

Smaller Vendors can Still Provide Relevant Business Systems Part Three: Project-Oriented Organizations

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- 1. Project-Oriented Organizations**
- 2. Work Breakdown Structure**
- 3. Relevant ERP Responds**

Project-Oriented Organizations

Relevant Business Systems, (www.relevant.com), a privately-held San Ramon, CA-based provider of *enterprise resource planning* (ERP) solutions that helps mid-size and large *aerospace and defense* (A&D), *engineer-to-order* (ETO), contract manufacturing, *maintenance repair and overhaul* (MRO), and like project-oriented manufacturing companies to improve their business might be a true example of a focused niche vendor. Relevant, which has a focus in the above closely related markets, has thus recently captured a significant market and mindshare in the segment, particularly given that several US-based ETO-like companies have thereby decided to partner with the vendor by selecting the flagship **Relevant ERP** (formerly **Integrated Financial & Manufacturing Control System [INFIMACS II]**) system.

The unique business needs of project-oriented organizations, when addressed by large ERP vendors that offer general-purpose enterprise software, typically require heavy customization in order to work. On the other hand, when project-oriented organizations turn to small off-the-shelf project-management solutions, these solutions are soon outgrown by the user company. These organizations are looking for systems to support the project manager, who is responsible for sharing and tracking the revenue, expense, and profitability of a project.

Project-oriented organizations have many project-specific business and accounting requirements, including the need to track costs and profitability on a project-by-project basis, to provide timely project information to managers and customers, and to submit accurate and detailed bills and invoices, often in compliance with complex industry-specific and regulatory requirements. Yet, traditional generic GL-oriented ERP or accounting systems have not been designed with project phases, work breakdowns, or detailed time capturing in mind, and thus, they merely can report

how much it has been spent and collected, but not why certain project is losing or winning money.

Typically, a project control module lets users associate inventory items, sales orders, work or production orders, purchase requirements, and purchase orders with each project, while with project-oriented MRP, often called *project requirements planning* (PRP), users have the flexibility to plan by project or not. Certain common or standard items can logically be planned without regard to projects to increase purchasing or manufacturing efficiencies. Still, the project control module will control allocation of material or finished subcomponents to any specific projects, and, ultimately, each manufacturing work order and purchase order line will be associated with an individual project.

To that end, Relevant software was architected from scratch for maximum efficiency in project-oriented environments, including capabilities that enable advanced estimating, measuring, controlling, and reporting by department, project, and, if required for some projects, at the task or work breakdown levels. In other words, going a mile further or so, the software's capability to use time-stamped data for all time-sensitive activities including inventory, costs, shop orders, etc., helps managers examine costs against time-lined budgets, right down to the task level.

Federal contracts can often be fraught with legal snares for the unseasoned providers. Thus, many project-oriented organizations do provide products and services under government contracts, but project accounting for these organizations often requires the use of sophisticated methodologies for allocating and computing project costs and revenues. There are many different types of contracts the government is using, and within each of those there are dozens or more variations, whereby each variation will drive its own type of billings, revenue recognition, and requirements for reporting back to the government customer.

For a detailed discussion see [*Federal Contract Management and Small Vendors*](#).

Work Breakdown Structure

Another crucial evaluation factor is the ability of the ERP software in use to identify and accumulate costs by contract and *work breakdown structure* (WBS), which is a product-oriented division of tasks that accumulates cost and schedule data, while in APICS' words, "WBS is a hierarchical description of a project in which each lower level is more detailed." An example would be the company that engineers, prototypes, and runs production of a special product well in advance of finally shipping the commercial product, and that would like to receive prepayments on the

milestones reached. Using WBS, it would have to establish budgets—by period and cost element—for subgroups such as, for example, software design, mechanical engineering, electrical prototyping, fabrication, final assembly, and so on, whereby a project cost account manager would be responsible for each.

Thus, any government contracting a project-oriented manufacturer has to keep track of almost each and every item or part, when it was purchased or manufactured and for which compartment or task, and when it is due to be sent onto the next station or shipped, in addition to knowing how much it costs and to which budget compartment it must be allocated.

Thus, the Relevant WBS module was designed to work in consort with the project control module and to meet the cost reporting requirements of US government contractors (i.e., DoD), as well as *activity-based costing* (ABC) requirements for commercial manufacturers, by providing the WBS for each project and each multi-level of the project. For manufacturers with long production cycles WBS increases the functionality of project control by enabling more accurate cost tracking at the project level, since the program defines the posting level accounts and the summarization program that allows for multiple level cost collection and reporting by rolling up costs from the lowest level to the higher levels.

The solution thereby lets each department in the organization look at the numbers in the way it wants and needs, as to be able to monitor the actual procurement and production that goes into a project against an estimate both in dollars and hours. These departments should now be able to sum up material, labor, overhead, subcontract, and other direct charges for each individual project and compare those costs against the total estimate for the project, whereby multiple budgets could be provided—original, revised, and current. As costs are collected in WBS accounts, earned value calculations indicate whether each activity and rollup level is running ahead or behind schedule and over or under budget through any given period.

