

Magic Quadrant for Enterprise Asset Management for Manufacturing

Gartner Industry Research Note G00169941, Dan Miklovic, 9 September 2009, R3179 10182010

Manufacturing, by its very nature, relies on the availability of physical assets. Selecting the right application to ensure the availability of those manufacturing assets is a key factor in long-term success, particularly for heavy industry.

WHAT YOU NEED TO KNOW

Component enterprise asset management (EAM), as well as computerized maintenance management system (CMMS), products suitable for manufacturing companies have increasingly become a specialized area of software. Some suite vendors also actively market their EAM modules as stand-alone offerings and sell them as specialized maintenance solutions. Other suite vendors offer them only as part of an ERP suite, thus limiting the EAM market to its own customer base.

Manufacturers should make key architectural decisions, such as a component or single-suite solution, part of their EAM selection processes. Then, based on the relative importance of asset availability to the overall success of the business, a manufacturer should select the vendor that best fits into its architecture, while offering the optimum mix of functionality for its particular styles of manufacturing. Usability and end-user acceptance of the solution should not be overlooked as well. Maximum benefit can only be achieved when end users embrace a solution and use it aggressively, not begrudgingly and only to the minimum required to do their jobs. Vendors vary widely in scalability and functionality, and a solution appropriate for one industry may lack a critical functionality appropriate for another.

Although the scope of this assessment is global, some vendors specialize in geographies; thus, vendors should not be chosen based on size alone. Because any Magic Quadrant is by necessity an “averaging” of vendor offerings and performances, we always recommend consulting the authoring analysts to get specific advice on your needs and issues. Likewise, certain industries, such as pharmaceuticals, other life sciences and aerospace manufacturing, have industry-specific requirements from the U.S. Food and Drug Administration and the U.S. Federal Aviation Administration.

MAGIC QUADRANT

This updated Magic Quadrant for Enterprise Asset Management for Manufacturing (see Figure 1) differs from the 2008 edition to reflect market shifts caused by the economic downturn in manufacturing in the latter part of 2008. Another shift has been the slow but continued acceptance of integrated suites. As the EAM functionality in suite solutions has improved, and the availability of “snap-on” applications to improve usability and functionality has become more widely available, the appeal of an integrated suite solution within the manufacturing sector continues to grow. However, with the reduced spending in the current economy, component solutions’ lower cost (as opposed to a full ERP implementation) has affected the ratings such that those vendors selling only component EAM solutions have more

“completeness of vision” than companies selling only an integrated suite. It is important that clients not compare any specific vendor’s position this year to last year’s position, because each year’s Magic Quadrant is a unique snapshot of the market and not intended to be used to track specific vendor movement, particularly in light of the current economic conditions. A number of factors can affect the market on a year-to-year basis, and there were substantial shifts in the market that affected positioning that should not be interpreted as declining or improving vendor performance as it relates to any particular vendor. A vendor deciding to focus on a nonmanufacturing sector in 2008/2009, for example, might entail short-term investments in functionality not relevant to manufacturing, causing a position shift that then affects the relative position of all the other vendors.

Market Overview

EAM packages that are manufacturing-oriented primarily have material and maintenance management functionality (or the vendor packages and sells that format) that is scalable to multiple sites and caters to intermediate-to-advanced maintenance management functions. A sometimes interchangeable term is “CMMS package.” CMMS packages include material and maintenance functionality, but they are simpler in scope and are focused on single-site deployments. They may even be used by large enterprises if a site-by-site or a departmental solution is required.

For manufacturing companies, the functionality must be capable of complex, fixed-plant support, with particular importance attached to hierarchical plant structures, condition and performance monitoring, preventive maintenance, and shutdown planning for refurbishments. Emphasis is particularly placed on the planning and execution process. This is reflected in the requirements listed here and will be satisfied by the software products in that category:

