2

CLASS A ERP PERFORMANCE

The enterprise resource planning (ERP) business model described in Chapter 1 is consistent with the definition of Class A ERP. The differentiator is *performance within* that business model. Class A ERP is the performance standard that defines high-performance discipline, accuracy, and customer service in the ERP process linkage. These criteria are defined by metric definitions and performance levels within those measures, roles of process owners, project management, accountability infrastructure, and customer service levels. As we get deeper into this topic, the details will become more obvious to the reader.

MATERIAL REQUIREMENTS PLANNING

Class A ERP did not start out in full bloom. Early thinkers in this space would certainly include people like Oli Wight and George Plossl. I first met George Plossl at The Raymond Corporation in the 1970s. The Raymond Corporation was and is a major player in the manufacturing of narrow-aisle material handling equipment and also the company where I "grew up." George had been a previous associate of Jim Harty, who was the CEO of Raymond at the time. All three of these gentlemen (Oli Wight, George Plossl, and Jim Harty) worked together years before at the Stanley Works. Oli and George, who both leveraged their thought leadership into consulting businesses, are usually included in descriptions of the "fathers" of inventory and production control. Mr. Harty continued to stay in the practitioner side of business.

Material requirements planning (MRP) was the first formally recognized process that started to link the manufacturing planning processes. At the time,

it was leading edge. I have to admit that I was a planner pre-MRP and remember the days of *committing* inventory bills of material (BOMs) and the corresponding requirements that at times created parking lots full of inventory. (We used to say it was good for castings to be stored outside as an additional excuse for filling the parking lot!) Raymond in those days was an engineer-to-order and make-to-order house, and when orders came in, to shorten the lead time, we would commit requirements in anticipation of the real engineered order. MRP helped that situation by time phasing requirements and allowing the utilization of computer processing of information as it related to forecasted and firm orders. We could then start to use weighted formulas to calculate requirements rather than commit entire BOMs for each order to shorten lead time. MRP did not create the extra inventory; it was the inputs to MRP that created the problems. MRP actually eliminated a lot of clerical work and actually added accuracy to schedules. As bad as it was, it was a big improvement over manual systems.

According to the *Production and Inventory Control Handbook* by James H. Greene (1987, page 4.2), MRP was first used by J.I. Case, Twin Disc, Black & Decker, and Perkins-Elmer. Also according to this text, the American Production and Inventory Control Society (APICS) and a few pioneer organizations started the MRP revolution in the early 1970s.

MRP was a simple idea in those early days — and a good start. BOMs that defined the recipes of the products created the requirements. Inventory records were then accessed and requirement quantities netted against available balances. Using the MRP software, the delta between requirements and on-hand balances generated signals for purchase orders and shop orders. It was also during this historical time frame that the need for data accuracy became obvious. This became apparent as shortages shined a light on process variation and the root cause — often BOM and/or inventory record inaccuracies. Nonetheless, even with the data accuracy issues, MRP was a great step forward and obviously an important one. Although called other names today, such as advanced scheduler or net scheduler, MRP basically is still used in almost every manufacturing business in every corner of the world. All manufacturing food chains from automobiles to ice cream cone bakeries use some form of MRP, and all of the serious ERP business system software houses include it in their wares.

MANUFACTURING RESOURCE PLANNING

The 1980s

Manufacturing resource planning (MRP II) happened as many evolutions do — due to need. I like to say that we, as humans, do not change radically unless

we get our heads squeezed in some manner. In the 1980s, manufacturing was getting its head squeezed in a big way. Interest rates were skyrocketing and businesses were under pressure from many fronts. Competition from other parts of the world was becoming more real, and prices reflected it. The need to cut costs and therefore become more competitive drove materials management professionals to look for better and more efficient methods to plan material deliveries. It was a matter of survival. This effort led to more discipline on data inputs and files accuracy. According to the *Production and Inventory Control Handbook* by James H. Greene (1987, page 4.8), the acronym MRP II was first documented in *Modern Material Handling* in 1979. The article in this magazine described activities going on at Tennant, Twin Disc, and Hewlett-Packard as integrating their financial and operational processes.

