations to make such decisions and formulation of innovative strategies related to employees' real needs and experiences. This paper proposes a novel approach towards the use of AI driven tools and techniques like advanced NLP models and machine learning algorithms to analyse unstructured data and extract sentiments from a large set of employee communications in social platforms, survey data on work/life balance, job culture, management, and official data about retention and salary of a large organization presented as a case study to highlight the benefits and practical implications of our approach. Overall, this paper aims to demonstrate the potential of AI in the field of employee engagement providing valuable insights for HR professionals, organizational leaders and researchers in employee experience management.

**Keywords:** Artificial Intelligence, data-driven decision – making, employee engagement, employee sentiments, job satisfaction, retention

## Introduction

Employees are said to be the asset of an organization – the biggest strength a company can possess. Without a dedicated and motivated workforce, an organization can never achieve its goals. As organizational productivity along with employee motivation began to weaken, employees began to realize their power. Earlier Human Resource Management as a field of study was being given much importance. However, HR managers have been considered “wolves among sheep” for many years. Although it must have been so in the beginning, gradually things started changing as HR managers prioritized the interests of the employees, staying true to the company's

goals. Though the HR Department has to handle plenty of hard core tasks, yet posts for HR managers are limited to mostly larger organizations as compared to the smaller ones. Therefore, technological development has made it possible even for smaller businesses to have access to HRIS and e - HR services. Globalization also had a big impact on HR, bringing more attention to talent management, employee retention and DEI. With all these technological advances, in this paper, we aim towards the understanding of how the role of HR managers has changed over the years, especially in relation to employee engagement based on employee

surveys and sentiment analysis. Understanding these aspects from the perspective of an emerging business a country like India is also the focus of this study. The reason why India is as a case study is highlighted because of how little research and development has been there in India, while compared to other countries that have achieved technological development in HR tasks. Since years, the greatest asset of any company is its workforce which it acquires and is able to retain. As a company decides to extend its base abroad, the impact of globalization does affect the current workers and as well as the new employees. There comes in picture the bigger role of the HR department which needs to enhance its support to its concerned people as they get transferred to newer positions overseas. Assistance for getting visas, getting allotted with work permits, accommodation and transition to a new work environment, as well as training in cultural and linguistic issues are the major areas of concern. Ability of a company to move into new markets, depends on its ability to retain the skilled workers who can put the show in any situation. Another specific impact of globalization on HRD is the necessary consideration of cultural differences at the workplace. These differences develop between people due to cultural and societal norms which affects the people at work and eventually affects the job satisfaction factors like work – life balance. As women in a so called male dominated society is always expected to maintain a balance between office and household. While a female figure taking up a leading position is not so uncommon in the western countries, it may not be true elsewhere. Similarly, a manager who has had not much exposure other than the home location, may not be the right person to manage the overseas staff, as they fail to understand all the local cultural aspects and acceptable business practices prevailing there. Globalization in HRM deals with management of employees across the globe. Therefore, HR departments face a greater challenge in maintaining a good interpersonal relationship and proper communication with their employees located in remote areas. Often, they have to rely on technology like e - mail or video

conferencing for dissemination of valuable information, thereby reducing the chances of direct human interaction without which understanding the employee needs and addressing their issues to help them perform better becomes a matter of concern. Although, the HR management software follows a standardized format, still accommodations for linguistic differences have to be made. The present era speaks about how HRM is slowly shifting from its previously assigned traditional tasks to play a much more dynamic role in employee engagement measurement. With the changing corporate scenario of today, HR departments need to make a couple adjustments for adaption. Amidst the global competition, the modern organizations may face difficulty in the decision – making process. The need for advanced HR systems has therefore risen that can interpret the available data to provide business insights, anticipate future requirements, and formulate strategies directed to fulfil organizational needs. The challenge will take a bigger shape as there is a significant shortage in the talent supply in organizations worldwide as compared to its long-term demand. Therefore, the upcoming modern organizations will have to suffer from the lack of highly skilled workers and the skill gap will deepen over a period of time if we do not identify and address the employee needs in time. Considering the effect of globalization on HR practices, companies will have to prioritize investment in human capital rather than financial capital. There comes in the big picture the implementation of AI driven HR tools in the form of employee surveys to understand employee sentiments and analyse the factors affecting employee morale so that suitable strategies can be formulated and implemented to address issues related to employee engagement.

The concept of personnel management came in around the late 1970s. Before that, Human resource management was also known as personnel management. The industrial revolution of the 18th century when machines were first introduced and workers began to understand how this could affect their work as the first industrial

revolution workers began to be replaced by machines. After a while the workers also started to break the machine because they found it to be of immense threat to their survival. Revolution that started with the IT and electronic revolution gained momentum and evolved into digital technology after the 1980s, taking us with it on the edge of the fourth digital revolution, as we see today as artificial intelligence (AI), biotechnology and the IoT will completely change the face of our world. Then in the early 1990s with the introduction of information technology and e-commerce, the term “e-HR” came into being which indicates conducting human resource transactions using internet technology. There are also human resource information systems which consist of databases, applications and software that help collect, store, interpret HR data. With further technological advancements, the companies began to think about how they could change the workplace description and role of HR managers. HR managers now have a major role to play in the achievement of the company’s goals by focusing on competence management and personal development instead of recruitment and data collection.

