

Value Management Specific Interest Group (SIG)

Annual Chair's report

VM Chair (John Heathcote MAPM)



Dear Members.

This year aside from the occasional committee member presenting at branches we have focussed on creating a set of Blog outputs, and worked on our ambition to create some testing science based content that could be peer reviewed. This has meant submitting to academic conferences and devising some experimental testing of the assumptions that underpin value management type approaches.

I have included our two most prominent works below, and asked these go onto the VM SIG webpage for general comment and reaction.

So why have we taken this (science) route?

Well the committee has been variously sceptical about ontological claims to how to do projects better. This positioning has made difficult the development of an introduction guide publication, which we would also like to do, and hope to complete in the next twelve months.

We also have 'requirements engineering' specialists on our committee and so taking these and loose VM approaches means that we quickly question the 'value' of such publications and seek to address these. Much NAO and MPA audit reviews effectively say, *"Do projects in the way we have previously suggested, if it has one wrong this time there must be something you haven't done, or haven't done sufficiently well."*

Peter Morris points out that we know how to do projects. Then why do we leave these opportunities for failure to creep in. It is easy to say: *"Because of uncertainty and part of that uncertainty is complexity"*.

So reflecting on this we noticed two things:

One, that the projects often are poorly scoped and fail to arrive at the requirements until later in the process and the extra work, cost and time this leads to gives rise to the failure meme/idea.

Two, that the intended 'outcome' is a value interpretation that is often not known, not known to all in the team, or deliberately hidden from some of the team and/or the stakeholders affected.

So it could be that projects tend to avoid the 'value' conversation and this adds uncertainty and 'unknowables' to any attempt to scope out what we might need to do.

And we realised we could spend a lot of time doing either:

- Listing what you should do, a process without a project context, which works out of context, but might not survive a real project environment.

Or

- Speculating with hypotheses about why that might be.

Or

- Take a scientific approach and start to identify some variables at the core of the management of projects that have an effect on any 'value' adding efforts. This is what we have done.

We start from an assumption that the project will seek to add 'value'. Value might be a subjective term, but someone in the project's environment, or some people are able to influence what value means to these projects.

So we set off to develop a series of Blogs that raise some questions (see some below) and appearing on our microsite webpage soon.

And identify some research that allowed us to really 'test' some of the project management assumptions underpinning a value management approach.

We have completed some of this work. They perhaps illustrate why science is sometimes avoided in favour of more easily presented material. However we as a SIG will not (we think) have the impact we hope to, without the 'more science' approach. Our challenge now, is to continue with the science (to address other variables) and work on better ways to present (what we think are) those important findings. What we have been able to do so far, is 'reduce' project management to more simple concepts. Though we start from a tricky one.. and that is, that ***"Projects should add value: Not just send money"***. So appended to this report, is a series of Blogs that seek to do just that, and show you what we have been up to. ***(And if you'd like us to speak at your APM event on any of these issues please get in touch, via our APM email ymsig@apm.org.uk)***

APPENDIX (Articles; Papers and Blogs)

This article also appeared in a more academic format in published conference proceedings.

What is the value of Project Management?

Channel four's Kevin Macleod places some emphasis on the importance of project management in his assessment of the people in his programme who undertake 'grand designs' attributing overrun and cost control failures in part to the absence of this ability. But given there is no real comparison, it is impossible to be sure that project management (PM) makes any actual difference.

There are some other indicators though. The Government recommends the use of the NEC3 (now NEC4) 'new engineering contract, engineering construction contract' for its projects, and while it is not always used, the reasoning behind the recommendation of the NEC contract suite is the presence of clause 31 and 32 the 'planning and tracking programme' clauses, and also clause 16 the

'early warning' clause. Sometimes referred to as the 'project management' contract, the NEC contract seeks to ensure that some key project management activities take place. And these are: that a planned programme plan is developed, deals with the common causes of delays through key coordination of activities and tasks between client and contractor, and that it is shared and regularly updated, with both progress and changes. Also that 'early warnings' (we might regard these as the 'known risks') are communicated between client and contractor to catch other 'risks' to the smooth delivery of the works. Early warnings are generally acknowledged to be best carried out through the use of a shared risk log.

Ok, so a Government recommended 'project management' contract makes for some powerful support for the importance of PM.

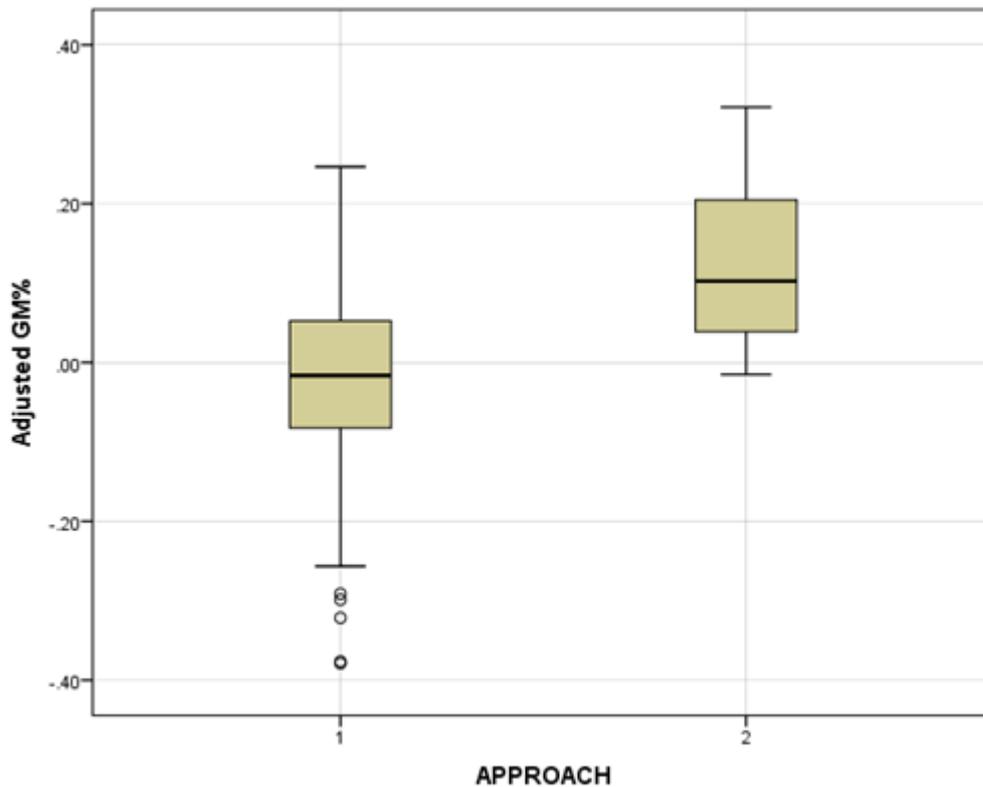
Projects are regularly described as being unique. And, in scientific terms, to be sure there's a positive difference between doing PM and not adopting common PM approaches would need researchers to compare one project that *didn't* (the control) and one project that *did* (the intervention). Even then, were the PM project to perform better, this could easily be a matter of chance. Raising the question that perhaps the reason for the PM *intervention* project doing better, is itself due to the particular skills of the PM person him or herself. For University researchers like myself at Leeds Beckett University, this presents a research design challenge. Ideally we would need a set of common projects, some of which used identifiable PM skills and some of which did not. Last year such an opportunity presented itself. So we crunched some numbers.. the results are intriguing, and crucially, they represent a statistically significant outcome.

