Sr. No. (CITATIONS)	Methodology	Datasets	Advantages	Disadvantages	Limitations/Challenges
[Zhang, Y., et al. (2025). Agentic retrieval-augmente generation: A survey on agentic RAG. arXiv.]	Multi-Agent Agentic RAG	Hotpot QA Multi-hop benchmark Multi- domain QA datasets	- High Accuracy - Parallel Execution - Strong Performance	- High system complexity - Harder debugging - Expensive	- Multi-Agent Coordination and Communication - Response Conflict across agents
[Kumar, S., et al. (2025). Retrieval-Augmented Gene (RAG) for Fintech: Agentic Design and Evaluation. a	Goal-Oriented Agentic RAG	FinTech enterprise knowledge base(1,624 docs) Enterprise workflow documentation, Human-curated procedural QA (27 queries)	- Strong multi-step procedural reasoning - Better handling ambigous and complex queries - Reduced Hallucination	- High latency - High computational and infrastructure cost - High System complexity	- Scalability issue - No standard evaluation metric system - Risk of API error/ tool misuse
[Kumar, A., et al. (2025). Agentic AI: Autonomous in for complex goals—A comprehensive survey. IEEE	Traditional Agentic RAG	Natural Questions (NQ) Wikipedia-based QA datasets Enterprise document repositories Open-domain QA benchmarks	- Low latency - Fast response rate - Simple architecture and debugging - Cost efficient	- No multi-step reasoning - Limited hallucination control	- Poor performance for comple tasks - No adaptability/ learning - Limited knowledge base
[Zhang, Y., et al. (2025). Agentic retrieval-augmente generation: A survey on agentic RAG. arXiv.]	Graph-Based Agentic RAG	Knowledge-graph QA datasets Biomedical knowledge graphs Healthcare knowledge graphs Relational multi-hop QA datasets	- Graph traversal for structured reasoning - Graph paths provide reasoning traces - Reduced hallucination	- High graph construction maintenance cost - Scalability issues - Limited flexibility	- Dependency on graph quality - Intergration Complexity - Struggle with newly-emerging info
[Zhang, Y., et al. (2025). Agentic retrieval-augmente generation: A survey on agentic RAG. arXiv.]	Hierarchical RAG	Enterprise knowledge bases FinTech corpora Smart city IoT datasets OpenAI Gym (simulation tasks)	- Efficient handling of complex tasks - Improved Coordination - Better resource allocation	- Increased latency - Error propagation - Extreme complex system design	- More layers=Scalability issues - Lack of standard evaluation metrics - High computational cost
[Li, X., et al. (2025). From generative AI to agentic A Foundations, capabilities, and future directions. arX	Capability-Centric Agentic RAG (Conceptual)	Tool-use benchmarks QA corpora (general references)	- Clear conceptual framework - Holistic Intelligence Modelling	- Conceptual framwork - Difficult capability measurement - Implementation ambiguity	- Lack of standardized benchmark - High integration complexity
[Zhang, Y., et al. (2025). Agentic retrieval-augmente generation: A survey on agentic RAG. arXiv.]	Adaptive Agentic RAG	PubMed corpus arXiv corpus IEEE Xplore documents Google Scholar documents 500-user interaction dataset Query logs & feedback data	- Continous Performance Improvement - Better Personalization	- Increased Computational cost - Longer Response time - May adapt to frequent patterns too close	- Data dependency for learning - Stability and drift issues - Evaluation Complexity
[Zhang, Y., et al. (2025). Agentic retrieval-augmente generation: A survey on agentic RAG. arXiv.]	Corrective Agentic RAG	HotpotQA Scientific QA corpora Open-domain factual QA datasets Enterprise QA collections	- Reduced Hallucination - Improved Output Reliability - Better handling of retrieval failure	- Increased latency - High cost - Self-correction not always reliable	- Over-Correction risk - Evaluation Benchmark gaps - No universal way to measure answer correctness
[(2025). Domain-specific LLMs, retrieval-augmente generation and agentic AI: A unified architecture fo specialized intelligence. SSRN.]	Domain-Specific Agentic RAG	Clinical guidelines Legal case law repositories Financial filings Regulatory databases FinTech enterprise document	- High domian accuracy - Uses domain curated knowledge bases - Reduced hallucination	- Limited generalization - High data curation cost - Integration complexity	- Data availability constraint - Knowledge drift
[(2025). Domain-specific LLMs, retrieval-augmente generation and agentic AI: A unified architecture fo specialized intelligence. SSRN.]	Unified-domain Agent Stack	Domain-specific LLM training corpora (BioBERT, LegalBERT, FinBERT style) Regulatory databases Clinical and financial repositories Enterprise knowledge bases	- End-to-End integrated intelligence - High reliability for High-stackes domain	- Extreme high system complexity - High implementaition cost	- Scalability issues - Lack of standardized evaluation framework