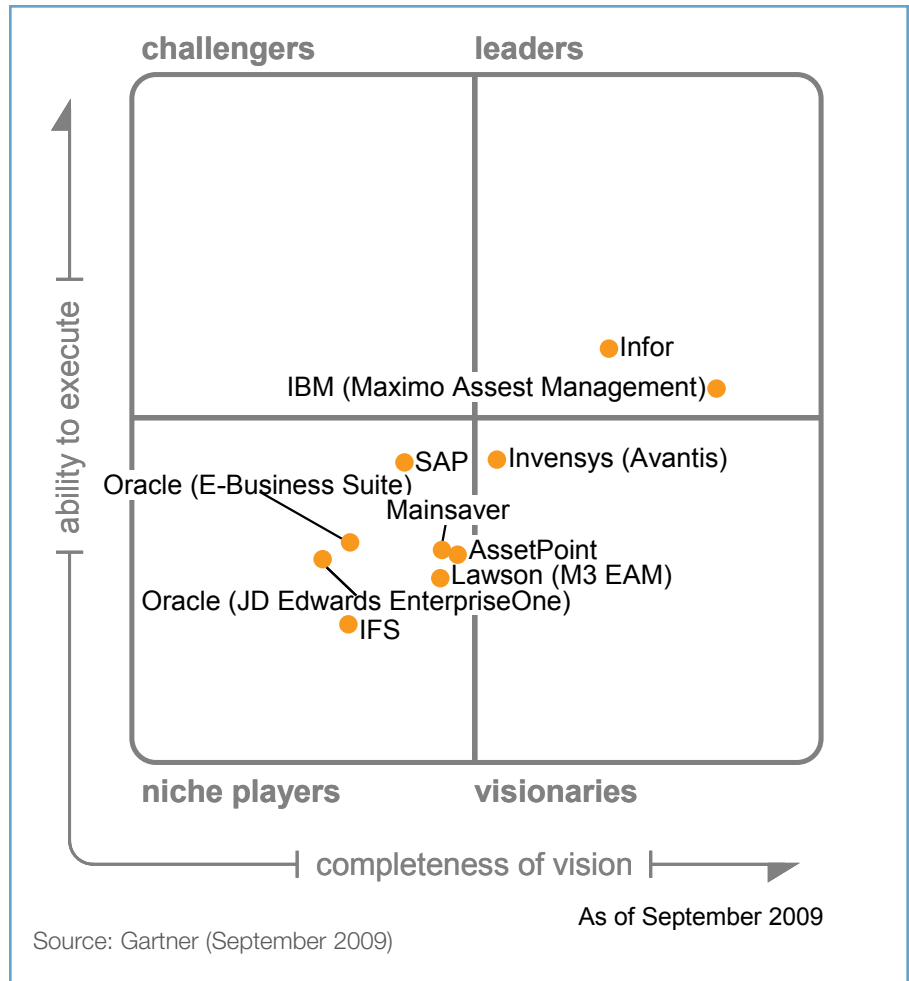
- Detailed asset registry, combined with detailed parts and support descriptions
- Long-term maintenance, project and work schedules

- Support for complex inventory relationships for indirect (that is, blue-collar maintenance, repair and overhaul [MRO]) goods that are associated with forecasts of planned and unplanned work on installed assets
- Supply chain capability for indirect goods, with demand planning linked to maintenance and repair schedules
- Probability-based, “just in case,” rather than “just in time,” inventory and procurement

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Figure 1. Magic Quadrant for Enterprise Asset Management for Manufacturing



- Support for manufacturer logistic processes for equipment under warranty
- Human capital management capabilities to match skills, training and availability with work requirements
- Statistical analysis of equipment performance and reliability
- Remote electronic monitoring of asset health and performance
- Serial number tracking and tracing for equipment and parts
- Financial support via detailed cost analysis
- Integration with whichever financial and HR packages are deployed
- Extensive warranty tracking to component levels
- Shutdown project planning
- For certain industries, such as aerospace and defense, integration with product life cycle management to support MRO activities for products with extremely long lives

Market Definition/Description

Buyers normally refer to this particular market as the component or point solution market for EAM. Manufacturing companies evaluate and procure EAM products as maintenance modules when solving physical-asset-care requirements or when providing maintenance support in the manufacturing facility. Many also look to extend the application to facilities management for supporting offices and mobile equipment used in material transfer within the manufacturing facility.

EAM functionality evolved from the CMMS applications that encompass work and material management for fault repair and regular, preventive maintenance and service activities. An EAM solution includes work order creation, planned maintenance, maintenance history, and MRO inventory and procurement, as well as equipment, component and asset tracking for hierarchical assemblies of equipment. In its most evolved form, the functionality is extended by the addition of basic financial management modules, such as accounts payable, cost recording in ledgers, and HR management for rostering and skill recording.

