Abstract

In a call center environment, numerous challenges exist, requiring many decisions. Determining proper staffing levels is one of many critical decisions for a business operating a call center. While this is just one element of operating a call center it comes with a great deal of complexity and consideration. For instance, technology, employee training and incentive options, customer satisfaction, business growth and seasonality, macro environment and many other influencers. In this work, a streamlined simulation of a call center was built, using ARENA to model a twenty-four-by-seven, three-hundred-sixty-five-day-a-year call center environment for a Financial Services company to exhibit an approach for Operations management to utilize when staffing its workforce.

Background

Overview

A call center environment is common to the Simulation discipline and two out of the three members of this project group work within a call center, sparking interest in exploring this topic beyond what was covered during the course. Noting all the various complexities and decision points [x], assumptions and constants were applied. The assumptions and constants were created out of thin air to protect the organizations by which two of the group members are employed. Furthermore, the workflow was created after calling a set of companies with well-established call center operations: Chase, Capital One, Amazon, and UPS, to piece together a generic and streamlined workflow, focusing on a Financial Services call center environment.

Workflow

Sampling the entities noted previously revealed a common flow – Fig. 1. Calling the customer service centers is always met by a voice response unit (VRU), requesting the customer select how support is needed. Typically, the selection will be met by another layer, of options focusing on the topic selected initially. The options available can bring the customer to self-service VRU or Customer Specialist. At the end of a call, after speaking with a representative, the customer is given the option to complete a survey.

Financial Services are heavily regulated [x], and, while Financial Institutions aim to provide service that meets all regulatory standards, customers will have an opportunity to share details where regulatory standards are not being met.



Assumptions

Arrivals

Customer arrivals, in the form of calls, are assumed to be Exponential with varied arrival rate for each shift.

* First Shift: 200 calls per hour
* Second Shift: 100 calls per hour
* Third Shift: 50 calls per hour

Customer Selection Upon VRU Entry

Customer selection leveraging N-way by Chance percentage determines whether a self-service option is chosen or Customer Service is preferred. In most instances (85%) the customer is very willing to self-serve.

* Self-service: 85%
  + Payment/Balance: 65%
  + Fraud/Credit: 15%
  + Lost/Stolen Card: 5%
* Customer Specialist: 15%

However, there are only 50 Trunk Lines. At the point which all Trunk Lines are in use the call will be routed to a Customer Specialist. Overflow is most likely during the first shift when the Call Arrival % is highest, decreasing with each successive shift.

Calls that land with a Customer Specialist will be routed to a resource, consistent with the self-service approach, using N-way by Chance.

* Payment/Balance: 45%
* Fraud/Credit: 20%
* Lost/Stolen Card: 15%
* Account Closure: 5%
* Sales: 15%

Resources

Resources were created that can work a focused call type or numerous types. Additionally, the resources have varied skill levels that establish service times. Resources will also have dedicated shift schedules.

Future Considerations

Day of week, 30 minute intervals, holidays