The value of Standard Operating Procedures

SOPs Facilitate Control?

The so-called military doctrine of 'command and control' embedded in 'Scientific Management' assumes, amongst other things, that *'supervision must be achieved through a clear chain of command and through the application of impersonal rules'* and that *'only those at the top have the capacity and opportunity to direct the enterprise'*.

This outdated philosophy has been strongly criticised for more then 50 years by management thinkers ranging from Deming[1] to Drucker[2] and has not been military doctrine since the middle of the 19th century. As soon as the team or the technology grows beyond a relatively simple system direct 'command and control' becomes impossible and attempting to impose a ridged hierarchy based on formal instructions will lead to inefficiencies as the Prussian army discovered.

Following the defeat of the Prussian armies by Napoleon at the battles of Jena and Auerstedt in 1806, the concept of ridged process-oriented command and control structures was replaced by the concept of 'auftragstaktik', or directive command. These ideas were originally championed by Major General Gerhard von Scharnhorst and were formalised by German Generalfeldmarschall Helmuth von Moltke who was the chief of staff of the Prussian Army for thirty years from 1857.

The core concept of auftragstaktik is 'bounded initiative'. Provided people within the organisation hierarchy have proper training and the organisational culture is strong, the leader's role is to clearly outline his/her intentions and rationale. Once this is understood, subordinate personnel can formulate their own plan of action for the tasks they are allocated and design appropriate responses to achieve the objectives based on their understanding of the actual situation, exploit opportunities and mitigate problems. In von Moltke's army, a junior Prussian commander exercising his initiative on the battlefield was most likely drawing upon a variety of resources at his disposal including:

1. His understanding of his commander's explicitly stated directive that would have provided him with an appreciation of the situation, a specific task, and a description of the commander's intentions.

2. His beliefs about his organisation, his role within that organisation, and the degrees of freedom available to him in the exercise of that role.

3. His expertise in the technical aspects of the military profession.

4. His understanding of his commander and his peers.

These latter aspects are captured in the notion of 'implicit intent', would provide him with the basis for his course of action and bound the solution space available to him.

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[1] W. Edwards Deming's 5 deadly sins of American management includes *#5 'the use of visible figures only, for management – little consideration is given to measures that are unknown and unknowable'.* And *'Quality is everyone's responsibility'.*

[2] Peter F Drucker; *'So much of what we call management consists of making it difficult for people to work'.*

A General may wish to defend a city, a Brigade Commander to defend his designated sector and within the sector, a Platoon Commander may be tasked with establishing a road block which involves one of his NCOs establishing a strongpoint. The General does not need to instruct the NCO on how to site the strong point, camouflage it or man it. At each level, good leaders will think 'two levels up' and provide oversight 'one level down'. The process is not random, Standard Operating Procedures (SOP) define how specific tasks should be accomplished and 'bounded initiative' allows the individual leader to optimise the SOP for the specific circumstances he or she encounters to best support the overall intent of the commander. Von Moltke emphasised that he wanted to 'steer' initiative in the right direction.

Auftragstaktik is not an easy option, the team needs better leadership, better training and the willingness to engage in taking 'bounded initiatives' but overall it offers a much better way of achieving the project's objectives. The investment necessary to achieve this capability is not simply a question of financial and material resources – time is critical both for the training of individuals and the development organisations.

The overall action of the team is unified by the leader's intent; within this space sub-teams and smaller work groups are allocated their individual missions and tasks within that higher intent. Once this framework is in place, properly trained team members have autonomy over their work and the opportunity to achieve mastery, but at the same time can see how their efforts contribute to the overall objectives.

Military systems use a strategy supported by Standard Operating Procedures because, to quote von Moltke *'no plan of operations extends with any certainty beyond the first contact with the main hostile force'.* Moltke believed in detailed planning and rigorous preparation but also accepted change was inevitable.

Business and project management are different, there is a degree of predictability and repeatability allowing for the development of standards, 'bodies of knowledge' and in particular, methodologies.

A project methodology[3] will define a step-by-step series of process for delivering projects with each step described in adequate depth so that the project team understands what has to be done, and who has to do it, to deliver their project. Effective Standard Operating Procedures fit under the methodology and provide the framework for implementing the processes needed to accomplish specific tasks efficiently[4].