This is what we did: We took a set of similar projects delivered by one company over a period of time. This is called a longitudinal study. Some were delivered by specialist engineers who had been part of a successful group of companies all doing the same work in the U.K. Europe and U.S.A. This is important, because the projects had to be similar enough to be comparable. We were able to collate accurate data on cost performance and schedule performance on 120 projects. (n=120). This is a large sample size for this kind of study. If we collected enough samples then this would allow us to determine whether PM makes a difference generally, and not as a result of chance alone.

We separated the sample of projects into two groups. The first group included those projects that had employed the PM techniques of building a Gantt chart plan, one that was plain enough to be understood, and fully utilised logic linked tasks. This use of the logic functionality of project planning software is key; that is because such a plan allows for the modelling (and analysis) of what is likely to delay the smooth delivery of the work, by showing the 'critical path' and allowing the project team to avoid problems and predict points of potential delay even before they get to them. In short, the PM will be able to predict what ordering of work will be important, spot where time efficiencies can be made, by doing things in parallel, or doing them in a different way, and also it will allow him or her to predict the risk points and mitigate against them happening. Looking forward and anticipating problems, than avoiding them, might be called the essence of project management.

So now we have two comparable sets of projects, all similar, some of which use planning and risk mitigation (because they are part of a team that have been recently trained to use key PM methods), and some of which cannot do that because, they haven't had that training, and so the model plan of the work doesn't exist, or it is not put together in a way that allows for modelling and prediction.

Here's the results..



This is a box-plot, whisker graph. Group 2 includes the group of projects **that used PM approaches**. There is a range of performance outcomes, as you would expect, all projects (even when similar) have unique challenges that make them unique and different from the last one. But when separated, so they can be compared with the *control* Group 1 in the chart. The Box-whisker shape shows the projects in each sample, grouped in vertical 25% blocks. The thick line in the middle is the mean average for the group.

Here the PM group can be seen to outperform the Non-PM control group 9% to 3% on Gross Margin % (GM%). Now there's some statistical proof that Project Management makes a difference. In fact, I think it's compelling.

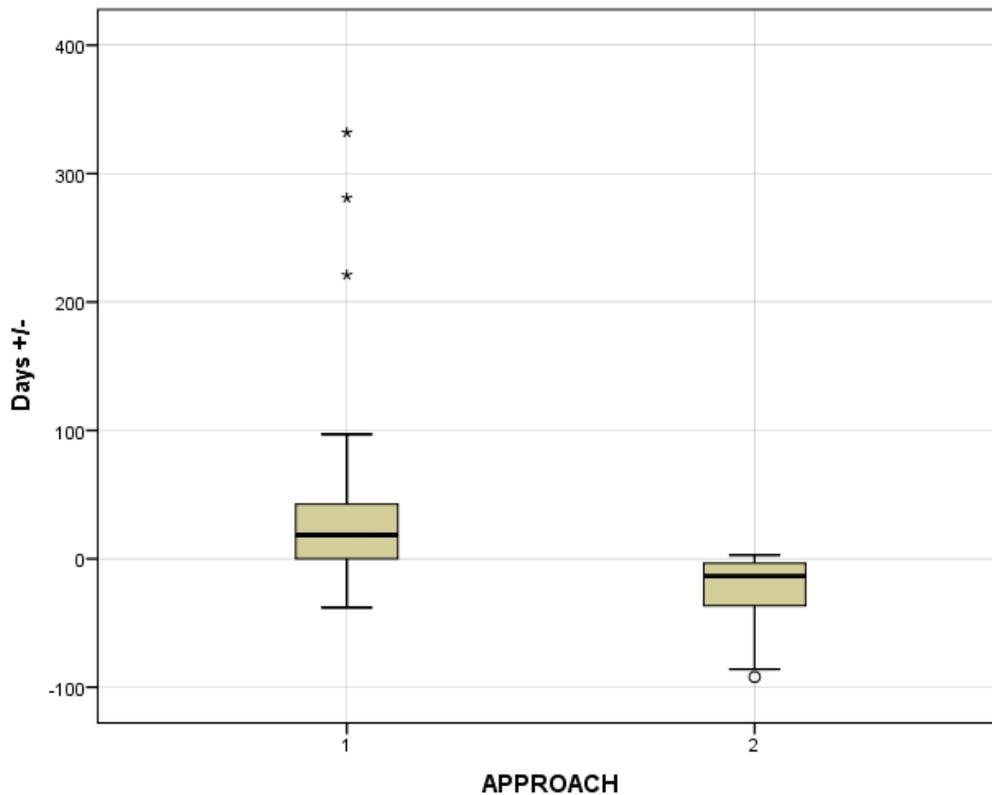
The boxes above and below the thick Mean Average line in the middle, represent the 25% grouping of the sample, 25% above and 25% below.

The 'whiskers' the thin lines above and below the 'boxes' represent the remaining 25% of top and bottom performing samples in each group. This shows that..... although some do make money, a lot of non-PM projects are losing money for the company. Of course in practice these losses are made up for by the better performing Group 2 PM projects, but it makes sober reading! Of course, it is reasonable to expect that some projects turn out to be particularly problematic.. nevertheless, all but one of the seriously cost overrunning projects are in the non-PM Group 1! The dots trailing off to the bottom of the Group 1 data-set are individual projects that the statistical software thought were *outliers* to the main data set and deserved highlighting separately. All these really poorly performing projects are in the non-PM Group 1 sample.

What is also important about the data-set, is that there's a couple of easy ways to measure and compare project performance. Each project can be evaluated against the estimator's forecast of predicted margin and predicted delivery date. So the 'bid' made on each project forms a baseline from which we can measure performance. Final outturn dates and costs are recorded by the group of companies in a common finance IT system.

There's more. The data-set also allowed us to compare the outturn **delivery dates**, and so **the projects' time performance**. Delivering projects to the forecasted end milestone can be quite important to most clients!

Here they are...

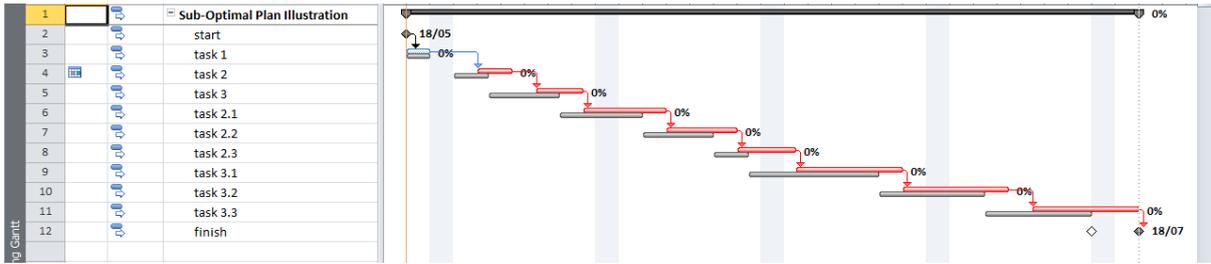


The Group 2 PM projects, were all delivered on time and most of them earlier, ('0' or less than target date) with a mean average across the sample of 10 days early against forecast.

