
| RESEARCH ARTICLE

Correlation Analysis between Realtime Analyst's Work, Key Performance Indicator and Service Level

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| ABSTRACT

The purpose of this study, which was started in response to the growth of business process outsourcing (BPO) in the Philippines, is to determine how real-time analyst work affects KPIs and service levels. This study utilizes secondary data from the Realtime Analyst's Reports for the period of June 2022 to June 2023. Shrinkage, attrition, and absenteeism data were the top three aggregated Key Performance Indicators that were statistically examined. As a result, it was highlighted that RealTime Analyst's work constitutes a foundation for how aggregated Key Performance Indicators affected Service Level.

| KEYWORDS

Realtime Analyst, Key Performance Indicators, Service Level, Attrition, Shrinkage, Absenteeism

| ARTICLE INFORMATION

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1. Introduction

Real-time analysis is crucial for businesses, especially in BPO, as it can significantly impact the Service Level. Real-time analysts use advanced technologies and analytical skills to provide timely insights, enabling informed decision-making. They monitor key performance indicators (KPIs), metrics, and trends, allowing companies to make quick adjustments and optimize operations. By harnessing real-time data, analysts help organizations identify opportunities, mitigate risks, and enhance overall performance. Business process outsourcing (BPO) involves outsourcing IT-intensive processes to third parties who maintain performance standards. BPO contact centers handle outsourced inbound and outbound client calls, and real-time analysts monitor shift schedules and key indicators. They also raise warnings, create reports, and manage operations to meet agreed-upon client levels. Real-time analysts work closely with contact center managers and team leaders to manage outcomes and maintain performance standards.

1.1 Background of the Study

Real-time analysts play a crucial role in BPO call centers, managing outsourced inbound and outbound customer calls. They forecast call numbers, schedule breaks and lunches, and manage queues to ensure productivity. Real-time analysts monitor service levels, adjust schedules, and monitor quality performance indicators like absenteeism and staffing compliance. Effective real-time monitoring can save costs, boost productivity, and offer flexibility for organizations. However, a poorly managed workforce can significantly increase operating costs and impact profit margins. This study aims to understand the effect of real-time analyst work on business profit in a BPO company. Three common BPO pricing models are hourly, transaction-based, and FTE-based. Hourly pricing is ideal for businesses with large ticket volumes, transaction-based pricing for processes with clear definitions, and FTE-based pricing for software development projects and high transaction levels without constant fluctuations.

1.2 Conceptual Framework

Figure 1
 Conceptual Framework on BPO Service Level, Shrinkage, Attrition, Absenteeism and RTA Work