The value of Standard Operating Procedures (SOPs)

Why SOPs are not used.

Recent studies confirm what we observe, very few people use SOPs for routine tasks. The conundrum is that SOPs are not effective because people simply don't use them, but SOPs are your organisation's guarantee of regulatory, safety and environmental compliance. Some key reasons for SOPs not being followed include:

- If followed to the letter the job wouldn't get done (*a badly written SOP*);

- The process is cumbersome (*the SOP is not scalable - one size does not 'fit-all'*);

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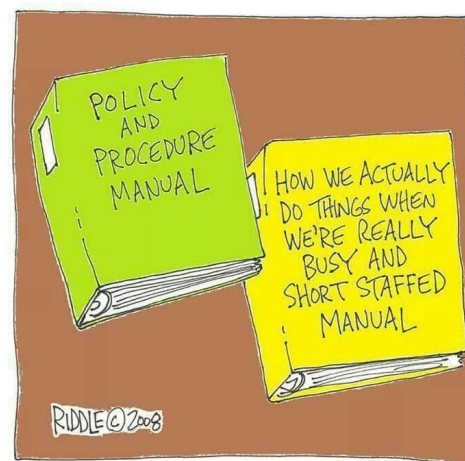
3   For more on **methodologies** see: https://www.mosaicprojects.com.au/WhitePapers/WP1045_Methodologies.pdf

4   Whilst SOPs include more than just a 'template', well designed templates can help develop effective procedures. PMI members have unlimited access to a wide range of templates to collect and manage project information which can be downloaded from the PMI tools and templates library at www.pmi.org. Method 123 offer a low-cost commercial range: www.method123.com

- It is difficult to locate the right procedure
  (*ineffective management systems*);

- They are out of date (*a badly written SOP*);

- People are not aware that a procedure exists for the job they are doing (*lack of training*);

- No one else uses it… (*a self-fulfilling prophecy caused by any of the above, plus a lack of discipline*);

- People prefer to rely on their own skills and experience (*a badly written SOP plus a lack of training*).

Six Sigma studies suggest the bottom-line impact of failing to use effective SOPs can range from 15-30% of the total operational cost of the business[5], and expose the organisation and its management to significant reputational risk, penalties (particularly safety and environmental) and the cost of lost-opportunity.

Developing effective SOPs that are used.

The first logical step is to ensure that new SOPs are applied, by the right process performers in the right way; with on-going support to ensure the SOPs become embedded in the processes and work practices to become truly Business-As-Usual behaviour and deliver the desired business outcomes.

Achieving this involves engaging users in the design of SOPs and ensuring that procedures always reflect current working practices. The optimisation of business processes in the form of effective SOPs requires the experience of subject matter experts, the encoding of their organic knowledge, and making the SOPs into centralised organisational knowledge. Involving users in the design of procedures is paramount to motivate them to use SOPs, take ownership of their quality and understand the impact of SOPs across business processes.

The initial development requires continuous improvement at the level of SOPs by allowing process performers to share their improvement suggestions. There is a need to balance creativity, innovation and continuous improvement with discipline, consistency and quality. Ironically, continuous improvement complicates the management of SOPs as keeping them up to date and accurate is challenging and costly and requires its own SOPs.

The payback of getting process performers to use, follow and even improve SOPs is very high. Key success factors to ensure that process performers use SOPs appropriately are:

- They need to know there is a SOP and when they need to apply it;

- SOPs need to be easy to locate when they perform their task;

- The SOP must be in the right format and meaningful to the process performer;

- The information must be accurate and up to date;

- The SOP must reflect the current work practices: the what – the how – the why;

- The SOP must be 'lean' and 'light'[6], and scalable so it is fit for use in different circumstances;

- The SOP must demonstrate a clear purpose and benefit (time saving, quality, safety, etc);

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[5]   See: www.isixsigma.com

[6]   **Lean**. The principles of 'Lean' are:
      - specify value from the perspective of the end user or customer;
      - review all of the steps in the value stream for each product – eliminate those steps that do not create value;
      - make the value creating steps occur in a tight sequence so the product flows smoothly towards the customer as flow is introduced let customers pull value from the preceding step (upstream activity);
      - once the full system has been introduced, continually improve the process to eliminate all waste.

