Postal services could avoid this seasonal complaint with data and AI

ibm.com/blogs/journey-to-ai/2019/12/postal-services-could-avoid-this-seasonal-complaint-with-data-and-ai

By Umit Mert Cakmak December 20, 2019

> ***"The IBM Data Science and AI Elite team showed that PostNord can predict non-deliveries of traceable items depending on address, weather condition, sizes and time of delivery. By leveraging AI, it's possible to reduce non-deliveries by 50 percent annually, beneficial for both customers and PostNord as operator." — Christian Oestergaard, Senior Group Strategist IT-production IoT/AI, PostNord Group***

In today's increasingly complex and fast-changing enterprise environment, there is a pressing need to accelerate digital transformation and AI adoption more than ever. Private and public postal services are no exception.

As the size of e-commerce businesses increases every year and more complex patterns emerge, the problem of missed deliveries become more and more important for logistic providers since there is a serious cost involved when parcel delivery is missed.

Could IBM machine learning capabilities offer a remedy? To prove out the predictive capabilities of Watson Studio, PostNord, a Swedish-Danish logistic and postal operator, teamed with the IBM Data Science and AI Elite team on a data and AI strategy to increase the rate of successful first attempt of home deliveries.

The IBM Data Science and AI Elite team tackles missed deliveries in the Nordics

Unsuccessful parcel deliveries are not only frustrating to customers, they're costly to couriers and retailers. Planning and execution becomes especially important in high volume periods such as the holidays.

When we first started to work with leadership team of PostNord, we quickly realized that the company had an extremely data rich environment due to internal and external scanning events and this allowed us to have meaningful discussions around business operations and enrich the analytics pipeline as we moved forward.

Our engagement started with validating the team's knowledge and experience about PostNord operations by looking at their data from different perspectives.

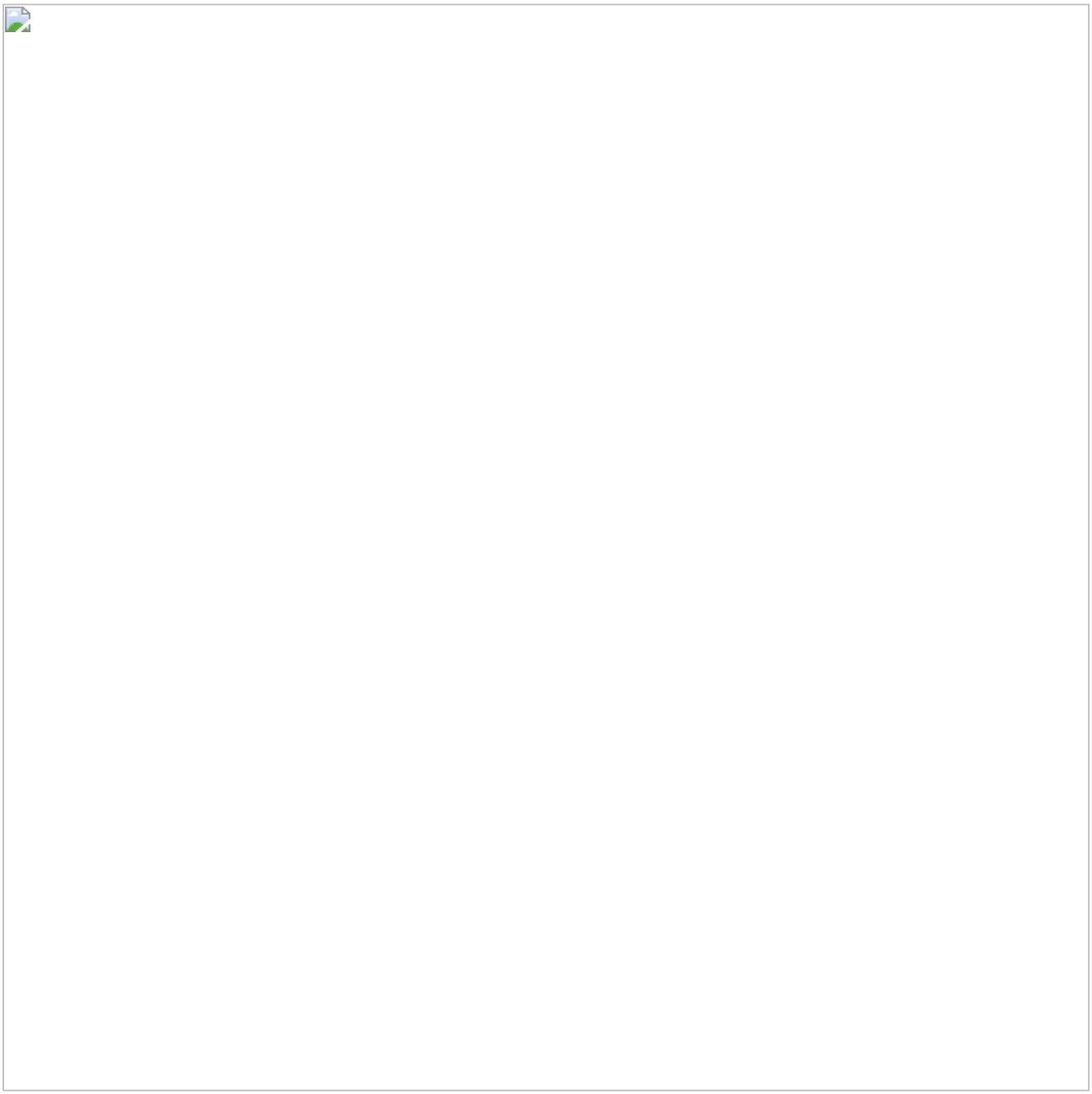
This step is extremely important to remove any cognitive biases that people might have. Why is this important? Bias, which usually develop over the years, can have detrimental effects if the dynamics in the business environment is constantly changing.

