

Integrating Knowledge Graph and Large Language Models for Defining Business Strategies

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OVERVIEW BUSINESS STRATEGY & GENERATIVE AI

Effective business strategy formulation requires synthesising diverse, often conflicting information sources into coherent action plans

Large Language Models

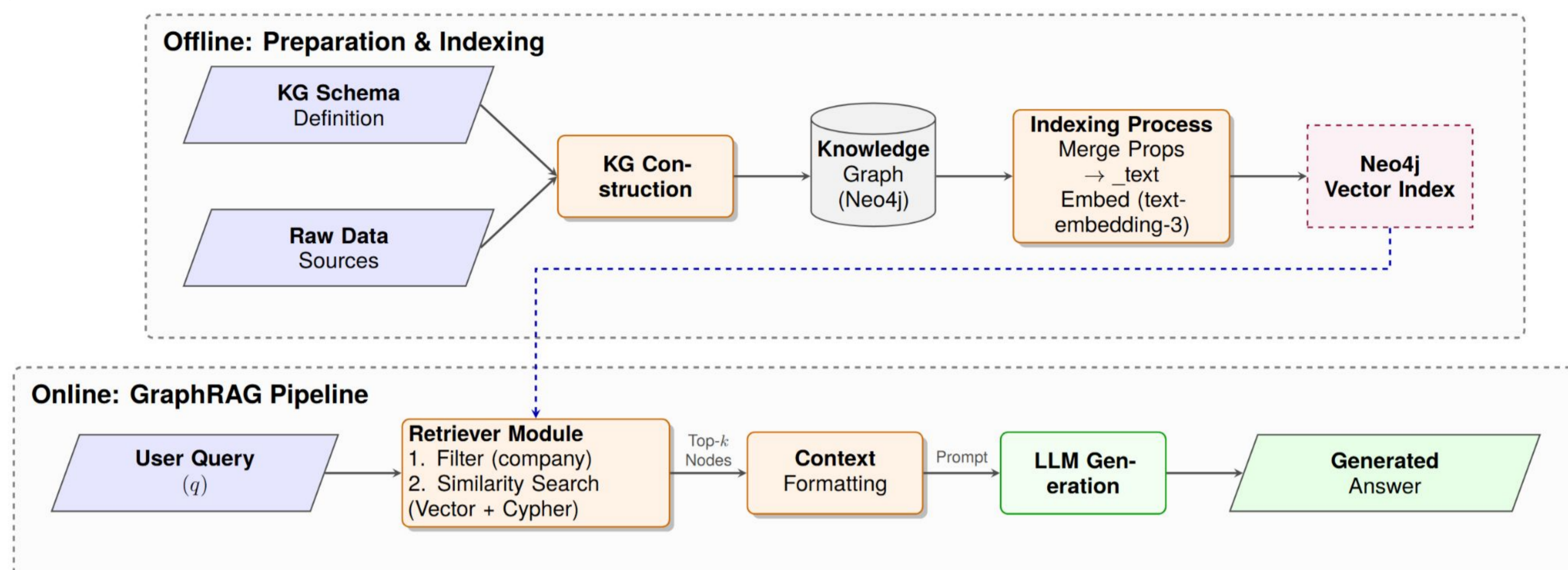
- ↑ summarisation ability
- ↓ undisclosed data sources
 - ↓ hallucinations
 - ↓ non updatable data
 - ↓ scarce explainability
- ↑ facts extraction from unstructured text
- ↑ natural language query

Knowledge Graphs

- ↓ no unstructured text
- ↑ trustworthy, curated sources
 - ↑ factuality
 - ↑ easily updated
 - ↑ explainable
- ↓ incomplete data
- ↓ query language barrier

METHODOLOGY TAILORED GRAPH RAG

Integrate a domain-specific KG with a **GraphRAG** pipeline to generate strategic briefing documents, **primers**, which provide a structured overview of a company's competitive environment



EVALUATION METRICS & RESULTS

LLM-based metrics

An independent LLM evaluator scored **accuracy**, **completeness** and **usefulness** on a 1-5 Likert scale

Grounding metrics

ROUGE-L and **BERTScore** to measure adherence to specific phrasing and content of the sources

Method	Accuracy	Completeness	Usefulness	BERTScore	ROUGE-L
LLM Only (Baseline)	4.17	4.35	4.68	0.84	0.07
Naive GraphRAG (Vector)	3.85	3.73	4.11	0.88	0.21
GraphRAG (Vector + Cypher)	3.91	3.88	4.26	0.88	0.21