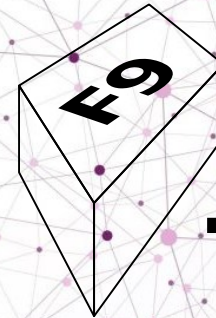


Return on Invested Capital (ROIC): F9Analytics vs AI

 Copilot Prompt :

What cost savings are there in using robust deterministic algorithms like F9Analytics vs AI?



Analytics[®]
Operations Research



1. Infrastructure & Compute Costs

AI/ML Models:

- Require high-performance GPUs/TPUs, large-scale storage, and fast networking.
- Training large models (e.g., GPT-3) can cost millions of dollars.
- Continuous retraining and fine-tuning add recurring infrastructure costs.

Deterministic Algorithms (e.g., F9Analytics):

- Use mathematical models and rule-based logic that are computationally lightweight.
- No need for GPU clusters or massive cloud compute.
- Can run efficiently on standard enterprise servers or even edge devices.

💰 **** Savings:**** Up to 90% reduction in compute and storage costs compared to AI/ML systems.



2. Technical Staffing & Expertise

AI/ML Models:

- Require data scientists, ML engineers, DevOps, and MLOps teams.
- Need expertise in model architecture, hyperparameter tuning, and data pipelines.
- Ongoing monitoring and debugging of model drift, hallucinations, and bias.

Deterministic Systems (e.g., F9Analytics):

- Require domain expert software engineers to define rules and logic.
- No need for deep ML expertise or continuous model supervision.
- Easier to maintain and audit.

💰 **** Savings:**** Reduced need for specialized AI talent, which can cost \$150K–\$300K+ per head annually.



3. Training & Maintenance

AI/ML Models:

- Require large labeled datasets, which are expensive to collect and annotate.
- Need frequent retraining to stay relevant (especially in dynamic markets).
- Risk of model degradation over time.

Deterministic Algorithms (e.g., F9Analytics):

- No training required – logic is explicitly defined.
- Maintenance involves updating rules or formulas, not retraining models.
- Stable performance over time.

💰 ** Savings: ** Elimination of training costs and reduced maintenance overhead.

4. Compliance, Auditability & Risk

AI/ML Models:

- Outputs can vary due to randomness or context changes.
- Hard to explain or audit decisions – problematic in regulated industries.
- Risk of **hallucinations**, bias, or non-compliance.

Deterministic Algorithms (e.g., F9Analytics):

- **Fully explainable and reproducible** – same input always yields the same output.
- Ideal for **finance, healthcare, legal**, and other regulated sectors.
- Easier to certify and audit.

 ** Savings:** Avoidance of regulatory fines, legal exposure, and reputational damage.



5. Business Impact & ROIC

F9Analytics, an emphasis on deterministic solutions:

- + **Mathematical rigor** over probabilistic guesswork.
- + **Improved Performance with Significant Cost Savings**

	AI/ML Models	Deterministic Algorithms (e.g., F9Analytics)	Potential Savings
Infrastructure	High GPU/TPU costs	Standard compute	70–90%
Staffing	Specialized AI teams	Generalist engineers	50–80%
Training & Maintenance	Ongoing, expensive	Minimal, rule updates	60–90%
Compliance & Risk	High audit burden	Fully auditable	Risk mitigation
Time to Deployment	Weeks to months	Days to weeks	Faster ROIC

**Algorithms built for
performance in real estate
finance.**



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