In contrast the non-PM projects were, not quite all, but mostly later than forecast. And some were terribly late! Up to a 100 days for the worse 25% grouping, and some even worse outliers.

Simple differentiators of PM approaches separated the two sample groups. The presence of a logic linked project plan was at the heart of it. This 'model' of the intended plan, allows the PM to 'manage' the project, to predict and spot risks, see opportunities and mitigate those risks. So what, specifically, did the PM team do differently? Well they had a '*proper*' plan showing tasks that can be carried out in parallel. In contrast the non-PM sample, where they had a plan, had ones with preferential (bad) logic and a *staircase* list of 'things to do' in a rough order as demonstrated in figure 1..

Figure 1. Illustration of a **Sub-Optimal** WBs and **bad** Logic linked plan.



The plan for the PM-group 2 was also intelligible to an intelligent non-expert. It was readable. And so risk were spotted and these PM group project managers were able to talk about things they had done to avoid risks, and exploit opportunities. Figure 2 shows a mocked up example.

Figure 2. A correctly linked plan with the recommended WBs.

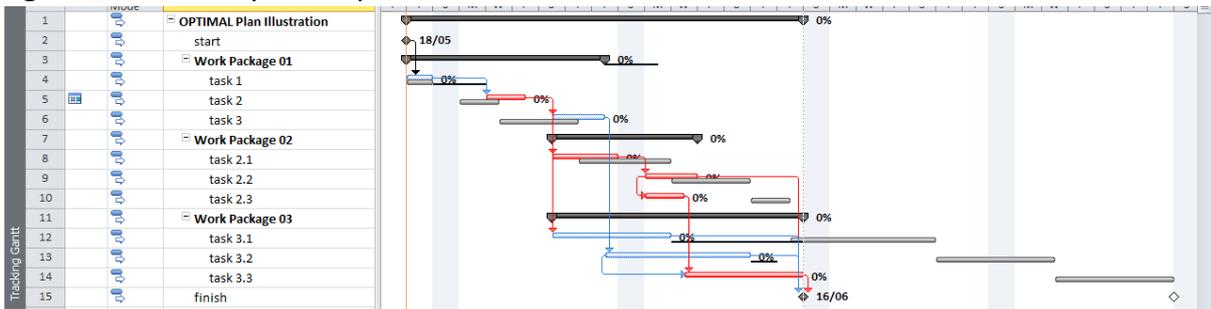
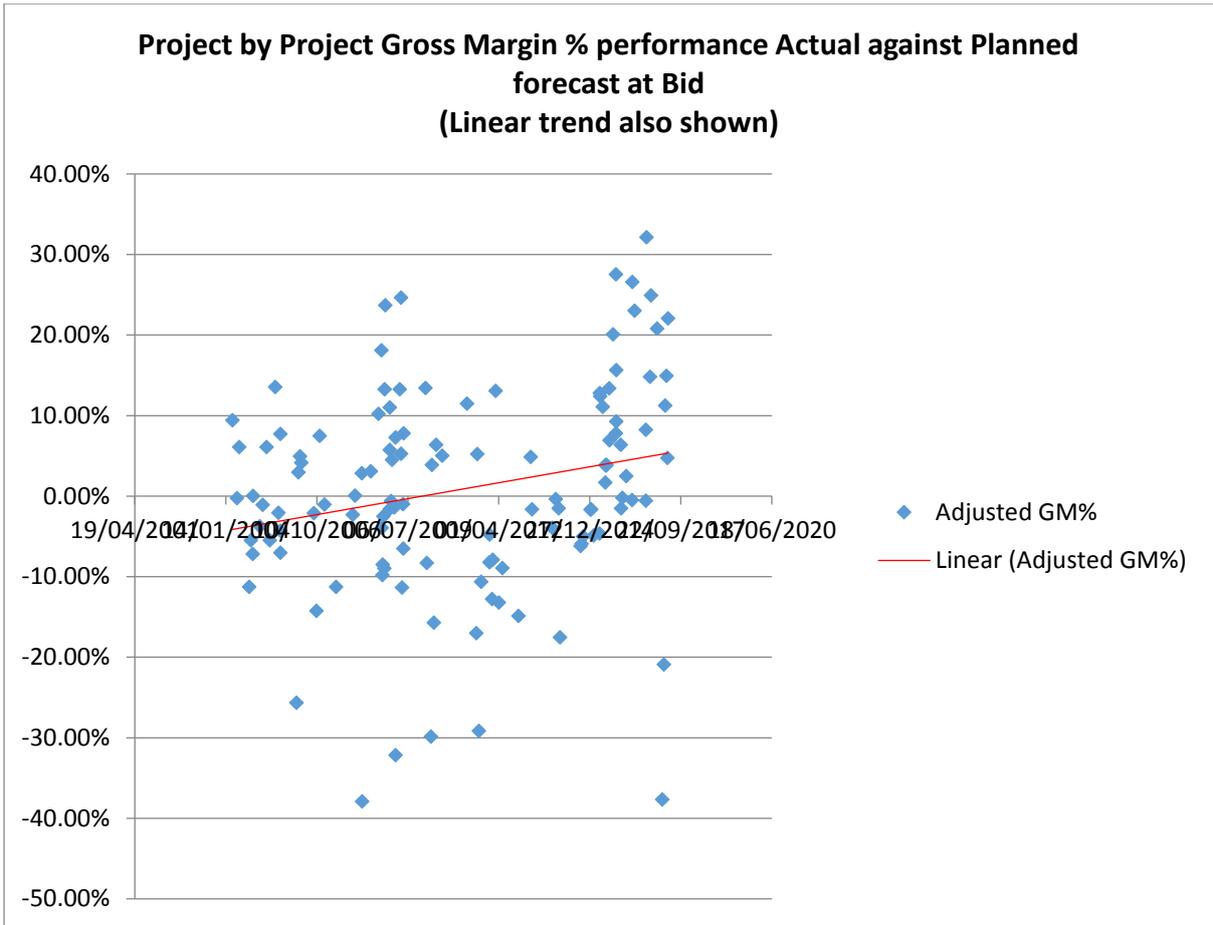


Figure 2 shows how the complexity of the logic linked plan can be accurately modelled, and how the schedule can be improved and costs along with it.

Consequently they were getting better at it over time. The trend graphs below shows these improvements on time of gross margin, over time on the full sample of projects.



Hopefully you are convinced? Project Management, done well makes a measureable difference. We did some other statistical testing of the sample and found it to less than 1% likely that the results were down to chance alone.

