Agile Project Management in High-Change Businesses

By Paul Day

Executive Summary

Supply chains are getting more complex and volatile, particularly for businesses working in the Fast Moving Consumer Goods (FMCG) and retail sectors. Money and resources allocated to projects within these environments are expected to be flexible and respond to change. This White Paper draws on the latest thinking on Agile Project Management to define a new way of project management in high-change environments. This new approach breaks the conflict between the need to lock in a project scope for maximum control and the need to maintain flexibility for responsiveness to the changing needs of a business.

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Asset changes in stable production environments can be particularly unnerving. So much of the operating expenses are determined by simple issues such as employee movements and quality checks. This is particularly evident in businesses, such as those in the Fast Moving Consumer Goods industry (FMCG), where processes are constantly changing while responding to market demands.

When it comes to implementing asset changes in these environments, the pragmatist in us all insists that we just pick a machine or a new way of working and get on with it! Why wait to over-analyse the situation when the market beckons, there is growth to be had and the General Manager wants a product launch now to beat the competition? Sometimes this view is necessary, sometimes the essence of leadership is about setting the course and encouraging people to follow us into the uncertain future where we know that the first to market is always the best served.

Quite often though, problems start to arise as the people charged with the implementation of the change get resistance from the production staff. A heritage of delay becomes the norm with no-one really owning the outcome. It seems that a project started by edict is one that has to be propelled to conclusion by edict. Eventually the project reaches a breaking point of some sort whether that is a delay, an overspend or, in the worst case, very high and ongoing running costs.

Sometimes this is not the case, sometimes the bet pays off because the project was relatively straight forward, the technology known and the process design had already survived a baptism of fire elsewhere. Without the benefits of these "blessings of circumstance" though, the project becomes high risk. Often in these situations the unspoken view is that, success or not, the project is a necessary jolt that must be injected into the business in the name of change and "let's hope that the outcome, on balance, is a positive one for the long term". A bit like holding the cards we are dealt in poker and playing for the high stakes with a straight face.

There is a way to create the "uncertain and risky project team", to energise it with what seems like an almost impossible task and have that team perform at levels that go beyond the experience and capability of its individual parts. It relies on holding the pressures of uncertainty in tension and creating a culture of collaboration that, in turn, is guided by a focus on the project outcomes. This white paper is about defining that approach.

Traditional Project Management

Traditional project management usually takes a predictable path; a project manager is appointed and a project passes through a series of gates. This ordered process of project management relies on a clear scope, or enough time to take key stakeholders through a process of scope definition, where the risk associated with scope creep is reduced. Usually this project cost accuracy moves from a nominal 30% to 10% with time. This requires patience, but most of all it requires that the longest lead-time for the elements of the project scope is shorter that the businesses tolerance time. The business tolerance time being how long a business can wait before changing its mind on scope.

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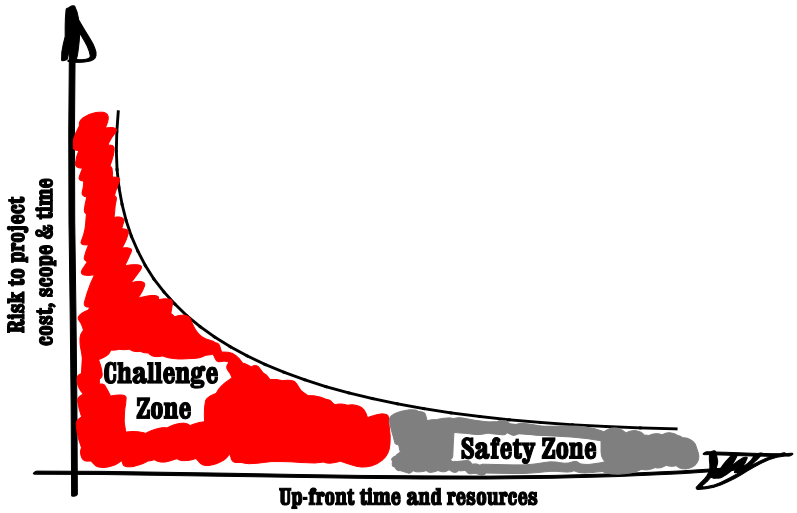
The pay-off for this process of up-front-scope-definition is that it creates a project that can be driven from the top by a strong administrator with a robust understanding of the technical issues at hand. The project indicators will probably be delivered and an atmosphere of control can be portrayed during the execution phase. The outcome will be well defined beforehand albeit without flair and, more importantly, it will probably fail to take into account some of the finer details that contribute exponentially to running costs.



There are many project management businesses that have built their reputation and growth on this type of risk mitigation process. Again, this is ok for well defined activities but not for activities that have been shaped in a broad business sense without scope details. It doesn't work well for projects that require further perturbations to get them to a workable scope in an environment where senior leaders have already made solid commitments to costs and time.

The Agile approach and Integration Teams

In any business, time is of the essence and businesses cannot afford to let major project timelines slip. This is particularly true for senior executives who have courageously championed a project to its approval and feel as if the major battle has been won. In this environment being told of a delay because there is a lot of risk to a project is untenable. How then can we set up a project team that can deal with this conflict between risk and time? The answer lies in what we have termed Integration Teams which draws on the "Agile" project management body of knowledge developed for the software industry.