About the time of this particular revision of Greene's book (1987), I was getting my first introduction to Class A as a plant manager at Raymond. At the time, we called it Class A *MRP II*. Because of major competitive pressures, the president left and a new gentleman, Ross Colquhoun, came into the picture as his replacement. He had been in the material handling business for a long time and, thankfully, understood the business. One of the first things he did was to arrange for Class A MRP II training. I was asked to go for training and figured it was for equipment utilization reasons, but it turned out that it was because Mr. Colquhoun had a role in mind for me. He appointed me the Class A MRP II implementation manager. That is where my passion for this topic started, and I have Mr. Colquhoun to thank.

Neither Class A nor I deserves the credit for this successful company; many are still there who do, but clearly the first step in their successful turnaround was the discipline, metrics, and management systems introduced in this Class A process in the late 1980s. It worked.

In the 1980s, because of cost constraints and competitive pressure, more emphasis was developing in businesses in the areas of capacity planning and increased scheduling disciplines. It was becoming more and more important to build and stock the right inventory. By the mid-1980s, the master production schedule (MPS) process had been born.

The MPS was a schedule just like many others that had existed over the years, but with a new management approach. Capacity was recognized as a defining constraint, and master scheduling received new support as businesses started to recognize the reality of constraints more frequently. Although evolution of production control happened over several years of need, it was about this time when APICS and people associated with the field of manufacturing planning started to refer to the business planning model as MRP II. With the new process focus came various defined levels of proficiency. By the mid-1980s, a few consultants had developed from the field. Each had a view of what

Table 2.1. MRP II Measurements

Measurement	Minimum Performance Requirement
Profit accuracy	90, then later increased to 95 percent
Sales forecast accuracy	85, then later increased to 90 percent
Production plan accuracy	90, then later increased to 95 percent
Schedule accuracy	90, then later increased to 95 percent
Inventory record accuracy	90, then later increased to 95 percent
BOM accuracy	95, then later increased to 98 percent
Routing record accuracy	90, then later increased to 95 percent
Shop floor control accuracy	90, then later increased to 95 percent
Supplier promise accuracy	90, then later increased to 95 percent
Customer promise accuracy	90, then later increased to 95 percent
Overall performance	90, then later increased to 95 percent*

* Sustainability normally was required and proven by showing 90 to 95 percent performance overall for at least three months.

proficient MRP II performance was, but for more than one reason, similarities developed. APICS probably played a big part in the cross-pollination, as most of the early experts became regulars on the "rubber chicken" speaking circuit. Interestingly enough, most of the materials experts and many of the best speakers in the world on topics of interest to many of the readers of this book got their start publicly in this APICS road show circuit. This speaking circuit includes APICS dinner meetings, regional seminars, and the crème de la crème, the Annual APICS International Conference and Convention.

From this group of traveling missionaries on the topics of planning and control, a few became household names in the APICS circles. Some of the ones I remember most from that era are Oli Wight, George Plossl, David Buker, Jack Gips, Eugene Baker, and Dave Garwood. While many would credit Oli Wight for the early definitions of Class A, in reality it was probably the sharing of ideas and experiences by this entire crowd that birthed the new performance definition. By the time I was introduced formally to the Class A process in 1987, the standard had become fairly consistent, consultant to consultant. I emphasize *fairly consistent* because there was and is no true worldwide accepted Class A MRP II or ERP standard.

MRP II certification in those early days was simple. It just required measures to be audited and confirmed at certain levels. The early measurements were variations on the reasonably consistent list shown in Table 2.1.

The top-management planning process was continuing to develop during the 1980s. Most started to call it S&OP, which simply stood for sales and operations planning. It would eventually became a high-level, honed, top-management

planning process and a major component of the Class A MRP II and ERP requirements. Top decision makers in the business could now influence activity more directly at the plant level, including inventory levels and general risk management involving capacity and anticipated demand.