      Light is focused on the minimising unnecessary overhead. Complex plans and processes should be simplified, but only to remove excess complication, not to remove core requirements.

- The system should be designed so that it is easier to use the SOP that to avoid using the SOP[7];
- The SOP must be seen to be used by the leaders (if the PM does not bother to use it why should I?);
- Every SOP needs to be consistent across the organisation;
- The process performer must have the opportunity to comment or improve the SOP[8].

To achieve these objectives, organizations must create intrinsic linkages between process, people, systems and knowledge so that SOPs are generated, managed and disseminated from a central repository to the right process performers in the right format, typically as a dynamic web based repository.

Embedding SOPs to business processes in a way that is easy to access, in the right format and in the right context can significantly improve the usage patterns of SOPs and help people *'do things the right way'*. This requires an effective system to facilitate the dissemination of role specific, tailored information from one central repository, and enable field-based feedback mechanisms[9]. The system should include:

- Intrinsic model-based linkages between people, process, systems and knowledge.
- A process model or methodology to guide the process performer to the appropriate SOP through the process model, eliminating the need to know if there is a SOP, when and how to use it.
- Editing system to ensure the SOP format is easily understood and delivered through an intuitive user interface.
- Centralised management to ensure that SOPs are consistent, accurate and updated across the organization.
- Field-based feedback processes to allow the organisation to tap into subject matter expert knowledge and continuously improve its procedures.
- An organisation wide view of which SOPs are used by which processes and which process performers.

Implementing an effective system will enable organizations to significantly improve the adoption and quality of SOPs to achieve compliance, business process improvement, and improved project outcomes.

Apply effective SOaP to clean up your act!

Workflow Management

Workflow management sits one step above individual SOPs linking them into an optimum sequence of work.

Many projects involve repetitive elements of work that take some inputs, run them through a series of processes and deliver an integrated output. Combining these elements of project work into a standardised work flow can create efficiencies and minimise errors. A some examples include normal 'sprints' in an Agile project and the monthly updating of the plans and reporting in a major project. Using technology such as BIM or specialist workflow management tools assists in the process.

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[7] ***Hoping the SOPs are used is not a viable strategy***; systems need to be designed to make using the SOP both 'unavoidable' and simple. The problems associated with just relying on ethical behaviour are discussed in https://mosaicprojects.wordpress.com/2015/09/14/making-ethics-effective/. Designing systems to drive desirable behaviours in: https://mosaicprojects.wordpress.com/2015/09/26/self-correcting-processes/. These concepts need to be used together for the best effect.

[8] For more on **process improvement** see: https://www.mosaicprojects.com.au/WhitePapers/WP1046_Process_Improvement.pdf

[9] One such system is Holocentric Modeler and Modelpedia, see: www.**holocentric**.com

Workflow management involves overseeing the creation of a deliverable (eg, the monthly report) from beginning to end. The management aspect is to be able to identify the people who need to be involved in each process within the work flow and to ensure the 'flow' allows for input from all required parties in the right sequence.

The key questions that need answering to create a productive workflow are:

• What is the optimum sequence of processes?

• Who needs to be involved in each process? This includes knowing what inputs are required to start the work and what outputs are produces to finish the work.