Our full paper can be found published in the academic conference proceedings of the SEEDS International Conference 2017, And is called: 'Measuring the impact of Key Planning Principles on 'Gross Margin''

J Heathcote. Senior Lecturer in the Management of Projects, Leeds Beckett University

Crucially in this experiment, an unpaired design, tests the impact of a problem solving steps that underpin the VM workshop approach. The findings are revealing.

Testing 'Value Management': team work assumptions.

Emmanuel Ayim, John Heathcote and Mark Wilson

Leeds Beckett University, School of the Built Environment and Engineering, Leeds, LS2 9EN, United Kingdom

Email: E.Ayim2578@student.leedsbeckett.ac.uk; J.Heathcote@leedsbeckett.ac.uk.

Keywords: Project Management, team working, value management, problem solving

Abstract

Value Management (VM) is generally accepted as a structured approach to problem solving, and one of its key principles is the utilisation of a facilitated team work approach. Although much anecdotal evidence exists to support the efficacy of the VM process, little empirically tested data exists. Moreover some contrary anecdotal evidence is reported. A hypothesis was identified from the literature, that isolates the problem solving process part of the value management workshop technique. The hypothesis H1: "There is numerically significant difference between facilitated (Intervention) group outputs and Controlled Group (a non-intervention group) outputs", was tested using an experimental quantitative, unpaired design study, that uses 'intervention' and 'control' groups. The experimental study asked n=20 groups to address themselves to a commercial problem and make notes and recommendations. N=10 groups in the intervention sample were directed to consider the problem in three simple steps, designed to follow the most basic of the VM problem solving process. N=10 other groups, in the 'control' sample, were given the same task but were not asked to follow the VM problem solving steps. The hypothesis H1 was found to be correct, and the results used an independent t-test to arrive at a $P < 0.01$ showing statistically significant results. Other perspectives on the data (H2) are applied in the paper, which find less statistically powerful results. The results allow the researchers to infer that the VM problem solving process is likely to have a positive effect on project development. Recommendations are made for enhancing the study to create greater statistical power amongst the second hypothesis H2 and to examine other potential variables.

INTRODUCTION

This study was concerned with the problem of determining whether the presence of a facilitated simple problem solving process might have a causal effect on group performance.

Although there is literature on VM as a problem solving approach for projects and facilitation, there seems to be no single research work that seeks to examine whether there is a causal relationship between them (Dogherty et al., 2010). This study sought to identify a statistically significant causal relationship between Value Management Problem Solving process and group output creativity performance.

The 'Value Management' process approach (Adkins, 2008) which has been developed to support the better development of project solutions (Adkins, 2008) can be critically evaluated to include a facilitated, staged problem solving process as part of its operant variables.

'Value Management' (VM) approaches are used variously (Kelly and Male, 2015) and reported to good effect (APM VM SIG, 2017; IVM, 2017) in the development of project solutions. The efficacy of

VM tends to rely on anecdotal evidence from interested experts. This raises potential criticisms of professional interest. Moreover the APM's Value Management Specific Interest Group, (APM VM SIG) report from their interactions with Association for Project Management (APM) members that experiences of VM workshops are polarised. Project Managers appear to either enthusiastically support VM workshops, citing examples of innovative value adding outcomes, or express disillusionment with a 'cost cutting' exercise that failed to innovate or find value adding alternatives. (APM VM SIG, 2017)

Value Management practitioners and Value Management facilitators attribute this to the variability or absence/presence of a skilled facilitator. They anticipate that the facilitator will ensure a process of objective decision making is followed, and will do this by adopting a framework which the VM SIG summarise to one of 'problem solving'. (APM VM SIG, 2017)

In summary VM can be seen to include ideas about several notable variables combining to create an overall enhanced effect on decision making (APM VM SIG, 2017). These might be summarised to four or five main variables (APM VM SIG, 2017): (i) A stepped decision making process that removes tendencies to induce the availability error (Sutherland, 2007); (ii) the use of an external facilitator to reduce cognitive idleness (IVM, 2017); (iii) Lateral thinking techniques to generate greater creativity in generating solution options proposed by DeBono (1971), and incorporated into the VM process; (iv) a focus on 'value' through 'functionality' and 'benefits' and (v) team working, which might be seen as a combined effect of the (i) to (iv) items. In addition to this component list of (i) to (iv), Kelly and Male (2015) also placed an emphasis on the strategic organisational linkage, as this helps the team define 'value' or 'benefits' in terms of the organisational strategy. This might be seen as integrated into item (iv) creating a 'value' focus.

The 'value' nomenclature of Value Management might be attributed to the emphasis that the process puts on 'functionality' (Heathcote, 2016) or 'benefits'. These two terms are linked by

AMP VM SIG (2017) who see 'value' as being a function of 'functionality' or 'benefit' divided by the resources required to deliver that functionality or benefit. Some earlier writers use the term 'functionality' only, but more recently that has also been termed 'benefits' (APM, 2017). Arguably they seek to encompass the same investment returns that a project might develop. This focus on functionality/benefit that the project will create seems to be particularly critical to the VM process, as it places the creation of value (Heathcote, 2016) at the centre of decision making in the early stages of the project, rather than the alternative of simply focussing on carrying out parcels of work or, for example, the installation of a piece of equipment, without regard to whether that equipment will reduce the overall sustainability of the system. Heathcote (2016) criticised the potential for project decision making to avoid adding value and showed how this would negatively impact on sustainability. Arguably better 'Value Management' outcomes for project option selections need better group decision making.

The power of team working is an assumption that is not readily observed in practice, because of the myriad of variables and extraneous variables that might be influencing it. In a VM workshop many factors are employed to improve team efficacy (Kelly and Male, 2015; APM VM SIG, 2017), not least the facilitation of the stepped approach to problem solving. This research sought to isolate the impact of the problem solving process part of the VM process. This allowed the researchers to test the impact of the problem solving structured process.

METHODOLOGY

The research design took a deductive experimental approach to test a hypothesis on the literature that accepted the problem solving process was a key factor in the efficacy of Value Management workshops. The problem solving stepped process was isolated in the hypothesis.

Hypothesis H1

Null Hypothesis one (H01): There is no numerically significant difference between facilitated (Intervention) group outputs and Controlled Group (non-intervention) outputs.

Alternative Hypothesis (H1): There is numerically significant difference between facilitated (Intervention) group outputs and Controlled Group (a non-intervention group) outputs.

To examine the issue further a second hypothesis was devised. This hypothesis instead of counting the entirety of the group outputs from the exercise, only counted the 'solutions' outputs that the groups came up with. It was thought that the number of the solutions generated might reveal more about the quality of the process, than only counting the total list of outputs generated.

This research then tested the data sets for statistical power using an independent sample t-test with control and intervention groups. (Wilson-Doenges, 2015).

The population sample used was final level BSc(Hons) students studying construction related courses in a University's School of the Built Environment and Engineering. This made for a group that were similar in experience and education. This helped create similarity between the invention groups and the control groups. (Antonius, 2013).

Participants in the study were randomly selected (Cohen, 1988) to either one of the control groups or the invention groups as they entered the room by one of the researchers who handed out different coloured papers with the ethical approval forms.

