

## **UCB landscape - Applying BERT-models on aspect-based sentiment analysis within the pharmaceutical market**

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As a multinational biopharmaceutical company, UCB Pharma (UCB) expects to analyze professional opinions from news on UCB products and their head-to-head competitors in the global pharmaceutical market. All data input relies upon the collected expert news. The solution is deduced to implementing an NLP text classification task, which results in a qualitative analysis of product-based sentiment polarities. This study conducts a 3-way classification<sup>1</sup> on text corpora collected from arbitrarily selected internal news channels for specific products and their significant marketing competitors.

Both dictionary-based and different deep-learning-based models are applied to the analysis with a different pre-trained model. As a result, the Aspect-Based Sentiment Analysis (ABSA) based on BERT-models demonstrates much higher accuracy (> 76%) than the dictionary-based model. LCF-BERT with SciBERT pre-trained model approaches a validation accuracy of 84.2%, which is outperformed the other BERT-based models.

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