The extent to which the scope must still be defined and aligned to business indictors is the extent to which almost all facets of project preparation must be done in parallel. There is no longer the luxury of clear "hand-off" between project management milestones. So for example, in this environment, the traditional project flow, shown below, is virtually defunct.

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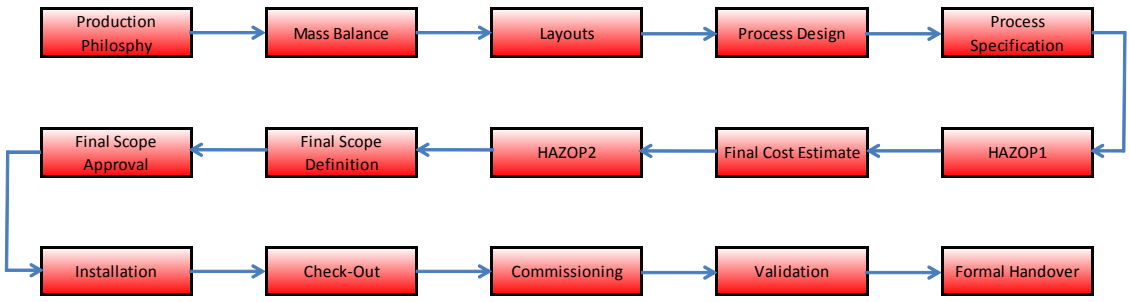
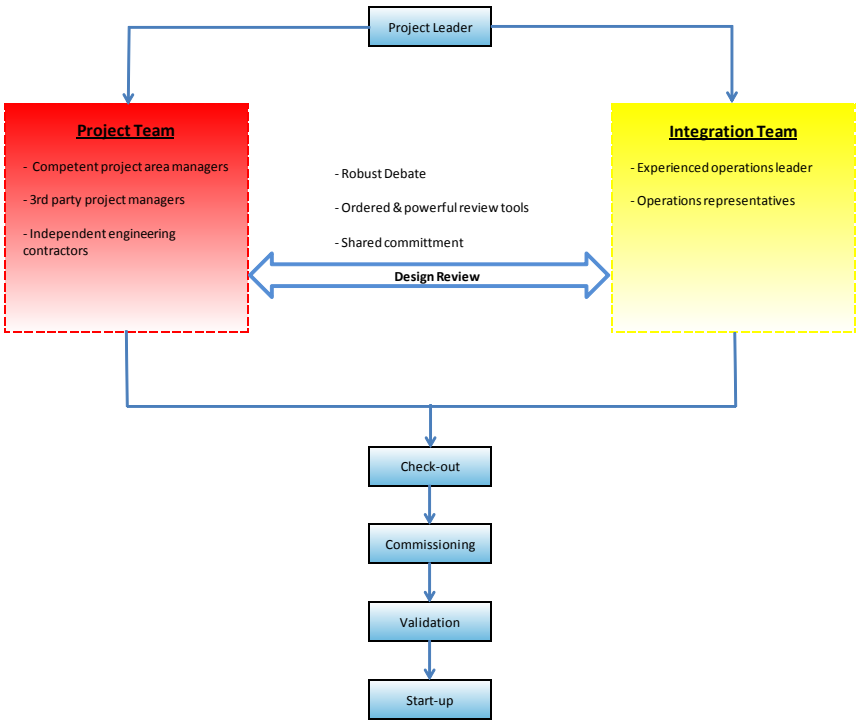


Throughout this traditional process there are always things that are not on the critical chain[1]. There are also jobs and activities that can be held in tension while the more urgent activities can be completed. The project can be broken into smaller areas and people allocated as sub-project area managers. Review tools such as Hazard and Operability (HAZOP) can be broken into smaller chunks and smaller, more prioritised HAZOP meetings can be completed as the project timeline dictates. This new approach requires a new level of trust, empowerment and chaos within the project team.

This new approach also requires that a project team be created with two streams, as shown below, which eventually converge once all facets of the scope have been settled. The whole point of this method of project management is to create a healthy tension between the Project Team (i.e. custodians of scope, time & spend) and the Integration Team (i.e. custodians of life time operational costs, reliability, safety, etc). This tension, while constrained by very clear time milestones, creates a level of creativity and efficiency between the technical Project Teams and the operational Integration Teams that goes way beyond the capability of the individuals. A bond is created that can only be borne of a shared purpose and risk.



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It is no accident that the diagram shows a lack of convergence right up until after installation, when the equipment is ready for check-out. A scope freeze should never be made on any project until the very last minute. Here are a few reasons;

- A project is never perfect and the longer that talented and experienced people have the opportunity to "chew and fight over the bone" the more insights and refinements can be made.
- The longer this creative tension is allowed to grow the more operational costs are removed from the final outcome.
- Fast-paced manufacturing organisations like to have choices until the last minute. The project manager can resist this reality and have it forced on them anyway OR have courage and keep the scope door open (within explainable limits) to key stakeholders.
- This approach is often taken in high risk projects that are approved and yet need further scope refinement and alignment with broader business goals. By necessity, particularly in larger capital projects, the questioning within the project team always creates questioning within the broader business. More often than not this questioning reveals significant and important issues within the business that must be resolved for the capital project to be successful.