Technically, EAM applications are designed to scale for larger numbers of users (for example, beyond 100 concurrent users). The applications also run on multiple sites from a central database, thereby catering to the whole of business requirements, rather than departmental or site requirements. Because buyers frequently evaluate products from multiple vendors and look for component solutions as well as suites, the ability to sell the EAM module as stand-alone is an important criterion. User buying patterns have shown that vendor reduction, simplifying integration and support are highly desirable as long as functionality is not seriously compromised, and while limiting their market to their own existing

customer bases, vendors that sell only an integrated package are competing effectively against the component solutions.

What Is Not Included

The market does not include IT asset management, facilities workplace management (integrated workplace management system) or treasury/financial asset management. These are separate markets for software covered elsewhere by Gartner. It also does not encompass the related service-parts-planning market, which is related to EAM because it supports the provisioning of spare parts for a repair environment.

Inclusion and Exclusion Criteria

Software products must address the majority of the functional capabilities listed here. There are more than 400 vendors in the CMMS and EAM class of software, and most of these are too small in company size or product scope to be of interest to Gartner clients. Therefore, we evaluated only the top products worldwide. They also:

- Have a demonstrable track record in manufacturing and generate at least one-third of their ongoing new license EAM revenue from manufacturing companies
- Have at least \$20 million in EAM revenue or are part of a larger organization with revenue of more than \$1 billion

Additionally, they must serve more than two sectors of the manufacturing industry — as classified by Gartner, these include automotive; aerospace and defense; high-tech; consumer products, including food and beverage, alcohol and tobacco, soft goods, durables, consumer electronics, and household products; life sciences, including pharmaceuticals, biotechnology, medical devices, equipment and supplies; chemicals; and other discrete manufacturing. Semiconductors are explicitly excluded from this evaluation, because within that sector, maintenance functionality is generally linked to manufacturing execution applications.

Added

None.

Dropped

None.

Evaluation Criteria

Ability to Execute

In the manufacturing EAM space, the ability to execute (see Table 1) is primarily a combination of factors driven by product functionality, global strength and the ability to serve the component solution market.

Completeness of Vision

In the manufacturing EAM space, completeness of vision (see Table 2) is primarily a combination of focus on the EAM segment, an appropriate go-to-market strategy and a focus on innovation in EAM functionality.

Table 1. Ability to Execute Evaluation Criteria

Evaluation Criteria	Weighting
Product/Service	high
Overall Viability (Business Unit, Financial, Strategy, Organization)	standard
Sales Execution/Pricing	standard
Market Responsiveness and Track Record	high
Marketing Execution	standard
Customer Experience	standard
Operations	standard
Source: Gartner (September 2009)	

Table 2. Completeness of Vision Evaluation Criteria

Evaluation Criteria	Weighting
Market Understanding	high
Marketing Strategy	standard
Sales Strategy	standard
Offering (Product) Strategy	high
Business Model	standard
Vertical/Industry Strategy	standard
Innovation	high
Geographic Strategy	standard
Source: Gartner (September 2009)	

Leaders

Leaders in this market have a global presence, a large installed base in manufacturing, strong viability and a combination of rich features that includes functionality, interfaces to many different ERP (and supporting EAM) applications, and a capable and global implementation partner community. IBM Maximo Asset Management and Infor EAM remain the leaders in the component solution EAM space. Although they have clients outside of the manufacturing space, they remain the two vendors that should be on any manufacturer's shortlist of EAM applications for evaluation.

Challengers

No challengers exist in the EAM market within the manufacturing sector in 2009.

Visionaries

Invensys is the sole company in the Visionaries quadrant this year. Visionaries are characterized by a strong understanding of the market and delivering a product that sets functional standards within its price range. As manufacturing continues to contract and reduce spending, larger, suite-based purchases are less common than component solutions.

Niche Players

The Niche Players quadrant contains two classes of vendors:

- Those offering component EAM as a stand-alone application (Mainsaver and AssetPoint/TabWare)
- Those offering EAM as part of a suite — implemented as a suite-only solution (Oracle E-Business Suite and JD Edwards EnterpriseOne, and SAP) — or, as in the case of IFS and Lawson, being suitable in suite or stand-alone versions

In the latter case, being usable (for all practical purposes) only within the larger ERP suite, along with the cost associated with that, limits desirability and affects execution as well as vision. In the first case, the component solution suppliers are classed as niche players because of one or more of several factors, including:

- Narrow platform support
- Scalability issues
- Lack of global presence
- Inability to assess long-term viability due to nontransparent financials

Another factor is a small presence in manufacturing in that model — although capable of being implemented as a stand-alone EAM application, as in the case of IFS and Lawson. Both vendors play much stronger in manufacturing as an ERP application with integrated EAM functionality, rather than as a point EAM solution integrated with another ERP application.

