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ABSTRACT



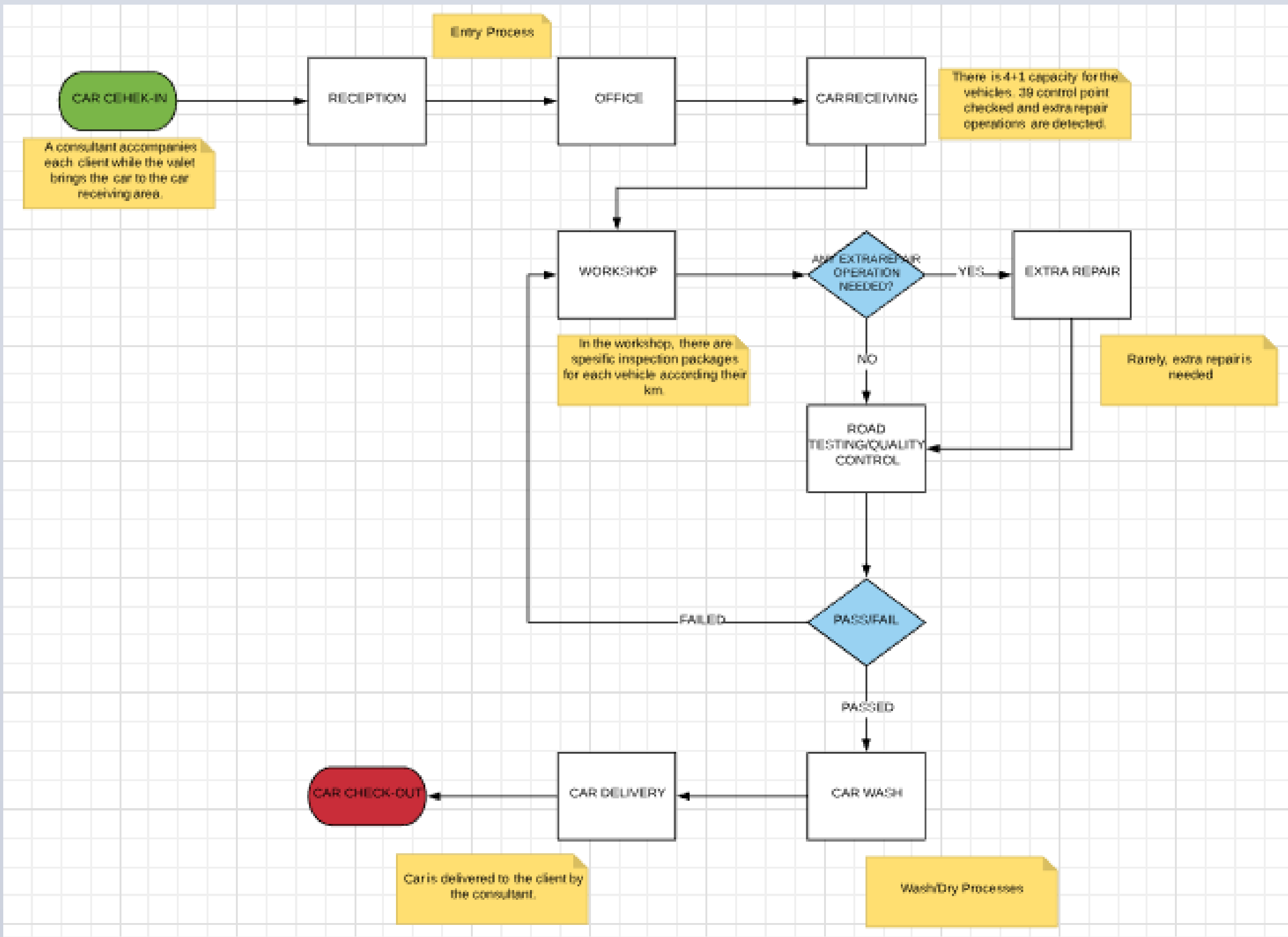
Dogus Otomotiv is responsible for services for several brands in Turkey and one of those brands is Volkswagen. Dogus Otomotiv wanted us to evaluate their service system for any possible improvements and if there, what could be done to achieve the best possible scenario. In this Project, our goal is to evaluate the efficiency of Volkswagen’s service workplace under different settings. To evaluate the efficiency of such a system, we developed a simulation model of the system. After the making of simulation model of the current state, different scenarios are tried to find the optimized model for service workplace. All these simulations models are developed in program called ARENA by using the data collected or given by Dogus Otomative.