## **Literature Review**

We have seen through the Classical Theories of Management that managers then believed that people and productivity can go hand in hand based on one major factor that is ‘money’ which is the basic driving force within an individual to put efforts and achieve results or show extraordinary performance in any assigned task. The reason being fulfilment of the employees needs at a particular level. So prioritizing the basic needs of workers F.W.Taylor also known as the Father of Scientific Management, introduced the Differential Piece Rate System keeping the factor under consideration that the workers will be paid based on a standard output as per the scheme which says that if any worker is able to produce more than the standard output then as measure of his productivity, he will be given incentives which will motivate him to work more efficiently and will result in high production rates. Taylor laid down a scientific and systematic way of

handling production. He believed that increased efficiency can be achieved by selecting the right person for the right position and provide required training and developing to them to cater to the organizational needs. This will help to identify the one best way to complete the task to produce effective results. Though he had emphasized on the incentive wage plan as a major tool for employee motivation, still he eventually realized that apart from the monetary rewards, there were many other factors lying in the minds of the people at work which still did not give them the intrinsic motivation to do the work because they wanted to do the work and achieve results for the organization rather than do the work just because they had to do it for the sake of earning daily wages to support their basic needs. In fact, a little more in earnings could help them support their needs in a little more better way which made them work for long hours and produce for the company to earn profits[1]. As the employees needs began to given importance, further experiments by Elton Mayo, Mc Gregor, psychologists like Abraham Maslow started paving the path of employee motivation identifying a process which gave importance to not only monetary benefits for employees but also non-monetary components which affected employee productivity. Factors identified were poor working conditions, longer duration of working hours, interpersonal conflicts between management and employees, lack of empathetic attitude amongst managers, social belongingness, employees not being involved in the decision – making process, employee rewards and recognition, retaining talented workforce etc. [1]. So we find that issues were many to keep people happy and satisfied at work, than finding an appropriate approach to resolve the root cause of it. HR managers with technological advancements, started finding out ways to retain talented people which paved the ways towards the foundation of recent HR trends like Talent Acquisition which not only helped to identify the right person for the right job, but also how to lessen the effect of unfair HR practices at work and developing strategies to acquire and retain talent through a platform of

growth and opportunities to showcase their skills and abilities. Having provided with proper training and development, employees found a way towards experiential learning and growth which added on to a platform for career development for employees. Believing in the fact that an organization can grow only through its employees' growth, completely changed the face of human resource management from simply hiring people to complete the tasks and projects to hiring talented and capable people who can achieve unexpected results with an innovative approach [2]. The role AI in this context lies in providing structured and convenient formats to design employee surveys for sentiment analysis which till date is a serious matter of concern which caters dimensions like reduction in turnover, improved work culture and enhanced employee wellbeing. The traditional employee surveys often suffered from certain limitations like low response rates, biases and time consuming analysis. But with the use of AI driven employee surveys, the game can be changed as it has provided a very wide scope in in the decision making process regarding employee morale related issues. The collected data can empower organizations to make such decisions and formulation of innovative strategies related to employees' real needs and experiences.

### **Problem Statement**

People are and should always be the heart of any business or organization because without the right people on the right job at the right time, achievement of organizational goals will never be possible. HR managers many a times due to personal biases, peer pressure, wrong perception, difference in opinion, conflict, organizational politics do not play their role honestly and show unfair treatment towards certain employees with whom they don't get along by firing them without any reason or showing unjust behaviour. This not only leads to decrease in employee morale but the company also fails to otherwise retain a talent. Therefore, in order to help the HR department and the employees both, AI can come into picture to bring clarity into the system of understanding employer – employee relationship,

to help resolve conflict, to understand employee sentiments, to analyse factors influencing employee motivation and can serve as a valuable platform to provide tools and techniques to create formats to get a glance of concerned issues at one go. This will make understanding and managing employee behaviour easier and effective because once the root cause of any issue or conflict is identified, then addressing the issue or planning an approach required to resolve the conflict and strategy formulation as per the demand of the situation becomes desirable and effective. With the increasing importance of AI driven tools used to measure employee engagement, today's HR managers should still not forget their role in safeguarding the interests of employees in an organization and fighting for their rights as and when required to provide fair treatment towards those who run the organization.

Why use AI for the employee engagement surveys ?

AI acts as a magic wand for entire employee engagement survey process. The tiresome traditional process of gathering all the large amount of data manually and analysing the facts after a long time spent reading the survey and producing the results through a detailed report has been replaced by a process which provides accurate, bias free survey results within seconds even though the size of the data is large, varied and complicated. A valuable survey result at your hands just in seconds absolutely error free, incredibly adaptable and flexible with its super smart algorithms has not only made the tedious data crunching job easier but has paved a platform to design the surveys in such a manner that the employees participating in the survey are able feel their value and importance in the organization.

