

A Design of a Performance and Rewards Management System for Healthcare BPO Call Center- Non-Voice Agent

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Abstract. The call center industry within the Philippines has been seen continuously growing throughout the years to the point that it overtook India as the world's call center capital. Non-voice agents are a type of call center agent that do tasks that do not require them to talk on the phone or answer to any queries, yet they are still able to help the business. Performance management is often done within the industry as it helps the manager understand what areas the employees are having difficulty in and if coaching is necessary. However, with the number of agents that they are handling, it makes it difficult for the manager to pull up files and keep track of their agents. Therefore, a platform that monitors and manages the performance of their agents in an efficient and easier manner is needed. The study aims to develop a web application to be used by the chosen Healthcare IT BPO call center manager in monitoring and tracking the performance assessments, eligibility for monthly and annual rewards, and the amount of subsequent disciplinary actions for their non-voice agents. The researchers utilize PHP and MySQL in developing the web application. The system was stress tested which showed that it was capable of handling multiple hosts and functionality tested which showed that all its functions were working properly. 85.55 or "Excellent" was the score given by the respondents who used the application after calculating the results of the survey. The study concludes that the system developed for the company provided a platform to effectively manage their recording and assessment of agent's performance and eligibility for rewards.

Keywords. non-voice agent, performance monitoring, key performance indicator, rewards management, disciplinary action

1. Introduction

1.1. Background of the Study

One of the most rapidly growing industries in today's developed world is the Call Center industry [1]. The Philippines is viewed by many foreign investors as one of the most viable locations to place their call center operations because of the Filipinos' proficiency in the English language [2]. The Philippines' call center industry is robust and has been continuously growing. The Philippines overtook India as the world's call center capital, and it retains that position as the industry continues to expand. The call centers are located across the country. They primarily represent large American, other West-based businesses and other smaller firms that need company representations over

the phone. The majority of these call centers operate 24 hours a day and seven days a week, and most of the work shifts are in the evening to cater to international clients' needs from countries with different time zones [3].

The position of a call center agent holds a lot of duties and responsibilities namely answering incoming calls and responding to customers' emails, providing product and service information to customers, researching required information using available resources, and following up customer calls where necessary to name a few [4]. Non-voice agents in particular help in assigning individuals to address queries or questions without answering calls or face-to-face contacts can help businesses deal with the daily number of consumer problems. Non-voice workers can be assigned in your organization's back office to give professional support, such as administrative tasks and other relevant disciplines, in addition to communicating with consumers [5]. Business Process Outsourcing can further be sorted as "Voice based Business Process Outsourcing (BPO)" and "non-voice-based Business Process Outsourcing (BPO)". Nature of Work at Voice-Based is generally to provide support and product information to customers, via telephone and mail, fax, or email. As a result, working at the call center includes not only participating in phone calls but also dealing with various types of interactions. Work done by the non-voice agent in the world of healthcare is using transcription. Medical transcription work is to prepare a medical report (paper) based on the physician's recorded message about the patient's diagnosis and treatment. This recorded message is transcribed by a medical transcriber through attentive listening and processes the data on a word processing as a medical document. The transcribed document undergoes two to three editing steps by professional consultants and experienced transcribers. This medical report is then transmitted to doctors via satellite [6].

The University of Villanova [7] states in their article that performance evaluation is a review of how well an individual performs their assigned works and duties. They also state that the importance of making these employee evaluations are so that the companies that they are working for establish and communicate employee and manager expectations. These reviews are used as the driving force for employees to continue on and improve their current skill set to meet the needs of their assigned work and duties. Lotich [8] states that employee performance evaluations are done because they are a tool that is used to develop, encourage, and engage the talents and skills of their employees. When performance management is carried out satisfactorily, it benefits both human resources and organizations. The main benefits of effective performance management include clarifying job responsibilities and expectations, increasing individual and group productivity, developing employees' capabilities to their full extent through operational feedback and coaching, stimulating one's behavior in alignment with the organization's strategy, goals, and values, and providing the foundation for operational human capital decisions, such as pay and remuneration [9].