At this point, some readers may be hungry for more Class A MRP II criteria detail. Your hunger would not have been satisfied in this era, however. The measurements were fairly loosely defined and could be widely different from business to business and one consultant to another. Nonetheless, Class A MRP II was quite popular as word got around about the benefits companies were seeing as a result. The early to mid-1980s period was the heyday for MRP II consultants. David W. Buker, Inc., of Antioch, Illinois, was named during this period as one of the fastest-growing companies in America by a leading business magazine. Oli Wight first and, later, David Buker developed popular video education in this space that helped deal with the growing need for education and training of the masses within the manufacturing world. These videos sold for thousands of dollars based on the return that many businesses enjoyed. Additionally, public classes on the topic delivered by the masters were filled regularly, and businesses in need of a competitive advantage set out to implement this new formula for success. Needless to say, some companies were much more successful than others. It depended on the approach and discipline. In most cases, there were still gains. Even with this rudimentary approach, because the general population of manufacturing businesses at the time had extremely poor discipline in scheduling and data accuracy, even some half-hearted attempts at Class A MRP II implementation yielded benefits. The benefits commonly experienced included reduced inventory, increased customer service, higher productivity, and lower costs.

At the time, implementation lead times (time from initial Class A MRP II education to certification) often exceeded eighteen to twenty-four months. In the 1980s, data were not as readily available as they are today. That lack of underlying data and facts, as well as the associated root causes, certainly left some opportunities on the table. The first implementation I was involved in went quite well according to the standards of that time, but I am embarrassed to tell you that it took twenty-six months to complete certification. We hit Class A standards, but were not able to show consistent ability to sustain the performance until the second year. Today, a twenty-six-month implementation would be considered a disaster!

The business environment continued to change and the competitive bar was raised in most markets. MRP II expanded and grew as new process successes were tried. This evolution came from people exchanging ideas. People in this field are in the business of idea agriculture. As the late Ed Turcotte (a former

consultant partner and friend of mine) used to say, "If we see great ideas, we harvest them and then plant seeds in other factories." This is the business of consulting. Take ideas that work and spread them. That is exactly how Class A evolved from the MRP skeleton. It is also why ERP will continue to evolve in the future.

The 1990s

In the 1990s, especially the mid-1990s, the Class A model evolved from a set of metrics to a process with several required components. Influences from various successful implementations as well as from other evolving methodologies, including ISO (International Standards Organization), total quality, and even to some degree just in time, all influenced the process.

ISO, which in the early days had no more value than to fill a political gap in trade agreements between the newly formed European Union countries, even contributed in some small way as documentation of process gained more respect in securing repeatability through process control. During this time, thought leadership within Class A teaching developed both a management infrastructure for accountability and an additional business model structure. The first thoughts that were centered around a progression of objectives within three areas of focus — process design, management system, and results — started to affect behaviors and aid in process control.

The first thoughts that were centered around a progression of objectives within three areas of focus — process design, management system, and results — started to affect behaviors and aid in process control.

During the early to mid-1990s, the implementation times of Class A performance and structure started decreasing even though the certification requirements were raising the bar on performance. Most organizations that were serious about their implementations were able to reach Class A performance levels successfully within twelve to eighteen months. The efficiencies came from top management being more involved and follow-up being more predictable and planned. When process owners take the time to do root cause analysis and drive actions, this kind of improvement can happen fast! Most organizations were also finding that education, the investment in human capital, was often worth the monetary capital when topics were carefully chosen. This was especially relevant in organizations that were upgrading their software tools.

Software companies had a growth period in the 1990s as computer technology and process evolved quickly. It was during this period that the acronym and

term "ERP/enterprise resource planning" was frequently marketed to differentiate one software package from another. ERP became popular, and soon the term MRP II became "yesterday's newspaper." The process requirements for Class A performance continued to evolve, and the new name for it was ERP. It had a more modern ring to it.

Because the scope of Class A performance was growing with the competitive pressure of most manufacturing markets and admittedly because the market was asking for ERP rather than MRP II, Class A upgraded its cloak to Class A ERP as well. As the competitive pressures increased from global markets, so did the need for process improvements in manufacturing. In the late 1990s, Class A ERP became quite refined, especially as compared to the early days of MRP. By then, the Class A process had elements of expectation not only in scheduling and planning but also in inventory strategy, quality, demand forecasting, supply chain management, project management, and plan execution. The Class A ERP management system had grown into monthly, weekly, and daily elements and expectations. Not only were monthly top-management planning events scheduled well in advance, but there were weekly and daily regimens required by high-performance organizations. A predictable accountability infrastructure was scheduled in six-month intervals as well as twelve-month schedules, all dictated by the evolving Class A ERP process criteria. Some of the management system events are listed in Table 2.2.