### **Research Methodology**

This paper aims to provide an overview of how AI can be helpful as a tool to conduct sentiment analysis through employee surveys. Qualitative research methodology has been adopted to study the nature of the phenomena, their quality, different manifestations, the context in which they

appear or the perspectives from which they can be perceived in different manner.

So here we use this type of research has been used to collect data and all related information regarding employee related issues through semi – structured interviews and predictive analytics has been done. Predictive analytics is the process of using this collected data to forecast future outcomes. The process uses data analysis, machine learning, artificial intelligence, and statistical models to find patterns that might predict future behaviour. Here AI driven employee surveys have been taken as a tool to study employee sentiments and analyse to report the percentage of unhappy and unsatisfied employees in an organization in order to identify the factors affecting employee engagement and its measurement. Identification of the employee dissatisfaction factors is the major challenge faced by the HR department which can be simplified through these AI driven employee survey results.

#### Secondary data overview

Secondary data, being the main source of this qualitative research, research papers, journals and articles on the particular topic were studied. Case studies of leading companies who have benefited from this technological advancement in the area of employee engagement, are the major source of the findings of this research.

#### Primary data overview

Semi – structured interviews with open – ended questions based on engagement, accomplishment, goal attainment, strategy and workload have been conducted with a sample size of 40 employees of an organization. The study consists of 6 interviews, 1 of the HR head of the organization, 5 of the employees who were interacted in groups from all operational departments to discuss various issues related to employee engagement and retention in the organization. The interviews were conducted over a period of three weeks. The semi-structured interviews consisted of 10 questions with each interview lasting for 30 minutes for each group consisting of 7 to 8 members.

## Data Analysis

The data collected gives us clarity that employee rated issues can be better addressed if one to one conversation can be conducted where people can speak freely about their problems and expectations individually in a bias free environment. An environment which provides flexibility and adaptability where questions can be framed and designed as per employee responses, tailoring the survey experience to each individual. A survey which can talk about making employees feel valued and understood. This can be possible through the use of AI as it acts as a game changer in eliminating human bias which affects accuracy of the survey results predominantly. AI driven employee surveys can provide a platform for a fair and unbiased approach to give a true picture of the workforce sentiments.

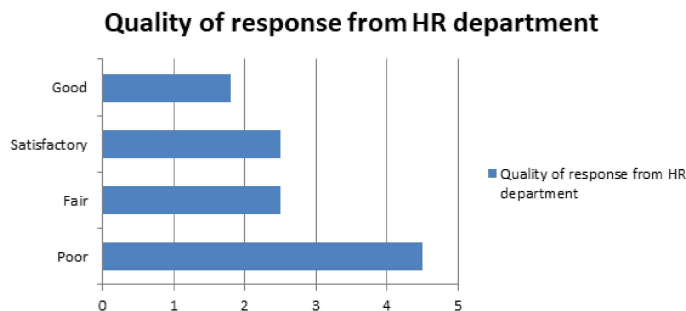
The semi – structured interviews conducted have revealed various employee engagement related issues in the particular organization like the performance management system and on - boarding system etc. The query handling procedure regarding on - boarding system, payroll of existing employees, calculation of balance leaves, HR policy etc. was identified as the major area of concern for both the HR department officials and the employees. The HR department which is responsible for the dissemination of information regarding HR policy of the organization was facing the difficulty to filter and find out the remaining leaves, applying for leave or getting a copy of their payslip which required high manual effort and time. One of the major challenges was the fact that several information systems and portals were working in isolation and were in use simultaneously. Naturally, this increased the amount of time spent by employees in looking for relevant information on the right system. So to simplify the system and address the employee queries instantly, the study of a case on automating employee query management at KEC International using LEENA AI ?(a leading employee engagement survey vendor, a virtual assistant that empowers employee-facing teams to transform employee

experiences designed for modern workplaces), has been a real example of how AI driven employee engagement software acts as a dynamic platform to provide real time insights, actionable data, meaningful employee engagement process metrics conducting SWOT Analysis of an organization's work environment and empowering us to make data driven decisions to cultivate a culture of openness and growth for

the employees can realize their potentiality and importance in the organization.

### Survey Results

The first part of the questionnaire focussed on questions regarding "What is the quality of response given by the HR department officials as they revert back to the current employee issues."