Performance management is especially crucial in call centers, where agent churn ranges between 30 and 45 percent. The most typical reasons for agent turnover are that individuals are not suitable for the job and that there are problems with supervisors. Supervisors play an extremely significant function in the call center; they are in charge of motivating agents and fostering a positive work atmosphere. However, because contact center managers must also satisfy aggressive key performance indicators, they can lose sight of the importance of developing, supporting, and motivating their agents. It is not uncommon for employees to feel a minor reduction in engagement and motivation over a period of time in their professions. Micromanagement, for example,

can contribute to this decrease. In addition, a structured workforce performance plan can assist to reverse that tendency and boost agent productivity by encouraging ongoing workforce engagement as the agent aspires to take on new tasks, meet and exceed objectives, and reap the benefits of the collaborative environment that has been established [10]. Furthermore, an efficient performance management system prepares new employees to succeed so that they can contribute to the success of your company. Human resource management practices such as empowerment, training, and rewards, would help improve service performance among the employees [11].

Employee rewards and recognition play an important role in overall employee performance. If the companies will not take it seriously, then it might lead to negative consequences. On the other hand, job stress also plays a vital role in employee performance [12]. A study in 2020 by Noor et al. illustrated the importance of employee motivation and how rewards and recognition influence this as well as their performance in work. The goal of the study was to recognize the effects of recognition programs and to show that appreciating and rewarding employees influence their overall productivity in the workplace. The findings of their study indicated that low employee motivation is caused by poor rewards systems implemented by the company. Moreover, the study also concluded that employees wanted improvement on recognition for their hard work aside from the rewards system [13]. Asif and Nisar stated in their 2021 study that rewards, monetary and non-monetary, are one of the essential factors that influence employee retention. They stated that employees need motivation for their efforts which can be done through incentives like salary raises and/or recognition. The findings of their study support the positive effect of rewards on employee retention [14].

1.2. Objectives

The study aims to develop a web application to be used by the chosen Healthcare IT BPO call center manager in monitoring and tracking the performance assessments, eligibility for monthly and annual rewards, and the amount of subsequent disciplinary actions for their non-voice agents.

1.3. Scope and Delimitation

The study focuses on developing a web application that will aid the chosen Healthcare IT BPO call center company in tracking and monitoring the performance of their non-voice agents through their key performance indicators, their eligibility for monthly and annual rewards based on their set reward system, and their the amount of subsequent disciplinary actions they received. The users of the web application would be the non-voice agents, non-voice agent managers, and the system administrator. The web application will be developed for a specific Healthcare IT BPO call center company within the Philippines and adopt the system they use in measuring a non-voice agent's performance, tracking their eligibility for rewards, and determining the amount of subsequent disciplinary actions they received. Due to this, the web application will use attendance, quality, and productivity as the key performance indicators that will determine a non-voice agent's performance. For the frequency of assessments, the web application will display the results of daily, monthly, and annual assessments. The performance of the non-voice agents will be compared against the standards set by the company to identify whether or not they are meeting their expectations. The data for

these key performance indicators come from spreadsheets also known as scorecards which can be uploaded to the web application.

The web application will aid the chosen Healthcare IT BPO call center company managers in identifying when a non-voice agent is not meeting the company's expectations during daily, monthly, and annual performance assessments. During daily performance assessments, the web application will notify the manager when a non-voice agent fails to meet the expectations of the company so that coaching may be provided to them. During monthly performance assessments, the web application will notify the manager which of their non-voice agents failed to meet the expectations of the company so that they are given disciplinary action. The web application will also record how many times an agent has received disciplinary action. During annual performance assessments, the web application will notify the manager which non-voice agents failed to meet the expectations of the company so that they would be branded ineligible for salary increase. In terms of meeting the company's expectations, for quality, a non-voice agent must achieve at least a 92% for daily, monthly, and annual assessments. For productivity, a non-voice agent must achieve at least 4 to 5 charts per hour to meet the company standards. Lastly, for attendance, a non-voice agent must achieve a 92% to meet the company standards.

The web application will also allow non-voice agents to log onto the website and view their own profile containing their current and previous performances, how many disciplinary actions they have if any, their current rank based on the performance of all non-voice agents in the system, and if they are eligible for monthly and annual rewards.