In each case, these management system events helped to control the speed and sustainability of conversion to Class A ERP performance. Class A ERP was becoming much more predictable, company to company and consultant to con-

Table 2.2. Management System Elements

Time Frame	Process Event	Process Expectations
Yearly	Strategic review	Updates to the strategic plans
	Business imperatives	Prioritizing the short list of "must do" objectives
	Talent review	Management assessment of key employee skills
	Succession planning	Key position and skills analysis of bench depth
Monthly	S&OP	Risk management of capacity, inventory, and customer service decisions
	Project review	Review progress on business imperatives
Weekly	Performance review	Process owner review of progress
	Project review	Detail review of projects by process owners
Daily	Schedule review	Detail review of yesterday and today's requirements
	Daily walk-through	Management-by-observation tour of the factory

sultant, even though there was no world standard such as for ISO or Six Sigma. Implementations in some instances were now, for the first time, taking no more than six months from initial Class A ERP education to certification.

In the mid-1990s, I was working with AlliedSignal (now Honeywell). The company was in the process of converting to SAP business management software. It was a vision of the management at AlliedSignal to have the disciplines in place prior to the implementation of new software. They had the insight to use Class A as the standard. At the time, there was enough standardization accepted within Class A that three separate consulting companies were approved as sources for this training and certification. Buker, Inc. (where I was a partner) was one of them. The management vision was communicated to the plants at the time; it stated simply that the new software would not be available except at facilities that had met Class A criteria to a certain level. This proved to be a good prerequisite for software performance. This effort resulted in significant improvements in inventory control and accuracy, schedule disciplines and execution, and ultimately customer service.

Topics like transaction design were addressed and any process bugs worked out prior to turning on the new software. Data were measured, scrubbed, and maintained through Class A management systems. It took those process variation areas that are common in many organizations off the list of software implementation issues.

The new ERP acronym was emerging as the replacement for MRP II, and it made a lot of sense. The message was that supply chain management was much bigger than the MRP process. The use of the word "enterprise" suggested a much bigger planning scope. It was time for a change. ERP had the right mix of new ideas and proven processes to be the successor to MRP II. I, for one, never liked the fact that MRP II had an acronym similar to the simple process calculation of MRP. It has always caused confusion. As MRP II changed to ERP, I said "good riddance!"

I, for one, never liked the fact that MRP II had an acronym similar to the simple process calculation of MRP.

THE CLASS A ERP STANDARD OF TODAY

Because this book is about the Class A ERP standard and because it will be detailed in coming pages, it is probably best simply to describe the main principles at this point. This will give the reader the place from which I start the discussion of Class A ERP. Boiled down, Class A ERP is about proficiency in all of the areas of focus, as shown in Table 2.3.

Table 2.3. Class A Focus Areas

Prioritization and Management of Business Objectives

1. Project management
   a. Project funnel
   b. Prioritization of projects
   c. Resources and skills required
   d. Review process
2. Human capital management and investment
   a. Professional society affiliations
   b. In-house education
   c. Tuition aid programs and guidelines
   d. Training
      i. New employees training
      ii. Existing workforce training
      iii. Skills assessment
3. Business imperatives
   a. Hoshin planning
   b. Review process and documentation
4. New product introduction
5. Accountability infrastructure
   a. Metrics
   b. Management systems
      i. Daily
      ii. Weekly
      iii. Monthly

S&OP Processes

1. Strategic planning
   a. Markets
   b. Core competence
2. Demand planning
   a. Mix
   b. Volume
3. Operations planning
   a. Supply chain partnerships
   b. Capacity planning
      i. Internal capacity
      ii. External capacity
4. Financial planning
   a. Profit
   b. Capital spending
   c. Revenue