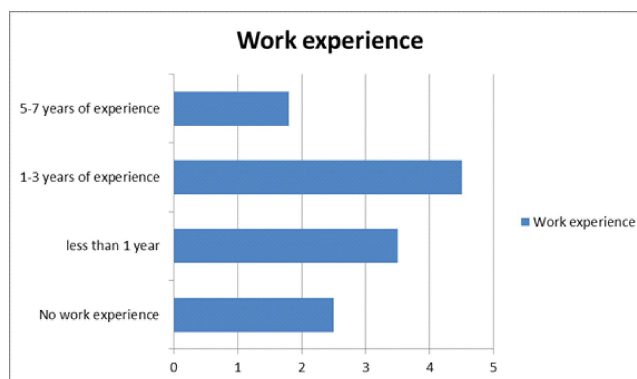
**Figure 1 : Quality of response from HR department**

**Source:** Primary

It is quite clear from the findings that most of the time the HR department has not been able to given satisfactory response regarding the queries or has not been able to handle and resolve the issues properly. To find out the reason behind the lacuna in the query handling system of the HR department, we conducted the second part of the interview which included questions related to the demographic information of the HR officials who

are responsible to handle employee related issues.

Regarding the question that "How the work experience of an HR department official works as a catalyst to address employee related issues for sentiment analysis" and maintain a work culture which can fit the valid employee expectations to improve the employee morale which ultimately affects employee productivity and performance.



**Figure 2 : Work Experience**

**Source:** Primary

The work experience of the concerned official is definitely the first factor in consideration to the individual's exposure to real time handling of issues and resolving them with proper analysis of the situation in demand. So here our findings say that most of the people working in the HR department of the particular organization do not have much hands on experience in handling queries related to employee morale as they are having only 1 to 3 years of work experience in this field. Due to lack of experience the concerned officials are either not aware of the correct format of calculating the balance leaves or are not aware of the particular HR policy. This is creating a big issue in pay roll calculation and generation of pay slips in time or addressing any issue related to performance management system.

Here is where the importance of analysis of employee sentiments comes into an area of consideration to figure out the job satisfaction level of employees. Therefore, this could be better addressed with the help of AI driven employee surveys which can act as a faster and accurate data driven decision - making system in the present scenario.

#### **Role of an employee engagement software to analyse employee sentiments**

Employee morale serves as a critical determinant for organizational success and sustainability. A heightened morale always correlates with increased productivity. It plays a major role in employee retention because a motivated, contented and engaged workforce is less prone to seeking opportunities elsewhere. A positive employee morale leads to a workplace culture where people want to work collaboratively, well-knit with proper communication and good interpersonal relationship. They are focussed, supportive by nature and believe in team work to achieve desirable results. It has also has a direct impact on customer satisfaction because a happy and satisfied workforce always gives an excellent customer service as they feel like working for benefit of the company. They will always speak in a positive tone and spread a positive word of mouth about the services provided by the

company. Furthermore, during a phase of organizational change, it is this motivated workforce that helps to develop a resilient and flexible workforce. Making others understand the need for change and compelling the workforce to accept the change and adapt as per the prevailing challenges in the environment is a hard task to be accomplished. Therefore, an enthusiastic, proactive and empathetic work place environment which believes in people and their abilities is required to help the organization grow and evolve.

In this fast paced corporate landscape of today, an employee engagement software acts as a dynamic platform to provide real time insights, actionable data, meaningful employee engagement process metrics conducting SWOT Analysis of an organization's work environment and empowering us to make data driven decisions and cultivate a culture of openness and growth where the employees can realize their potentiality and importance.

As already discussed, that engaged employees are just like super heroes ready to take up any challenge anytime, there an employee engagement software empowers us with valuable insights into the minds of employees. It's just like having a backstage pass to the thoughts and feelings of people that drives a workplace attitude and regulates employee behaviour. In a nutshell, an employee engagement software acts as a bridge to connect the organizational goals with the aspirations of the people at work.

#### **How to design an employee survey?**

To design an employee engagement survey, the basic rule is to create it in a simple and focussed format. A personalized question set based on previous survey responses should be designed so that the employees taking the survey will not feel like recording their responses in a computer generated format but will feel like a one to one conversation with someone who wants to listen to the real issues hidden in the system. Adding a personal touch to the set of questions will enable respondents to open up in sharing their views and discussing problems related to their

workplace. Though studying human psychology requires a different level of expertise and understanding, but a simple mantra to relieve stress from work life depends on the way in which we address the hidden problems with clarity and depth. AI driven employee surveys are making this process of employee engagement measurement easier and effective through a set of questionnaire, absolutely crisp and concise, directed to derive results which are based on true feelings of existing employees. Timely surveys at required intervals can regularise the feedback mechanism and further assist the real time employee engagement survey with a process of handling and resolving the current issues then and there where they start affecting the employees psychologically. Eventually, what matters most, is how the employee feels at work. To achieve the target of keeping the people at least happy at work can be addressed through this real time surveys which help us find out the engagement trends, understand patterns and address the issues promptly through the analysis of diverse type questions and give a well – rounded perspective on team sentiments. An absolutely win-win situation can be created through this AI feedback system which not only helps to address the urgent issues promptly but also fosters employee engagement to a desirable level resulting in heightened employee morale and job satisfaction.

Steps in the employee survey template designing process – The following steps should be followed to design a standard format for an employee survey template:

- Define the survey objectives
- Use a mix of question types
- Start with general questions
- Measure key engagement drivers – include questions regarding employee engagement factors like workplace culture, job satisfaction, leadership support, growth opportunities, communication, rewards and recognition,

work-life balance, employee wellness and inclusion.

