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The 70-20-10 Method: Unlocking AI Success When Others Fail

Introduction

This practical guide distills key insights from industry experts at CHI Software and Microsoft on building effective AI infrastructure.

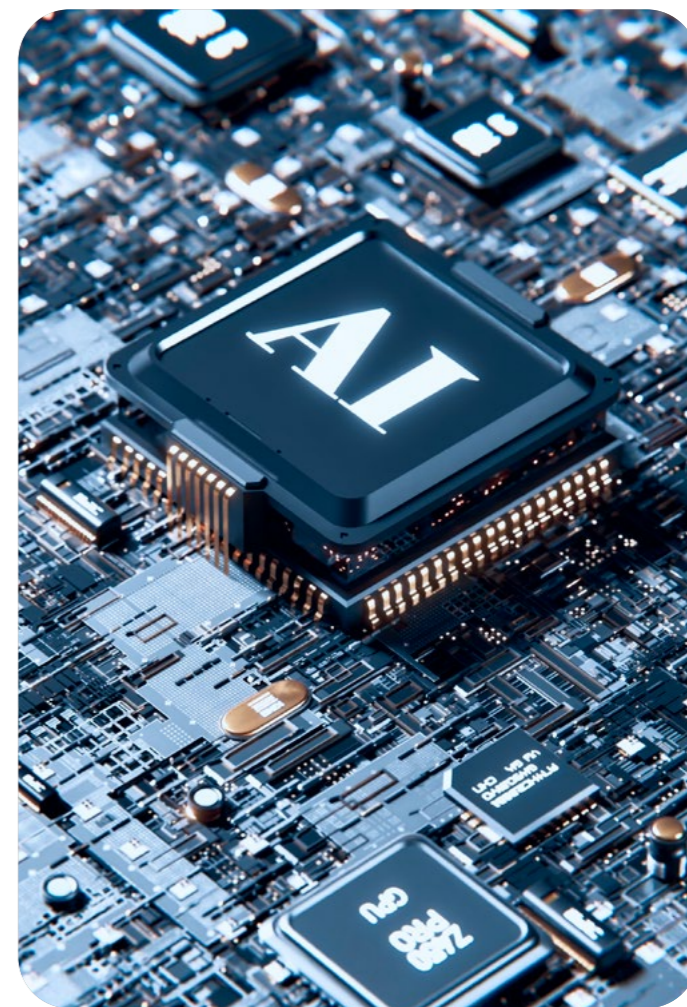
Whether you're just beginning your AI journey or looking to optimize existing implementations, these strategic frameworks will help you navigate critical decisions with confidence.

The AI Implementation Challenge

According to industry research, **87% of data science projects never make it to production** due to inadequate infrastructure planning. This sobering statistic highlights why infrastructure decisions are often more critical than the AI models themselves.

Root causes of AI project failures:

- 01** Misalignment between technical capabilities and business objectives
- 02** Insufficient data quality, governance, and lineage
- 03** Inadequate understanding of deterministic vs. non-deterministic outcomes
- 04** Lack of proper operational support for deployment and maintenance



The Three Pillars of AI Infrastructure

1

Data Layer: The Foundation



Components:

- » Data storage
- » Preparation pipelines
- » Governance frameworks



Critical questions to address:

- » Do you have sufficient high-quality data for your use case?
- » Is your data appropriately labeled and structured?
- » Have you established proper data lineage and governance?
- » Can you ensure data privacy and security?

PRACTICAL TIP:

Begin with a data audit before any AI initiative. Document available data sources, identify gaps, and establish a data quality framework.

Remember: even the most sophisticated AI models will fail with inadequate data.

2

Model Layer: The Engine



Components:

- » Machine learning algorithms
- » Deep learning networks
- » Model training infrastructure



Key considerations:

- » Model selection based on business requirements
- » Computing resources required for training and inference
- » Model monitoring and retraining strategies
- » Explainability and transparency needs

PRACTICAL TIP:

Start with simpler models before scaling to more complex ones. This approach allows you to establish baseline performance metrics and identify specific areas where more sophisticated models add genuine value.

3

Application Layer: The Interface



Success factors:

- » Seamless integration with existing workflows
- » Intuitive user experiences that encourage adoption
- » Clear feedback mechanisms for continuous improvement
- » Performance monitoring and optimization



Components:

- » APIs
- » User interfaces
- » Integration points with existing systems

PRACTICAL TIP:

Consider implementing AI features iteratively, gathering user feedback at each stage. This approach increases adoption rates and ensures alignment with actual user needs.

Strategic Decision Framework: Build vs. Buy vs. Hybrid



Assessment Questions

Answer these questions to determine your optimal approach:

- 01 Is AI a core differentiator for your product/service?
- 02 How quickly do you need to implement AI capabilities?
- 03 What is your organization's existing AI expertise?
- 04 How sensitive is your data and what compliance requirements apply?
- 05 What is your budget for initial development vs. ongoing maintenance?