• How to keep the momentum going within each process and the overall workflow (and the timely identification of blockages)?
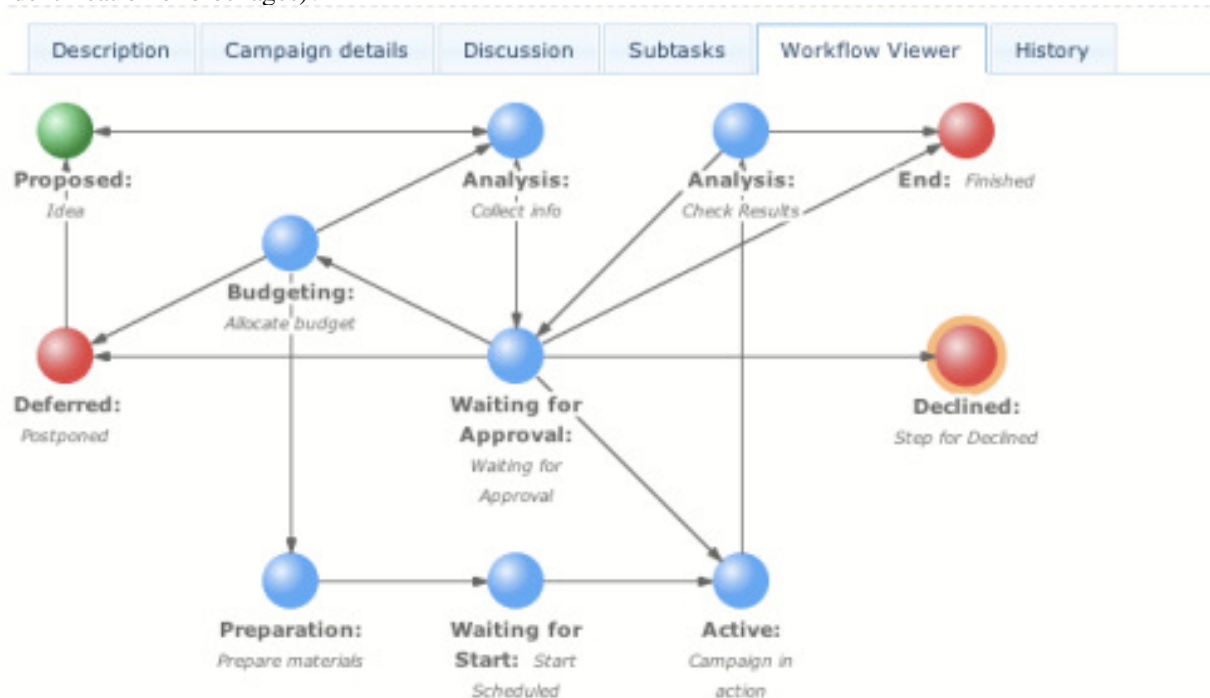
An example of an automated workflow management tool from https://www.comindware.com/

The workflow can be simply designed on a piece of paper (or white board) to show the flow, who is responsible for each process and how the tasks are accomplished; or automated.

The key advantage of developing and using a work flow is that you can expect similar results from the accomplishment of the work at each iteration; even if the people involved change. As with SOPs, a carefully thought through work flow reduces errors and encourages consistent results.

BIM[10] involves creating a multi-dimensional data model to facilitate the design and construction of a building. This type of modelling can benefit from the use of standardised processes; by standardizing processes and employing technology, then BIM model is easier to build, contractors gain insight into performance, and that insight helps them improve accuracy, efficiency and productivity. The benefits include:

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[10]   For more on **BIM** see: https://www.mosaicprojects.com.au/WhitePapers/WP1082_BIM_Levels.pdf

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- Real-time analysis of project execution helps ensure on-schedule, on-budget performance and helps estimators bid similar jobs more accurately in the future.

- More precise estimates help win bids and allow for better profit margins.

- With an organized project workflow, rework is reduced, quality improved and costs controlled.

- Managing documents and project information electronically improves accuracy and accountability, reduces paperwork and redundancy and allows easy sharing across departments, which flows information into accounting for better management of financials, payroll, liens, change orders and more.

Agile work flows

Agile projects use the concept of 'done' at the end of a sprint. A common definition of done is that the increment produced at the end of sprint is of high quality, with minimal defects. Agile teams define the series of steps they need to reach their definition of 'done', and then implement them routinely through each sprint. The steps to get to 'done' may include:
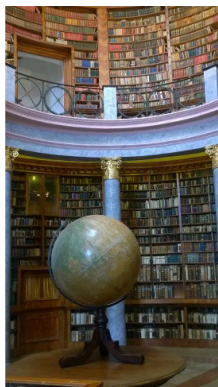
- Code Complete

- Unit tests written and executed

- Integration tested

- Performance tested

- Documented (just enough)

Build these steps into a workflow and everyone benefits – particularly if the workflow is reviewed and updated to incorporate learned experience on a regular basis, if getting to done is documented and used regularly it is a work flow!

So next time you wade through the tasks needed to create your monthly report or any other repetitive job within the overall management of a project think about documenting the work flow – it will pay dividends over time in both improved efficiency and improved quality. Work flow takes SOPs to the next level!

The art is to keep each workflow as simple as possible but not so simple that it becomes simplistic.

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First published 22nd Oct. 2012, augmented and updated.

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