How to manage effectively in a multi-project environment

Roger Sweetman, Dr Orla O’Dwyer and Kieran Conboy on the challenges organisations face managing project portfolios

The current difficult economic conditions place organisations under greater pressure than ever to increase performance and achieve efficiencies. In such times, organisations must ensure the portfolio of engineering projects and programmes they invest in will provide a return and assure the continued survival and prosperity of the business. They must adapt and change their project portfolio quickly to meet the needs of dynamic, fast-paced and highly competitive environments.

Consequently, good project portfolio management (PPM) practices must exist within organisations to ensure that the right projects are selected to achieve maximum value and aligned with strategic goals. While PPM has received increasing attention from industry in recent years, many organisations do not practice ‘good’ PPM and face difficulties such as incomplete or delayed projects.

Indeed, it is not always entirely clear how effective PPM is achieved. The management of multiple projects is very different to that of singular projects and thus requires a different perspective, including the use of tools and techniques specifically designed for multiple project management.

There are five key challenges (Figure 1) that organisations should address to optimise their PPM where PPM refers to a group of projects, carried out under the sponsorship and/or management of a particular organisation, that share and compete for the same resources.

Alignment with business strategy

Ideally, all projects within an organisation should link to the overall strategic goals of the firm, thus creating synergies and optimal use of resources. For many organisations linking organisational strategy to project spending is a challenge. This is particularly problematic when large numbers of projects are included in the portfolio or when the goals of individual projects are too narrow, resulting in a lack of transparency across projects as to which are most beneficial to the organisation.

Further problems can arise when ill-informed or inexperienced executives take decisions to proceed with projects without expert consultation. To address these challenges, organisations may build strategic criteria into the project selection process or introduce a project scoring mechanism to ensure projects are aligned with strategy.
Project portfolio selection and retention
Frequently, organisations have too many active projects with projects selected that do not add value. Organisations must implement a selection process that identifies which projects to prioritise, start or stop. Internal politics can hamper decisions with managers not wishing to sacrifice their project in a re-prioritisation process. Managers may have a vested interest in prioritising their own project and may be reluctant to agree to the assignment of resources to other projects.

To avoid working on the 'wrong' projects, the project list should be regularly reviewed and updated with new projects added following evaluation, existing projects re-prioritised or terminated, and resources re-allocated to higher priority projects. There is a danger that some organisations may select easy projects or are not prepared to terminate projects when necessary, resulting in poor quality or at least sub-optimal project portfolios. Consequently, organisations must define specific criteria to prevent this from occurring.

Project portfolio performance
A project portfolio should clearly articulate what the portfolio is expected to achieve in order to establish confidence in realising desired outcomes. A well-managed portfolio includes qualitative and quantitative mechanisms or metrics to track and assess projects at various points. Some organisations have no formal way of doing this and further difficulties arise where there is a shortage of information required to make key decisions. It is essential that organisations have a set of well-defined, measurable metrics in place to determine the performance of the project portfolio and ensure that the portfolio is balanced. However, a portfolio that is overly metricised may also be problematic.

Resource allocation
Allocating resources across a portfolio of projects is a huge challenge for organisations with resource demands usually exceeding supply. A lack of technological infrastructure may make it difficult to effectively monitor resources and performance. Portfolio managers must understand the necessity for trade-offs between projects in a resource-constrained environment. For example, poor allocation of skills across projects can result in poor project quality, or increased pressure to multi-task, resulting in project delays. Resource allocation can be very political with constant competition between managers and projects in relation to project priorities and resources. Stress can also become an issue if resources are continuously reallocated across projects, are split between projects, or are expected to work on projects outside of the portfolio. Organisations may take one of two approaches to resource allocation: (a) the flexible approach - where resources are moved from one project to the next, regardless of prior commitments to a project or the impact on resources and time of moving personnel from one project to another; or, (b) the inflexible approach - resource commitments made to projects are kept for the sake of continuity and team morale and in the interests of finishing projects.

Risk balancing across projects
Identifying, eliminating, minimising and diversifying risk in project portfolios is a fifth challenge faced by many organisations especially where projects exist in constantly changing environments and it is difficult to plan for uncertain outcomes. A portfolio that is unbalanced from a risk perspective can lead to operational disruption and allow competitors to exploit gaps.

Risk is often assessed at individual project level but aggregated risk must also be measured at the portfolio level in order to determine the overall risk and return of a portfolio. Assessing risk at both the project level and the aggregated level helps managers to make more informed decisions and ensure successful project outcomes. Organisations must review their project portfolio for risk imbalance ensuring that it is not predominantly weighted towards high-risk or low-risk projects.

Organisations want to be successful and that sometimes involves tough decisions. PPM can assist with this by helping organisations to think strategically and focus on the right projects that will provide the greatest return for their business. PPM can require substantial organisational change. Yet, organisations that address each of the challenges discussed here will face greater potential benefits in the future. This work was supported, in part, by Science Foundation Ireland grant 10/CE/1385 to Lero - the Irish Software Engineering Research Centre. For more information, visit www.lero.ie

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The research has been featured in publications such as Journal of Systems and Software, Information Systems Research, European Journal of Information Systems, International Journal of Project Management, and IEEE Software.