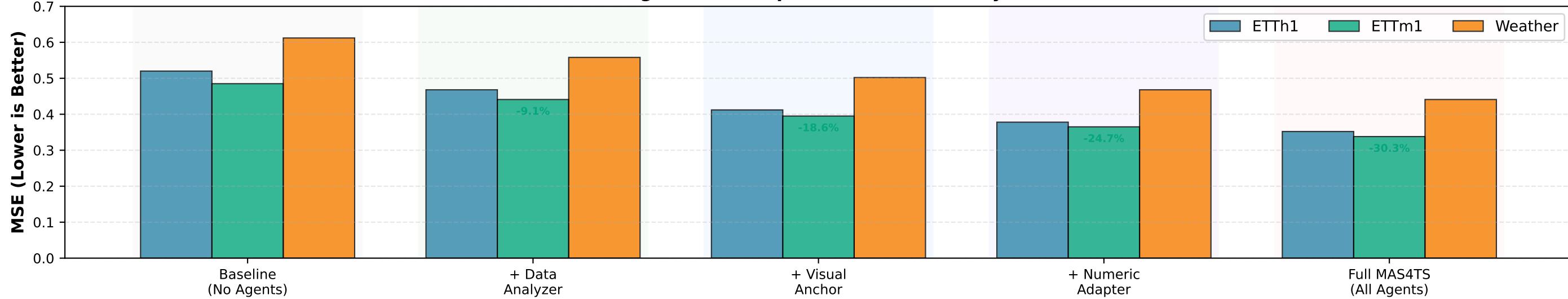
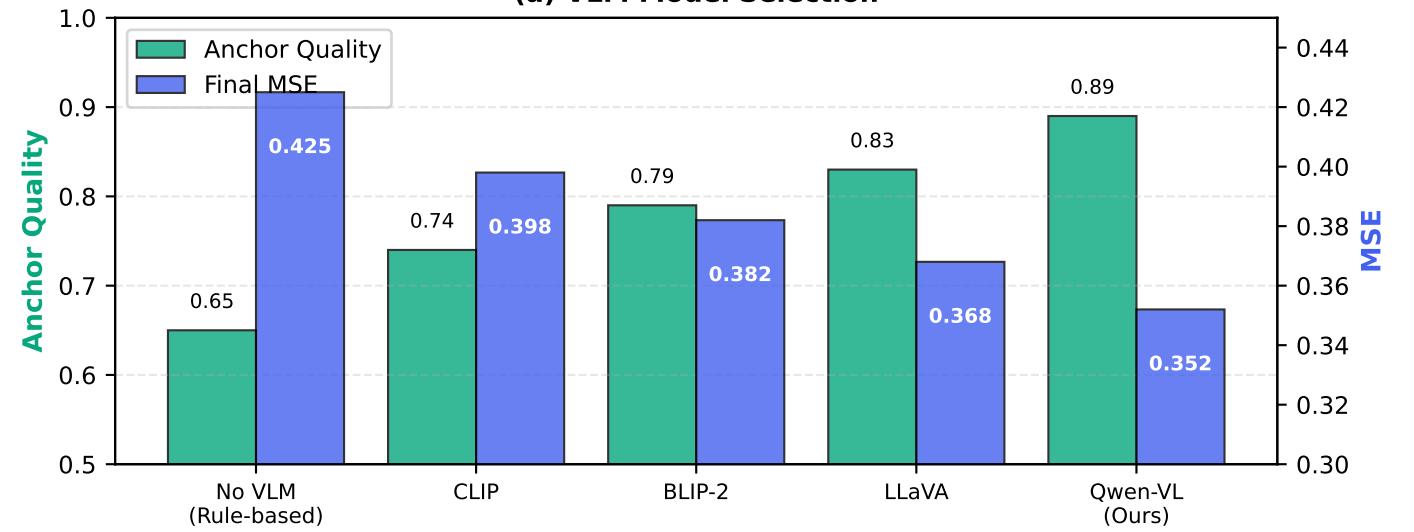