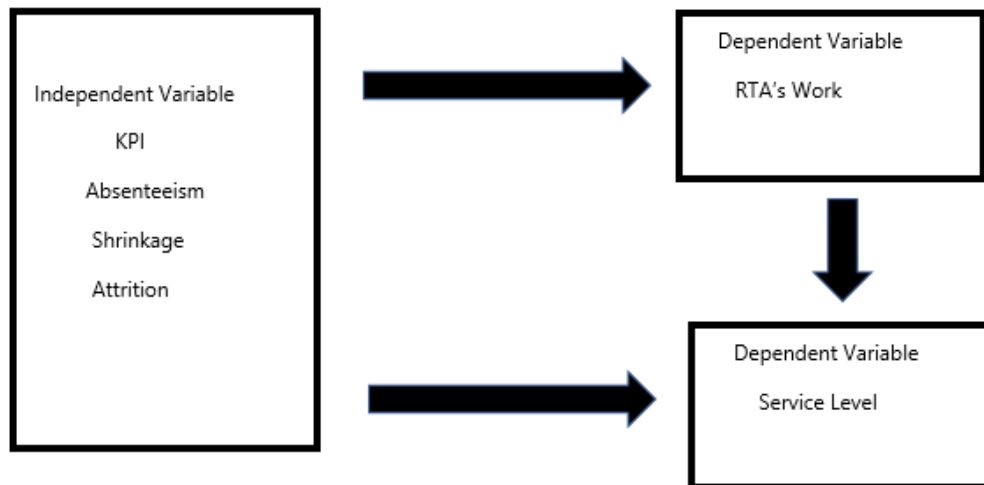


Figure 1 depicts the study's conceptual structure. Absenteeism, shrinkage, and attrition are the main causes of the Service Level's failure. The use of independent and dependent variables is illustrated by the researchers as part of the conceptual framework. The service level, which is one of the dependent variables in this study, is described as a percentage measurement of how well customer service criteria are met. Call center service level standards are quantifiable KPIs for the services offered to a client in a specific amount of time. The primary independent variable in this study will be employee absenteeism, which has been identified as a personal element that frequently contributes to a service level that is below par. Realtime Analyst's work is yet another dependent variable that will be examined, along with its relationship to KPI's and Service levels. It will assist us in creating a hypothesis as we develop our conceptual framework and continue our investigation of the relationship between Realtime Analyst's work, Key Performance Indicators and Service Level in a BPO organization.

1.3 Operational Framework

Figure 2

Operational Framework on Realtime Analyst's Work, Key Performance Indicators and Service Level

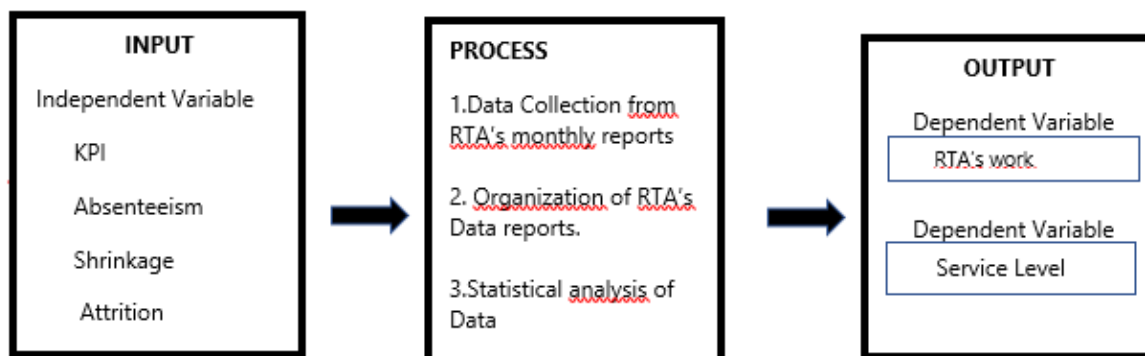


Figure 2 depicts the research's organizational structure. The independent variable will be the input. Data from RTA's report will be collected, tabulated, statistically analyzed, and interpreted as part of the study process. The results of RTA's work to pass the service will be the output.

1.4 Objective of The Study

Studies about the benefits of real-time analysts and workforce management for business outsourcing have been published in the past. The purpose of this study is to ascertain whether there is a substantial correlation between Realtime Analyst's work, Key Performance Indicators and Service Levels.

1. To determine a significant relationship between Key Performance Indicators towards Service Level

2. To determine a significant relationship between Realtime Analyst's work towards Service Level.
3. To Identify Programs and procedures to decrease Absenteeism, Shrinkage and Attrition.

1.5 Significance of the Study

This research study will determine how RTA's Work could affect the Key Performance Indicators, which can later affect the Service Level and will be significant to the following:

BPO Companies: This study will assist BPO firms in defining the impact of Real Time Analyst Work on Key Performance Indicators, which may later have an impact on Service Levels. It can also be used to assess how absenteeism, attrition, and shrinkage may impact the quality of the service. Additionally, this will aid in developing important firm programs and training pertinent to RTA's primary work that will later have an effect on the organization.

Real Time Analyst (RTA): This study will assist you in identifying the employees who are currently not adhering to the scheduled timetable using workforce management metrics. This study will demonstrate the direct relationship between absenteeism, shrinkage, attrition and service level.

BPO Employees: This study will assist employees and agents in comprehending how their shrinkage, attrition, and absenteeism may impact the service level and overall company KPI. They will be able to support the business and the RTA in maintaining timetables as a result.

Operation Manager: This Study will help the Operation Manager in terms of reporting directly to the clients to understand how absenteeism, attrition, and shrinkage affect the RTA's work on forecasting and passing service levels (KPI's).

Future research and the researcher: The results of this study will aid the authors in deepening their knowledge of the Philippine BPO industry's organizational structure and in comprehending the current working conditions of its workforce, particularly with regard to how Real Time Analysts' jobs directly Service Level. This report will serve as background reading for future investigations into absenteeism and how service quality impacts profitability in the BPO sector.

