

# PROJECT MANAGEMENT

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## Mindset and not toolset – it's all about people...

Project management is a dynamic growth industry, but the boom brings with it significant challenges which must be overcome to establish this young profession

### OVERVIEW

JIM McCLELLAND

Can you have too much of a good thing? With new business breaking down the door and client hotlines ringing off the hook, the world of project management is about to find out.

We have just passed the halfway mark in what the Project Management Institute forecasts will prove a dynamic, decade-long growth trajectory for project management from 2010 to 2020. Market value is expected to mushroom by more than 50 per cent (\$6.61 trillion) to reach a total economic impact in excess of \$18 trillion.

This global boom in project management is bringing jobs, creating an estimated 11 million new roles, mostly in China, India and the United States. UK employment, meanwhile, is expected to jump to just short of one million jobs.

Such spectacular growth prospects set industry pulses racing, but the day job of a professional project manager is not meant to be the stuff of high drama, says Alan Macklin, UK director of government acquisition and support programmes at CH2M UK.

"In part, the objective of project management is to be boringly reliable in delivery of outputs to time, cost and performance, with no surprises. But behind the boring delivery lies the challenge of innovation," he says.

In Mr Macklin's analysis, innovation is found in four key areas: advances in information technology; development of enabling concepts, such as agile; expansion into new fields such as finance and pharmaceuticals; and broadening of entry routes into the profession. Often championed as key catalysts for industry change are the megaprojects. These high-profile schemes enjoy the

sheer spend and scale to drive innovation. But does size matter?

According to Professor Andrew Davies, chair in the management of projects, at the Bartlett Faculty of the Built Environment, University College London, there is so much more to project management.

"Size can bring many challenges, but it's not really the issue," he says. "What matters are complexity, uncertainty and urgency. All these dimensions call for new innovative ways of thinking."

Professor Davies contends that the innovation journey in the built environment really began with Heathrow Terminal 5, where efforts were made to bring in new ideas and good practices from other megaprojects and

industries: partnering from oil and gas; lean production from automobiles; and digital tech from aerospace. This transformative project proved a major learning experience, having a significant influence on mammoth schemes to follow, such as London 2012, Thames Tideway Tunnel and Crossrail with its innovative 18 digital platform.

It is debatable, though, to what degree learning and knowledge gained on management of major projects actually gets transferred to the wider industry and smaller schemes. Steve Wake, chairman of the Association for Project Management and a thought leader in earned value, recognises this challenge of a roving project management elite.

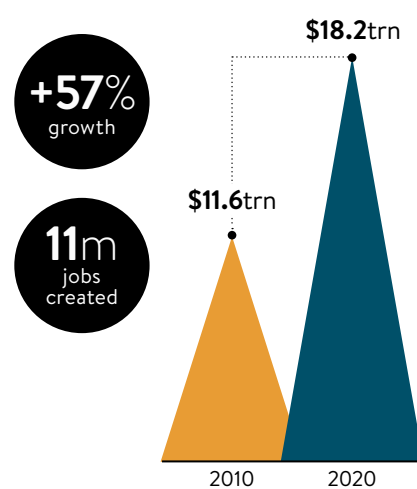
"The megaprojects are populated by the same herd of wildebeest. To their credit, they are creating learning legacies, so they leave more than their footprints. However, to be of national benefit, these legacies should be brought together in a common database," he says.

The call to improve learning capture, which can advance professional capabil-

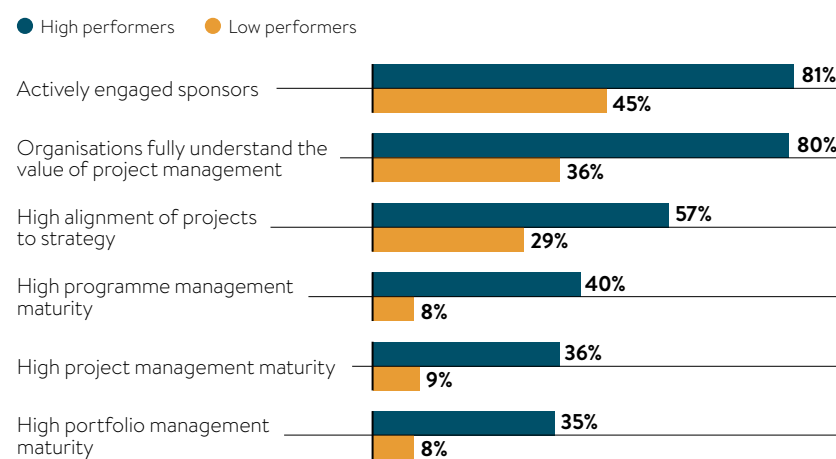
“The opportunity is there to bring in young project managers who have the vision of how technology can be used



### PROJECT MANAGEMENT INDUSTRY 2010-2020



### PROJECT MANAGEMENT: HIGH AND LOW-PERFORMING ORGANISATIONS



Source: Project Management Institute 2015

ity and build industry capacity, is also made by Martin Perks, project director at Mott MacDonald.

"Constant movement of staff between consultants and across the market, becoming integrated into client organisations, means learning is recycled across smaller and more diverse projects," he says. "However, knowledge management across businesses has to improve on a formal level beyond sharing by osmosis."

Digital working and collaboration can be a key driver of innovation and knowledge transfer, with project management part of this global megatrend, says London Underground director of capital programmes David Waboso.

"Project management is moving with the digital age, with things like useful apps for staff that give them a mobile risk assessment tool to summarise incidents, allowing timely and informed decisions to be made on the go," he says.

For David Swallow, programme director at Atos, digital promises a solution that could, though, become a problem for project management. "Digital and the internet of things are already changing the landscape of project management," he says. "The pace is very fast and great strides have been made to leverage obvious benefits."

"The opportunity is there to bring in young project managers who have the vision of how technology can be used. However, young people coming into the industry have had tablets and iPhones for half their lives. They will be horrified when they see the technology they have to put up with at work and will vote with their feet. As a discipline, project management will have to find a way of delivering change that feels as easy as downloading an app."

Described as a young profession, project management is facing growing pains. Fears of skills shortages are well founded, admits Mr Macklin.

"There will be a significant scarcity of supply and successful delivery experience takes time to build. In addition, the UK does not have the skills required in project controls to deliver the National Infrastructure Plan," he says. "The good news is we have a higher education platform on which to build these skills."