Leadership within this project management model becomes much more important. No longer is the project scope defined and locked-and-loaded a year before installation. There is a constant and often overwhelming spectre of uncertainty on the project team generally and for the Project Leader in particular. This calibre of leadership is something that needs to be considered at the formation of the project team. These types of projects are no longer the domain of professional 3rd party project managers; they are the remit of high calibre leaders with strong operational experience.

Collaboration and the Virtuous Circle

The model above shows the parallel paths taken by the Project Team and the Integration Team under the direction of the Project Leader. The success of this approach is determined by the collaboration and relationships formed between these teams during scope definition. The Project Team Leader must be committed to the process and be aware that uncertainty is OK. The Integration Team Leader, must be capable of encouraging and leading debates and disagreements to successful conclusions.

The Project Team Leader defines the critical time milestones and cost targets and these become non-negotiable scope definition targets. The overall Project Leader then uses a series of Integration Events to encourage debate and collaboration between the Project Teams and Integration Teams during the design of the new process. These Integration Events are vital to creating a robust way of reaching agreement on the best way to assure operations outcomes such as;

- Throughput and Profitability
- Inventory & Customer Delivery Performance
- Changeover times and line availability
- Lean concepts E.g. Error proofing, visual factory, etc
- Safety
- Quality

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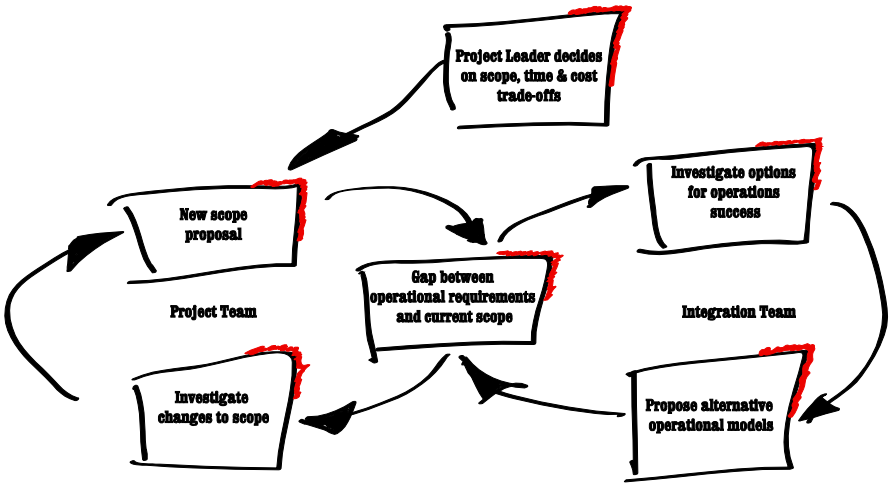
Over time two virtuous cycles are created[2], shown below.



It now starts to become clear that roles are redefined beyond the traditional. Involvement of operations staff goes well beyond the token appearance when Standard Operating Procedures need to be written or when gophers are required during installation and commissioning. Production representatives in the Integration Team become active design consultants. Project Managers in the Project Team are expected to have, and demonstrate, communication and collaboration skills. In this model the success of the project is clearly dependent on the extent to which people are willing to grow relationships of trust and courage based on a common purpose.

There are two main investments required for this model of project management; the cost of freeing up production resources to be able to carry out these activities and the need for high-calibre leadership and mentoring resources. However, application of this approach in countless projects confirms that these costs are more than offset by the increased projects benefits.

Project Outcomes for the Business and the Employees

This approach to project management is always powerful and creates value beyond business expectations. By the installation stage the design of the project has moved beyond the pedestrian. Even on paper it is obvious that project is now comprehensive in its design and all members of the Integration Team, in particular production representatives can explain, with excitement and commitment, the intricacies of the design considerations. In fact production representatives become zealots presenting outcomes and options to senior management and then defending key design trade-offs to peers. All this before the equipment has been installed.

It is during the check-out, commissioning, validation and start-up phases that this collaborative approach really begins to pay off. By the time the check-out phase has begun, operating procedures are already in place, safety audits completed, documented and relevant design changes incorporated. Start-up costs and anticipated learning curves have been estimated using realistic and pragmatic assumptions. Changeover times have been simulated and operational tooling has been checked and verified. Training is well advanced, led by the Integration Team and quality checks have been identified.

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As the project enters the commissioning and validation stage it is handed over to operations as the Integration Team morph back into the production system. Ownership and empowerment now translate to surprisingly steep and smooth learning curves and operational costs such as waste and labour quickly approach project success indicators.

[1]See the White Papers on Critical Chain Project Management at our website for further explanation of the differences between Critical Path and Critical Chain

[2]Singe, Peter M. [1992]. The Fifth Discipline, The Art & Practice of the Learning Organization, Random House, Sydney Australia

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