1.6 Scope and Delimitation of the Study

This study will concentrate on the RTA data records from the previous 12 months, from June 2022 to June 2023, in order to examine how real-time analyst work affects Service Levels in a BPO company. In this study, the impact of absenteeism(15.69%), attrition(9%), and shrinkage(17.57%) on Service Level(78.15%) will be covered. The researchers will make use of the information gathered by the RTA reports.

2. Literature Review

This chapter offers an overview of domestic and foreign literature that covers the BPO sector, real-time analytics, workforce planning, the impact of absenteeism, attrition, and shrinkage on service levels, and the role of RTAs. This chapter also reviews earlier research on Real Time analysts in call centers.

2.1 Workforce Management Solutions: Everything you need to know

This study shows that with the use of workforce management systems, it is now simpler for management to organize and assign job duties effectively, preventing employees from becoming overworked and stressed out.

"It began as a straightforward scheduling procedure, but today's workforce management is a sophisticated framework for handling human resources, financial planning, and workforce scheduling. With the use of workforce management systems, management can now more easily organize and distribute tasks to staff in an appropriate manner, preventing them from becoming overworked." (EmpMonitor, 2022)

2.2 A Practice-Oriented Overview of Call Center Workforce Planning Operational Forecasting

Call centers must adapt to changes in the environment, especially with remote work and longer handling times, to avoid errors and costs caused by outdated models. Adaptive approaches are needed.

"Operational call center forecasting focuses on the projection of call volumes at the interval level, often per quarter-hour, for each queue or skill independently, a few weeks in ahead. Making daily forecasts comes first, followed by creating intraday patterns to spread the daily projections throughout the day." (Koole & Li, 2023)

2.3 Study on the Workforce Scheduling and Routing Strategies of Heterogeneous Agents in Call Centers

According to the study, it demonstrates that a scheduling system that takes into account agent heterogeneity and the quickest server first routing can lower labor costs and use human resources effectively.

"Agent scheduling shifts and calls routing techniques are typically linked to the effectiveness of call center operations, and they are somewhat interdependent. Call centers need to appropriately utilize human resources and choose appropriate routing mechanisms in order to significantly reduce operating costs." (Wang & Wang, 2020)

2.4 Synthesis

In the BPO industry, monitoring and real-time data analysis are the responsibilities of real time analysts. From processing schedule adherence data on an hourly, daily, weekly, and monthly basis, they also utilize the reports and trends to forecast the needs of assigned tasks. Profitability and long-term economic viability influence decisions made at various levels of the hierarchy, just like in any other business. The profitability of a client, account, or campaign is significantly impacted by real-time monitoring. Results of service indicators can result in late payment penalties and, in very rare circumstances, customer attrition. Days with on-target indicators translate to monthly compliance; the RTA's responsibility is to monitor indicators at the interval level, which is similar to monitoring results at the day level. However, loss of profitability is not simply brought on by service level indicators. The economic viability of an account is significantly impacted by the improper or excessive use of unpaid (or ineffective) helpers. Fixed personnel costs, which account for a sizable amount of a contact center's overall operating costs, must be kept under control, and any inefficiency must be immediately fixed.

3. Methodology

3.1 Research Design

The researchers used a combination of descriptive and explanatory research methods for in-depth analysis of the correlation between Realtime Analyst's work, Key Performance Indicators and Service Level. A descriptive study design seeks to deliberately collect data in order to describe a circumstance. This research further studies and correlates our variables affecting the Service Level.

3.2 Sample and Sampling Technique

Purposive sampling was used by the researchers based on the population's characteristics. Purposive sampling is a sampling technique in which the researcher selects which members of the target group will participate in the study based on his or her own judgment. It is also known as subjective, biased, or judgmental sampling.

3.3 Research Instrument

Researchers used attendance tracker records to learn more about how real-time analyst work affects corporate profit in a BPO company. It is a way of conducting research that aims to collect data in a systematic manner in order to produce a description of phenomena, circumstances, or populations of individuals who replied. One or more variables may be studied using this style of research.