In pursuit of maximum capacity and capability, project management cannot afford to be insular or exclusive, either, argues Mr Swallow. He says: "We also need to make sure people from every discipline have project management skills. As project management has become more professional, other disciplines have abdicated their need to focus on budgets and timelines. Project management skills are critical for technicians and change-agents too."

In the face of onrushing global demand, this placing of human resource at the centre of the plan for the future of project management makes for clarity and conviction, concludes Mr Wake. "The modern project manager is about mindset, not toolset. We have all the method we need. It's all about people," he says.

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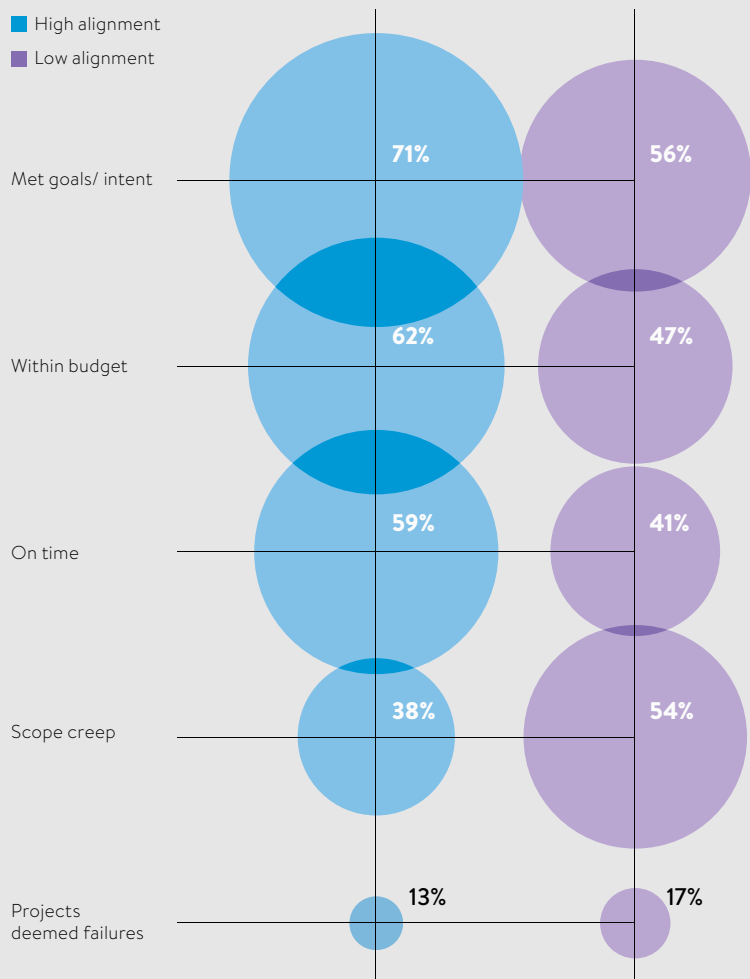


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## COMMERCIAL FEATURE

## IMPROVE PROJECT OUTCOMES WITH AN ALIGNED ENTERPRISE-WIDE PMO (EPMO)



## IMPROVE PROJECT OUTCOMES WITH THE RIGHT SKILLS

- Priority of developing technical, leadership, and strategic and business management skills is very or somewhat high
- Priority of all three is very or somewhat low

Projects deemed failures

Scope creep

On time

Within budget

Met goals/ intent

On time

Within budget

Met goals/ intent

On time

Within budget

Met goals/ intent

On time

Within budget

Met goals/ intent

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Source: Data: Pulse of the Profession®: The High Cost of Low Performance, 2016. Graphics: Raconteur

# SETTING PROJECTS UP FOR SUCCESS

Four ways a project management office can strengthen your organisation...



Performance – it's what counts when a critical project is in the pipeline. Your organisation relies on project and executive teams to drive the strategies that convert these projects into measurable business successes.

It's seldom a straightforward task to align projects with organisational strategy and many businesses struggle as a result. Project Management Institute (PMI) reports in its



Mark A. Langley  
President and chief executive of PMI

2016 *Pulse of the Profession®: The High Cost of Low Performance* that organisations in the UK continue wasting \$138 million for every \$1 billion invested in projects and programmes due to poor performance.

To reduce risk and stay competitive, today's leaders are placing a premium on the alignment of projects and programmes to long-term strategy. Project management offices (PMOs) give organisations a way to strengthen this connection.

"The PMO can provide a vital link between strategy and implementation," says Mark A. Langley, president and chief executive of Project Management Institute. "Without it, organisations face a higher risk of wasted work and redundancy of resources, which affect projects and, ultimately, business performance."

The PMO supports execution of project work by equipping the organisation with methodology, standards and tools to enable project managers to better deliver projects. It increases the capability of the organisation by implementing proven practices and providing a central point of contact for project managers.

It may provide training, mentoring and capability development for people, facilitate knowledge management through knowledge transfer, and perform portfolio management functions to ensure strategy alignment and benefits realisation.

## STRATEGIC ALIGNMENT

The need for the alignment of projects and strategy is as urgent as ever. According to the *Pulse* report, executive leaders and PMO directors agree on the importance of improving their competitiveness over the next three years.

Eight in ten executive leaders and PMO directors agree they will achieve that by formulating strategies appropriate for changing market conditions, prioritising and funding the correct initiatives and/or projects, executing initiatives and/or projects in a way that delivers strategic results, and using lessons learnt from failed projects to inform strategic planning.

An effective PMO addresses this need by:

1. Freeing executives to think strategically – rather than being bogged down in project details, executives can focus on strategic alignment;
2. Increasing strategic flexibility – a PMO creates the capacity to select the projects best suited to each moment;
3. Driving business growth through customer satisfaction – a PMO increases the chance that projects will be delivered on time and on budget, which provides tangible value to customers;
4. Improving decision-making – organisations can better evaluate the benefits and risks of individual projects in the context of the entire portfolio.

As businesses begin to undertake more complex projects and develop programmes to manage them, the role of the PMO has become



The PMO can provide a vital link between strategy and implementation. Without it, organisations face a higher risk of wasted work and redundancy of resources, which affect projects and, ultimately, business performance

come much more visible, providing organisations with project support and guidance.

Furthermore, with responsibility to align projects and programmes to corporate strategy, the PMO establishes and oversees appropriate governance of projects to ensure strategy alignment and benefits realisation. Organisations that align their PMO to strat-

egy report 27 per cent more projects completed successfully and 42 per cent fewer projects with scope creep.