Obtaining the data to provide these calculations should not be difficult in principle, as a project cost accounting system simply needs to capture and record costs through the end of each period, as well as the budgets for each cost element, and the *budgeted cost of work performed* (BCWP) for each period. However, to do so, each cost charge needs to be “stamped” with a time period, and there must be a budgeted amount for each cost element for each time period. Contrary to most generalist ERP products, Relevant exhibits the following architectural capabilities to support real-time project management and variance measurement:

- Time-stamped inventories, costs, shop orders, purchase orders, requisitions, receipts and sales orders, etc. can be maintained by item number, by project, and by WBS account;
- Costed transactions, including all material movement and labor transactions, are not only the basis for accounting's "business-as-usual" GL journal entries, but they also, in real time, update the project or WBS cost components of material, labor, overhead, subcontract, and other direct costs and selling, general, and administrative costs—which are used in all *actual cost of work performed* (ACWP) and BCWP calculations, even at the WBS level;
- A cross-reference is maintained between the ACWP costed transaction and the GL journal entry; and
- ACWP and BCWP costed transactions are as up-to-the-minute for the project management department as the GL journal entries emanating from the regular back-office departments are for the general accounting department.

Consequently, while Relevant's WBS capabilities easily satisfy government requirements for EVM, the above product architecture results with truly flexible project reporting, without encumbering the GL with an overly complex chart of accounts. It thereby avoids the major drawbacks of trying to force-fit general purpose ERP products to a project-oriented environment such as the already repeatedly mentioned heavy customization, having to go "to and fro" the GL to extract WBS data for EVM (and then not having real-time data), and the inability to look at costs to date on a specific project versus budget to date on that project. For those that are less project accounting astute, BCWP, ACWP, and *budgeted cost of work scheduled* (BCWS) are only some of the major project cost metrics. Still, with them, one can measure any project's performance. For example, comparing BCWS to BCWP provides *schedule variance*, while the relationship of BCWP to ACWP provides *cost variance*.

As a result, companies that are not already offering the above capabilities will likely not be able to tap the recent surge in the federal and defense markets. Conversely, those vendors and their users—government contractors—who can deliver comprehensive solutions that satisfy the exacting, stringent requirements of federal agencies are in the driver's seat to capture that market segment. Many customers require weekly progress reports and may be comfortable with the **Microsoft Project** format, but the product on its own cannot give the visibility and scheduling over a great number of concurrent projects, and that is where products like Relevant ERP come into picture within the mid-market manufacturing segment and even for smaller defense contractors.

Relevant ERP Responds

Increased federal adoption of ERP systems may imply that these have been increasingly offering a government endemic functionality. As an example, leading ERP vendors provide procurement software that works with pertinent laws and regulations, such as *Code of Federal Regulations* (CFR), DoD Contracting Regulations, *General Services Administration* (GSA), *Federal Acquisition Regulations* (FAR), *Federal Supply Schedules* (FSS), etc. Also, they provide *human resource* (HR) systems that align with military or general schedule pay rates, and financial systems that comply with Joint Financial Management Improvement Program practices for government financial systems. Further, the Tax and Revenue Management module within some ERP suites provides federal, state, and local government agencies tools to automate the tax collection process by enabling constituents to conduct and view financial transactions.

To respond to these requirements, concurrently with the above in-house product enhancements, Relevant connects to many third-party applications which add to its native list of functions, and many of these are carefully selected enhancements with customized links, while, in some cases users can use programs they already have available on their system. All of the third-party functions listed by Relevant can be accessed directly from Relevant ERP via menus and toolbar icons or from records in the database. Some of the most prominent complementary solution providers would be:

- Interface to **Abra Payroll System** and **FAS Fixed Asset Accounting System** from **Best Software**.
- Interface to **Preactor's** scheduling and advanced planning system.
- Incorporation of WorkWise (a division of **Timeline, Inc.**) Business Alerts, so that customers and personnel can be automatically notified of important status events via e-mail. Using WorkWise Business Alerts, Relevant ERP invisibly monitors data fields for preselected activities, as users simply select the events to trigger the e-mail, who should be notified, and the text or data to be sent. The alerts feature tracks events, dates, status of purchase orders, sales orders, work orders, inventory quantities, financial due dates, and aging dates. It flags critical operations, expedites receipts, rates vendor deliveries, notifies buyers when a purchase order is mailed or acknowledged, updates planners when components are allocated or issued, and alerts customers that products are being shipped. Proper personnel are notified of schedule progress, if payments are due, or milestones are met, prompting immediate action.

- Interface to **C/S Solutions' wInsight** and **C/S Glue**, the leading applications for creating and exporting reports, charts and graphical analyses of WBS and earned value data, from Relevant WBS. Users can directly export earned value data into wInsight to create reports, charts and graphs of WBS and earned value data. As government contractors working to meet DoD, *Department of Energy* (DOE), FAA or *Defense Contract Management Command* (DCMC) requirements often use wInsight to create reports, it is regarded as the de facto government earned value reporting standard. After importing data into **wInsight Administrator** with the **Relevant wInsight Export** program in the WBS module, users can view monthly costs and budget data in spreadsheet format or in the *cost performance report* (CPR) or the *cost schedule status report* (CSSR).
- Interface to **Crystal Reports Professional** for other customer-designed reports.
- Interface to **RF Gen** and **Intermec** for *radio frequency* (RF) and barcode data acquisition.

In addition to the above-depicted government-oriented manufacturing and accounting capabilities (i.e., WBS with native EVM), Relevant's differentiation might also be in catering to the companies that require an ability to track every product, each of its subassemblies or parts, and its stage in the production cycle, as a prerequisite to production efficiency and profitability, which is especially true for contracting MRO organizations. Additionally, the ability to store and access quality tests history data on an ongoing basis and the ability to thoroughly analyze that data are crucial in keeping costs low and quality high.