1.4. Proposed Process Flow

In the proposed process flow of the study, it contains two users of the web application which are the non-voice agent and the administrator of the web application. For the non-voice agent, they are able to access the website by logging in with the username and password provided to them by their manager. Once they log in, they would be directed to their profile which contains the result of their currently recorded performance. The non-voice agent may view their previous recorded performances as well. For the administrator, they are able to upload a spreadsheet containing the data that will update the current performance of each non-voice agent within the web application. Aside from that, the admin may also view each of the non-voice agent's profiles and access not only their current performance but also their previous ones as well. Managing agent accounts is also part of the privileges given to the admin as they can add, edit, and/or delete agents from the system if necessary.

1.5. Significance of the Study

The study will be significant to the chosen Healthcare IT BPO call center company because the web application will aid them in tracking their non-voice agent's performance, using their recorded performance to assist in identifying where a non-voice agent is lagging, and their eligibility for monthly and annual rewards. In addition, it allows for them to learn what areas their non-voice agents need to improve on for coaching. The study will be significant for the chosen Healthcare IT BPO call center company's non-voice agents because it allows them to not only view their current performance, but also view their previously recorded performances to see in which areas they are improving in and which areas they are lagging in. This study may serve

as a reference for developers who aim to create an employee performance management and eligibility tracking web application. For future researchers, this study will be a useful reference for the researchers who plan to make any study relating to the tracking of employee performance and tracking their eligibility for rewards.

2. Review of Related Literature

2.1. Call Center Employee Performance Monitoring

The call center industry is unique in that it is virtually entirely focused on a voice-to-voice interaction between the employee and the customer, who are on opposite ends of the phone line. In the few studies that look at customer satisfaction in call centers, the focus is primarily on key performance indicators (KPIs), such as service level (calls answered within a certain number of seconds), average speed of answer, average time in queue, average abandonment rate, percentage of first call resolution, adherence to schedule, average talk time, and average after a certain number of calls. In other words, customer satisfaction will hugely depend on the agent's productivity or performance or how well that agent utilizes key performance indicators [15].

2.2. Impact of Employee Performance Monitoring Systems

The Performance Management System (PMS) is a critical component of every organization. Regardless of the industry or kind of business, workers' performance is measured against the vision, purpose, and developmental goals of the organization. The PMS is more than simply a performance rating system; it also involves learning and development, training requirements, improving corporate communication, and serving as a link between employees and employers for organizational growth. Industries are attempting to enhance and motivate employee performance through different methods of human resource operations. An efficient and well-put-together performance management system influences an employee, resulting in high-level employee engagement and more dedicated personnel. Moreover, having a solid employee engagement in an organization is an important foundation on employee performance which is garnered through performance management systems [16].

2.3. Call Center Key Performance Indicators

A call center's key performance indicator (KPI) is a metric that shows how well a call center performs. A call center's key performance indicators (KPIs) are determined by the organization's business objectives. For a sales-oriented call center, revenue per successful call and conversion rate will be the most critical factors in keeping costs low and sales rates high. Customer pleasure should be the primary goal of a call center for technical assistance or customer service. KPIs may be very valuable in future strategy and planning as well as an excellent way to measure an organization's current situation. In order for the management to implement the necessary corrective actions to turn things around, KPIs can be used to identify the areas of operation where an organization is going wrong [12].

2.4. Employee Motivation

Motivation is the primary driver of one's work conduct. Motivation is a potent instrument that reinforces action and drives the tendency to continue. To put it another way, motivation is an internal desire to meet an unmet need and attain a certain objective. It's also a process that starts with a psychological need and leads to a goal-oriented performance. It was reported in the study that employees are typically motivated by a reward system in order to improve quality, productivity, avoid being easily transferred to other organizations, build a service-oriented mentality, and avoid corruption. It is critical for an organization to motivate its employees because any employee who is motivated by their job will exhibit behaviors that the company expects. When someone is motivated to do work, performance inherently increases [17].

2.5. Non-Voice Contact Center Agents

Non-voice contact center agents provide a comparable service to call center agents, but instead of speaking on the phone, they respond to support requests, emails, and live chat. Agents at non-voice call centers may handle multiple chats at once. This necessitates that they be well-organized, quick typists, and able to pay close attention to detail. Non-voice agents can help with everything from basic account concerns and bill payments to pre-sales inquiries, account cancellations, and complaints. Because text-based communication is not always as clear as phone calls, handling live chat or email messages requires care and attention. For example, if the agent forgets to ask for some information in an early contact and then must send another email or chat message, the customer may not see it for some time. This will significantly lengthen the time it takes to remedy the problem [18].