- Avoid leading or biasing questions – questions asked should always be in a neutral format free from any biases and it should not influence any particular kind of response which may affect the survey badly.
- Keep it concise and relevant
- Pre-test the survey
- Ensure anonymity and confidentiality
- Follow up with action

By following the above mentioned steps and conducting the survey ethically will help us effectively gauge the sentiments of our workforce, provide valuable insights and foster a culture of continuous improvement within the organization to contribute more towards a productive workplace.

Popular kinds of employee survey templates in use –The most popularly used templates in various organizations to get deeper insights into matters like employee satisfaction, workplace culture, measurement of employee engagement, leadership effectiveness etc. are:

- Employee Satisfaction Survey
- Employee Engagement Survey
- Workplace culture survey
- Leadership effectiveness Survey
- Diversity and Inclusion Survey
- Training and Development Survey
- Employee Well – being and work-life Balance Survey
- On – boarding experience Survey
- Exit Interview Survey
- 360 Degree Feedback Survey

The purpose of using these employee survey templates is to gather feedback, opinions and



insights from a targeted group of individuals in an organization in a standardized and structured format enabling organizations to obtain consistent data, facilitate employee sentiment analysis and draw meaningful conclusions to be worked on.

How to choose an employee engagement survey tool ?

There are several factors to be taken into consideration before choosing a survey tool:

1. Alignment with goals
2. Survey customization
3. Real-time feedback
4. User-friendly interface
5. Mobile compatibility
6. Anonymous responses
7. Actionable Insights
8. Survey frequency options
9. Benchmarking capabilities
10. Survey distribution & tracking

Steps to choose an employee engagement software vendor – The following steps need to be carried out to finalize a good employee engagement software vendor:

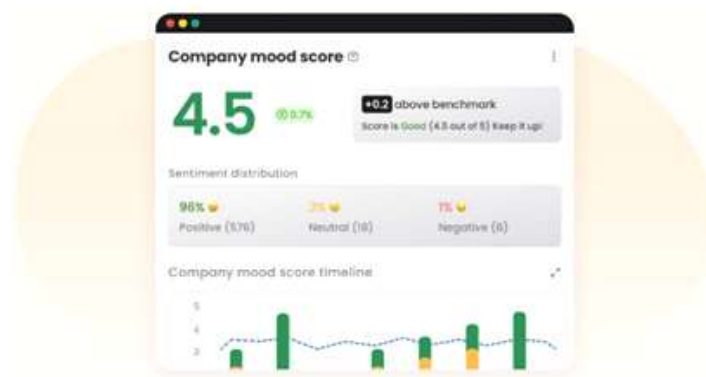
- Research

- Features & functionality
- Data security & anonymity
- Customer support
- Scalability & flexibility
- Cost-effectiveness
- Integration capabilities
- Trial period

And finally, the “One size fits all approach” should absolutely be avoided because every organization is unique in its thoughts, approaches and implementation procedures. Therefore, only if the vendor meets all the existing parameters of an organization to do conduct an employee survey, then only we should choose it to be the right employee engagement software vendor.

LEENA AI – An employee engagement survey vendor

About Leena AI: Leena AI is an enterprise which provides virtual assistance that empowers organizations to transform employee experiences as it covers every part of an employee’s journey, while simultaneously accelerating the service delivery across functions such as HR, IT and others. Trusted by millions of employees from hundreds of organizations across the globe like Philips, Puma, Sony, Nestle, Coca - Cola, Samsung, BCG etc.



**Figure 3 : Leena AI Company mood Score**

**Source:** Leena AI Website

Sentiment Analysis To Capture The Accurate Mood Of Employees -A good employee engagement score typically falls within the range of 70% to 85%. This means that 70% to 85% of

employees are actively engaged and satisfied with their work and the organization. However, the ideal score may vary based on industry benchmarks and goals.

