PREDICTING THE MAINTENANCE SCHEDULE FOR THE INDUSTRIAL PRINTERS

THE CLIENT PROFILE

A Japanese technology company with offices over 50 countries worldwide, is one of the manufacturer and the biggest player in the multifunctional industrial printers market. The company manufactures business and industrial printers and imaging products, including copiers, laser printers, multi-functional peripherals and digital print systems for the production printing market. With over 151 subsidiaries, it sells its products in 150+ countries.

EXISTING BUSINESS CHALLENGES

The need of the hour is to predict how long the copier machine will survive so that preplanning to handle such situations can be done and also uptime for the machine can be increased to increase the overall productivity. Charger units in copier machines and services are to be checked according to an overly conservative time-based schedule.

- This lack of performance is most often a failure, beyond which the system can no longer be used to meet desired performance.
- Decrease the life of charger unit and overall copier machine.
- Downtime of copier machine due to delay in service/replacing part.
- Operational safety due to malfunctioning of any part in copier machine

HCL SOLUTION CONSIDERATION AND SOLUTION

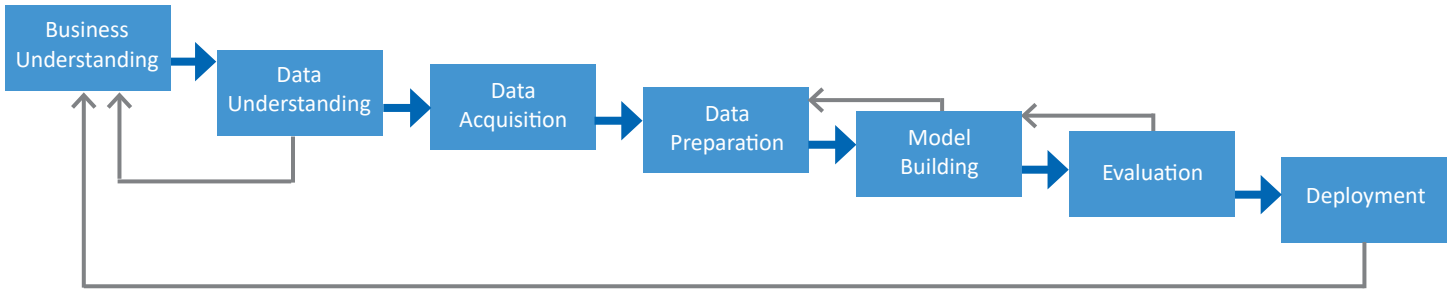
As part of the HCL solution, predicting the time for a Service engineer to service or replace charger unit in a copier machine is arrived at, based on different functional parameters collected from the copier machine using PANGEA.

Pangea is a distributed analytics workbench that provides an end to end platform for deriving faster and accurate business insights.

INPUT	PROCESS	OUTPUT
Data from sensors of charger unit, to find the remaining useful life and survival probability.	Use Pangea to solve business use case.	The remaining useful life & the % probability of survival.
Data from charger unit of a copier machine is considered to solve the usecase. To get the remaining useful life of the charger unit, the remaining useful life is to be calculated in terms of number of days, e.g. to check if the machine will fail in next 20 days or not.	Pangea, an accelerated analytical workbench is used to solve the usecase. Various steps starting from data preparation, exploration, visualization, model building, fine tuning and till deployment, all steps are done.	Output will be in the form of number of days to failure or if the charger unit will fail in next given days or not. E.g. for the given model of copier unit, in the next 20 days will the machine survive or not. This output can be used accordingly for servicing the unit.

Technical approaches involved in building the model with PANGEA are a combination of data-driven approaches, model-based approaches as stated below:

- Business & Data Understanding
- Data Acquisition
- Data Preparation & Model Building
- Model Evaluation and Zero Touch Deployment
- Execute Prediction on Production Data at Scheduled Time



BENEFITS DELIVERED/ HCL'S DIFFERENTIATORS

- Survival analysis estimating the remaining life holds the promise of cost saving upto 50% (by avoiding unscheduled maintenance and by increasing equipment usage).
- PANGEA also improves the process of scheduling maintenance, ordering parts, and using resources.
- Operational safety improvements also form one of the major benefits.
- PANGEA allows planners to account for upcoming maintenance and set in motion as part of the logistics process that supports a smooth transition from faulty equipment to fully functional.

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