Vendor Strengths and Cautions

AssetPoint

With the release of TabWare version 8.1, AssetPoint, under Triton Pacific Capital Partners ownership since March 2008, has established itself as a key provider of EAM software delivered in an application service provider (ASP) model. Manufacturers seeking this implementation model (and the low total cost of ownership it can offer) should consider AssetPoint.

Strengths

- The vendor offers an ASP model (more than 50% of sales) or a self-hosted model.
- Its price makes it attractive for small or midsize businesses (SMBs), but it is usable for large, global implementations as well.

- Its functionality is suitable for large manufacturing companies, yet scalable to SMB needs.
- It offers very low total cost of ownership and has interfaces to most ERP, condition-based maintenance and project management applications.

Cautions

- The offering was developed on a Microsoft platform (which may be a strength to some buyers), but supports Oracle Database.
- It is primarily a North America-centric company, but has a global presence, especially among multinational companies (via a distributor network).
- Private ownership does not disclose financials — clients should do due diligence to understand their risks.

IBM (Maximo Asset Management)

IBM remains in the Leaders quadrant due to its strong functionality and presence in the market. However, customer satisfaction (see Note 1) remains an issue as manufacturing clients express frustration in dealing with IBM, particularly smaller and midsize manufacturers.

Strengths

- IBM Maximo Asset Management has high viability.
- A global sales force and a global implementation resource (IBM Global Services) make the solution widely available.
- Combined with Tivoli software, IBM Maximo Asset Management offers the capability of managing IT-enabled assets with the same solution that is used to manage traditional EAM assets.
- It is scalable to very large manufacturing organizations.
- It supports integration with a wide variety of ERP suites.
- It has versatility across multiple platforms.

Cautions

- Because it is now a part of IBM, contracts and negotiations may be converted to standard IBM, and some previously demonstrated flexibility may not be available, which has led to the challenges IBM faces with customer satisfaction regarding the overall relationship.
- Its price is among the highest in the market, and for companies with less-complex needs, the entry price may be too steep. There is a reduced-functionality version. Maximo Essentials was introduced for clients with less-complex requirements at a lower price, but that product is not the subject of this Magic Quadrant.

IFS

IFS has become more of an integrated ERP/EAM solution provider in narrow segments of manufacturing, such as aerospace and defense, and has had minimal component EAM sales in manufacturing in the recent past.

Strengths

- The solution can be implemented as part of an ERP suite or as a stand-alone EAM.
- Its componentized service-oriented architecture gives high flexibility.
- It has innovative and rich maintenance functionality (however, this may affect deployment times to achieve maximum functionality).
- It has a modern user interface.

Cautions

- The vendor predominantly targets “project-centric” manufacturing (those with high engineer-to-order aspects or with extensive outsourced operations).
- It supports only Oracle Database.
- It is not widely deployed in a component model in manufacturing outside of Europe, the Middle East and Africa.
- Available resources must be examined closely prior to project commencement.
- IFS did not submit manufacturing references, but using responses from companion research in energy and utilities as the basis for our consolidated EAM Magic Quadrant efforts, customer satisfaction was the third-lowest of the vendors (see Note 1).

Note 1 Customer Satisfaction

Customers were asked about vendor performance in four areas (from extremely dissatisfied to extremely satisfied):

- **Software does what it is supposed to do.**
- **Software is reliable/bug-free.**
- **How good is the vendor at fixing problems?**
- **How satisfied are you with overall relationship?**

Using a numeric scale, and taking the entire pool of all references of all vendors in the manufacturing and concurrent utilities Magic Quadrant process, an average of overall customer satisfaction was determined, and then each vendor was ranked as to the scoring of responses specific to them versus that average.

Infor

The only Infor product considered in this Magic Quadrant was Infor EAM (Business Edition, Enterprise Edition and Asset Sustainability Edition) and not MP2 or the Hansen products (including Spear). The greatest single contribution to the change in position this year was Infor's aggressive upgrade program, which is driving the adoption of Infor EAM from other Infor products.

Strengths

- The vendor has global presence and support availability.
- It has a large installed base in manufacturing and satisfactory customer references (industry average — see Note 1).
- It offers moderate pricing and is affordable for midsize manufacturers (as well as larger ones).
- It offers the industry's best pricing (including support) for upgrading from other Infor maintenance products.
- It has the ability to integrate with many ERP suite solutions.