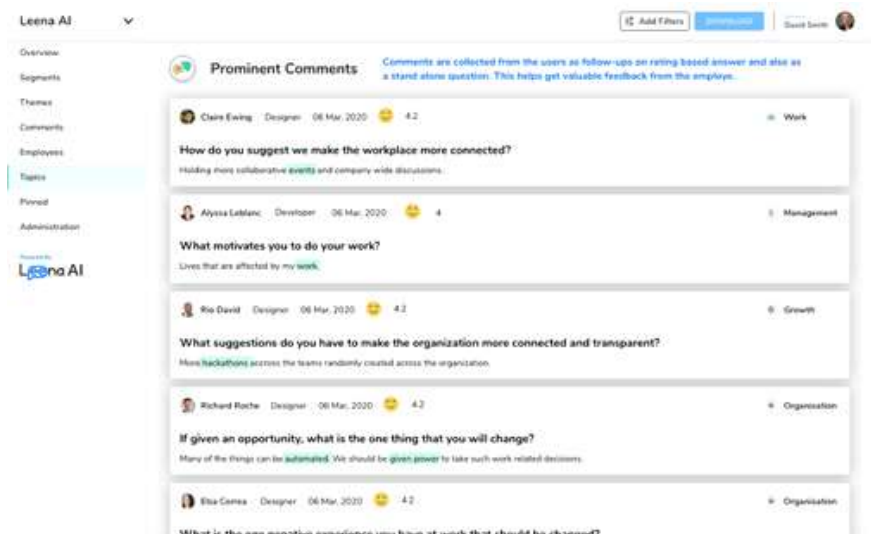


Figure 1: Prominent review reports of user

Source : Leena AI Website

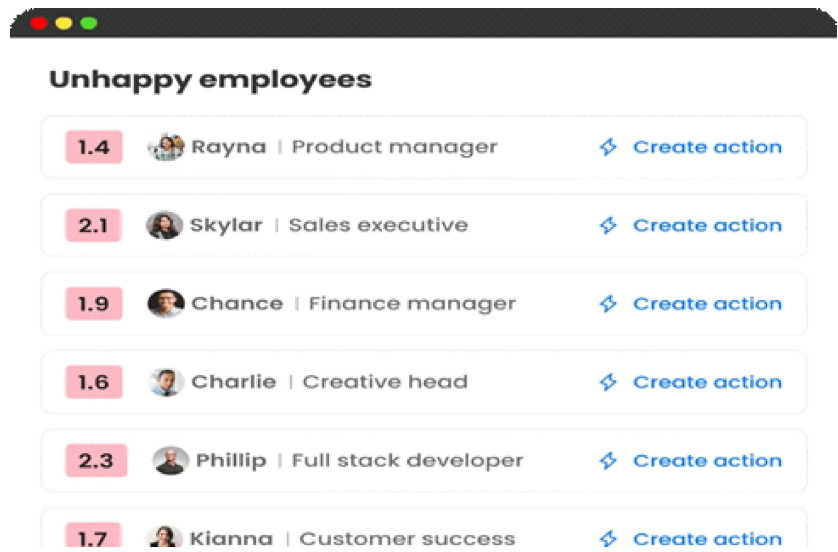
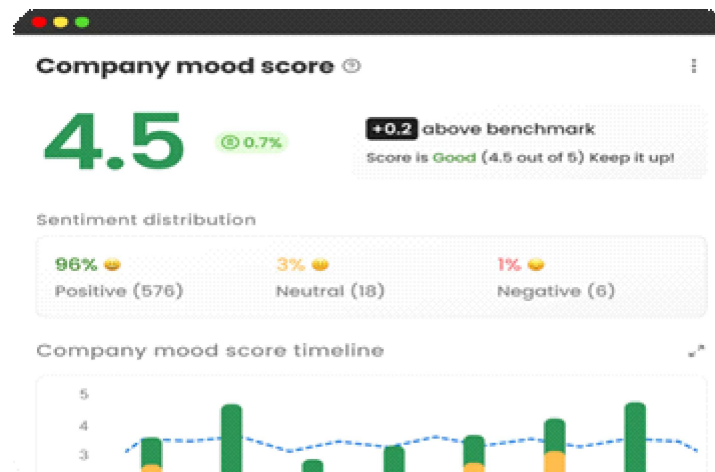


Figure 3: Unhappy Employees of Leena AI

Source: Leena AI Website



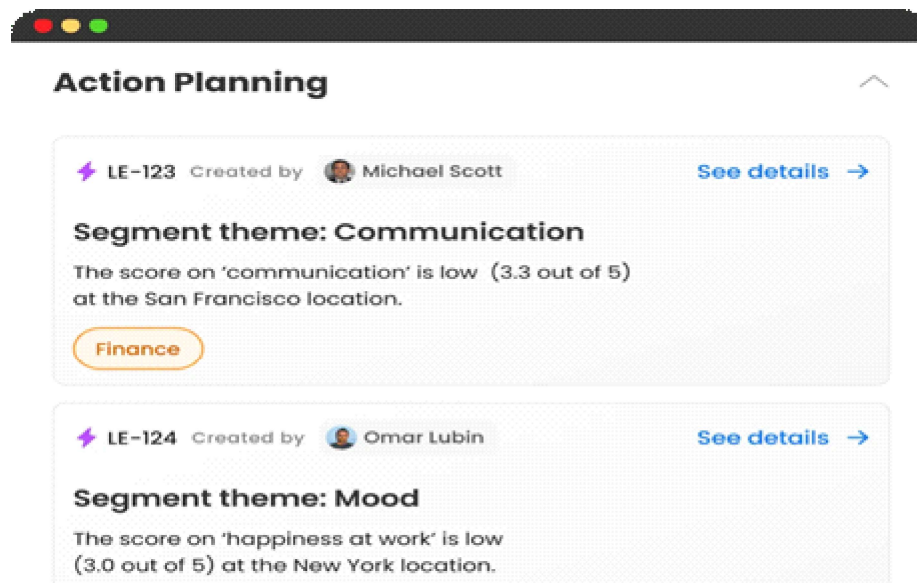
**Figure 4: Company Mood Score**

Source: Leena AI website

Segments		Engagement score	Manage
Department	IT	4.9	4.3
	Marketing	4.4	4.8
	Sales	3.9	3.7
Age	18-25	2.6	2.6
	26-33	4.9	4.7
	34-41	4.4	4.4
Location	US	3.9	3.8
	UK	3.9	4.9
	Indonesia	4.9	3.9

