GROUNDING INFORMATION QUALITY MANAGEMENT PRACTICES in SOUND QUALITY MANAGEMENT SYSTEMS

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Abstract:

If we are to develop sustainable Information Quality Management practices in organizations, we must ground the IQ Management principles, processes and techniques in the proven Quality Management Systems proven by implementation in the Industrial Age. The reason, Information Quality Management is an extension of Quality Management—not data management. The techniques for identifying information defect root cause, error-proofing information processes, identifying knowledge worker quality requirements, controlling information processes come from Quality Management—not data management. Therefore we must study Deming, Juran, Crosby, Imai (Kaizen), Taguchi, Shewhart, Ishikawa, the Baldrige Criteria, and ISO 9000-2000 to learn the foundations for Information Quality Management.

Thesis:

The discipline of Information Quality Management is at a crossroads. We are early in its formulation as a professional discipline. The following are lessons and conclusions I have learned since I was first introduced to Dr. Deming and his 14 Points of Quality, which he called the 14 Points of Management Transformation and to Masaaki Imai's Kaizen (Continuous Process Improvement):

1. Information Quality Management is an extension of *sound and proven Quality Management Systems*—***not*** an extension of data management, or of information systems although there are many who try to force fit "data quality management" as an extension to current—and often defective—data management practices. The reality is that data management, or more appropriately, "Information Management" is the application of sound *management* principles to Information as a resource of the enterprise. Information Quality Management does not emanate from resource management. Resource management teaches us how to manage resources effectively by planning, organizing, acquiring, applying, maintaining and disposing of resources when no longer needed.

   Information Quality Management on the other hand is defined as "the application of sound Quality Management principles, processes, and methods" that have been successfully applied to manufacturing and service sector processes. Quality Management principles teach us how to design quality into the information processes to eliminate information defects that cause process failure in downstream processes. Quality management teaches us how to:

- Understand customer requirements for products and services and information (SIPOC (Supplier-Input-Process-Output-Customer); QFD (Quality Function Deployment))
- Translate those requirements into product (information) specifications (Poka Yoke (error-proofing))
- Understand the root causes of defects (Cause-and-Effect Analysis (Ishikawa diagrams)) (PDSA or PDCA, DMAIC)
- Conduct process improvements to produce quality that meets or exceeds customer requirements by designing quality into the processes to prevent the occurrence of defects that require recovery from process failure and conducting "scrap and rework" to fix defective products

Information quality management must apply the same principles applied to manufacturing quality precisely because information, while intangible, is a product of our business, service and manufacturing processes.

2. Data quality practices that do NOT originate in, or apply the same quality principles already defined and proven in the sound quality systems, will be sub-optimized at best and ultimately fail. The Quality gurus have given us the fundamental principles, processes, and techniques that can be applied directly to Information Quality Management. They include:

   - Deming's System of Profound Knowledge and the 14 Points of Management Transformation
   - Juran's Trilogy of Quality Planning, Quality Control and Quality Improvement
   - Walter Shewhart's quality control charts and fundamental Plan-Do-Study-Act cycle of process improvement, Masaaki Imai's *Kaizen*, and *Gemba Kaizen*, Kaoru Ishikawa's *Quality Control*
   - Fegeinbaum's *Total Quality Control*
   - Genichi Taguchi's *Robust Engineering*
   - Philip Crosby's *Quality Is Free, Quality Without Tears* and the 14 Steps to Zero Defects
   - The Baldrige Criteria
   - Six Sigma (uses the same principles and techniques from the above quality systems, simply packaged in its own way)

   Worthy books, articles, seminars and methodologies on Information Quality Management will clearly demonstrate how they apply proven quality management principles from the sound quality management systems.

3. Without changing the management culture at the top of the organization, any data quality program will fail. Any culture transformation must be understood as essential and led by the executive leadership team. Any data quality program that does ***not*** successfully engage the top management to understand the high costs of

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poor quality information and to personally take action to lead the Information Quality revolution will ultimately fail. The term "data quality" is often perceived by executives as a technical term or a clerical term ("we have data entry clerks"), but they tell me, "I need quality *information* to manage the business.

4. Data cleansing is ***not*** Information Quality Management. Data cleansing, or more correctly, "data correction," "data corrective maintenance" or "information scrap and rework" is the information equivalent of manufacturing "scrap and rework." Scrap and rework is a cost of defective manufacturing processes. Data cleansing (information scrap and rework) is likewise a cost of defective information production, maintenance, and information presentation processes. Real Information Quality Management has process improvement and designing quality into the information processes based on the Shewhart Cycle of "Plan-Do-Study-Act" or its Six Sigma variation of "Define-Measure-Analyze-Improve-Control."
5. Valid Information Quality Management systems will use terminology from the sound quality management systems.
6. For an Information Quality Management culture to be sustained, we must focus on the "customers" of information, who Peter Drucker and Stephen Covey call "knowledge workers" and who the Federal Government's Information Quality Act (OMB Section 515) calls "Information Consumers." As Dr. Deming says in his first point of quality, "the obligation to the Customer never ceases." In the ***realized*** Information Age, the obligation to the Knowledge Worker never ceases. The omnipresent word "user" from the IT vocabulary is completely inadequate to call the most important people in the information production processes.

I believe that the Tipping Point of the Information Quality Revolution lies just ahead of us, possibly within the next five to seven years—but ***only*** if we are not derailed by opportunists whose practices are not grounded in the sound quality systems that brought in the Manufacturing Quality Revolution.

The only way to establish a real and sustainable Information Quality Management environment is by building on top of the principles, processes, and techniques proven in the sound quality management systems, noted above. If we do this, we will bring in the second quality revolution and with it the *realized* Information Age.

The IAIDQ will lead in the Information Quality Revolution if—and only if—it grounds its principles, processes and practices for IQ in the sound and proven quality management systems of the quality gurus. As Publilius Syrus said, "From the errors of others, a wise man corrects his own" (Circa the first century B.C.). May Information Quality and Business Professionals learn from the errors of others, who focus only on an "Inspect and Correct" approach of "data profiling" and "Information Scrap and Rework."

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