## BUILDING YOUR PMO

Where to start? The first priority is to get executive buy-in and make the PMO a partner in strategy. An executive sponsor is key; this is an individual in your organisation whose seniority allows him or her to influence stakeholders, remove obstacles and allocate project resources as needed. The sponsor's access to other members of the executive leadership team, including the chief executive, helps ensure alignment between the PMO and the overall strategy.

Next, it's essential to find the right people. If possible, hire internally and recruit from multiple departments, such as sales, marketing operations and IT, to broaden the team skill set. When implementing new processes, look for internal best practices and allow for some local flexibility.

The PMO's role should be more consultative than administrative or regulatory, adapting practices from the *Guide to the Project Management Body of Knowledge (PMBOK® Guide)* to individual initiatives within an organisation's process and culture. The PMO also serves as the central resource for organisational knowledge transfer. By identifying and capitalising on the major contributors to project success and avoiding the leading causes of project failure, project success should be a predictable and repeatable event, instead of a hit-and-miss occurrence.

## LONG-TERM SUCCESS

The most effective organisations not only recognise the need for project, programme and portfolio management in everything they do, but also give the PMO its proper credence – management authority, support and tools – within the operational structure of the business. It is vital top executives understand the PMO and the best way to deploy and support it. To create a culture that embraces project management and to increase the business value they bring to the organisation, PMOs need to have clear direction, governance and support.

Staying true to the goals of a project or programme has always been a key element of success, but any number of business and market trends can knock projects – and organisations – off course. An effective PMO helps overcome these inevitable bumps in the road and set a clear course for success.

For more information please visit [www.PMI.org.uk](http://www.PMI.org.uk)

## CASE STUDY: PMI 2015 PMO OF THE YEAR AWARD



John McIntyre, head of PMO  
Ticketmaster International

Ticketmaster International, a finalist for the 2015 PMO of the Year award, has first-hand knowledge of how to strengthen strategic value through a PMO. When the company merged with Live Nation in 2010, they were tasked with "joining up the ends" between departments, processes and strategy. This entailed controlling the delivery of projects and collecting information to inform good business decisions.

With a budget of more than \$2 million, the PMO needed a better way to prioritise its mission-critical initiatives. Product roadmaps and requests were often left hanging in limbo, so the PMO asked each project team to build a business case using a template it provided. This allowed teams to show where they needed more resources, which led to accelerated delivery. The PMO also brought in an analyst to help teams clearly outline the anticipated business benefits of their projects. Armed with this information, the PMO provided project managers with the tools to address risks and manage change by accessing information about dependencies in real time.

"A strategic PMO must be able to shape the portfolio and the projects that will make a real difference to the business," says John McIntyre, head of PMO at Ticketmaster International. "Our PMO is testament to PMI's research findings that the alignment of strategy and portfolio management, along with benefits identification, is key to success. We have used this valuable insight to improve strategic planning, master dependencies, shorten cycle times and increase the strategic value of each project's output."



# HIGH-PERFORMING PMOs NEED TOP TALENT

There is a challenge to embracing project management that may seem surprising in a labour market still recovering from a sustained recession – the demand for qualified project managers outstrips supply.

This creates a highly competitive job market, so organisations need to be prepared for a real commitment to attracting and retaining the right talent. As part of this, establishing a formal career path for project managers within the organisation is vital to retention.

Organisations that prioritise having the right talent for executing strategic initiatives have a critical capability which gives

them a competitive advantage. One way organisations reduce the risk of investing in uncertain skillsets is by including certifications in their project management talent requirements.

Project management certifications, such as the Project Management Professional (PMP®), ensure the hiring organisation that resources are easily transferable across industry sectors, business units and geographical regions. They bring to each role the same set of proven skills and a shared vocabulary with other project managers and those who work with project managers.

While approaches to talent management for project professionals vary across or-

ganisations, the skills required by today's project managers are clear. Well-rounded project managers encompass the multiple skills that make up the Project Management Institute's Talent Triangle™, with the requisite technical project management skills, strategic and business management skills, and leadership skills to make projects work from the ground up.

In addition to proven technical acumen, they have the business experience and real-world perspective necessary to align projects with an organisation's long-term goals. More importantly, they're able to maintain collaborative relationships with the leaders who are driving that strategy.

Leadership skills make the third side of the Talent Triangle and leadership is the catalyst that takes a project from the boardroom table to the showroom floor. Successful project managers must wear many hats and understand multiple business "dialects" to communicate effectively with stakeholders from all areas of the org chart.

When organisations focus on all three areas, 40 per cent more projects meet original goals and business intent. Additional improvements are realised in managing budget, time, scope creep and projects deemed failures.

A variety of factors affect the complex equation of project management talent, other talent management, and executing strategy through projects and programmes. And these factors – external or internal, universal or unique – require attention and action from all stakeholders.

As organisations continue to make complex, higher-stakes initiatives their top priority and place a greater premium on performance, the need for ongoing development of project talent will become more apparent and more acute.

## PMI Talent Triangle™



# Nasty 'surprises' cost reputations dear

Is it unrealistic to expect major projects to be delivered on time and within budget, especially when they are spread over a long timescale?

OVERRUNS  
DAN MATTHEWS

When you calculate the end-date and budget of a major project, common wisdom says you should double the timescale and triple the cost. But throughout history there are examples of ambitious schemes, builds and grand openings in which even this generous formula couldn't account for the torrential overspill of time and money.

Indeed, the default setting for big projects seems to be "late and expensive", while the number delivered on time and to budget is so small that it vies for second billing with the group of abandoned money hoovers that were never even finished.

The Northern Powerhouse infrastructure project, HS1, HS2, Crossrail, Welsh Assembly building, Scottish Parliament Building, the new Wembley Stadium, The Shard and countless other major projects have all come up against "surprise" glitches that led to swollen costs, revisions and delays.

A towering example of project failure is the Connecting for Health Agency, created to oversee the NHS National Programme for IT. This was dubbed the "NHS super computer" in the media, though it was neither super nor a computer; nor ultimately very much of anything else.



The eventual losses from the IT programme were approximately the same as England's total annual council tax bill

The ambitious programme was supposed to establish a central database for medical records and connect thousands of doctors in England to hundreds of hospitals, giving them easy and instant access to patient data – a laudable ambition.

Established in 2002, the project sucked in money for two whole years before it began awarding contracts for the build. NHS Connecting for Health was created in 2005 to manage the process, but by then the wheels were already coming off, along with the windows and the bumper.