Cautions

- As one of many applications in the Infor portfolio, it competes for resources and visibility internally.
- Some functionality (such as that associated with Fleet Management) is superior in other asset care products, such as the Spear product, which was part of the Hansen product set (via acquisition). Gartner believes that product rationalization must occur for Infor clients to receive maximum functionality.

Invensys (Avantis)

Invensys' Avantis product had the highest scoring customer feedback (see Note 1) of all the vendors included in 2009's Manufacturing EAM Magic Quadrant.

Strengths

- The vendor has a large installed base in manufacturing.
- Its implementation methodology is well-regarded and efficient.
- It has good, native business intelligence.
- It offers links to automation and support of reliability-centered maintenance functionality.
- It has global sales and support presence from Invensys.
- It has versatility across multiple platforms.

Cautions

- While EAM is important to Invensys, Gartner believes it is not central to the vendor's product portfolio.
- Invensys has undergone frequent management changes and shifts in strategy and direction recently.
- Its pricing is at the upper end of affordability for midsize manufacturers.
- It has fewer resources internally for development than comparable competitors.
- Its user interface and platform focus are Microsoft-centric (which will be a strength for some clients).

Lawson (M3 EAM)

Lawson had no net-new component EAM sales in manufacturing in 2008 and has had its greatest takeup in EAM outside of manufacturing in the service sector (including public-sector customers of the S3 product), with equipment dealers and in the rental market, which is reflected in the position change this year. There was uptake in the manufacturing installed base, where Lawson's EAM modules replaced custom-made EAM applications.

Strengths

- It can be implemented as a stand-alone EAM application or as part of an ERP suite implementation.
- Its functionality meets or exceeds most manufacturing-company requirements.
- Its user interface is modern and well-regarded, and there is continued investment in functional enhancements.

Cautions

- Lawson's customer satisfaction was at industry average in this year's reference checks, with no substantial change from previous years (see Note 1).
- Lawson's focus on markets outside of manufacturing has diluted the focus on this sector (although manufacturing still remains a significant target market).

Mainsaver

Mainsaver had the second-highest customer satisfaction scores in this year's reference checks, which, when coupled with its market growth (as a component solution, particularly in the midmarket), led to a slight position improvement (see Note 1). Mainsaver offers a hosted model as well.

Strengths

- The vendor has a large manufacturing installed base.
- Its component EAM application offers open integration with multiple ERP suites.
- It supports Oracle SQL Server databases on the server side.
- It is affordable, with a high functionality-to-cost ratio.

Cautions

- Its implementation outside the U.S. is exclusively via channel partners.
- It offers a Microsoft-only client option.
- It is a privately held, small company with limited resources for development.

Oracle (E-Business Suite)

Oracle continues to invest in the EAM functionality within E-Business Suite, and with the addition of analytics via other modules (Oracle Business Intelligence Enterprise Edition), it is increasingly the choice for E-Business Suite ERP customers. The movement from the Visionaries to the Niche Players quadrant is strictly due to the shift in market buying patterns in the economy and is not reflective of any negative performance related to the product or customer references, which were satisfactory.

Strengths

- E-Business Suite's EAM functionality approaches parity with the best component solution applications with release 12.1.
- It offers strong project management functionality.
- The Oracle EAM application should be on the shortlist of any evaluation of EAM solutions for E-Business Suite customers.
- Its growing ecosystem of snap-on solution providers is filling usability and functional shortfalls with the product.

Cautions

- The product has not been integrated with other ERP solutions as a component solution and is not marketed as such. For non-Oracle customers looking for an EAM solution, Oracle is not a practical candidate.
- It offers only Oracle Database support.

Oracle (JD Edwards EnterpriseOne)

Oracle's JD Edwards EnterpriseOne continues to evolve and remains a viable EAM option for JD Edwards EnterpriseOne ERP customers. Oracle's continued investment in the product has contributed to the position improvement over last year (relative to E-Business Suite).

Strengths

- Oracle's JD Edwards EnterpriseOne EAM functionality meets or exceeds most manufacturing-company requirements.
- Its midmarket pricing is suitable for SMBs and larger manufacturing clients.
- Global distribution and support are part of Oracle.

Cautions

- It is not implemented outside of the full-suite model, so it is viable only for JD Edwards EnterpriseOne ERP customers.

