# Harnessing data quality for effective AI in retail



The integration of artificial intelligence (AI) is rapidly transforming the retail industry, with significant implications for how businesses operate and make decisions. According to research conducted by Nvidia, a substantial 64 percent of large retailers, defined as those with annual revenues exceeding $500 million, are currently utilising AI in their operations. Meanwhile, an additional 22 percent are either assessing the technology or piloting its use. This trend indicates a growing recognition among retailers of the necessity to adopt AI solutions to remain competitive within the sector.

However, industry experts assert that the effectiveness of AI-powered tools relies heavily on the quality of the data used to train them. "Artificial intelligence is only as good as the data that trains it. If disparate, unorganised data is input to AI-powered tools, the results may be inaccurate or unusable," said Duane Barnes, president of RapidScale, in an article for Total Retail. This underscores the importance of prioritising data integrity as a foundational step before venturing into AI applications.

To optimise data for AI training, experts advocate for several key strategies. First and foremost is the need to detect and correct data anomalies. Identifying outliers—items or events that deviate from expected patterns—can significantly improve the accuracy of AI models. Detection methods may include statistical analysis, machine learning techniques, and clustering-based approaches, tailored to the specific nature of the data involved.

Automating the process of data cleansing is another strategy that can enhance data quality. This involves rectifying or eliminating incorrect, duplicate, or incomplete data within datasets, thereby streamlining operations. Automated data cleansing allows retail tech teams to dedicate more resources to developing AI models rather than dealing with data inconsistencies.

Continuous monitoring of data quality is also crucial. Retailers are encouraged to assess and manage data for accuracy, consistency, and reliability on an ongoing basis. Establishing clear metrics for data quality and conducting regular audits can help identify potential issues before they escalate and adversely affect AI's performance and overall business efficacy.

Furthermore, fostering a culture of strong data governance is essential. This includes implementing compliance measures such as adhering to the General Data Protection Regulation (GDPR) and ensuring that data is organised and reliable. Companies can implement data quality standards, create data dictionaries, and establish policies for data retention and deletion to bolster governance efforts.

Data security should not be overlooked, as data breaches can inflict serious damage on a business's reputation and financial standing. Adequate security measures—encompassing encryption, access controls, and regular backups—are vital to safeguarding sensitive information and maintaining customer trust.

Lastly, standardising data is critical for enhancing the training of AI models. By employing techniques including data cleaning, normalisation, and transformation, retailers can ensure a more consistent dataset, which is essential for achieving effective AI outcomes.

As AI technologies continue to evolve, a robust framework for managing data will be imperative for retailers aiming to harness the potential economic benefits of AI. The concerted effort towards clean, high-quality data bolsters the development of unbiased and effective AI models, paving the way for more efficient business processes and strategic decision-making in the retail sector.

Source: [Noah Wire Services](https://www.noahwire.com)

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