3. Methodology

The study utilizes quantitative approach as the research design of the study. The statistical analysis of quantitative methods are fast, scientific, and focused making it easier for researchers to analyze data efficiently [19]. System Usability Scale (SUS) has been distributed to the users after testing the application. Each indicator of the five-point likert scale has been used to evaluate the performance of the system. User Acceptance Test (UAT) has also been conducted in accordance with the standards and definition set by the International Organization for Standardization (ISO) to use test cases that, when executed, provide proof that a test requirement was successfully conducted or that defects exist in a test item [20].

The study has been conducted in a chosen Healthcare IT BPO Call Center company within the Philippines with a total of 18 respondents. The study used the purposive sampling technique, wherein the researchers have selected respondents from the chosen Healthcare IT BPO Call Center company within the Philippines. The chosen respondents have been given one month to test the web application's functions. Respondents selected in the study would be the managers and non-voice agents within the company.

3.1. Requirements Gathering and Analysis

The purpose of this stage is to detail the requirements of the system developed. In this stage functional and non-functional requirements were determined as they are critical components of the system since they are what ensures the effectiveness and usability of the proposed system [21].

3.2. Design

The design of the system is a browser-based web application that will serve as the interface for the users [22]. Multiple non-voice agents and managers would utilize the web application to query data from the server. The access to each query depends entirely on the permissions that are given to their account. Figure 1 shows the non-voice agent, manager and system administrator's functionality in the proposed system.

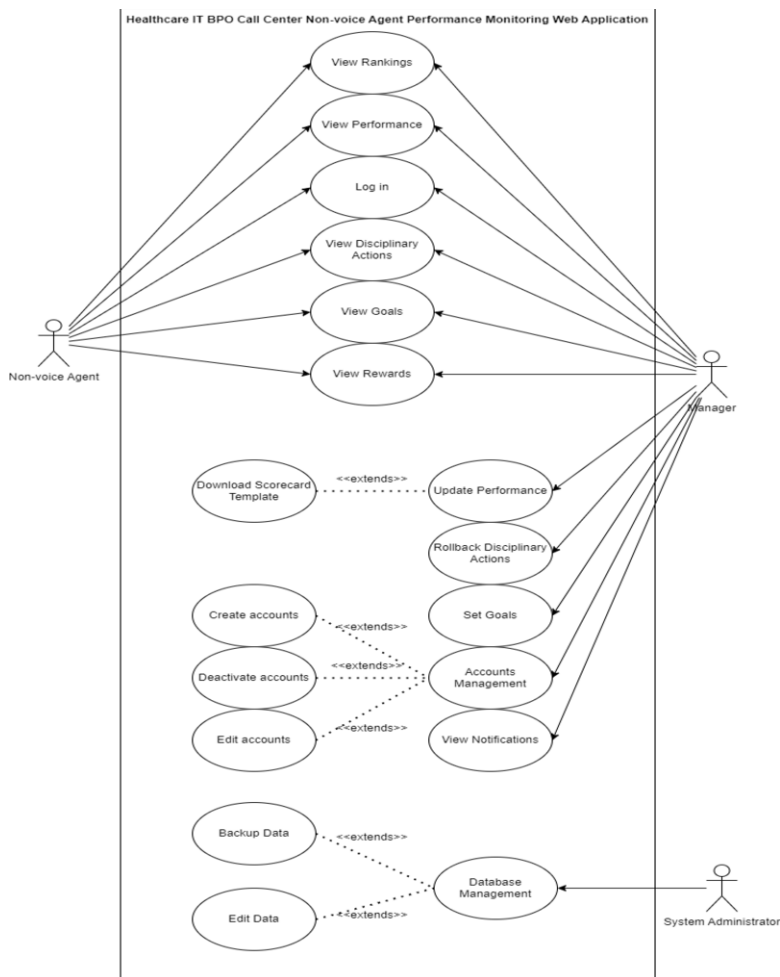


Figure 1. Use Case Diagram

3.3. Development

This phase of the software development life cycle focuses on the development process of the web application based on what was discussed in the design phase. The web application consists of the front-end, which refers to the user interface, and the back-end, which refers to the servers, application, and database [23]. For the front-end of the system, the web application has been utilizing HTML, CSS, and Javascript to create a user interface that is easy to understand and use by both the non-voice agents and managers. Web hosting services have been utilized to create and maintain the website as well as make it accessible on the World Wide Web. MySQL has been used to store and manage the data from the web application in a database. HTML has been used to create the website while CSS has been used to describe how the elements within the HTML document are to be displayed on screen. PHP is a scripting language that was used to add interactivity between the users and the website.

