



| Topic | Description | Justification |
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| Costing | EPPORA determines the cost of any project feature, as well as the cost of the entire project. EPPORA accomplishes this by linking each low-level requirement to one or more scheduled tasks on a percentage basis. | Executives are continuously fighting budgets and need accurate project-cost estimation in a timely manner. |
| Labor Resource Allocation | EPPORA assigns an organization's most productive labor resources to the most important project tasks as opposed to assigning fixed resources to each individual project. The allocation takes into consideration the importance of each project task, the productivity of each project team member capable of performing the task (the labor category), the experience of potential assignees relative to the project task, and several other variables in optimizing the allocation. | Organizations waste significant labor resources and fail to make optimal use of their labor resources for their portfolio of projects. Organizations can achieve an estimated 20%-40% improvement in their staff's productivity with EPPORA's automatic allocation of labor resources. |
| Project Selection | EPPORA allows organizations to specify what criteria should be used in determining the project selection process. It also specifies who should perform the evaluation of each criterion for each project. EPPORA has 22 built-in criteria (cost, return on investment, synergy with other projects, government regulation compliance, technical risk, etc.) along with the ability of each organization to define its own criteria. Each criterion has a weight (importance relative to other criteria), and for each division's projects a set of criterion evaluators (subject-matter experts) are selected with results automated through a stylized message system. | Organizations need to improve the method used for project selection. Since the justification for projects changes every day, project selection needs to occur continuously throughout the year. EPPORA needs to know the ranking of projects in order to optimize labor resource allocation. EPPORA's project selection methodology eliminates the project sponsor's charisma and friendly association with executive committee members as part of the decision process as to which projects are selected. It also provides an audit trail for why each project was selected. |
| Requirements Definition | Requirements are often ambiguous and difficult to test. EPPORA provides a set of tools for creating meaningful requirements along with analysis tools to help assure that each requirement is interpreted the same by all project stakeholders. | Projects fail too often because of poorly written requirements. EPPORA's stylized method for specifying requirements, coupled with its built-in requirements analysis tools, helps assure that requirements are understood the same by all stakeholders and are readily testable. |
| Schedules | Too many Project Managers misuse scheduling tools. EPPORA provides a set of analysis tools to help assure that project managers create and maintain meaningful project schedules. | EPPORA improves the quality of schedules to simplify tracking a project's progress and warn management when actions should be taken to assure milestones and deliverables are within schedule and budget constraints. |
| Task Estimates | Estimating the effort it takes to complete a task is an ongoing dilemma for nearly all project managers. In addition, management after a project is completed rarely reviews how closely the project manager's estimates reflected what actually transpired, nor how to improve the project manager's future estimates. | Project managers need to accurately estimate the level of effort and cost for a project to support prudent management decision. Improving a project manager's ability to accurately estimate project costs will benefit any organization's decision processes. |
| Team Member Performance | EPPORA determines each project team-member's productivity and cost-effectiveness for each labor category that he or she supports. | Assigning the most productive individuals to the most important project tasks is common sense if you want to achieve maximum ROI for your project investment. This feature also allows supervisors to see how productive and cost-effective each staff member is for each labor category they support. |
| Warnings | EPPORA has numerous triggers that cause the sending of a message for conditions such as a milestone or deliverable date being missed. | Executives are given time to correct major project issues. |



With projects failing at an alarming rate, it is imperative that organizations be very conscious of: (1) which projects to implement, (2) how to account for changing project costs, and (3) the best way to allocate resources across each project to maximize return on investment. The purpose of EPPORA (Enterprise Project Portfolio Optimized Resource Allocation) is to aid in project planning by providing a system that allows users to scientifically derive which projects are most beneficial, determining accurate project costs both at the project's start and throughout its life-cycle, and optimally allocating their labor resources to achieve maximum ROI for an organization's project investment. EPPORA's ability to provide a meaningful solution to these critical project activities is predicated upon the following premises:

1. Requirements are the foundation of projects
2. The key to a successful project is uniquely identifiable requirements, understood the same by all project team members/stakeholders, that remain testable and traceable
3. It is easier to estimate smaller project tasks that take less than six work-days of effort than it is to estimate project tasks that require more than five work-days
4. It is difficult, if not impossible, to have project managers do significantly more work to improve their estimates, especially during the project's life-cycle
5. Scheduling is an integral part of successfully managing a project, and schedules needs to be continuously updated throughout the project's life-cycle
6. It is critical to assign an organization's finest labor resources to its most important project tasks to achieve maximum return on project investments

The initial step in EPPORA is providing a scientific method for selecting which projects shall be funded. The way that organizations select their projects is a major factor in maintaining competitive advantage. Built-in to EPPORA is a set of project-selection criteria, such as the project's cost, anticipated ROI, synergy with other projects, conformance to government regulations, and alignment with organizational goals and risks (technical, financial, and management). Each has a default importance factor (weight), and EPPORA project portfolio managers can modify each criterion's importance and/or add additional criteria. Rules are established for each project's criteria evaluation, and EPPORA helps automate the process.

To determine a project's cost, EPPORA links each low-level requirement (those without sub-requirements) to the appropriate project tasks needed for their implementation. To summarize, the best project estimates do not take a high-level view of a project's cost, but rather, they are derived bottom-up by breaking major tasks into smaller project tasks, until all low-level tasks require less than six days. This facilitates obtaining a reasonably accurate estimate of both the duration and work effort in calculating a project task's cost and allows individuals who are actually performing the project task to participate in the estimation effort. It has the side-benefit of making the project task's implementer feel responsible for the project task's ownership, which motivates the project team members to perform at their best by assuring that each project task is delivered on time and within budget. Another key element in making accurate estimates is experiential data. The more information one has at his or her fingertips when making an estimate, the greater the probability the estimate will be accurate. This is the primary reason why project-cost estimates are far more accurate later in the project than earlier - the estimators have more information as the project progresses.

More and more organizations are recognizing the correlation between the quality of their requirements and the success/failure of their projects. To use a project's requirements as a foundation for estimating a project's cost, a new requirements specification method is needed that facilitates assuring that the above premises are valid. EPPORA accomplishes this by:

- Providing a hierarchically-structured method for expressing a project's requirements
- Assuring each requirement is understood the same by all members of the project team and stakeholders
- Uniquely identifying each requirement and verifying each requirement is comprehensively tested
- Including a "requirements analyzer" component as an integral part of EPPORA to assure that each requirement satisfies an organization's standards

The last key feature of EPPORA, the optimal allocation of an organization's labor resources, requires the previous two features to optimize the allocation. EPPORA guarantees that the most important project tasks receive the most productive labor resources available, while also considering current project experience, logistics, costs, etc. It accomplishes in minutes what would take a team of executives' weeks to achieve. Thus, with an ever-changing project environment, EPPORA provides organization-timely solutions to some very complex problems on a daily basis. In addition, future versions of EPPORA will support modeling that enables executives, project portfolio managers, and business analysts to run "what-if" exercises in order to see what would happen to costs and schedules if the labor resources and requirements were changed.