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Thesis project Data-Driven Strategies for Improving Email Campaign Engagement: A Send Time Optimization Approach
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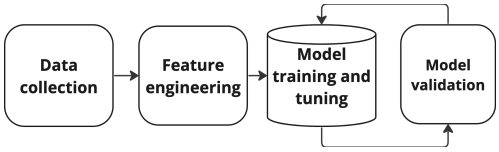
Elevating Email Engagement: The Art and Science of Perfect Send Timing

POPULAR SCIENCE SUMMARY **Dalia Saleh Abbas, Mustafa Al-Jailawi**

If you receive an email in the morning, will that increase the likelihood of you opening and clicking that email? Or maybe in the evening, which one suits you the best? That's what Send Time Optimization (STO) is for, the process of using machine learning to tailor email send times in correspondence with the customers' activity patterns.

The use of email as a medium for exchange of information and promotions has become a major part of communication between companies and customers. In the digital age, where many companies compete to gain the attention of customers, the timing of email delivery has a substantial impact on engagement and response rates. Thus, tailoring send times for emails has become a crucial tactic for maximizing communication efficacy.

In our thesis, we explored what factors influence when a person interacts with their emails. We then utilized these discovered factors to build a Send Time Optimization model. We went through several rounds of model building, by repeating the steps in the diagram below. First, we gathered data. Then, we analyzed which features were most important for understanding how customers interact. Finally, we trained and fine-tuned the model for multiple iterations, analyzing the performance for each iteration and refining the model. This helped us grasp which features and technologies had a positive impact on the model's performance.



The factors found to impact email interactions included: (i) demographic data, (ii) customer loyalty levels, and (iii) interaction data. The model built on these features, named the *Customer Engagement Prediction Model* was then trained and tested on a sample of customers. With high accuracy, it managed to predict when a customer is most likely to interact.

The *Customer Engagement Prediction Model (CEP)* was then trained on a 90 day customer interaction data. It was then tested in production over a period of two weeks and bench-marked against the performance of the model that IKEA currently uses.

The results of the comparison experiment demonstrate a stronger performance by the CEP model compared to the model currently used by IKEA. While both models yielded the same number of email opens, the CEP model exhibits a 22% increase in the number of clicks compared to the current model. In simple terms, it means our model resulted in more customers engaging with IKEA by clicking on email links.

These findings are promising and warrant further investigation over an extended period to enhance their statistical significance.