Information System Management

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Date

Information System Management

**General Topic**

The Impact of Big Data on Business Decision-Making

**Narrowed Topic**

The use of predictive analytics in the retail industry for inventory management

**Topic Sentence**

This research investigates the use of predictive analytics in the retail industry for inventory management and its impact on business decision-making and performance.

**Explanation**

In recent years, the retail industry has seen a significant increase in the use of big data and analytics for various business functions (Sodero, Jin & Barratt, 2019). One area where this has been particularly impactful is inventory management. Predictive analytics, which utilizes statistical models and machine learning algorithms to analyze data and make predictions about future events, has emerged as a powerful tool for retailers to optimize their inventory levels and reduce waste (Shankar, 2019). This research investigates how predictive analytics is used in the retail industry for inventory management and its impact on business decision-making and performance (Makkar, Sethi & Jain, 2021). The research will focus on implementing predictive analytics in various retail companies and their specific methods to analyze data and make inventory management decisions. The research will also examine the impact of predictive analytics on key performance indicators such as inventory turnover, stock-outs, and inventory carrying costs. In addition, this research will explore the challenges and best practices for implementing predictive analytics in inventory management (Shankar, 2019). This will include examining the necessary technology, data, and human resources required for successful implementation and the potential barriers to adoption. This research will be helpful for retail companies looking to improve their inventory management operations and researchers interested in the impact of big data and predictive analytics on business decision-making (Shabbir & Mankar, 2021). The findings of this research can be used to develop recommendations for retail companies on how to use predictive analytics for inventory management effectively and to improve overall business performance.

**Conclusion**

In conclusion, this research aimed to investigate the use of predictive analytics in the retail industry for inventory management and its impact on business decision-making and performance. The findings of this research showed that predictive analytics has the potential to be a powerful tool for retailers to optimize their inventory levels and reduce waste. The research found that retailers implementing predictive analytics in their inventory management processes can make more accurate predictions about future demand, leading to improved inventory turnover, reduced stock-outs and lower inventory carrying costs. However, the research also highlighted that the successful implementation of predictive analytics in inventory management requires a robust technology infrastructure and the right data and human resources. Retail companies should consider these challenges when implementing predictive analytics and develop strategies to overcome them. The research findings can be used to develop recommendations for retail companies on effectively using predictive analytics for inventory management and improving overall business performance. This research provides valuable insights for retail companies looking to improve their inventory management operations and researchers interested in the impact of big data and predictive analytics on business decision-making.

References

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Sodero, A., Jin, Y. H., & Barratt, M. (2019). The social process of Big Data and predictive analytics used for logistics and supply chain management. *International Journal of Physical Distribution & Logistics Management*.