Scheduling Disciplines and Production Planning

1. Master scheduling
2. Rules of engagement

Data Integrity

1. Inventory location balance accuracy
   a. Warehouse design
   b. Transaction design
   c. Point-of-use storage
   d. Location design
      i. Raw
      ii. Components
      iii. Work in process
      iv. Finished goods
   e. Cycle count process
      i. ABC stratification
      ii. Tolerances allowed
2. BOMs or bills of resource accuracy
   a. Engineering change
   b. Process to repair BOMs
   c. Audit process
   d. Routing linkage to BOM
3. Item master accuracy
   a. Lead times
   b. Cost standards
4. System security
5. Part number design

Execution of Schedules and Plans

1. Procurement process
   a. Linkage to MPS
   b. Supply chain communications process
   c. Management systems
2. Shop floor control
   a. Linkage to MPS
   b. Communications process
   c. Management systems

The measurements listed previously got a lift to new standards, and the metrics in the 2000s appear in Table 2.4.

Not only has the number of metrics increased, but so has the threshold of acceptability. These metrics are built from an ERP business model that shows

Table 2.4. 2000s Class A Metrics

Measurement	Minimum Performance Requirement
Profit and/or budget accuracy	95 percent
Sales forecast accuracy by product family	90 percent
Production plan accuracy by product family	95 percent
MPS accuracy	95 percent
Safety	0 recordable accidents
Schedule stability	95 percent
First-time quality	97 percent
Inventory record accuracy	98 percent
BOM accuracy	99 percent
Item master accuracy	95 percent
Daily schedule adherence	95 percent
Procurement process accuracy	95 percent
Customer promise accuracy	95 percent
Overall performance	95 percent*

* Sustainability normally is required and proven by showing 95 percent performance overall for at least three months.

succinct linkage between levels and activities, the essence of Class A ERP. Class A ERP is not about the metrics. It is much more than that. It is about the process design and intent, the management systems to ensure the sustainability and improvement of the process execution, and the results or performance. The results are evidenced by the metrics.

In Figure 2.1, you see the whole manufacturing organization, from top-management planning to shop floor execution. The large arrow pointing left from the procurement process indicates where the link would exist between this model and the identical ERP model in the supplier's business. Keep in mind that this model is applicable in any business, from process flow company to sheet metal shop. I have personally coached the implementation of this Class A ERP business model in business markets including plastics, appliances, auto parts, sporting goods, medical equipment, baking, construction equipment, capital goods, engineered specialties, paper goods, electronic consumer goods, harness manufacturing, electronic circuit boards, and many others. Class A ERP will work in not only your business, but also your supplier's.

Class A ERP will work in not only your business, but also your supplier's.

Having the ERP business models linked is the essence of supply chain management. Acknowledging the rules, roles, accountability, and information flow is a major element of Class A ERP performance. The gains come from disciplines of process as well as shared goals.