Once placed in smaller groups (n=10) the control groups were separated from the invention groups. (Antonius, 2013). Each group was given the case study 'problem' which was a simple business issue of a coffee shop having to prepare for new competition. A time limit of 30 minutes was established.

The invention groups were prompted at seven minute intervals to firstly: (i) list the problems in the simple case study; (ii) then list possible solution candidates; and (iii) finally choose a solution perhaps employing a combined approach from the ideas previously generated.

Such a stepped process was designed to prevent the invention group members moving straight to solution generation and avoid the crucial stepped processes of problem solving that first allows for the problem to be defined. In taking a stepped approach to problem solving, group members would

'suspend judgement' long enough for a greater amount of available information to be generated and considered. This supports better logical decision making and the avoidance of known decision making errors described by Sutherland (2007) as the 'availability error' (failure to suspend judgement), and recommended VM approaches described by Adkins (2008) and APM (2017). To make data collection and group identification easy, the invention and control groups were asked to list out their group outputs on the coloured papers provided for them.

The outputs from each set of the invention groups (n=10) and control groups (n=10) was counted and input into Statistical Package for Social Sciences (SPSS) to allow the statistical calculation software to carry out an unpaired t-test with control and invention groups. This would reveal comparative numerical sets for the hypotheses listed in the next section, and test the data set for statistical power using an independent sample t-test. (Wilson-Doenges, 2015).

Hypotheses H1 and H01 used the total list of outputs from each teams' exercise work. Hypotheses H2 and H02 used only the final set of solutions generated by the teams in the exercise.

The second hypotheses H2 & H02, although secondary, allows the researcher to search for more precise insights about the outcome of the approach.

Hypothesis H2

Null Hypothesis two (H02): Group facilitation does not help a group come up with more solutions in the innovation process as a problem solving approach.

Alternate Hypothesis two (H2): Group facilitation helps a group come up with more solutions in the innovation process as a problem solving approach. Graphical presentation of data "Solutions".

FINDINGS The findings are presented in figure 1 and 2 in the poster appendix. Of importance is that group 2, shown in the right hand column of both charts, was able to outperform the mean of the control groups, shown in the left hand column group 1.

DISCUSSION Previous studies into the efficacy of Value Management had largely concerned themselves with research within case study organisations and projects. Several elements of the value management process are attributed to Value Management's success, but these have not been isolated and tested separately.

The findings show the outputs of each set of the intervention groups and the control groups, and show on the 'whisker plot' graphics that the intervention groups which enjoyed the insertion of stepped problem solving prompts outperformed the mean of the control groups. It can be inferred from this that the stepped process of problem solving (which was isolated by the experiment design) even when reduced to its simplest form, can have a positive impact on group performance in Value Management type workshop applications.

CONCLUSIONS AND LIMITATIONS

The research study identified hypotheses and sought to test these. The research found:

For the Hypothesis H1

Null Hypothesis one (H01): There is no numerically significant difference between facilitated (Intervention) group outputs and Controlled Group (non-intervention) outputs. Can be rejected.

Alternative Hypothesis (H1): There is numerically significant difference between facilitated (Intervention) group outputs and Controlled Group (a non-intervention group) outputs. Is correct.

And for Hypothesis H2

Null Hypothesis two (H02): Group facilitation does not help a group come up with more solutions in the innovation process as a problem solving approach. Cannot be rejected.

Alternate Hypothesis two (H2): Group facilitation helps a group come up with more solutions in the innovation process as a problem solving approach. Has not been proven due to lack of statistical power

The study was carried out in conditions that were as robust as may be expected for a university classroom environment. However facilities exist (Leeds Beckett University 'Hydra Suite') that can allow future repeats of this experiment to be made much more rigorous. It is intended to do this next and to seek to be able to identify other operational and extraneous variables.

REFERENCES

- Adkins, R. (2008) Value Management in Complex Projects. MSc dissertation Leeds Metropolitan University.
- Antonius, R. (2013) Interpreting Quantitative Data with IBM SPSS Statistics, 2nd Edition. Sage Publications Ltd, London.
- Association for Project Management (APM) (Value Management) Slide show an 'Overview of Value Management' Available at <<https://www.apm.org.uk/group/apm-value-management-specificinterest-group>> [Accessed 20th May 2017]
- Cohen, J. (1988) Statistical Power Analysis for the Behavioral Sciences, 2nd edn. Academic Press, New York.
- DeBono, E. (1971) Lateral Thinking for Management: A Handbook. McGraw-Hill Book Company (U.K.) Ltd
- Dogherty, E. J. Harrison, M. B. Graham, I. D. (2010) Facilitation as a Role and Process in Achieving Evidence-Based Practice in Nursing: A Focused Review of Concept and Meaning. [Online] Available at <http://onlinelibrary.wiley.com/doi/10.1111/j.1741-6787.2010.00186.x/pdf> [Accessed 07 November 2016].
- Heathcote, J (2016) "Projects need to Add value: not just spend money" Selected papers from the 2016 Seeds Conference. LSIPublishing. ISBN 978-0-9955690-1-0 < Available at <https://www.leedsbeckett.ac.uk/as/cebe/seeds/2016.html> > < https://leedsbeckett.ac.uk/as/cebe/seeds/seeds2016_proceedings.pdf >
- Institute of Value Management. 'Benefits of Value Management' Available at <<https://ivm.org.uk/benefits-and-rewards-of-value-management>> [Accessed 20th May 2017]
- Kelly, J. And Male, S. (2015) The Value Management of Construction Projects. Wiley Blackwell.
- Lipsey, M. W. (1990) Design Sensitivity: Statistical Power for Experimental Research, Sage Publications, London.
- McPhail, B. (2009) [Online] Innovation Process. Available at: <http://www.sscqueens.org/sites/default/files/2009-05-Robinson-ABII.pdf> . [Accessed 10 November 2016].
- National Audit office, (2016) Available at: <<https://www.nao.org.uk/wpcontent/uploads/2016/01/Delivering-major-projects-in-government-a-briefing-for-the-Committeeof-Public-Accounts-Summary.pdf>> [Accessed 20th May 2016]
- Shichao, F. Qiping, S. Xiachun, L. Xiaolong, X. (2013) Comparative Study of Traditional and Group Decision Support-Supported Value Management workshops. Journal of Management in Engineering. Vo. 27 Issue 4. P345. American Society of Engineers.
- Surlan, N. Cekic, Z. Torbica, Z. (2016) Use of Value Management workshop and CSFs in introducing local experience on international construction projects. Journal of Civil Engineering and Management. Vol 22 Issue 8 p.1021-1031 11p. Taylor and Francis.

Sutherland, S. (2007) Irrationality. Pinter and Martin.

Viana, J.C. Maria de Maranda Mota, C. (2016) Enhancing Organizational Project Management Maturity: A framework based on the value focussed thinking model. Production. Vol. 26, Issue 2. Pp 313-329.

Wilson-Doenges, G. (2015) SPSS for Research Methods: A basic guide. Norton & Company, U.S.A.