**Figure 5 : engagement score segment wise**

Source: Leena AI Website



**Figure 6: Action Planning after mood analysis**

**Source:** Leena AI Website

### **Sentiment Analysis To Capture The Accurate Mood Of Employees**

At Leena AI, open-ended employee feedback is analyzed with the help of AI to find hidden insights. With smart analytics, you can find out what your employees are talking about and what issues need the most attention.

- Leena AI knows that each stage of an employee's life cycle has its own challenges, reasons for engagement, and needs. These engagement surveys focus on these specific drivers of engagement and also take into account information from other connected systems, like performance management systems, onboarding systems, etc.
- Leena AI analyzes employee feedback using AI to give real-time insights on engagement on an incredibly intuitive dashboard. The insights help HR teams, people managers, and people in charge take quick, targeted actions and respond

quickly to employee problems and requests.

- Leena AI using machine learning and natural language processing technology helps improve employee morale and retain the best employees by proactively identifying and solving their problems. The AI-powered engagement surveys inform you about unhappy employees so that you get to know about their challenges and problem areas instantly to solve them.
- Leena AI effectively manages the employee survey projects, tracks their progress, takes actions, and assigns tickets to team members all within the same system.

### **Automating employee query management at KEC international using LEENAAI – A CaseStudy**

Overview - A forward-thinking, digitally agile organization where people are their greatest

assets, KEC has taken great strides in deploying smart digital propositions to enhance employee experience. The company believes in providing a superlative experience to all the new and existing employees, right from digital on-boarding to enhancing their daily routine through new-age interventions.

In 2018, a clear need was felt for faster and smarter access to information on people and processes during one of the Action Planning Workshops. With an increase in hiring activity and a rise in the ratio of millennials in the organization, KEC opted for a smart, user-friendly, and tech-savvy solution, customized HR virtual assistant - Electra. This step towards an excellent HR service delivery made KEC one of the early movers in the adoption of conversational AI across the EPC industry.

KEC INTERNATIONAL teamed up to create ELECTRA – a customised hr chatbot that has revolutionised employee query management at the company with the help of LEENA AI - KEC International is one of the world's biggest infrastructure Engineering, Procurement and Construction (EPC) companies and has undertaken infrastructure development projects in more than 100 countries. The company has over 4,000 employees working in diverse teams and verticals all over the world. However, one recurring HR challenge was promptly resolving employee queries and requests regarding leaves, payroll and company policies. KEC International teamed up with Leena AI to create Electra – a customised HR chatbot. Let's take a closer look at the process of implementation and its impact.

- **The Challenge was the high Employee Query Resolution Time** - One of the prominent challenges was the fact that several information systems and portals were working in isolation and were in use simultaneously. Naturally, this increased the amount of time spent by employees in looking for relevant information on the right system. Similarly, the process of solving simple, yet similar, employee queries – like finding out their remaining leaves, applying

for leave or getting a copy of their payslip – required high manual effort and time. Put together, both these factors meant that the time taken to resolve employee queries was high. The lack of an effective query-resolution framework also meant that employees were frequently reaching out to the already overstretched HR Business Partners (HRBPs).

- **The Solution** - Since a majority of the employee queries were similar in nature, Leena AI integrated the chatbot with KEC International's HRIS – SF, which helped in automating the leave application and approval system. Next, a considerable effort was made to understand and record the different colloquial ways in which employees refer to company information and policies. This helped in automating the answers to frequently asked questions by the bot using Natural Language Processing (NLP). However, in the case of highly-personalised and complex queries, the bot raised a ticket to HRBPs for resolution, thus, ensuring that no employee grievance went unaddressed. As an added functionality, the bot was integrated with KEC International's twitter handle and other relevant news websites to regularly share the latest company information, updates and news with employees.
- **The Impact: Seamless and Timely Access to Relevant Information** - By integrating the different information systems and automating the employee query resolution management, Leena AI created one-point access to obtain relevant company information that was available round the clock. Nearly 90% of all employee queries and issues are now resolved by the chatbot, which means that the employee query resolution time has reduced by 80% and helped the company by saving more than 5000 HR hours in the just one quarter. In other words, employee queries are resolved in one-fifth of the time taken previously, and the

company has been able to enjoy a 9X return on investment within the last quarter. However, that's not all – since employees are continuously receiving the latest company announcements, news and information directly, their engagement levels have also gone up in the last few months.