In the summer of 2006, the National Audit Office (NAO) estimated that the cost of the project would be £12.4 billion over ten years, not £2.3 billion over three years as originally planned. By 2007, the House of Commons Public Accounts Committee said it was more likely £20 billion.

With costs ballooning eight-fold and nothing tangible delivered, the National Programme for IT was mothballed in 2011, but as late as 2013, the NAO said legacy contracts were still draining public money and fines for failure hadn't scratched the surface of the gargantuan outlay.

The eventual losses from the IT programme were approximately the same as England's total annual council tax bill. But thankfully for the taxpayer, the lessons of this episode were learnt well. Ensuing big-money contracts were properly conceived, planned and executed.

Yeah right. Just two weeks ago the story of the Torfaen Wisdom Bank website hit the headlines. The site, designed to "unleash" the collective wisdom of people in the Welsh county borough, attracted just 340 registered users in two years.

With £250,000 from Big Lottery Fund, it was a financial drop in the ocean compared to the super computer. And yet the net gain of zero was just as glaring.

Why do big-money projects go off track? From the Olympic Park – any Olympic Park – to the film *Titanic* via the Qatari World Cup, if a project has money and parameters for success, then it will probably burn through the former and blow up the latter.

It's as if the senior echelons of project management attract only people who can't add up or tell the time. How else do you explain the eternal merry-go-round of missed targets and red faces?

The problem, according to experts, is that big projects with long timescales are just about impossible to map. At the start of any project there is a kaleidoscope of hazards lying in wait. The bigger the plans, the more variables can go wrong. The further off the deadline, the more these variables can mutate.

A ten-year project is a shot in the dark. Consider this: the most popular mobile phone launch in 1999 was the Nokia 3210. It was a revolution in communications, capable of storing 250 numbers and featuring that great snake game. Eight years later came the iPhone, capable of just about anything.

Such a quantum leap in mobile telephony illustrates how things change in relatively short periods. That's before you throw into the mix political upheaval, economic cycles, consumer trends, working patterns, demographic changes, retirements, and natural and man-made disasters, to name only a handful of variables.

But Peter Mayer, managing partner at Pelicam Project Assurance, says people are too often their own worst enemies when it comes to understanding and planning for

## THE COST OF POOR PROJECT MANAGEMENT

A SURPRISING AMOUNT OF PROJECTS FAIL TO MEET THEIR INTENDED OUTCOMES AND CAN BECOME A COSTLY BURDEN FOR COMPANIES WHEN POOR MANAGEMENT IS TO BLAME

### PRIMARY CAUSES OF FAILED PROJECTS

- Task dependency: 41%
- Team member procrastination: 38%
- Inexperienced project manager: 37%
- Limited/taxed resources: 31%
- Inadequate resource for forecasting: 31%
- Resource dependency: 31%
- Inaccurate task-time estimate: 30%
- Poor change management: 30%
- Inadequate sponsor support: 30%
- Inadequate/poor communication: 29%
- Inadequate cost estimates: 29%
- Inadequate vision or goal for the project: 29%
- Opportunities and risks were not defined: 28%
- Inaccurate requirements gathering: 26%
- Change in project objectives: 26%
- Change in organisation's priorities: 22%

Source: Project Management Institute 2016

### MOST TROUBLESOME PROJECT MANAGEMENT PROCESSES TO EMBED

- Benefits realisation: 40%
- Change control: 32%
- Lessons learnt: 31%
- Resource management: 28%
- Project prioritisation: 25%
- Stakeholder engagement: 22%
- Project sponsorship: 21%
- Life-cycle governance: 20%
- Document management: 18%
- Progress measurement: 15%
- Cost management: 14%
- Planning (scheduling): 12%
- Portfolio reporting: 10%
- Project status reporting: 8%

Source: Project Management Institute 2016

### CURRENT STATE OF PROJECT OUTCOMES

LARGE PROPORTION OF PROJECTS ARE STILL NOT HITTING THEIR TARGETS

- Met original goals: 64% (2012) to 62% (2016)
- Completed within original budget: 55% (2012) to 53% (2016)
- Completed on time: 51% (2012) to 49% (2016)
- Experienced scope creep: 44% (2012) to 45% (2016)
- Failed project's budget lost: 34% (2012) to 32% (2016)
- Deemed failure: 15% (2012) to 16% (2016)

Source: Project Management Institute 2016

### DIFFERENCES IN VALUING PROJECT MANAGEMENT

DO YOU BELIEVE YOUR ORGANISATION FULLY UNDERSTANDS THE VALUE OF PROJECT MANAGEMENT?

- PMO DIRECTORS: 54% Yes, 46% No
- PROJECT MANAGEMENT PRACTITIONER: 45% Yes, 55% No
- SENIOR EXECUTIVES: 26% Yes, 74% No

Source: Project Management Institute 2016

### TOP CHALLENGES FOR PROJECT MANAGEMENT OFFICES

- Organisational resistance to change: 51%
- Having enough time/resources to devote to strategic activities: 47%
- Demonstrating the added value of the PMO: 45%
- Inadequate resource management capability: 43%
- PMO processes are seen as overheads: 43%

Source: PM Solutions 2014

### CONTRIBUTORS TO PROJECT DELAYS

- Change in scope mid-project: 41%
- Poor estimates in the planning phase: 39%
- Insufficient resources: 30%
- Weak project planning: 21%
- Lack of change-control management: 15%
- Lack of executive sponsorship: 15%
- Change in strategy: 8%
- Change in environment: 6%
- Ineffective procurement/supplier: 6%

PwC 2014

### IMPORTANCE OF PROJECT MANAGEMENT CULTURE

PROJECT SUCCESS WHEN PROJECT MANAGEMENT CULTURE IS...

- High Priority: 71%
- Low Priority: 52%

Source: Project Management Institute 2016

Mike Ward, director at One Way, the rail and construction recruitment specialist, says even when projects are in the hands of professional organisations with plenty of experience, forecasts are almost always wrong.

"The Wembley project back in 2007 is one prime example of a high-profile build overrunning and spiralling out of budget," he says. "The stadium eventually cost £827 million, considerably more than the originally agreed 'fixed price' of £458 million, once the cost of acquiring the land, paying stamp duty and other additional costs have been included."

The rising costs were due to a procession of glitches. "The project was hamstrung by a stream of issues including burst water mains, incorrect concrete being used in the foundations and difficulties with the now-iconic 133-metre-high signature arch," says Mr Ward.