Figure 1. Results for team outputs: Hypothesis H1

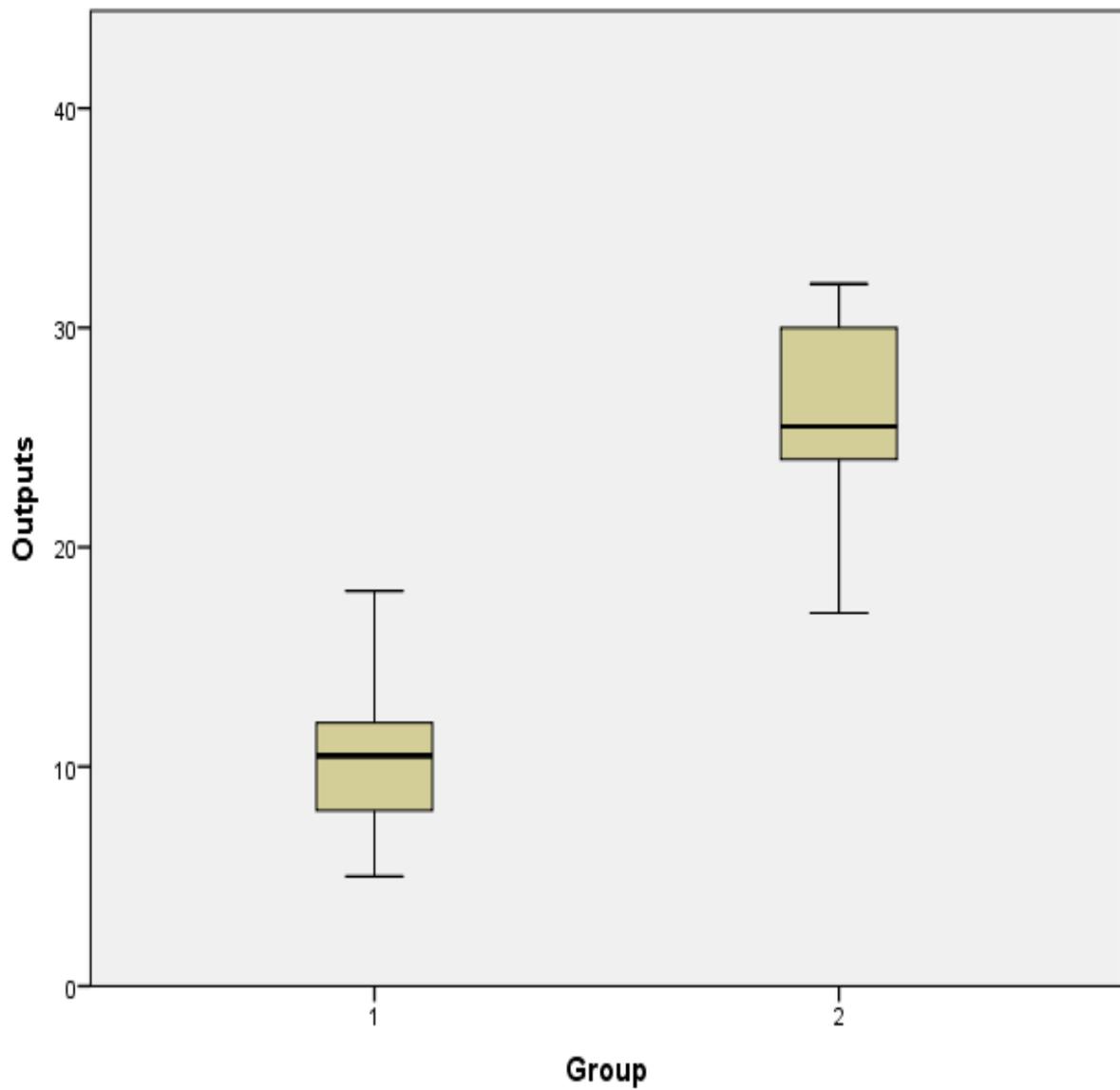
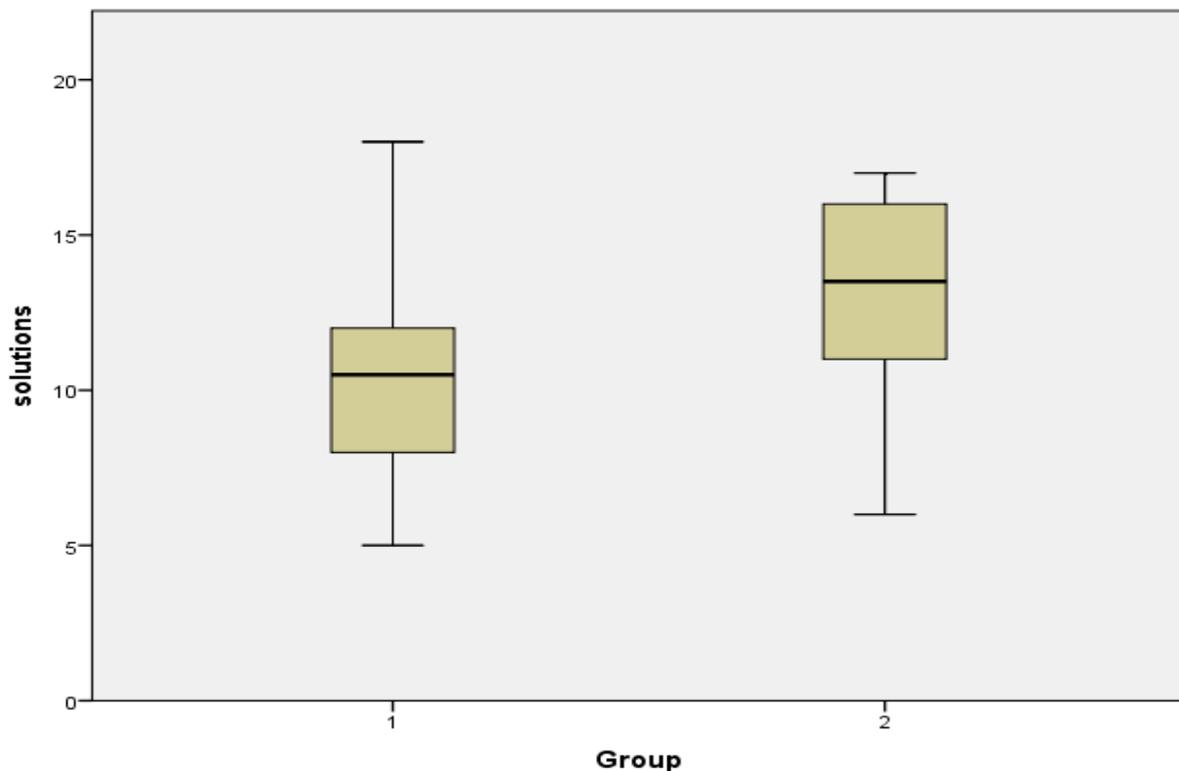


Figure 2. Results for team outputs: Hypothesis H2



Results: Hypothesis 1 Testing Hypothesis H1 Null hypothesis one (H01): There is no numerically significant difference between facilitated (Intervention) group outputs and Controlled Group (non-intervention) outputs. Alternative hypothesis (H1): There is numerically significant difference between facilitated (Intervention) group outputs and Controlled Group (a non-intervention group) outputs. Graphical Presentation of the results for Hypothesis 1 (H1)

Graph 1: SPSS output illustrates the distribution of the results for each group (Hypothesis 1) in the form of a box and whisker plot. (Where 'P' < 0.01)

Results: Hypothesis 2 Testing Hypothesis H2 Null Hypothesis two (H02): Group facilitation does not help a group come up with more solutions in the innovation process as a problem solving approach. Alternate hypothesis two (H2): Group facilitation helps a group come up with more solutions in the innovation process as a problem solving approach. Graphical presentation of data "Solutions" Hypothesis 2 (H2)

Graph 2: SPSS output illustrating the distribution of the results for each group (Hypothesis 2) in the form of a box-plot. (Where 'P' = 0.12)

Blogs

VM Blogs - Common Misconceptions of Value

Is the following statement true;

Value is about getting the best product or delivering a project at the cheapest price... Wouldn't you agree?

