

utilize text sanitizing, topic classification, information extraction then to construct a way to determine match relevancy to achieve the highest rate of correct matches. While it is a vast open problem on its own, with growth of the AI technology, we face entirely different approaches. Large Language Models (LLMs) [2] are one of them. Recent achievements in NLP completely change the way problems are solved. Such models contain all necessary steps of data processing in order to achieve desirable results. The models get so complicated, not even creators are sure how exactly they works anymore. Potential solution to many high level NLP problems already might be just solved with an API of one of LLMs.

While there are a lot of very different potential approaches to solving the problem of matching unstructured asks and offers, it is unclear which one would give best results. Given the fast pace of growth of the technology and how fresh are the recent achievements, there is no clear bias towards one approach or another.

Further research will use empirical methods to gather data on which compositions of classic NLP tools and methods are providing best results on determining relevancy of unstructured text ask to unstructured text offer (and vice versa). It also will be researched how well current LLM tools can solve the same issue, and evaluated what would be the best solution to the considered problem.

References

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BLOCKCHAIN IN SUPPLY CHAIN MANAGEMENT

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Introduction The importance of supply chain management (SCM) cannot be overstated in today's global economy. It plays a crucial role in ensuring that goods and services are delivered to customers in a timely, efficient, and cost-effective manner. However, the complexity of SCM, with multiple stakeholders involved in the process, can result in several challenges such as lack of transparency, inefficiencies, and limited visibility.

Blockchain technology, which underpins cryptocurrencies such as Bitcoin, is a promising solution for addressing these challenges. Blockchain technology offers a decentralized and secure platform for tracking and managing supply chain transactions in a transparent manner. By implementing blockchain-based solutions, supply chain stakeholders can achieve greater visibility into the movement of goods, improved traceability, and reduced costs.

This article aims to explore the role of blockchain technology in supply chain management. We will discuss the current challenges faced by the supply chain industry and how blockchain technology can address these challenges. We will also examine the challenges and limitations of using blockchain in SCM.

Current Challenges in Supply Chain Management

Supply chain management is a complex process that involves multiple stakeholders, including suppliers, manufacturers, distributors, and retailers. As such, it can be challenging to manage the flow of goods and services from the point of origin to the point of consumption. Some of the common challenges faced by the supply chain industry include:

Lack of Transparency: The lack of transparency in the supply chain can lead to information asymmetry, making it difficult to track the movement of goods and services. This can result in delays, disruptions, and increased costs.

Limited Visibility: Limited visibility into the supply chain can lead to a lack of control over the movement of goods and services. This can result in inefficiencies and increased costs.

Inefficiencies: Inefficiencies in the supply chain can arise from manual processes, redundant paperwork, and delays in approvals. This can result in increased

costs, delays, and reduced customer satisfaction.

Counterfeiting: Counterfeiting is a growing concern in the supply chain industry, particularly in industries such as pharmaceuticals and luxury goods. Counterfeit products can damage a company's reputation and lead to legal and financial repercussions.

Supply Chain Disruptions: Supply chain disruptions can occur due to a variety of reasons such as natural disasters, labor disputes, and transportation disruptions. These disruptions can lead to delays, increased costs, and reduced customer satisfaction. These challenges highlight the need for solutions that can improve the transparency, security, and efficiency of the supply chain. Blockchain technology offers a promising solution for addressing these challenges. By leveraging blockchain-based solutions, stakeholders in the supply chain industry can achieve greater visibility, transparency, and efficiency in the supply chain process.

How Blockchain Technology can Address Supply Chain Challenges

Blockchain technology can provide several solutions to the challenges faced by the supply chain industry. By leveraging blockchain-based solutions, supply chain stakeholders can improve the transparency, security, and efficiency of the supply chain process. Here are some of the ways blockchain technology can address supply chain challenges:

Improved Transparency: Blockchain technology provides a decentralized and secure platform for tracking and managing supply chain transactions. By implementing blockchain-based solutions, stakeholders can have access to real-time information on the movement of goods and services, resulting in improved transparency and reduced information asymmetry.

Greater Security: Blockchain technology is inherently secure due to its decentralized nature and cryptography-based consensus mechanisms. By leveraging blockchain-based solutions, supply chain stakeholders can improve the security of their supply chain processes, reducing the risk of fraud, hacking, and other security breaches.

Enhanced Efficiency: Blockchain technology can automate various supply chain

processes, reducing the need for manual processes and paperwork. By implementing smart contracts, supply chain stakeholders can automate the process of verifying and approving transactions, resulting in enhanced efficiency and reduced costs.

Improved Traceability: Blockchain technology can provide end-to-end traceability of goods and services in the supply chain. By implementing blockchain-based solutions, stakeholders can track the movement of goods and services from the point of origin to the point of consumption, ensuring greater traceability and reducing the risk of counterfeit products.

Enhanced Collaboration: Blockchain technology can facilitate greater collaboration between stakeholders in the supply chain. By providing a shared platform for managing supply chain transactions, stakeholders can collaborate more effectively, reducing the risk of delays and disruptions.

Overall, blockchain technology offers a promising solution for addressing the challenges faced by the supply chain industry. By leveraging blockchain-based solutions, supply chain stakeholders can achieve greater transparency, security, and efficiency in their supply chain processes.

Challenges and Limitations

While blockchain technology offers several benefits for the supply chain industry, there are also limitations and challenges that need to be considered. Here are some of the key limitations and challenges of using blockchain in supply chain management:

Technical Complexity: Implementing blockchain-based solutions can be technically complex and require significant investment in infrastructure and resources.

Scalability: Blockchain technology can be slow and resource-intensive, making it challenging to scale up to handle large volumes of transactions.

Adoption: Blockchain technology is still relatively new, and there may be resistance from stakeholders in the supply chain industry to adopt blockchain-based solutions.

Regulation: The regulatory environment around blockchain technology is still evolving, and there may be uncertainty around how existing regulations apply to blockchain-based solutions.

Conclusion Blockchain technology has the potential to transform the supply

chain industry by improving the transparency, security, and efficiency of supply chain processes. By providing a decentralized and secure platform for tracking and managing supply chain transactions, blockchain technology can address the challenges of information asymmetry, security breaches, and inefficiencies in the supply chain industry.

Overall, the adoption of blockchain technology in the supply chain industry is still in its early stages, but the potential benefits of blockchain-based solutions are significant. By addressing the challenges and limitations of using blockchain in supply chain management, stakeholders in the supply chain industry can leverage blockchain technology to achieve greater transparency, security, and efficiency in their supply chain processes, resulting in improved customer satisfaction, reduced costs, and enhanced competitiveness in the global marketplace.

PREDICTION OF THE RESULTS OF SPORTS EVENTS USING ARTIFICIAL NEURAL NETWORKS

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The topic of forecasting the consequences of future events is relevant for everyday life, sports, economics, politics, etc. Every day, thousands of people place their bets on one or another event, using different methods of probability estimation. The use of various mathematical methods helps to obtain more accurate forecasts of results than the subjective forecasts of experts.

The future event is influenced by many factors in the system and external factors. Also, some parameters can affect not only the initial result, but also influence other parameters. An internal connection is established between them, which is difficult to predict.

The main problem of forecasting is the unpredictability and non-obviousness of connections in the system. Neural networks are able to take into account all these parameters and their impact on the result, which has increased the accuracy of