- Some of the major solutions that are now automated at KEC are:
  - Payroll
  - Internal job posting
  - Coronavirus awareness & advisories
  - Learning Management
  - Instant employee recognition
  - e-NPS
  - Holiday calendar for both corporate offices and factory & project sites
  - Employee Directory

Somraj Samin Roy, HR Head – KEC International, says, “As a truly ‘Global’ organization, KEC International has striven to be on the forefront of ‘agility’ especially by leveraging digitalization across its value chain. This has helped us in our constant endeavour of Unlocking the potential while offering bespoke experiences to our multiple stakeholders. ELECTRA – our very own chatbot has been one such medium through which we have pushed the borders by offering seamless, real-time service to our employees, resulting in enriching their HR service experience.”

**Conclusion:** The impact created by Leena AI has changed that way employee queries and requests were managed at KEC international. The case study proves that AI-driven tools can be leveraged by HR leaders and professionals to automate repetitive tasks that require high manual effort and save valuable time and resources in the process.

## Findings

- AI can help in the analysis of individual employee data and preferences to deliver

personalized experiences. From focussed learning and development opportunities to personalized career paths. AI empowers the Human Resource department with the creation of customized employee experience that can boost both engagement and satisfaction.

- AI - driven sentiment analysis helps organizations to gain a deeper insight of their customers’ needs, enhance brand reputation, and optimize their products or services. It offers real-time analysis of employee issues, identifies growing trends, and facilitates data-driven decision-making.

## Implications

The implications of using AI-driven employee surveys and sentiment analysis for engagement measurement are wide-ranging and can significantly impact the way organizations understand and enhance employee engagement. Here are several implications to consider:

1. **Real-time insights:** AI-driven surveys and sentiment analysis can provide real-time insights into employee sentiment and engagement levels. This allows organizations to identify emerging issues quickly and take proactive measures to address them, leading to a more agile and responsive approach to improving employee engagement.
2. **Granular understanding:** By leveraging AI, organizations can gain a more granular understanding of the factors that influence employee engagement. Sentiment analysis can help identify specific drivers of engagement, such as leadership effectiveness, work-life balance, career development opportunities, and organizational culture, enabling targeted interventions to enhance engagement.
3. **Personalized interventions:** AI-driven surveys can enable the creation of personalized interventions to improve employee engagement. By analyzing individual sentiment and feedback, organizations can tailor development plans, recognition efforts, and support mechanisms to

address the unique needs of each employee, leading to more effective engagement strategies.

4. Predictive analytics: AI can enable predictive analytics to forecast future engagement trends based on historical data and current sentiment analysis. This allows organizations to anticipate potential disengagement issues and take proactive measures to prevent them, leading to a more proactive and forward-looking approach to employee engagement management.

5. Enhanced survey experience: AI-driven surveys can enhance the overall survey experience for employees by providing more interactive and user-friendly interfaces, as well as more targeted and relevant questions. This can lead to higher survey participation rates and more accurate feedback, ultimately leading to more reliable insights into employee sentiment and engagement levels.

6. Ethical considerations: The use of AI in employee surveys and sentiment analysis raises ethical considerations related to data privacy, transparency, and fairness. Organizations must ensure that AI-driven engagement measurement processes are conducted in a transparent and ethical manner, with a focus on protecting employee privacy and ensuring that the analysis is unbiased and fair.

7. Integration with other HR systems: AI-driven employee surveys and sentiment analysis can be integrated with other HR systems, such as performance management, talent development, and learning management systems. This integration can provide a more holistic view of employee engagement and enable organizations to align their engagement efforts with other HR initiatives for a more cohesive and comprehensive approach to employee development.

9. Scope of future research

This research can further be extended on a quantitative basis by collecting data from an organization which has faced problems with employee surveys done manually and has now experienced the benefits of using AI driven

employee surveys. Getting into the figures, it will give us a clarity on the advantages and disadvantages of using AI in the employee engagement system and will bring out ways to make the employee engagement system effective and run the employee surveys with accuracy with a flexible and adaptable format which will be capable to address the employee related issues with a much more personalized, effective and proactive approach. Keeping the limitations of the process into consideration the surveys can be designed as per employee response, tailoring the survey experience to each individual in order to make them feel valued, happy and satisfied. Introducing AI in the area of employee engagement can be a boom in attaching its utility in a massive way to various sectors especially in maintaining work life balance.

### Limitations

The challenges faced in interpreting the employee engagement survey results are:

- Ambiguous responses
- Response Bias
- Low Participation Rate
- Lack of Context
- Benchmarking Difficulties
- Identifying Actionable Insights
- Change in Employee Sentiments
- Overemphasis on Scores
- Interpreting open – ended responses
- Survey Fatigue
- Inadequate Communication

### Conclusion

In conclusion, the use of AI-driven employee surveys and sentiment analysis for engagement measurement has the potential to revolutionize the way organizations understand, monitor, and enhance employee engagement. By leveraging AI technologies, organizations can gain deeper insights, take more targeted actions, and create a

more personalized and proactive approach to employee engagement management. However, it's important for organizations to consider the ethical implications and ensure that the use of AI is conducted in a transparent, fair, and privacy-conscious manner.

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