Peter Osborne, head of e-commerce at consultancy iBe TSE, says fundamentals of proper project management are straightforward, yet almost always get lost amid the complexity and noise surrounding projects, particularly where IT is a key component.

He cites another big-money IT debacle, this time overseen by the Home Office, which in 2014 reportedly splurged £350 million on a computer system to deal with immigration and asylum applicants.



So long as a project manager has a decent overview of all activity, they will be able to identify areas where other teams and departments need to be involved

When the NAO conducted a review of the project, it uncovered a "loss of focus, poor governance structures, and optimism bias in planning and reporting". The Home Office wrote the system off and commissioned a new one. The estimated further cost is expected to be just over £200 million. Watch this space.

"Leadership is the most significant of all the fundamentals," says Mr Osborne. "Without this, the others become progressively more complex. Key individuals with the right skills and behaviours in critical decision-making roles increase engagement and reduce resistance to change, and most critically give a clear view of the impact of the project on the business."

The moral of the story seems to be that things change and stuff happens, which is an unavoidable consequence of working in chaotic and unpredictable times. But it's not the nasty surprises that derail projects, it's the stakeholders' inability or unwillingness to plan for them and, when an iceberg inevitably appears on the horizon, a lack of consensus on how to steer the ship away from danger.

But perhaps the biggest cause of project failure lies in the initial pitch. Contractors must impress purse-holders with promises of frugality and brevity. Painting a pragmatic real-world picture to a board is a bit like not turning up at all.

An unrealistic project plan is then exacerbated by communication failure, loss of interest and an unwillingness to comprehend a situation spiralling out of control. Instead of adapting, teams bury bad news or ignore it until the elephant in the room starts collapsing the walls.

Communication, then, is key. "So long as a project manager has a decent overview of all activity, they will be able to identify areas where other teams and departments need to be involved in aspects of the project," says Jean-Pierre Ullmo at project management company Changepoint.

"With data moving from silos to a unified platform, and existing processes being updated, each department will have a role to play and will need direction on exactly what they need to do to ensure the process runs smoothly."

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changes that absolutely will happen sometime down the line.

"Time again we see the same contributing factors: too many stakeholders, the sponsors failing to provide the right clarity, and ineffective working relationships between partners and suppliers," he says. "Most projects involve technology today and that brings its own set of challenges especially when it's new tech. Anything longer than a 12-month project and additional factors kick in."

Maurice Vink, principal consultant at PeopleTECH, agrees. "The shifting sands of boardroom politics are the biggest single unknown in most major projects," he says. "Having signed off on a project, executives are quick to move on. A new broom may want to make a mark by culling the project portfolio. And a lengthy delivery schedule is a sure-fire guarantee of waning executive support, as newer initiatives always look fresher and more appealing."

## CASE STUDY: REDEVELOPING BIRMINGHAM NEW STREET STATION



In 2008, when plans were put in place to revive Birmingham New Street Station, it was thought of as one of the UK's worst transport hubs. It was

ugly, poorly laid out and operating far beyond capacity, making travelling through the station a cramped and unpleasant experience.

But the station is also an essential artery for Birmingham, so much so that despite the comprehensive £700-million reboot, it had to remain open.

"The redevelopment of Birmingham New Street station threw up several major surprises, which made the project very challenging at times. We were redeveloping an old 1960s structure, which had been built to old design codes with poor levels of workmanship," says Chris

Montgomery, director of Northern Programmes at Network Rail.

"The project team did not have access to many of the original drawings, which would have shown how the structure was built. This meant they had no choice but to make certain assumptions about the structural integrity of the building.

"Another difficulty was being unable to conduct as much surveying as we would have liked as this would have meant closing the station and causing huge disruption for passengers.

"The building ended up being in a much poorer condition than we had anticipated and the structural

problems we came across during construction meant that late redesign was necessary, which in turn caused considerable cost-escalation.

"It is not feasible to survey every square inch of ground below a building's foundation, so there will always be a certain degree of risk before starting work on a major project. It is important, although sometimes difficult, to establish how appropriate the level of surveying is to the level of risk.

"This means that clients need to provide sufficient budget for the cost of undertaking surveys – something they may not always deem necessary in the early stages of a development."

COMMERCIAL FEATURE

# WHY ORGANISATIONS SHOULD BECOME AGILE

Organisations that adopt agile project management techniques are likely to benefit from more projects being delivered early and generate faster returns on their investment



Agile project management helps organisations gain an edge over competitors that have still to take advantage of its flexibility and responsiveness.

Yet surprisingly, while the use of agile in project management is now well established among professionals, many organisations find the adoption of agile a challenge.

In a new report by AXELOS, which surveyed almost 2,500 professionals, a large majority, 81 per cent, saw value in working in an agile way. It also found that the appetite for agile methods among individual professionals was on average 37 per cent greater than that of their employer.

This apparent lack of confidence among organisations in agile methods has created something of a disconnect between the belief that professionals have in the value of agile and how it is used in their workplace.

AXELOS, which owns a number of global best-practice methodologies, is a pioneer of agile. Last year it launched PRINCE2 Agile, which combines the flexibility and responsiveness of agile delivery with the established and proven best-practice framework of the world's most recognised project management method.

According to PRINCE2 Agile's lead author Keith Richards, it isn't just the bottom-line benefits, such as earlier project completion and return on investment, which organisations are missing out on by failing to adopt agile. They also run the risk of losing valuable talent.

"Those individuals who have embraced agile, as highlighted by the report, may well decide to move to organisations that are more readily adopting," he says. What is behind this reluctance to move with the times? Mr Richards believes it may be a simple fear of change.

"For some organisations, agile can feel scary, uncomfortable and counter intuitive," he says. "A lot of people are still used to and choose to stick to the waterfall way of working. But a reluctance to embrace change puts organisations at risk of becoming out of date very quickly or at least becoming marginalised."

Comparing waterfall methodology with agile, the former is the more traditional, involving a structured and sequential process where projects are split into a short number of large stages. The linear methodology steers the project forward from one stage to the next in a downward, waterfall-like manner.

This approach lends certainty at the outset, but in the last two decades has come under criticism for being too inflexible. For example, a change in product design requested at the testing stage could impact on the project as a whole.

The solution to this need for greater flexibility was the development of new techniques such as agile, which is based on a more modular approach. Project delivery is broken down into larger numbers of smaller iterations, with stages measured in weeks rather than months.

