WHYOND

Retail and Wholesale

CASE STUDY
Discount

CHALLENGE

The retail industry faces the annual challenge of maximizing profits during the holiday season, particularly around Christmas. A key strategy employed is offering discounts to attract customers. However, determining the optimal discount level and timing for maximum profit is complex. Retailers struggle to balance attracting customers with maintaining profitability. An observed pattern in the industry is the fluctuation of profits depending on the weeks leading up to Christmas and the level of discounts offered. There is a need for a strategic approach to quantify and optimize this relationship.

APPROACH

A novel solution was introduced through the development of a sophisticated causal model utilizing Whyond. This solution involved:

- **Integration of Process Knowledge:** The model was enriched with expert retail knowledge, encompassing historical sales data and market trends, to enhance its predictive accuracy.

- **Connections between Decisive Variables:** Key variables such as weeks before Christmas are integrated to ensure accurate calculations and a comprehensive understanding of relationships among endogenous variables.
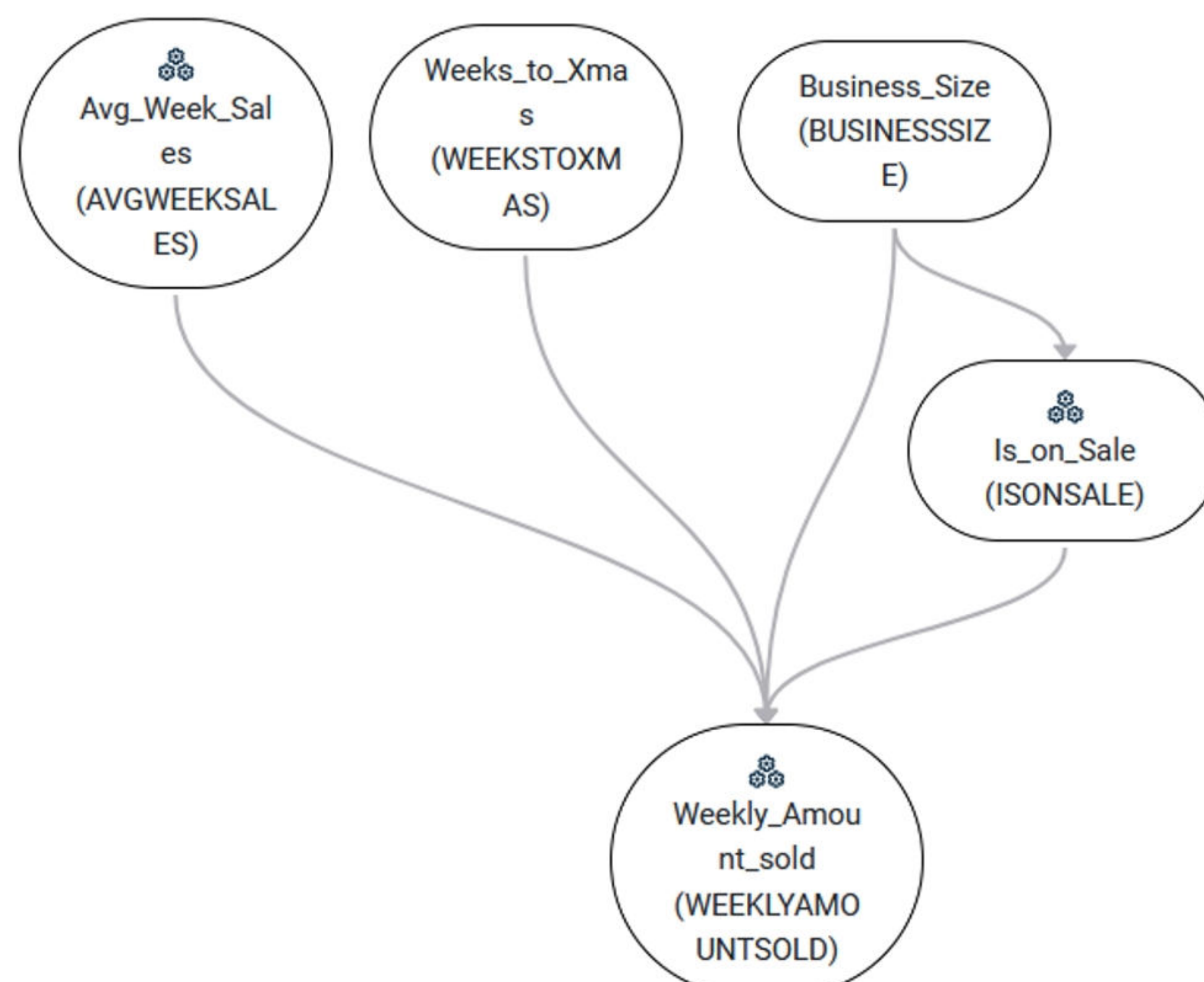
- **Extension to Predictions:** Moving beyond traditional AI's correlation-based predictions, Whyond delves into causal analyses, enabling a robust comparison of profit. In addition, root cause analysis enables the identification of the strongest triggers of profit. The following types of questions can be answered with Whyond:

For example:

- How do the levels of discounts offered in the weeks leading up to Christmas cause fluctuations in profits, considering the variability in customer traffic during this period?

- If a retailer adjusts the timing and level of discounts offered during the holiday season, how might this intervention affect profit margins and customer traffic compared to their standard practices?

- Had the retailer offered deeper discounts earlier in the holiday season or targeted specific product categories with these discounts, how might profit margins and customer traffic have differed from the actual outcomes observed?

Whyond allows users to analyze and evaluate scenarios at various levels, promoting accessibility for a wide range of users.

IMPACT/OUTCOME

The implementation of Whyond's causal AI model showcased a significant advantage over traditional AI by not falling into pitfall of the Simpson's paradox, which traditional AI models might fall into. Traditional AI might suggest a discount strategy, leading to profit loss due to its inability to discern hidden causal data patterns. In contrast, Whyond's causal analysis revealed that providing no discount before Christmas would have maximize the profits. This strategic approach led to enhanced profitability, highlighting the importance of causal inference in making data-driven decisions that traditional AI could not achieve.