SAP

SAP has addressed most switch framework compatibility issues, and the EAM product has functionality in the core product that will meet the needs of most manufacturers. The movement from the Visionaries to the Niche Players quadrant is strictly due to the shift in market buying patterns in the economy and is not reflective of any negative performance related to the product or customer references, which were satisfactory (see Note 1).

Strengths

- The vendor is augmented by a growing ecosystem of complementary EAM extension solution providers, so the total offering has high functionality.
- It has the majority of the EAM functionality that most manufacturers would require and a well-developed partner program to fill functional gaps.
- When integrated with the SAP ERP suite, the combined solution provides a single view into all aspects of work and asset management — from HR to material management.
- The program of enhancement packages (currently at No. 4) will provide progressive functional improvements.
- Recent improvements in warranty management, clearance control and configuration management in the core product are derived from other industry solutions.
- It offers versatility across multiple platforms.

Cautions

- SAP's EAM application, although theoretically capable of being implemented as a stand-alone component solution, requires extensive implementation of other components of SAP's suite solution. Thus, for all practical purposes, it is always marketed, sold and implemented in conjunction with a full SAP ERP deployment.
- SAP EAM has not been integrated with other ERP solutions as a component solution and is not marketed as such. For non-SAP customers looking for an EAM solution, SAP is not a practical candidate.

Vendors Added or Dropped

We review and adjust our inclusion criteria for Magic Quadrants and MarketScopes as markets change. As a result of these adjustments, the mix of vendors in any Magic Quadrant or MarketScope may change over time. A vendor appearing in a Magic Quadrant or MarketScope one year and not the next does not necessarily indicate that we have changed our opinion of that vendor. This may be a reflection of a change in the market and, therefore, changed evaluation criteria, or a change of focus by a vendor.

Evaluation Criteria Definitions

Ability to Execute

Product/Service: Core goods and services offered by the vendor that compete in/serve the defined market. This includes current product/service capabilities, quality, feature sets and skills, whether offered natively or through OEM agreements/partnerships as defined in the market definition and detailed in the subcriteria.

Overall Viability (Business Unit, Financial, Strategy, Organization): Viability includes an assessment of the overall organization's financial health, the financial and practical success of the business unit, and the likelihood that the individual business unit will continue investing in the product, will continue offering the product and will advance the state of the art within the organization's portfolio of products.

Sales Execution/Pricing: The vendor's capabilities in all pre-sales activities and the structure that supports them. This includes deal management, pricing and negotiation, pre-sales support and the overall effectiveness of the sales channel.

Market Responsiveness and Track Record: Ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customer needs evolve and market dynamics change. This criterion also considers the vendor's history of responsiveness.

Marketing Execution: The clarity, quality, creativity and efficacy of programs designed to deliver the organization's message to influence the market, promote the brand and business, increase awareness of the products, and establish a positive identification with the product/brand and organization in the minds of buyers. This "mind share" can be driven by a combination of publicity, promotional initiatives, thought leadership, word-of-mouth and sales activities.

Customer Experience: Relationships, products and services/programs that enable clients to be successful with the products evaluated. Specifically, this includes the ways customers receive technical support or account support. This can also include ancillary tools, customer support programs (and the quality thereof), availability of user groups, service-level agreements and so on.

Operations: The ability of the organization to meet its goals and commitments. Factors include the quality of the organizational structure, including skills, experiences, programs, systems and other vehicles that enable the organization to operate effectively and efficiently on an ongoing basis.

Completeness of Vision

Market Understanding: Ability of the vendor to understand buyers' wants and needs and to translate those into products and services. Vendors that show the highest degree of vision listen to and understand buyers' wants and needs, and can shape or enhance those with their added vision.

Marketing Strategy: A clear, differentiated set of messages consistently communicated throughout the organization and externalized through the website, advertising, customer programs and positioning statements.

Sales Strategy: The strategy for selling products that uses the appropriate network of direct and indirect sales, marketing, service and communication affiliates that extend the scope and depth of market reach, skills, expertise, technologies, services and the customer base.

Offering (Product) Strategy: The vendor's approach to product development and delivery that emphasizes differentiation, functionality, methodology and feature sets as they map to current and future requirements.

Business Model: The soundness and logic of the vendor's underlying business proposition.

Vertical/Industry Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of individual market segments, including vertical markets.

Innovation: Direct, related, complementary and synergistic layouts of resources, expertise or capital for investment, consolidation, defensive or pre-emptive purposes.

Geographic Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of geographies outside the "home" or native geography, either directly or through partners, channels and subsidiaries as appropriate for that geography and market.