OBJECTIVES

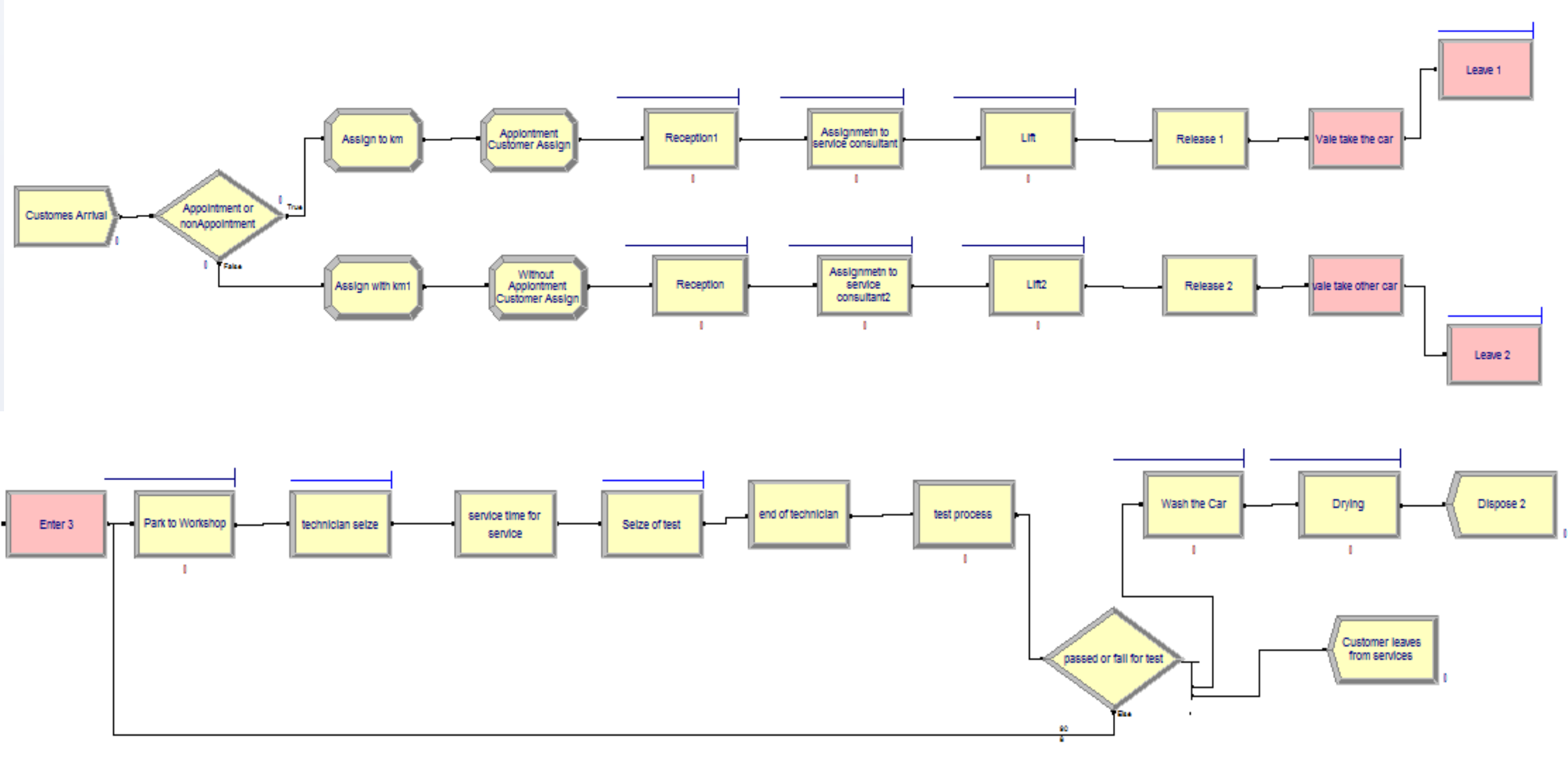
The main aim of the project is increasing efficiency of the system and be preaped for different scenarios.

PROJECT DETAILS

Whole process and current system of inspection station is analyzed and a detailed flowchart is created after the first visit.



PROJECT DETAILS 2



Before the second visit to Dogus Otomotiv we asked for the data and analyzed data by using Excel and Input analyzer. We have made our second visit to crosscheck our simulation model and data adjustments and we rearranged the model referring to the checks we take into consideration in our second visit. Then we made our third visit to Dogus Otomotiv for missing data and to finalize the model we have been working on. And our fourth visit was all about collection of the rest of the data manually. Lastly we came up with different scenarios and proposed our improved model to company.. The main performance metric is the average time a customer spends in the system. In addition, the utilization of different types of resources and queue lengths are important indicators that may enable improvements in the system.

CONCLUSIONS

We have completed current ARENA system and we verified it with the data. From this on, we will study to improve the system by focusing on the processes that take longest time. In our base model, we simulated 20 days in service, and the outcome shows that the percentage of cars which is served in a day is %66 and average service time of a car is 3,8918 hours and CI is +/- 0.10 hours. Now, we will look at the different scenarios and see how and how much we can increase the resources, if arrival rate of cars increase. We want to stick to the base model, so we will make calculatons according to our base model result %66.

REFERENCES

- ❖Discrete-event System Simulation, 5th Edition, Jerry Banks, John Carson, Barry L. Nelson, and David Nicol, Prentice Hall.
- ❖Ross, S.M., Introduction to Probability Models (edition 10), Academic Press, 2003