3.4 Ethical Consideration

The researchers made sure that the attendance records, data, and positions of the employees were kept anonymous and used only for academic study in accordance with the Data Privacy Act of 2012. All data was analyzed as part of the research to learn more about how real-time analyst work impacts business profit in a BPO company. The information acquired by the researchers does not support any unethical or unlawful activities.

3.5 Data Gathering Procedure

The researcher gathered data using a supplementary method. These data collection techniques rely on already acquired and made-public information. The information supports the researchers' ability to make inferences and obtain new knowledge. The Real Time Analyst's data collection, compilation, and summarization were used in this study. Finally, the data collected were analyzed using SPSS.

3.6 Statistical Treatment of Data

In order to identify the relationship between Service Level, Absenteeism, Attrition, and Shrinkage, the data collected by the Real Time Analyst from June 2022 to June 2023 will undergo a series of correlational analysis and regression analyses. The following criteria will be used to assess the analytical techniques used in the study:

Pearson R Correlation. A summary metric that expresses the strength of the statistical association between two interval or ratio level variables is the correlation coefficient, abbreviated as r . The scale of the correlation coefficient ensures that it is consistently between -1 and 1 . There is little link between the variables when r is close to 0 , and the further r is from 0 in either a positive or negative direction, the stronger the relationship between the variables.

4. Results and Discussion

This section is a comparative or descriptive analysis of the study based on the study results, previous literature, etc. The results should be offered in a logical sequence, giving the most important findings first and addressing the stated objectives. The author should deal only with new or important aspects of the results obtained. The relevance of the findings in the context of existing literature or contemporary practice should be addressed.

4.1 Pearson Correlation Results

Table 1: Correlation analysis between Service Level and Attrition

Predictors	Pearson Correlation	R ²	p-value	Decision of Ho	Interpretation
Service Level	-0.085	0.648	0.001	Reject	Significant
Attrition					

Note: 0.05 Accept HO (Not Significant); <0.05 Reject HO (Significant)

Table 1 shows the correlation coefficient between "Service Level and Attrition" is shown in this table. The coefficient indicates that "There is a negative strong" significant association, with a Pearson Correlation value of -.085, equal to -.85%.

The service level's changing variation toward attrition is indicated by the r linear value of 0.648, which is equal to 64.8% of changing variation.

"In order to avoid call waiting, chat waiting, and email waiting, all of which can lead to a failing service level, the organization constantly makes sure that there is backfill for those attrition cases or agents that resigned".

With a p-value of 0.001 and a 91% level of confidence, we are therefore able to determine that there is a statistically significant relationship between service level and attrition.

With a 91% level of confidence, we are therefore able to determine that there is a statistically significant relationship between Realtime Analyst's work and Attrition. When there is a significant degree of ongoing employee turnover, businesses can experience productivity losses and lost earnings. Even if attrition is not anticipated to be a major issue in the near future, employee attrition analytics can still help your company develop a successful staff retention program. (Killham, 2022)

Table 2 Correlation analysis between Service Level and Absenteesim

Predictors	Pearson Correlation	R ²	p-value	Decision of Ho	Interpretation
Service Level	0.574	0.329	0.04	Reject	Significant
Absenteeism					

Note 0.05 Accept HO (Not Significant); <0.05 Reject HO (Significant)

The table shows the correlation coefficient between "Service Level and Attrition", which can be seen in this table, with the coefficient indicating that "There is a strong positive" significant association with a Pearson Coefficient value of 0.574, or 57.4%.

The service level's changing variation toward absenteeism is indicated by the r linear value of 0.329, which is equal to 32.9% of changing variation.

With a 60% level of confidence, we are therefore able to determine that there is a statistically significant relationship between Realtime Analyst's work and absenteeism.

With a p-value of 0.040 and a 60% level of confidence, we are therefore able to determine that there is a statistically significant relationship between service level and attrition. Absenteeism is a problem that every BPO faces. Even with meticulous planning, the service suffers when more persons go missing than anticipated.