What do companies define as value? I believe the vast majority are still locked into the traditionally assumption that the cheapest option offers best value, however history suggests that this is not always the case and has the potential to cause the most harm.

A few companies however have varying different definitions of value. The most relevant in my opinion is getting the most optimum use of your product/project and driving safety whilst spending the least amount of time, money and resources.

Other companies focus too much on the cost aspect. The other significant areas such as time, quality and safety are often overlooked or even worse neglected. I mention safety as this is another piece of the puzzle that needs to be integrated into the triangle (maybe even an iron square dare I say).

The time aspect in my opinion is a significant factor in value as it has the most potential. For example new technology and construction techniques can be used to build a factory quicker. Now while this may prove more expensive, a positive benefit could be that the factory is completed 12 to 6 months sooner than anticipated which means the factory can start creating products to generate revenue sooner.

It could be said that time always plays a factor in a clients expectation's of value. The problem with time is that the longer a project takes, the more alluring it is to bolt new technologies onto the project / product and thus affect the above mention dynamics which could fundamentally change the entire project or product. The optimum window to deliver a project in the authors opinion is 2 to 3 years, after that the clients needs will have shifted slightly and it only takes a little scope creep to significantly impact a project and its perceived value.

Another example of achieving value outside the conventional cost barrier could be safety. An example of this could be new technology where working at height is made safer. Sure it could cost more but again this could reduce accidents and fatalities on construction / maintenance projects. Lost time injuries significantly affect companies in terms of performance and value. By pushing for newer technologies to look after employees safety as well as health and well being could be value adding.

Safety plays an ever important role in construction and everywhere as a whole but again is often overlooked in terms of value.

Quality again is seen as a trade off, cheaper materials offer better value. But does it? maybe the better quality materials offer increased functionality or increase a buildings life span.

The simple matter is that all of this is speculation, value is determined by what the clients or stakeholders believe is of value to them at the present time. While this is affected by time, other factors such as the companies culture and personalities driven from the top down can play a role on how a company defines value.

The common misconceptions of value are;

The cheapest option offers the best value right. It's all about reducing the cost the loudest voice can sometimes dictate the way value is perceived.

VM Blog - Can 'partnering' deliver more value?

A central part of the management of projects is procuring or contracting in specialist resources. It provides the project and the organisation, with a highly flexible advantage of being able to grow its resources very quickly, deliver specialist skills sets, then reduce back down to a minimal overhead afterwards. And to achieve this effectively you need to project manage it well. Doing it poorly, will potentially remove any benefit and mess the organisation up! Do it well, and you make the organisation highly capable.

In the UK, this collaborative partnering approach has been pursued a very long way, with the capital to fund operations and build infrastructure being raised from the money markets via 'private finance initiatives' and 'public private partnerships' between contracting organisation's and local authorities and government departments.

In the private sector the integration of supply partners into the operation is not untypical, particularly in high tech manufacturing.

Partnering, framework contracts and collaborative working, essentially means that instead of going out to tender/bid every time you need a contractor to do 'X', you establish a framework agreement offline from any actual work, then 'call off' the supplier you now have available to you, without any bidding. Price, standards and terms were all sorted out beforehand, so now we just ask them to do the next job in their specialist area. Sort of like a zero hours contract, but for a specialist supply/service. The framework will be a for a longer term, minimum a year, more typically 3 to 5 years, and so you have the potential to get better at working together, understanding each others needs and improving as you go along. That's the theory anyway.

Partnering, framework contracts and collaborative working came into vogue in construction engineering following the influential Latham (1994) and Egan (1998) white papers. Complementing each other, Latham emphasised team working across contractors and client and developed the New Engineering Contract with its intent towards mutual trust and cooperation, its shared risk approach, and shared programme driver.

And following in Egan took a more radical view advocating greater supply chain intervention, holding car manufacture up as an example, specifically Toyota and its culture of continuous improvement. Following the initial angst among tier 1 contractors, clients employing construction engineering contractors took a lead. And it's been a bumpy ride with variable degrees of success since.

Then came the 2008 credit crunch and some client organisations threw out the partnership agreements and dived back into competitive tendering of all work, and made early (but perhaps dubious) capital purchase savings.

It's certain that there's some high profile utilities who have seized an opportunity to exploit the downturn, but now the market is rising they're likely to be paying a heavy price.

Some client organisations however stuck with partnering through the thick of it. Writing in Dec 2015 the market growth then meant that contractors *could* choose their clients, the tables were turning. I wonder if they are thinking: "*Didn't you cancel the partnership and force us to re-tender when we were in our knees in the crunch?*"

The majority of current partnering literature might be just plain wrong about the trust issue. Much of it suggesting trust is an important factor in successful partnerships.

I think it's a failure to research properly! Such research asks for the opinions from people in it. They need instead to explore what *drives* team collaboration.

And it's very well understood, motivated team working towards problem solving improvements come from:

The **removal of risk** (*the source of most disagreement*);

and **clarity of the goal** (*lack of which provides the opportunity for misinterpretation and claims*).

As most organisation's have given up on goal clarity...

And lack the courage to truly seek ways to remove the **negative incentives of risk bearing, which we know for certain does not serve to motivate humans!** Though it's a commonly held misconception. (Contract research never looks at behavioural research but they need to, because motivation is well understood.)

....this leads to the assumption that the spot market competition will somehow suffice to motivate a contractor/supplier. Yet it seems likely to only serve to add more risk to the project and encourage exploitive behaviours. (On The MSc Project Management at Leeds Beckett uni we've been collecting a list of the most persistent tricks employed, we call it the *evil QS slide*). In truth, evil QS s (Quantity Surveyors) *are made* (by buying behaviour, we'd argue) *not born!*

Worse, as the cost of tendering is somewhere between 8 and 12%, it costs too. Waste that might've been avoided and the saving shared!

When I was involved in setting up frameworks we never achieved less than a start baseline saving of 20%. We were able to attribute that to c10% from procurement overhead and c10% to removed risk. But of course the **real benefits came from an actual specialist really and proactively on your side, rooting out problems and continuously improving the value added to the operation.** (You do, of course, have to manage this).