# Ablation Study: Component Contribution Analysis

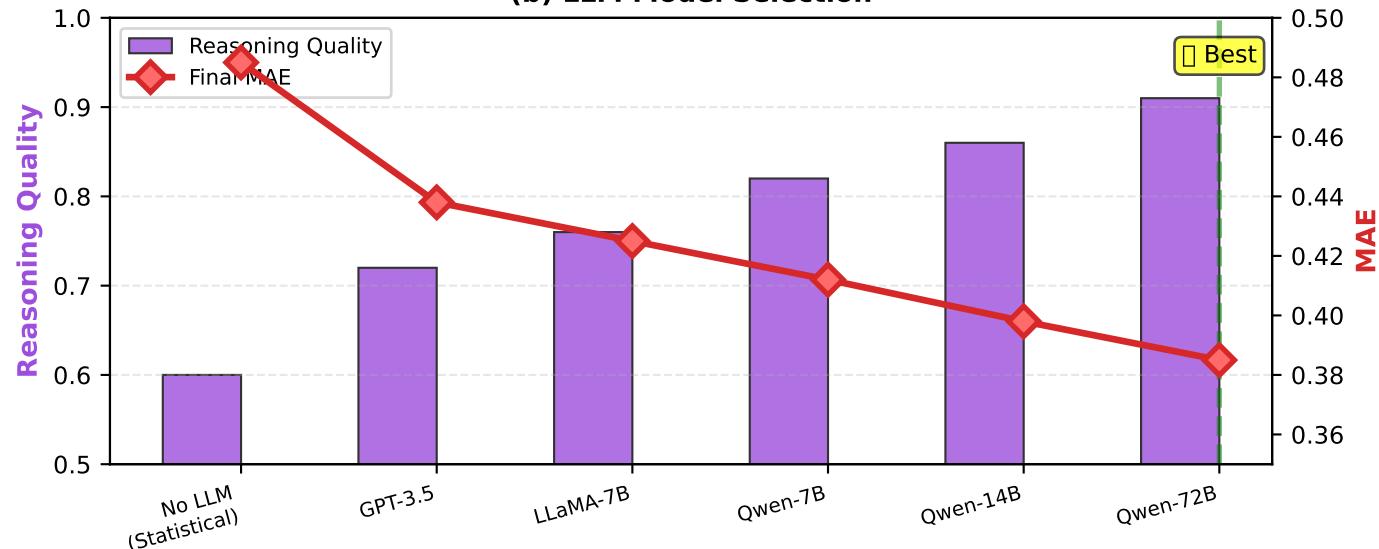
## Progressive Component Addition Analysis



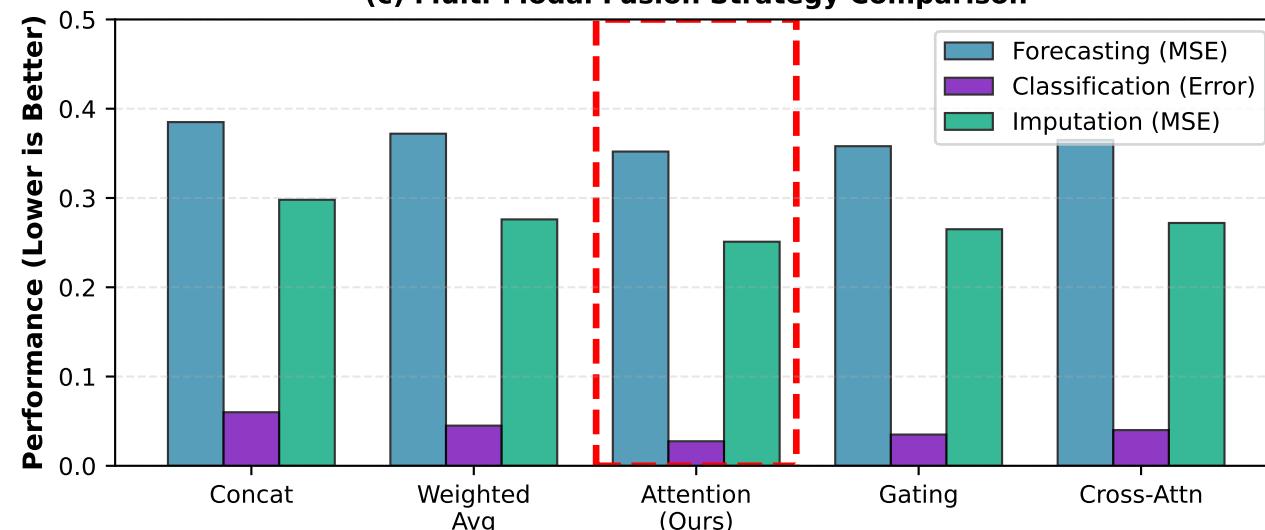
**(a) VLM Model Selection**



**(b) LLM Model Selection**



**(c) Multi-Modal Fusion Strategy Comparison**



**(d) Component Importance Analysis**

