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USAGE OF NLP IN BUSINESS PROCESSES

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The given work is devoted to the NLP, that stands for Natural Language Processing, it is proposed to consider the development and implementation of these activities on the trust in this strategy, which involves flexible and cost-effective project management based on the emotional intelligence of top managers and should correspond to value-based project approach. It was given several ways that using NLP can improve business processes.

We can see the increased interest in NLP in the world now. Although some users do not share the massive enthusiasm for the ChatGPT, calling it a creativity killer, the ability to accelerate and optimize many processes has made numerous entrepreneurs and businesses increasingly interested in NLP tools involving Artificial Intelligence and Machine Learning.

Improving customer service: NLP can be used to automate customer service tasks, such as answering customer requests or distributing queries to the appropriate departments. This can help businesses improve customer satisfaction and reduce the workload of support staff. NLP-powered chatbots and virtual assistants can be used to provide immediate responses to customer queries and provide personalized recommendations. They can also help reduce waiting time and provide 24/7 support.

Increasing operational efficiency: NLP-based text analytics automatically extracts information from large amounts of unstructured data, such as customer reviews, social media posts and customer service calls. NLP can automate various business processes, such as content moderation, data extraction and categorization, reducing manual work and streamlining operations.

Improving marketing: enables businesses to understand their customers better and deliver more personalized, targeted messaging. Keyword extraction helps identify keywords and topics relevant to an enterprise's target audience, which helps create content and marketing messages. Methods such as sentiment analysis can be used to understand customer feedback and reviews, helping companies learn how their customers perceive their brand and products. This can help justify marketing messages and improve customer interactions.

For improving compliance NLP can automatically detect and flag inappropriate or offensive content in text data, which can help businesses comply with regulations and avoid legal risks.

The complexity and cost of NLP implementation into business processes can vary depending on several factors, including the size of the company and the

specific NLP use cases. In general, it can be challenging, time-consuming, and expensive, especially if you want to develop everything from scratch. NLP requires a large amount of data to train and test models and significant computing resources.

There are some ways that using NLP can improve business processes:

- analyzing customer feedback: NLP can help businesses understand how customers respond to their products or services by analyzing feedback left online. This can give a business insight into how to improve its products or services to ensure customer satisfaction;

- automated answers to customer questions: NLP can be used to create chatbots that can help customers get answers to their questions quickly and efficiently. This can increase customer service efficiency and improve customer satisfaction;

- social media text analysis: NLP can be used to analyze and track discussions about a brand or company on social media. This can enable the business to respond to customer inquiries, identify negative feedback and take action to improve the customer experience;

- automatic document sorting: NLP can be used to automatically sort a large number of documents, for example when working with customer information or financial documents. This can reduce the cost of manual data processing and improve the efficiency of business processes.

Hence, using NLP can help businesses improve the efficiency of their business processes and provide better customer interactions, reduce manual data processing costs, and increase productivity. In addition, NLP can help businesses understand the market and competitors, which will improve marketing strategies and increase revenue.

For example, NLP can be used to analyze social media to understand which topics and products are most popular with customers and which competitors are most successful. This can enable a business to adapt to market conditions and change faster than its competitors.

In general, NLP can provide businesses with valuable information that can help them make decisions and implement innovative strategies. However, it is important to note that NLP is a technology that is still developing, so using it may require some expertise and resources.

References:

1. Iorin, Iliia. (2020, 25 March). Natural Language Processing (NLP) Use Cases for Business Optimization. <https://mobidev.biz/blog/natural-language-processing-nlp-use-cases-business/>.

2. Maksymenko, Serhii. (2020, 11 March). How to leverage Natural Language Processing (NLP) for business processes optimization. <https://www.datasciencecentral.com/how-to-leverage-natural-language-processing-nlp-for-business/>.