We then extracted many useful insights that helped the team to validate their understanding of the operations and allowed them to bring their attention to important areas.

Finally, we have built an end-to-end machine learning pipeline by converting every valuable finding into set of engineered features so we could improve the predictive capability of our pipeline.

Executing such a strategy within 12 weeks was a challenging task but thanks to the capabilities of IBM Watson Studio within Cloud Pak for Data, we succeeded at bringing different teams together in one platform and completed several agile sprints very quickly.

Project outcomes showed that if we have right platform, resources and methodology in place, PostNord can potentially save hundreds of thousands delivery attempts every year in Denmark and Sweden.



Having such capabilities could allow PostNord to infuse AI pipelines into their core decision making processes across different levels of their organization.

The leadership team would now be able look into daily predictions to see which areas will be most problematic for given neighbourhood or region and change operational aspects such distribution set-up or delivery windows.

They can also inspect the contribution of different factors to predictive performance such as weather conditions or seasonal effects.

PostNord operations can also greatly benefit from predictive models to enhance their planning and routing systems accordingly.

Having a platform such as Cloud Pak for Data allowed us to work on multiple agile sprints in very short time frame and proved that PostNord can:

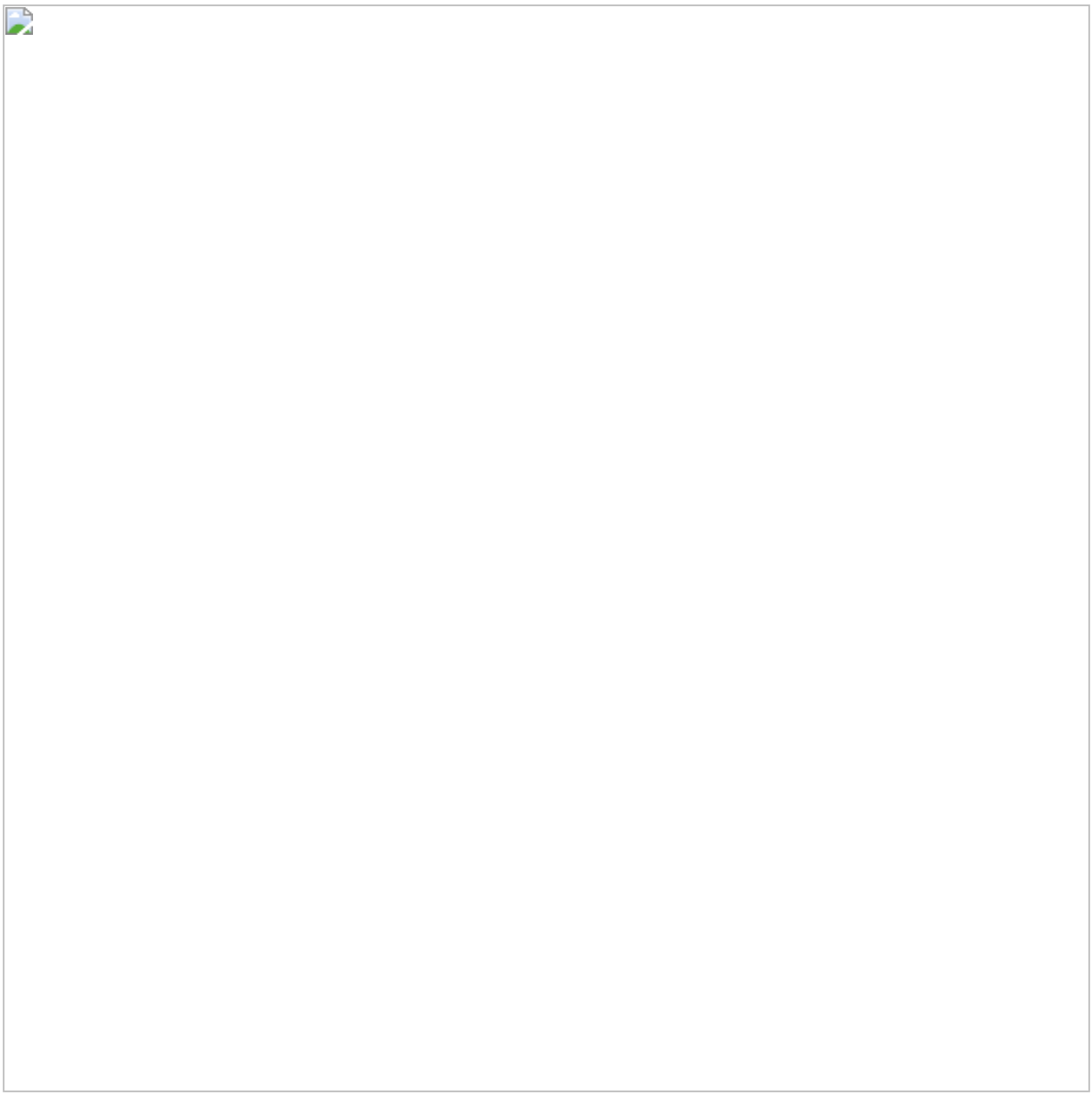
- Provide a higher quality of service, increase the customer satisfaction both for senders and recipients
- Optimize planning, scheduling and routing to reduce missed deliveries and delivery costs
- Improve the whole production life-cycle
- Perform in depth root-cause analysis for missed deliveries and improve distribution further

This is another great step in PostNord's AI journey, which will only gain momentum over several new AI initiatives.

Find out how the IBM Data Science and AI Elite team can help you build out your AI strategy.

Explore the Journey to AI, a prescriptive approach that helps you modernize, collect, organize, analyze and infuse all your data.

Master the challenges of the AI Ladder. Get the report.



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