

## How QRM Goes Beyond Lean – A Ten-Point Summary

Factor	Lean Approach	QRM Approach
<b>1. Origin</b>	Derived from the Toyota Production System. Works best for high-volume, repetitive production.	Designed from the ground up for low-volume and custom-engineered products. (Also enables you to compete with low-wage countries.)
<b>2. Dealing with Variability</b>	Tools such as Takt Time, Standard Work and Level Scheduling target the elimination of <i>all</i> variability.	Eliminate dysfunctional variability. Strategic variability provides competitive advantage: exploit it using QRM tools.
<b>3. Driver and Metrics</b>	Driver is elimination of waste. Metrics based on seven types of waste; these measure the “micro” impact in seven areas, but may not give insight into “macro” system-wide waste. Hard to evaluate success of projects when seven measurements are involved.	Driver is elimination of lead time, identified by the Manufacturing Critical-path Time (MCT) metric. Encourages global view of waste throughout the extended enterprise. MCT provides a unified measure of system-wide waste and a single metric for improvement projects.
<b>4. Cell Design</b>	Cell structure is rigid, based on Standard Work, Takt Time and linear flow. Highly effective for repetitive production.	QRM cells are flexible and allow multiple flows for higher variety. Emphasis is on teamwork, ownership and cross-training.
<b>5. Material Control</b>	Use Kanban for material control. Simple, visual system and works well for high-volume parts, but creates excess inventory for low-volume parts, and cannot be used for custom-engineered parts.	Use POLCA for material control. Builds on cellular structure and your MRP system. Slightly more complex than Kanban, but works equally well for high-volume, low-volume and custom parts.
<b>6. Material Planning</b>	Replace Material Requirements Planning (MRP) with Kanban. Again, not practical for low-volume or custom parts.	Build on your existing MRP system, but simplify it to a “high-level” MRP system and supplement it with POLCA for material control.
<b>7. Capacity Planning</b>	Use Takt Time for planning capacity at operations. Takt Time is calculated solely from production targets. Simple and easy to understand, but not applicable to high-variability environments.	Strategically plan for spare capacity. Include job variability and lead time targets to decide amount of spare capacity needed (e.g. more spare capacity in higher variability operations).
<b>8. Supply Management</b>	Emphasis on waste reduction tends to be local and inward focused. Not clear how to extend to supply chain. Takt time and Kanban may not be the right tools for extended and global supply chains.	Focus on lead time reduction results in a global outlook through time-based supply management – for example, revising goals of supplier improvement programs and rethinking sourcing decisions.
<b>9. Companywide application</b>	Message not clear to nonmanufacturing areas; seven lean wastes may not apply in other areas. Key tools such as Takt Time and Kanban also stem from shop floor operations. Not clear how to apply them to nonmanufacturing operations.	Being responsive to customers provides unifying goal for the whole enterprise. QRM approach can be used in all areas. Specific tools for office operations, including Focused Target Market Segments (FTMS) and Quick Response Office Cells (Q-ROCs).
<b>10. Decision-Making and Justification</b>	Ongoing struggle to convince executives to change policies. Local waste elimination focus may not provide sufficient justification. May require new accounting methods (“Lean Accounting”).	Teaches executives about huge financial impact of time; encourages time-based decision-making and financial justification. Small adjustments to existing accounting system are sufficient.