The advantage of agile is that frequent adjustments can be made throughout the project delivery with-

out having to start the process over again. The scope for testing at each project stage can also improve the chances of a successful outcome.

Nikos Paxos, head of programme and project management at AXELOS global best practice, says: "Where organisations want budgets, deadlines, resources, objectives and functionality detailed at the project outset, waterfall methods have served them well. But with the fast pace of business change, particularly in rapidly evolving sectors such as technology and digital, agile processes have come into their own because the iterative style is able to accommodate and support any sudden new developments that force the need for change part way through the project."

Given that agile lends itself to a more flexible style of project management that has been proven to deliver on budget, timings and return on investment, it seems strange to learn that senior leaders, despite valuing the benefits of agile working, have some misgivings about the approach.

**Project management professionals have a role to play in reassuring organisations by making it clear that agile does not mean less control or less governance and dispelling the perceptions that agile is somehow dangerous or unorthodox**

It is within the older traditional sectors where the challenges around agile adoption are most notable. The banking sector, for example, is a more traditional industry that has undergone radical change in the last few years, both from a technological and regulatory perspective, and organisational cultures are still struggling to adapt. In young and new innovative companies, especially in the creative and digital sectors, the people there have grown up with change.

But as the AXELOS report has shown, people are valuing working in agile ways with organisational-level culture also seeing the value. The study found that within the finance sector, the gap between the value individuals place on agile working and that at organisational level is at its smallest.

The report also found that among individual professionals, those in senior management roles were among the most enthusiastic for agile, with 83 per cent acknowledging its value.

Mr Richards says: "In the digital era, we are in an 'on-demand' situation; Uber being a good example of the impact disruptive innovation can have on tradition-



Keith Richards  
Agile consultant

al business models. The question is, as an organisation, do you respond or hope for the best? The leaders of these organisations are concerned about the potentially negative impacts of implementing 'fragile agile', which they believe can lead to anarchic ways of working. For this reason, they are reluctant to relinquish full control. Whereas it should be about changing culture and mindset, and having to embrace current thinking."

Project management professionals have a role to play in reassuring organisations by making it clear that agile does not mean less control or less governance and dispelling the perceptions that agile is somehow dangerous or unorthodox.

Mr Richards adds: "The reality is that although agile is responsive and adaptive, it does not mean there is a lack of governance or it is a more dangerous way of working. Organisations need to gain a competitive edge; in today's tough markets you have to at least stay current."

Communication is key. Simply working in a more agile way, with small teams assembled from different parts of the organisation, may be more efficient, but failure to communicate what is going on to the senior management team is the surest way to disengage them and put the project at risk of failure. Because the stages and phases of projects using agile techniques are a little less easy to quantify, getting senior management buy-in relies on their full understanding of the process.

Whether it is a small startup developing the next generation of mobile apps or one of the major banks offering an online banking app to their customers, the digital revolution has meant businesses nowadays must be able to respond and adapt to change very quickly.

For this reason agile is no longer considered niche and is increasingly being feted by the project management profession for the flexibility and the potential it has to deliver successful projects faster. In doing so, it can play a major role in helping organisations stay ahead of their competitors.

To read the full report please visit [www.axelos.com/2016-prince2-report](http://www.axelos.com/2016-prince2-report)



## Project success requires an agile approach

As project management moves towards leaner, more agile processes and practices, project managers must demonstrate an aptitude for flexible thinking

### PROJECT FLEXIBILITY

ALISON COLEMAN

Completing projects on time, within budget and to the brief is a project manager's primary objective. But sticking too rigidly to an initial brief and allowing the project no space to grow could diminish the value of the final product to the client.

"Managers who take a flexible approach accept that projects will develop from the initial project brief," says Mark Stevenson, director at Black Pepper Software. "However, they must keep in constant communication with the client to ensure that changing requirements are recognised and incorporated into the project."

Agile has become a project management buzzword, gaining popularity due to demands for faster and more responsive cycle times, and moves towards a less contractual, more collaborative way of working between the project management team and the business. To remain current and relevant in this new world of faster pace delivery, project management has been looking to reposition and rebrand itself.

Darren Thorp, operations gateway manager at Ordnance Survey, says: "I believe project management requires greater maturity and flexibility to shift between methodologies, establishing several key patterns that work for the organisation. For project managers to remain relevant they must be adaptable and able to prove their value in facilitating delivery on a variety of projects using multiple approaches."

But there are potential risks with a faster paced, more flexible approach to project management, as Dr Stephen Simister, associate professor of project and programme management at Henley Business School, points out.

He says: "One current trend in strategy development, borrowed from the military, is how organisations need to take account of living in a VUCA world. VUCA - volatility, uncertainty, complexity and ambiguity - challenges the ability of organisations to plan for the future.

"In project management, planning is everything; traditionally we have used tools such as risk management to reduce risk and uncertainty. However, techniques such as lean can actually increase risk. For instance, delegating sign-off to one person rather than

### AGILITY AND PROJECT OUTCOMES

Companies with:

● High organisational agility

● Low organisational agility

Met original goals/business intent

75%

56%

Finished within budget

67%

45%

Finished on time

65%

40%

Source: Project Management Institute 2015

a committee could mean if that person falls sick, there is nobody to do the sign-off."

Some sectors struggle to adapt to flexible methodologies, especially where projects involve major change; the public sector being a case in point. With their budgets under increasing downward pressure, many local authorities are demonstrating a greater will to be more flexible, yet the same budgetary pressures have made them more risk averse, with the result that good intentions are frustrated by red tape and projects remain frustratingly inflexible.

"The desire for greater flexibility within local authorities is well known," says Nigel M. Taylor, an independent consultant with public sector experience. "But the practicalities of shifting long-standing processes and the culture that wraps around them takes much longer than in the private sector, partly because of a resistance to the cultural change that is needed, and because of the increased aversion to risk."

The construction industry could benefit from the level of project flexibility enjoyed by the software development and manufacturing sectors. Jon White, UK managing director of global programme management consultancy Turner & Townsend, says: "Many of us in construction have long regarded with envy the lean production methods originally developed by Toyota and subsequently adopted so successfully by the world's best manufacturers.

"The technique dramatically reduces waste and improves efficiency, but has so far proved difficult to emulate in construction, due to difficulties aligning the fragmented supply chains involved in delivering a major project, cultural inertia and the need for bespoke designs."

