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THE FUTURE OF MERCHANDISING: INTEGRATING AI, BIG DATA, AND VIRTUAL TECHNOLOGIES IN RETAIL

Digitalisation is fundamentally transforming the functioning of retail trade, affecting all its components, including merchandising strategies. Traditional approaches to product placement, assortment management, and sales promotion are increasingly being integrated with digital technologies, prompting the development of new methods of customer engagement. The use of artificial intelligence, big data, automated systems for consumer behavior analysis, and integrated online-offline platforms is shaping a personalised and dynamic approach to merchandising. This, in turn, enhances retail efficiency, optimises marketing expenditures, and facilitates a deeper understanding of consumer needs.

One of the key aspects of digitalisation in merchandising is the use of big data to analyse consumer preferences and behavior. Through modern analytical platforms, retail companies can forecast demand, optimise shelf placement, and identify the most effective consumer touchpoints. Digital technologies enable not only the collection of sales data but also the analysis of customer interactions with specific products, allowing for real-time adjustments to product displays and marketing communications.

Augmented reality (AR) and virtual reality (VR) technologies play a significant role in the transformation of merchandising. They make it possible to test new product placement formats without substantial financial investment by creating virtual store layouts. These tools are especially useful for optimising the spatial planning of retail areas and improving navigation convenience for customers [1].

Marketing communication personalisation is also reaching new levels thanks to digital technologies. The application of AI-driven systems for consumer data analysis supports the development of individualised offers based on customer behavior patterns. For instance, the integration of mobile applications with store management systems allows automatic delivery of personalised discounts or special offers based on purchase history.

The development of omnichannel strategies represents another crucial aspect of merchandising digitalisation. Modern retail networks are increasingly merging online and offline channels, enabling customers to interact with the brand through various touchpoints. The implementation of electronic price tags, mobile applications, loyalty programmes, and self-checkout systems creates a convenient consumer experience that makes shopping faster and more comfortable [2].

Digitalisation is significantly reshaping traditional approaches to merchandising, making it more dynamic, personalised, and responsive to real consumer needs. The use of big data, artificial intelligence, augmented reality, and omnichannel technologies allows retail companies not only to increase sales efficiency but also to establish a qualitatively new level of interaction with customers. The successful implementation of digital tools in merchandising enhances the competitiveness of retail chains, reduces costs, and strengthens customer loyalty. This demonstrates that digitalisation has already become a defining factor in the development of contemporary retail, and its role will only continue to grow in the future.

Further development of digital technologies in the field of merchandising opens up opportunities for greater use of automated solutions, such as robotic inventory management systems and intelligent cameras that track customer behavior. The integration of the Internet of Things (IoT) allows real-time analysis of stock availability, demand forecasting, and even dynamic pricing adaptation. This contributes to process optimisation within retail networks, reduction of logistics costs, and overall improvement of the user experience.

At the same time, digitalisation poses new challenges for retail companies, particularly in the areas of data security and ethical use of personal information. The extensive application of big data analytics requires the development of transparent mechanisms for data collection, processing, and storage to prevent misuse and maintain consumer trust. Therefore, the implementation of digital merchandising strategies must be accompanied by enhanced cybersecurity measures, adherence to international data protection standards, and the development of a responsible consumer data policy.

Reference

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ВИКОРИСТАННЯ ТЕХНОЛОГІЙ ШТУЧНОГО ІНТЕЛЕКТУ В СТРАХОВОМУ БІЗНЕСІ

У сучасних умовах цифрової трансформації страхова галузь зазнає глибоких змін під впливом інноваційних технологій, серед яких штучний інтелект (ШІ) є однією з найпотужніших рушійних сил. Страхові компанії дедалі активніше впроваджують рішення на основі машинного навчання, глибоких нейронних мереж, обробки природної мови та комп'ютерного зору для оптимізації внутрішніх процесів, покращення обслуговування клієнтів, а також ефективнішої оцінки ризиків і боротьби з шахрайством [1, 2].

Одним із найперспективніших напрямів застосування ШІ є андеррайтинг, тобто оцінка страхових ризиків під час укладення договорів. Завдяки використанню великих обсягів структурованих та неструктурованих даних, моделі машинного навчання здатні враховувати широкий спектр факторів: від демографічних характеристик до поведінкових патернів, інформації з відкритих джерел і даних, отриманих через IoT-пристрої. Це дає змогу створювати більш