When to Build: Strategic Investment



Optimal conditions:

- AI capabilities represent your primary competitive advantage
- You have highly specialized requirements not met by existing solutions
- You possess the necessary talent and resources for development
- Long-term strategic control outweighs short-term implementation speed
- Your data security requirements demand maximum control



Implementation considerations:

- Develop clear success metrics before beginning development
- Plan for ongoing maintenance and regular model retraining
- Implement robust MLOps practices from the beginning
- Build with scalability in mind, even for initial implementations



When to Buy: Strategic Acceleration



Optimal conditions:

- You need to rapidly implement AI capabilities
- Your requirements are relatively standard for your industry
- You have limited in-house AI expertise
- You want to minimize initial investment and risk
- You need to validate business value before deeper investment



Implementation considerations:

- Evaluate vendor lock-in risks and data portability
- Consider total cost of ownership, not just initial implementation
- Assess vendor stability and future development roadmap
- Verify security practices and compliance certifications



The Hybrid Approach: Balanced Strategy



Implementation framework:

01

Assess your capabilities: Inventory your existing technical expertise and resources

02

Map AI use cases: Identify all potential AI applications in your business

03

Prioritize based on strategic value: Rank use cases by business impact

04

Apply the core/context principle: Build for core differentiators, buy for context

05

Create integration blueprints: Design how custom and off-the-shelf components will work together

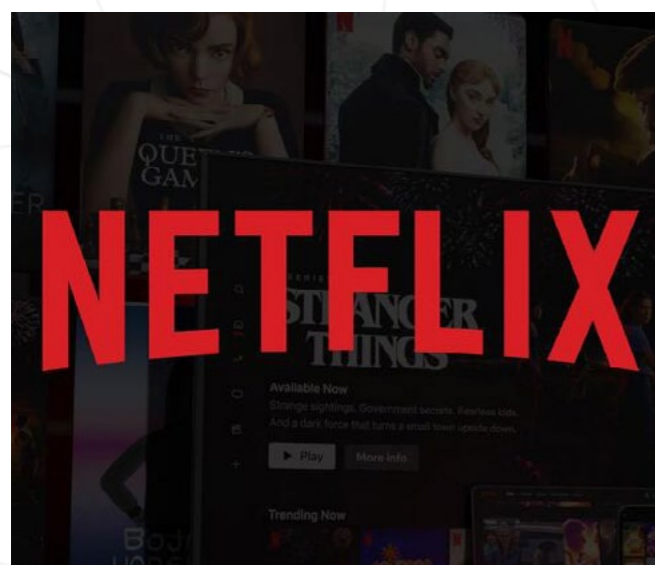
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Establish governance: Define ownership and maintenance responsibilities

PRACTICAL TIP:

The hybrid approach often delivers the best results, combining the speed of pre-built solutions with the competitive advantage of custom development for your most strategic capabilities.

Real-World Implementation Models



Netflix: Content Personalization

- » **Strategic approach:** Built custom recommendation algorithms while leveraging cloud infrastructure
- » **Key insight:** Focused development resources on their core differentiator (content recommendation) while using standardized solutions for supporting infrastructure
- » **Results:** Industry-leading personalization delivering \$1B+ annual value through increased engagement

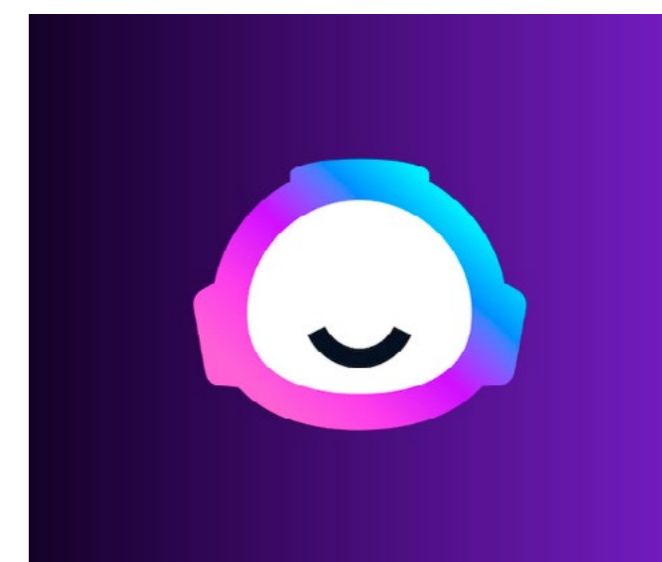


Tesla: Autonomous Driving

- » **Strategic approach:** Vertically integrated AI development from chips to algorithms
- » **Key insight:** For truly revolutionary capabilities with no existing solutions, complete ownership of the AI stack may be necessary
- » **Trade-offs:** Higher capital investment, longer development cycles, potential for greater competitive advantage

Jasper AI: Content Generation

- » **Strategic approach:** Built specialized interfaces on top of OpenAI's foundation models
- » **Key insight:** Found market opportunity in creating user-friendly applications on top of existing AI capabilities
- » **Results:** Achieved rapid market entry and \$1.5B valuation by focusing on application layer rather than building models from scratch