Nevertheless, Mr White believes the challenges can be overcome, for example by implementing robust change control processes and building in "last responsible moments" for change within the project plan. "By adopting these principles, project managers can ensure maximum flexibility while keeping a firm grip on both schedule and cost," he says.

While a flexible approach can alleviate many of the problems associated with projects, increased costs and missed deadlines, its real value lies in the collaboration it facilitates between project manager and client.

Black Pepper Software's Mr Stevenson concludes: "By constantly communicating and collaborating with the client, agile project managers can help them to evaluate the project objectives and advise on the best path to take towards success. This creates a trust between the client and the project managers to create a product that is beneficial to the company."

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### FIVE GOLDEN RULES OF PROJECT FLEXIBILITY

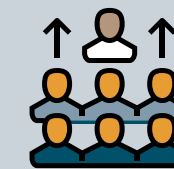
#### 01 PLAN AHEAD FOR FLEXIBILITY

A project's processes should always be mapped thoroughly at the start and flexibility should be built into this to accommodate late changes. This involves scheduling a series of "last responsible moments" for design elements that are liable to change during the construction process, explains Turner & Townsend's Jon White. The most important step is to adopt clear and robust change-control processes so that all parties involved fully understand the implication of change before it is instructed.



#### 02 CREATE TEAMS WHO CAN THINK FOR THEMSELVES

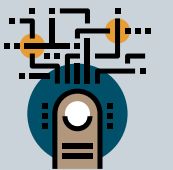
In traditional project management, the team has been selected because their skillset matches the project needs. However, the project manager often feels the need to micromanage the team to keep them on track. "In most cases you don't have a team that thinks and acts as one, but a group of individuals that needs herding like cats," says Henley Business School's Dr Stephen Simister. "Creating a true team that can provide its own leadership is vital. The team leads itself and the project manager keeps the path clear for them."



#### 03 MAINTAIN A REAL-TIME VIEW OF ALL ACTIVITY

Project managers need visibility of all activity in order to keep abreast of exactly what's going on, regardless of when they're next due an update on progress. Using a central dashboard allows project managers and chief information officers to see when problems are arising and respond. In time, recurring problems will be easier to identify. Jean-Pierre Ullmo

of ChangePoint says: "By using business intelligence to support IT project portfolio management, IT execution can be aligned with business strategy, costly delays can be avoided and resources managed more efficiently."



#### 04 BREAK THE WORK DOWN INTO SMALLER CHUNKS

Traditionally project teams will have spent months working on large deliverables before anything is produced. Progress is difficult to measure and, if anything needs to change, then a considerable amount of work effort is wasted. Smaller deliverables, typically within a week or even a daily timeframe, is the approach used by many agile projects to counter this issue. Teams can focus on producing real outputs quickly and efficiently, and any changes that are required can be swiftly be incorporated into the next batch or deliverables.



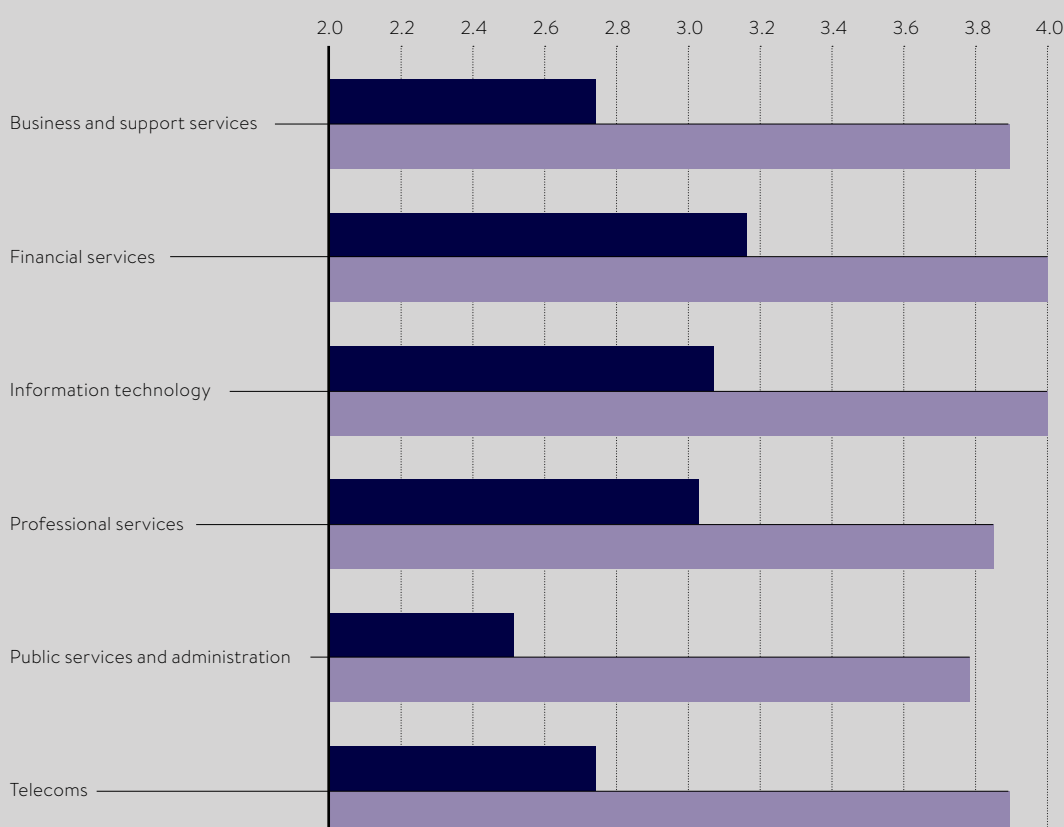
#### 05 CONSIDER FLEXIBLE CONTRACTING

Contractual terms and conditions are designed to pin down project deliverables, which can work well where a project is low risk. Val Jonas, chief executive of risk management specialist Risk Decisions, says: "Large supermarket chains, for example, give or take local planning and environmental risk, can construct a new outlet within weeks with a high degree of certainty." However, in higher risk business, such as large-scale technology projects, a level of flexible contracting can work better. "Time and again, large IT projects fail, usually because it has been impossible to pin down the detailed requirements," adds Ms Jonas.