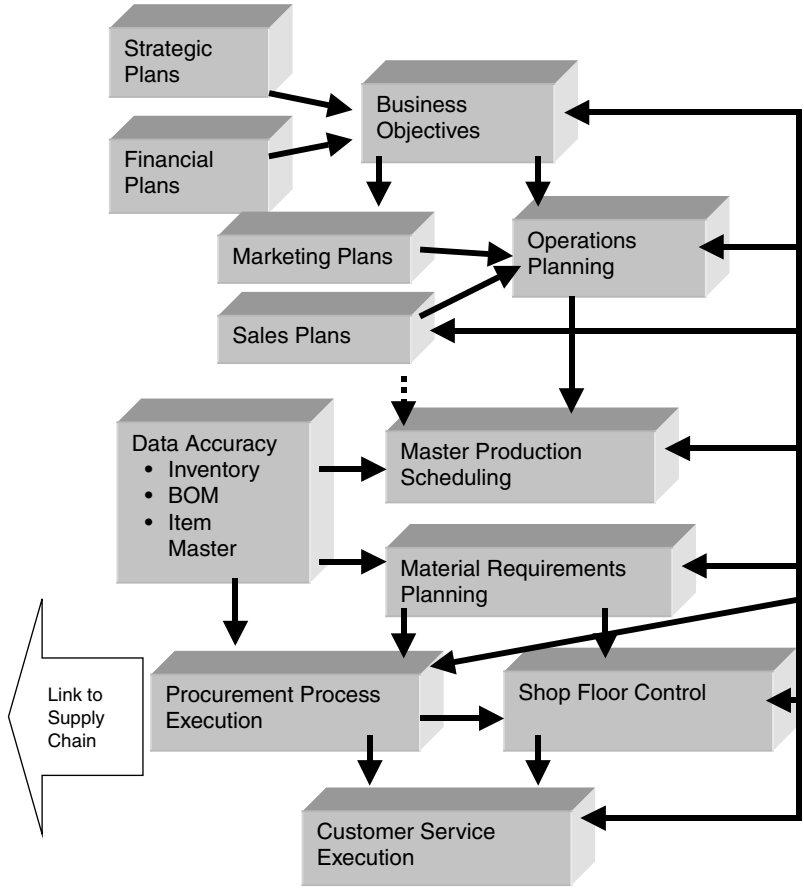

Figure 2.1. ERP Business System Model.

CLASS A ERP CERTIFICATION

Certification is a confirmation from an outside party that you have met the rigid criteria of Class A ERP performance. The criteria are areas that correspond with Table 2.3. A certification document that is several pages long is administered by an experienced auditor. Companies will often prefer to have an audit done a month or so prior to the final one to get a "gap analysis" punch list. Since Class A is so all-encompassing, this often makes a lot of sense. At DHSheldon & Associates, we subscribe to the audit agenda shown in Table 2.5.

The last items for discussion within certification are the focus areas around each topic. During the certification, the auditor is looking for three different

Table 2.5 Class A ERP Audit Agenda

Walk-Around

1. Review 5-S (Toyota Production System term) housekeeping and workplace organization
2. Observe "visible factory" (Toyota Production System term) communication boards
3. Discuss daily performance with a worker randomly selected from the floor

Review of Class A–Related Documentation

1. Check for key points important to the sustainability of Class A
2. Check for good process design, especially in areas of master scheduling, S&OP, inventory accuracy, management systems, and measurement processes

Observe the Top-Management S&OP Process

Discuss and Observe Evidence of the Strategic Planning Process

1. Review documents
2. Observe the business imperative list

Spend Time Reviewing Each Process with the Process Owner for the Following Processes

1. Master scheduling
   a. Rules of engagement
      i. Practices and communication
      ii. Time fences
   b. Disciplines
   c. Measurement audit
2. Materials planning
   a. Rules of engagement
   b. Measurement audit
3. Purchasing
   a. Check for past-due purchase orders
   b. Check for weekly maintenance of open purchase orders
   c. Review metric
   d. Review supply chain relationships and partnership agreements
   e. Review reverse auction process
4. Shop floor schedule attainment
   a. Review metric
   b. Review process for assigning daily schedule
   c. Check for linkage to the MPS
5. Education and training
   a. Review policy and practices
   b. Review documentation of employee education and training
   c. Review skills assessment process
   d. Discuss involvement with professional societies and review policy regarding same
   e. Review policies for tuition reimbursement and educational support for off-campus education
   f. Review new employee training policies and execution of same
6. Project management process
   a. Review project funnel process
   b. Review prioritization process
   c. Audit top manager (within the facility being audited) project review process
   d. Understand project linkage to business imperatives of the business
7. Quality
   a. Review first-time quality metric

Table 2.5 Class A ERP Audit Agenda (continued)

8. BOM accuracy
   a. Review metric
      i. Specification
      ii. ERP business system record
      iii. What workers do on the factory floor
   b. Review engineering change practices
   c. Audit average cycle time for making changes to inaccurate BOMs discovered by the business

Customer Promise Accuracy
1. Review promise process
2. Review metric

Management System — Accountability Infrastructure
1. Review documentation
2. Observe weekly performance review
3. Observe daily walk-through or daily schedule adherence meeting
4. Observe weekly clear-to-build process
5. Observe project management review

New Product Introduction Process
1. Review process gates
2. See evidence of disciplines
3. Review past postlaunch audits done internally for past product introductions