(Not convinced? Here's another statistic to think about: "*profit, the slice of the pie you are going to make a saving from when tendering, will be somewhere between 5 and 20% for the supplier*". So you're never going to make more than a 15% saving, and you're more likely to be looking at 2%, and in return you'll put the whole of the project's benefits at risk.)

There's a couple of flies in the ointment though.. As many partnerships in construction engineering go to the tier ones, the **benefits are not transferred into to the tier 2s** doing the actual work, so to solve this I would partner at this second level more vigorously. (As well as tier one).

Also, if you don't have a **visible programme of upcoming work**, big asset operating organisations like Sellafield, Transport for London and other utilities do! But if you aren't sure, deciding which suppliers to partner with is tricky. You need to be able to have a good idea about what the programme of future project work might look like,

....and to ensure project goal clarity, you need to be able to say just what it is you are trying to achieve, in short, understand what value means to your organisation. (Hint, *look at the strategy!*).

Removing the risk for the supplier/contractor, might be the real way to incentivise and you'll get much more than you might first expect! That might be counter-intuitive to this contracting culture, but it is a no-brainer in other supply chains!

Faced with the joy of not having to tender for work repeatedly, and having the prices and profit margin agreed upfront, both removes risk to supply contractors and makes them your best (and most trusted) friend.

Now once the partnership agreement is established, it's up to the pair of you to do things better and keep getting better... Now here's the **real contract management challenge**.

You need to **manage the contract** (and the programme). Don't just sign and forget, be involved, manage the contract and its potential to add value to your organisation, in areas like: better service; reduced energy; easier operation; automation; fool proofing; waste removal; etc.

Think about this: only 8 - 10% of the whole life cost of an M&E asset is in the purchase and installation. How cheap it is is almost irrelevant to how effective and efficient it'll be in operation!

This *managing* may also see you running risk and value workshops to facilitate the problem solving and team based innovation/continuous improvement.

Note that: the **trust comes as a consequence, not a precursor**. *If there really is trust, why have a contract?*

And don't be shy, use your programme monitoring to record the benefits achieved.

VM SIG Blog: Value Management's stakeholder engagement dilemma.

Many project pundits (not least the APM) suggest the that 'stakeholder satisfaction' is how you should interpret the 'value' a project is aiming for.

We might then debate who the 'legitimate' stakeholders are. And who should have influence over the interpretation of value and who shouldn't! Appeasing all, or even as many as possible, would likely lead to a political compromise, and this doesn't sound like 'value'. Value might be represented by:

Value being a function of: **Benefits**

Divided by

The **Resources required** to deliver them.

And this doesn't solve the problem of who decides what's a benefit, and what's not!

The Value Management SIG has assumed that our projects would optimise the 'value' by maximising the benefits and reducing costs, providing those cost reductions don't reduce or put the intended benefits at risk. The process of Value Management is definitely aimed at doing just that.

And on its own doesn't necessarily deal with the 'what is a benefit' or 'is this value' dilemma. And that's because value is rather subjective.

You're well placed as PM to influence this. And given its thorny and problematic nature, might rather wish you weren't, from time to time. I've heard PMs say that's nothing to do with me, I'll just deliver what you ask me to! And others vehemently take on this responsibility, and hang the stress! For those with this attitude, this is the essence of the professional role.

Whatever your position you're likely to find yourself caught between stakeholder positions at some point in your PM career.

Fear not though, there's a ready answer. In *principled or interest based* negotiation. First coined by Fisher and Ury (in their book '**getting to yes; how to negotiate without giving in**') they offer an alternative to the traditional positional bargaining we normally associate with negotiation. In their alternative, participants are problem solvers, and the problem is to find an uncompromising and innovative solution that fits both parties' requirements, rather than one party lose out. They called this a 'win-win'. You've probably heard of that? The 'principled' negotiation process, in a nutshell, looks remarkably similar to the VM outline: Understand the problem(s); Understand the underlying interests; think of options that'll solve these problems; test any assumptions; agree or carry on looking for a better solution.

And other elements set the approach apart from traditional (arguing!) negotiation....

You should be hard on the problem, but soft on the people. You should decide using 'objective criteria' a measure that allows both sides to verify the value of a solution, and find evidence, not rely on an assumption or estimate. You should also do this with the other side. Now, lots of pundits propose the importance/advantage to PMs, of engaging with stakeholders. We agree. And also suggest that when you are, you take a 'principled' negotiation approach in that conversation.

Here's an imagined example.

University Academic client (UA) "*See here, you project people, we need a new laboratory, hop to it!*"

Principled Negotiator-Project Manager (PM): "*Sounds intriguing, what we you use it for?*"

UA: "*testing, experiments and such, you wouldn't understand*".

PM: "*you're probably right, I was trying to get a feel for the advantages it'd bring so I can complete a business/value case for you. What benefits will arise from it?*"

UA: "*well let's see, we'd bring new research funding in, probably, it'd enhance teaching for students on our course for instance. How about that? That enough?*"

PM: "*well that sounds attractive, how much research funding? How many students?*"

UA: "*Hard to say really.*"

PM: "*well how much did your dept bring in last year and how likely is the lab to influence this further?*"

UA: "*well not much, but Brexit didn't help. And it'll be harder in future we think. But in any event we'll be teaching our students in there, at least one morning a week, and there's 20 of them.*"

PM: "*ok so while there's no new research income likely, you'd still use it as teaching space, once a week for a whole morning?*"

UA: "*yes.*"

PM: "*could it be of use to related classes for the other 4 and a half days?*"

UA: "*oh we don't want anyone else in it, it's ours!*"

PM: *"we have an interest in space utilisation you see, so we'd like to get as much of the campus used as often as possible, campus space is an expensive overhead."*

UA: *"ok, but that really is your problem not mine."*

PM: *"your lab proposal makes things worse for this space use concern, at the moment, because it'd be used so lightly and then not be available to other courses the rest of the time".*

UA: *"well we need a lab!"*

PM: *"yes, you do, and we need it to be utilised also. Would other course tutors be able to teach their classes in there?"*

UA: *"oh I'm sure the rest of the dept would love to come in and mess up my lab, but I'd rather they didn't!"*

PM: *"I still need to utilise that space more. Are there others who'd use it?"*

UA: *"oh I suppose, but do they have to?"*

PM: *"let's find out who'd be interested, if there is a clamour for use of such a lab, then you get your lab, we get the space used!It's a win-win."*

This is a nice neat negotiation I've imagined! The PM never says no, nor does she compromise on her interest of achieving greater space utilisation. They are heading towards getting more classes taught in the lab. If the academic is right and there's likely to be lots of interest this will go ahead. If not the problem isn't resolved yet! So more thinking about solution-options would need to be done. No one compromised though, the reasoned argument defeats the unreasonable demands. And 'objective criteria' is used to achieve this... the PM needs to make sure the lab will be used, so there's some verification to do. Here's hoping, and if that works out, value is added!

"Might interest based negotiation help with your project stakeholders?"

VM SiG Blog (Coming soon): "Projects should add value; and not just spend money!"