Cost Optimization Strategies

Initial Development



Build: Higher upfront costs (talent acquisition, infrastructure, R&D)



Buy: Lower initial investment (subscription fees, integration costs)



Hybrid: Moderate initial investment with targeted custom development

Operational Considerations



Scaling costs: Cloud-based solutions typically scale linearly with usage



Maintenance overhead: Custom solutions require ongoing engineering resources



Technical debt: Factor in refactoring and updating custom solutions

Optimization techniques

01

Tiered processing: Use less expensive models for initial filtering, premium models for final processing

02

Edge deployment: Process data locally where possible to reduce cloud computing costs

03

Caching strategies: Store common queries and responses to reduce redundant processing

04

Resource scheduling: Optimize for cost vs. performance based on time-sensitivity of processing

PRACTICAL TIP:

When calculating ROI, remember that AI capabilities often deliver compounding returns over time as models improve with more data and user interactions.

The New Decision Intelligence Paradigm

As highlighted by Microsoft's industry analysis:



The interconnectivity challenge:

Modern business problems involve increasingly complex networks of variables that exceed human analytical capabilities



Generative AI's unique value proposition:

- » Ability to process massive amounts of unstructured «dark data» (70–80% of organizational data)
- » Capacity to simulate multiple decision scenarios rapidly
- » Natural language interfaces that democratize access to insights



Emerging organizational capability:

Companies that effectively implement generative AI are developing a new form of «decision intelligence» that combines human judgment with AI-powered analysis

PRACTICAL TIP:

Begin by identifying decision processes that involve high complexity and uncertainty—these are prime candidates for augmentation with generative AI capabilities.

Implementation Roadmap

Phase 1:

Foundation

(1–3 months)

01

- Conduct data readiness assessment
- Identify initial high-value use cases
- Establish governance framework
- Select key metrics for success

Phase 2: Initial

Implementation

(3–6 months)

02

- Deploy first use case using appropriate build/buy approach
- Establish feedback loops for improvement
- Develop skills within the organization
- Document learnings and refine approach

Phase 3:

Expansion

(6–12 months)

03

- Implement additional use cases
- Optimize initial implementations
- Deepen integration with existing systems
- Scale successful approaches

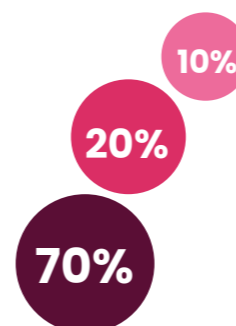
Phase 4:

Transformation

(12+ months)

04

- Embed AI capabilities throughout organization
- Shift from project-based to product-based approach
- Establish centers of excellence
- Continuously evolve capabilities



PRACTICAL TIP:

The 70–20–10 rule applies to AI implementation: success depends 70% on organizational change and adoption, 20% on the technology itself, and 10% on algorithms. Plan your resources accordingly.

Common Pitfalls and How to Avoid Them

01

The silver bullet syndrome

- ❌ **Pitfall:** Expecting AI to solve problems without addressing underlying issues
- ✅ **Solution:** Define specific, measurable objectives for each AI initiative

02

Data quality underestimation

- ❌ **Pitfall:** Assuming existing data is sufficient and clean enough for AI applications
- ✅ **Solution:** Conduct thorough data quality assessment before beginning implementation

03

Talent gap miscalculation

- ❌ **Pitfall:** Underestimating the specialized skills required for AI implementation
- ✅ **Solution:** Realistically assess in-house capabilities and supplement with partners where needed

04

Governance afterthought

- ❌ **Pitfall:** Implementing AI without proper oversight and management
- ✅ **Solution:** Establish governance frameworks before deployment, including ethics, bias monitoring, and compliance

05

Technical debt accumulation

- ❌ **Pitfall:** Quick implementations that create maintenance challenges
- ✅ **Solution:** Incorporate best practices for MLOps from the beginning, even for smaller initiatives

Conclusion: Strategic AI Infrastructure Principles

- 01 | Business-first approach:** Start with clear business objectives, not technology capabilities
- 02 | Core/context alignment:** Build custom solutions for core differentiators, leverage existing solutions for context
- 03 | Data foundation priority:** Invest in data quality, governance, and accessibility before advanced models
- 04 | Iterative implementation:** Start small, learn, and expand based on demonstrated value
- 05 | Balanced investment:** Remember that people and processes (70%) are more critical than technology (20%) and algorithms (10%)

AI infrastructure is not just a technical challenge but a strategic business decision that should align with your organization's unique goals, capabilities, and competitive landscape.

The most successful implementations balance speed, cost, control, and capability in service of creating genuine business value.

This strategic guide was compiled from insights shared by Alex Popov (CTO at CHI Software) and Marcus Martinez (Financial Services Industry Advocate at Microsoft) during an industry workshop on AI infrastructure.