Inventory Accuracy Review
1. Review transaction processes
2. Review cycle count process methodology
3. Audit raw and components storage accuracy
   a. Take sample counts and check accuracy to the system's perpetual record
   b. Review cycle count sheets from recent factory counts for process integrity
4. Audit finished goods accuracy
   a. Take sample counts and check accuracy to the system's perpetual record
   b. Review cycle count sheets from recent factory counts for process integrity
5. Review work-in-process accuracy management system
   a. Check definitions and applications of "controlled inventory areas"
   b. Check for the proper application of the "rule of twenty-four." (The "rule of twenty-four" has to do with the length of time in hours that a stockkeeping unit [SKU] is planned or by practice kept in one area at a time. If it is more than twenty-four hours, the perpetual record in the ERP system should be updated as a regular practice at the time of the physical inventory transfer.)

aspects of each topic: (1) robust process design, (2) management systems to make sure it is happening and will continue to happen, and (3) results that are synonymous with the metrics.

In addition to these three areas of focus, there is the concern of sustainability. Organizations must prove that they can sustain Class A ERP levels of perfor-

mance. This is usually proven by three months of sustained results or clear trends showing consistent improvement in the results over time.

Process Design Review

In the process design review, the auditor is looking for proper and acceptable procedures evidenced by good documentation. An example of noncompliance to Class A ERP criteria would be if the organization did not have proper transaction documentation for inventory transactions. Another noncompliance example might be if the transaction design included too many transactions or was too complex for easy training and execution.

Management Systems Review

The second level of audit is the management systems review. The focus here is to ensure that the processes are set for sustainability. Normally, that means that there is some "fool proofing," "go, no-go" check, or accountability infrastructure. Continuing to use the inventory transaction example for discussion, a noncompliance example could consist of a well-designed transaction process for inventory transactions without any accuracy check such as a cycle count program or inventory accuracy audit. Most Class A processes are governed by the weekly performance review meeting where all process owners report progress and improvement of their process once a week, usually on Tuesday at 1 P.M. By having a management system in place, good process can continue through generations of employee turnover. More will follow on the topic of the Tuesday weekly performance review meeting.

Results

The component of Class A ERP that most people think of first is the metrics. Organizations often think they are ready for certification just because the metric performance is at Class A ERP levels of acceptability and are surprised by the shortcomings in process design and management systems. As you can see from the descriptions above, both of those areas of focus are important for high-performance organizations. Nonetheless, performance is the goal. Everybody can relate to measurements. We all have them in our lives, one place or another, and most of us have several. Class A ERP has numerous measurements, and to meet certification requirements, they need to be at Class A minimums. They also need to show sustainability. Review Table 2.4 for a helpful reminder of the Class A ERP thresholds of acceptability.

The measurements are only part of the picture, but obviously an important part. The certification audit generally not only looks for the correct level of performance, but also looks at actions and trends to see if the process is tracking a normal curve and shows ownership and sustainability.

SUMMARY

This audit process introduction should give you a sense for the profundity of the Class A ERP focus. At this point, after the first two chapters, you should also have an appreciation for the benefits of achieving it. While Class A ERP may not be the definition of world-class performance, it is impossible for any organization to achieve Class A ERP performance without being a high-performance company. At the same time, high-performance companies all have the Class A basics in place.

While Class A ERP may not be the definition of world-class performance, it is impossible for any organization to achieve Class A ERP performance without being a high-performance company.

From this point on, the next several chapters will correspond exactly with the elements that make up the ERP business model (Figure 2.1), one at a time. Each chapter will deal with the objectives, implementation, required actions, metrics for performance, and management system elements for each of these elements. If you follow the steps as defined in this "how-to," your business is guaranteed to have predictable processes, and if you manufacture something somebody else wants to buy, you will even be guaranteed success. After all, as Pete Raymond (grandson of the late George Raymond, Sr., founder of The Raymond Corporation) said to me in a class one time, "This Class A is a good thing, but if we were making cannonballs, we could be Class A and still go out of business." He was right in some respects, but no improvement process — Class A ERP, lean, Six Sigma, supply chain management, total quality, Deming wheel, or any other — takes the place of business savvy or the understanding of business markets. Class A ERP just ensures that whatever it is you want to do, it gets done — accurately and on time. A valuable basic trait for any business!