4. Results and Discussion

4.1. Functionality Testing

Each feature and function of the performance tracker were tested individually. The tests and requirements were separated into “Admin” and “User” to allow for a more thorough examination of each task. It conducts a precise evaluation of each function in addition to providing an in-depth study of each one. The web application's testing phase with administrators and users produced the result "PASSED," indicating that the requirements are operating as expected in a particular circumstance. The Three-Level Scale was used by the researchers since it is a widely used method of ranking the importance of the functions. When the priority level of a function is rated as “HIGH” it indicates that it is an important feature of the system as its implementation affects the overall quality and functionality of the system.

4.2. User Acceptance Testing Survey Results

Upon gathering the results of the survey from the non-voice agents and manager of the selected Healthcare IT BPO Call Center company, the mean was calculated from their answers to measure how effective the website was from their experience.

Table 1. UAT Tabulated Results

Respondent	Result	Interpretation	Respondent	Result	Interpretation
1	50	Poor	10	85	Excellent
2	50	Poor	11	100	Excellent
3	90	Excellent	12	75	Good
4	77.5	Good	13	100	Excellent
5	75	Good	14	100	Excellent
6	85	Excellent	15	100	Excellent
7	92.5	Excellent	16	100	Excellent
8	72.5	Excellent	17	100	Excellent

9	87.5	Excellent	18	100	Excellent
Average : 85.5 (Excellent)					

Table 1 displays the respondent's individual score given to the web application's functionality, user-friendliness and user satisfaction. There was a total of 18 respondents, 17 being the non-voice agents and 1 being their manager. The mean was gathered by adding all the scores from the SUS forms answered by the respondents and dividing it by the total number of respondents to get the average score of 85.55. 2 respondents had a 'Poor' experience with the website, 3 respondents had a 'Good' experience with the website, and 13 respondents had an 'Excellent' experience with the website. The overall score interpretation shows that the majority of the respondents were able to navigate and utilize the functions of the website properly. Moreover, respondents find the system easy to use and comprehend.

5. Conclusion and Recommendations

Managing an employee's performance is an important task done by their supervisor as it keeps track of how well the employees perform based on their assigned work and duties. Alongside this, keeping track of their performance establishes ways for the manager and employee to communicate about expectations in terms of their performance. This task can be tedious to do as a manager can handle only so much which is why performance tracking applications and websites were created. These platforms allow for managers to input the criteria used by their company and monitor the performance of their employees.

This study chose a Healthcare IT BPO Call Center company from the Philippines to develop a performance and rewards eligibility tracking website for. The developed website was catered to their company's standards and used their formulas to calculate the employee's performance. A stress test was conducted to ensure that the website would be working properly despite numerous users accessing it and the results showed that it is capable of doing such. The features and functions of the web application were implemented to be in line with the objectives of the study. These features and functions were tested through the User Acceptance Testing phase of the study wherein the results showed that they were all working properly and according to the needs of the web application and users. After testing the web application's requirements and functionalities, the remark of the results of the test were "PASSED" and are operating properly in the scenario they were tested under. The data gathered from the survey given to the respondents have shown that, out of the 18 respondents, 16 were able to use it without problems. The web application gave the selected Healthcare IT BPO Call Center company a platform to store, record, and view their non-voice agent's performance and eligibility for rewards. Alongside this, the average turnaround time of the manager calculating the monthly and/or yearly performance of a non-voice agent, determining who are eligible for monthly or annual rewards, tracking and determining agents who have subsequent disciplinary actions were all lowered significantly.

The study would recommend adding more features and functionalities to the web application to further enhance the user experience. Alongside this, the study would also recommend making the web application mobile-friendly for other users who wish to access it through their mobile devices.

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