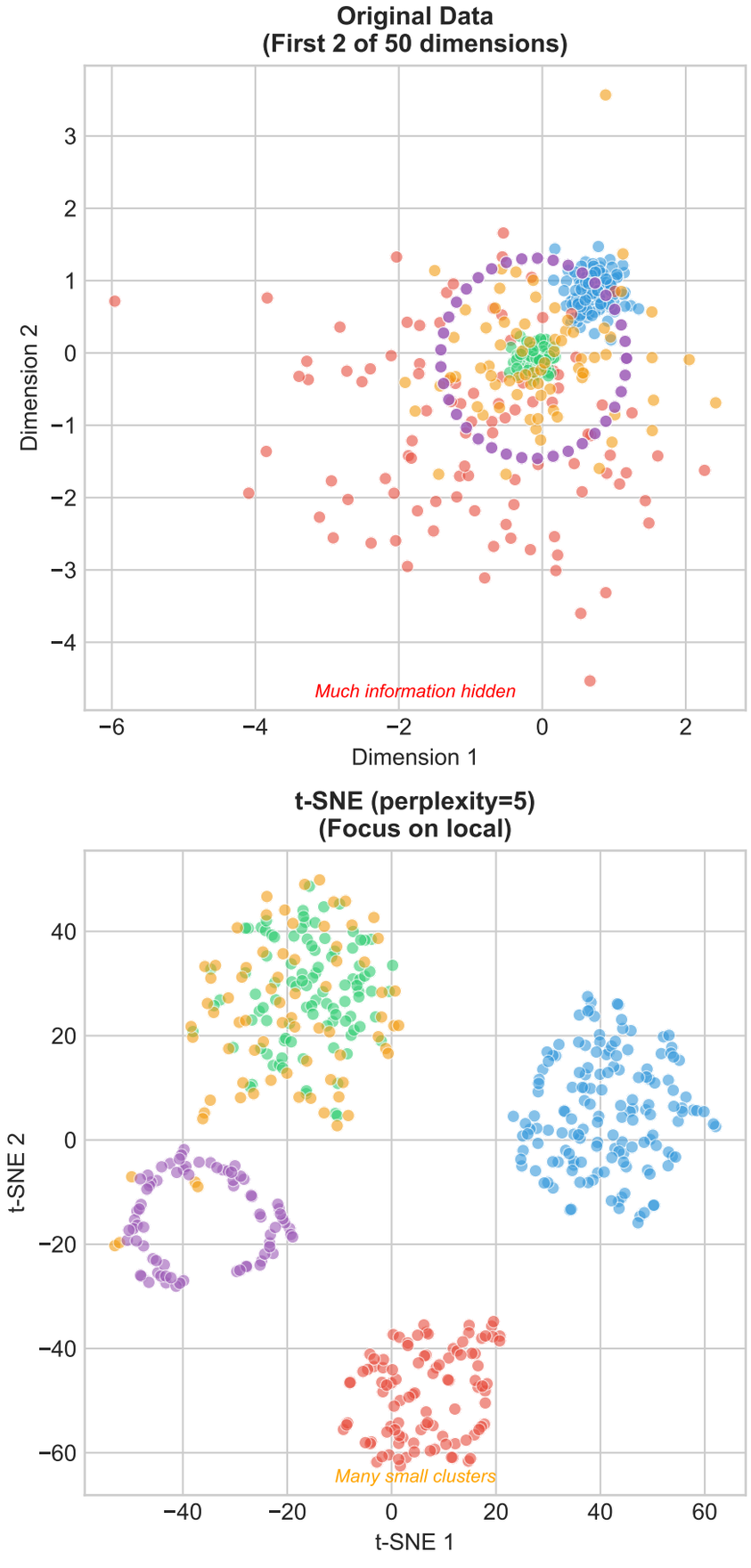
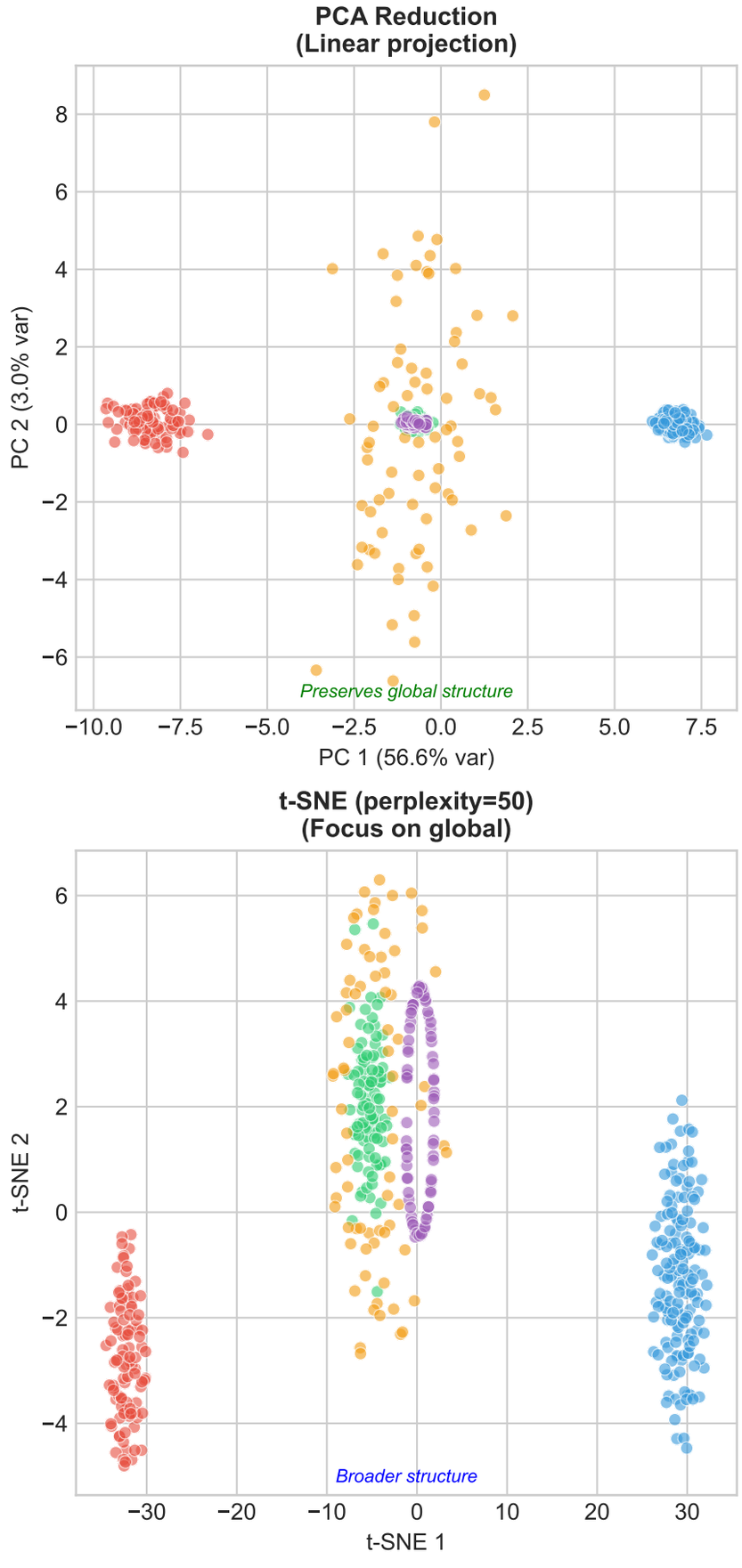
Dimensionality Reduction: PCA vs t-SNE for Innovation Data

Revealing Hidden Patterns in High-Dimensional Innovation Space





Method Comparison

	PCA	t-SNE
Speed	Fast	Slow
Scalability	Excellent	Limited
Interpretation	Clear axes	No axes meaning
Global structure	Preserved	May distort
Local structure	May lose	Well preserved
Parameter tuning	None	Perplexity critical
Use for innovation	Overview	Find patterns

Recommendation for Innovation Analysis:
1. Start with PCA for quick overview
2. Use t-SNE to find hidden patterns
3. Try multiple perplexity values
4. Validate findings with domain knowledge

Traditional Disruptive Incremental Radical Hybrid