Different approaches can be used to solve this issue, and some of them will be more effective in specific centers than others. It is necessary to track each reported cause on its own. When the data is well-detailed, analysis can assist in identifying patterns and root causes, allowing for the taking of appropriate corrective action. (Klenke, 2021)

Table 3: Correlation analysis between Service Level and Shrinkage

Predictors	Pearson Correlation	R ²	p-value	Decision of Ho	Interpretation
Service Level	0.696	0.485	0.008	Reject	Significant
Shrinkage					

Note: 0.05 Accept HO (Not Significant); <0.05 Reject HO (Significant)

Table 3 shows the correlation coefficient between "Service level and shrinkage." The Pearson Coefficient value of 0.696, or 69.6%, indicates a strongly significant association between the two variables.

The service level's changing variation toward shrinkage is indicated by the r linear value of 0.485, which is equal to 48.5% of changing variation.

With a p-value of 0.008 and a 92% level of confidence, we are therefore able to determine that there is a statistically significant relationship between service level and attrition.

With a 92% level of confidence, we are therefore able to determine that there is a statistically significant relationship between Realtime Analyst's work and attrition.

"The Real Time Analyst always checks to see how many headcounts are logged in for each interval. They allow our staff to render OT and RDOT whenever they experience a large volume of calls with a high proportion of shrinkage in order to ensure that they will make up the lost time and finish our billable hours".

5. Summary of Findings

Table 1 shows the correlation coefficient between Service Level and Attrition to find the effect of Realtime Analyst's work.

- R value of of -0.085, which is equal to 85.%, indicating that there is a negative strong association between the independent and dependent variables.
- R² linear value of 0.648, which is equal to 64.8% of changing variations represented by Service Level and Attrition towards RTA' work.
- A P-value of 0.001% OR 99.9% confidence level indicates that there is strong evidence that the variables have a significant association.

Table 2 shows the correlation coefficient between Service Level and Absenteeism to find the effect of Realtime Analyst's work.

- R value of of 0.574, which is equal to 57.4%, indicating that there is a strong positive association between the independent and dependent variables.
- R² linear value of 0.329, which is equal to 32.9% of changing variations represented by Service Level and Attrition towards RTA' work.
- A P-value of 0.04% OR 99.6% confidence level indicates that there is strong evidence that the variables have a significant association.

Table 3 shows the correlation coefficient between Service Level and Shrinkage to find the effect of Realtime Analyst's work.

- R value of of 0.696, which is equal to 69.6%, indicating that there is a strong positive association between the independent and dependent variables.
- R² linear value of 0.485, which is equal to 48.5% of changing variations represented by Service Level and Attrition towards RTA' work.
- A P-value of 0.08% OR 99.2% confidence level indicates that there is strong evidence that the variables have a significant association.

6. Conclusion

The BPO Industry is expanding in the Philippines, and attrition Shrinkage and absenteeism are common key performance Indicators that affect Service Level and RTA's work. Aggregated KPI's were studied in this paper to review their correlation with Service Level and RTA's work.

The results show that Attrition is the independent variable, with a Pearson correlation value of -0.085 , or equivalent to -85% , wherein the coefficient shows a negative, strong, significant relationship with absenteeism. Furthermore, with a p-value of 0.001 or 99.9% confidence level, we can reject the null hypothesis. Based on the results, it indicates that there is a significant difference between the two variables with a significant value of 0.001 or 99.9% predictive possibility that Key Performance Indicators, including (Absenteeism, Attrition and Shrinkage) increased the effect on Service Level and Realtime Analyst's work.

The results show that the effect on Service Level based on Shrinkage towards the RTA's work shows an r value of 0.696 or equivalent to 69.6% . With this, we can reject the null hypothesis. This is further supported by the significance value of 0.008 , concluding that there is a 99.2% predictive possibility that the aggregated KPI's increased the effect on Service Level based on Shrinkage.

Lastly, the results show that the effect on Service Level based on absenteeism towards the RTA's work shows an r value of 0.574 or equivalent to 57.4% . With this, we can reject the null hypothesis. This is further supported by the significance value of 0.004 , concluding that there is a 99.6% predictive possibility that the aggregated KPI's increased the effect on Service Level based on absenteeism.

However, only the records of the aggregated Key Performance Indicators from the RealTime Analyst Report were used to determine the findings. Collecting intervening variables, such as age, gender, years of service, and job level from employees who quit the company, obtaining Fit to Work (FTW) certifications following absences due to illness, and keeping track of incidents and reasons for shrinkage. Further analysis and the discovery of any relevant trends or patterns relating to particular demographic groupings can be done using these data.

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