### AGILE: INDIVIDUAL'S VALUE AND ORGANISATION'S APPETITE BY INDUSTRY\*

■ Organisation's appetite average ■ Individual's value average



\*based on a 1 to 5 scale

Source: AXELOS PPM Market Research Study, March 2016, from 2,454 respondents

# The next big thing in project management

Although project managers have yet to embrace wholeheartedly the power of big data, early adopters can grab the advantage and put data analysis to work for greater insight

**BIG DATA**  
CHARLES ORTON-JONES

Big data comes in waves. One sector notices it, gets very excited, and then just when the hoopla has died down, another sector goes bananas for big data.

The military were early adopters, using data patterns to find terrorists in Baghdad. This spread to domestic police forces, as they identified things like which houses are likely to contain illegal immigrants, and where crime spots were emerging.

Retail got the big data bug about four years ago. The ability to suck in all data to calculate tricky concepts such as the lifetime value of a customer and best products to cross-sell proved hugely productive. Now manufacturing is seeing the potential. Big data means airlines can guess when a part is about to wear out and schedule engineers to replace it.

And project management? We seem to be in the calm before the storm. "In our experience and from what we have seen with customers, big data has yet to really take hold in project management," says Brian Brinkmann of Logi Analytics, a self-service data analytics platform.

Verdicts from across the big data industry echo this. Dr Mathieu d'Aquin of the Open University's big data-focused Knowledge Media Industry, admits: "I am not personally aware of existing applications based on the meaningful use of big data in project management."

To which there are two replies. First, there are early adopters of big data in project management. And second, the case for big data is so profound that any project manager, who wants to thrive in the next few years, ought to starting learning about it.

Here's one example of big data delivering the goods in project management. Energy giant Centrica has three million customers. It wants to reach five million by the year-end. To do that it needs to maximise its data usage. With the right approach it can give marketers the power to see why customers defect to rivals, which campaigns work and maintenance staff can see where to focus efforts.

But as a big data novice, Centrica started out unprepared. The data was stored in a variety of incompatible silos. This made it impossible to look for correlations across the data. Centrica partnered with Horton-



British Gas owner Centrica partnered with Hortonworks to produce a 'datalake', a simple-to-use database of 4 petabytes of customer data

works, one of the main contributors to the Hadoop technology, which is ubiquitous in big data deployments.

"Centrica had traditional data like billing and HR, which is actually quite small data," says Andy Leaver, Hortonworks' vice president of international operations. "Then there was data from contact centres and web interactions, and that is medium-sized data. And finally there was machine data coming from smart meters, their people on the road and other automatic sensors, which is definitely big data. In total Centrica adds 300 gigabytes of new data a day."

Hortonworks gathered all Centrica's data into a single place, known as the datalake. This is a 4 petabyte database. Searching technologies were added, with simple-to-use interfaces. Now 500 people can run queries and analysis on the data. They create their own reports and dashboards. Project managers in engineering are able to look at the data to see if their projects are on track. Project managers in marketing can refine customer interactions. Bulk marketing has stopped as a result.

Pretty much anyone can now use the data. Mr Leaver says: "Non-IT people in various departments can use the data on a self-ser-

vice basis. They don't need to work with a data scientist to pore through it."

Project managers wanting to become big data experts can take heart from this. It's not a path to purgatory as many fear. Rami Hadadi, senior director, Europe, the Middle East and Africa, at big data software specialist Informatica, says: "Many project

managers perceive rapidly evolving big data technology as too much of a technical mountain to climb. They believe they will either have to learn to code by hand or hire a data scientist at great cost in order to convert data from its raw state into actionable insight." It's a myth.

"Project managers need access to tools which simplify the process; for example, semantic search, data discovery and self-service data preparation. Rather than spending 80 per cent of the time prepping data, project managers should be taking advantage of automated solutions to free up resources, which could be used to deliver business value based on the data insight," says Mr Hadadi.

The only merit in learning the vocabulary of big data is to demystify it. Terms such as Apache Hadoop, Pig, MapReduce and YARN get bandied about. Dr Marcello Trovati, big data programme leader at the University of Derby, says project managers should forget about going too deep.

"Paradoxically, for such a technical field, there is no need for project managers with highly technical degrees or PhDs," he says. "Actually, it might even be counterproductive. Too much knowledge in one area might create intellectual biases, which

would potentially result in pursuing specific paths because they might be in line with one's expertise."

Instead project managers should learn how to use the data and foster good data etiquette. Kim van Rooyen of big data consultancy Turner & Townsend says it's vital for project managers to ensure they hand over data to clients post-project.

"Data should be at the heart of the contract, and there should be seamless transition between the project ending and a client taking control. A building may take three years to build, but the building will be there for 30 years. Project managers need to ensure clients get the maximum return for the life of the result by using the data," he says.

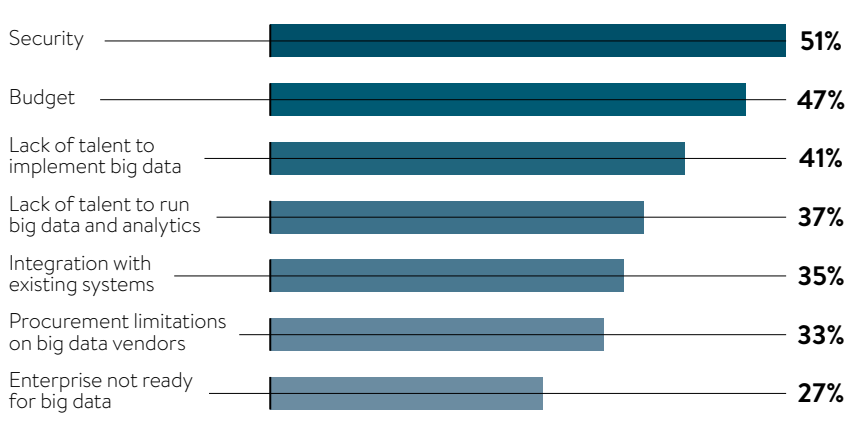
Using past projects as benchmarks is critical. Mike Merritt-Holmes, co-founder of the Big Data Partnership, says: "Aspirationally, project managers can take in historical data from projects and over time use machine-learning to get a risk profile. You can identify flags and start to see trends." Though he adds: "It is not mainstream yet."

Want to improve your big data skills? Then enrol on one of the many courses available. Turner & Townsend run a distance learning course in partnership with the Royal Institute of Chartered Surveyors, called Certificate in Building Information Modelling Project Management, suitable for facilities managers, surveyors and construction project managers. Other sectors host one and two-day introductory courses. The lessons will be immediately transferable to project management.

The key is to get involved early. As Mr van Rooyen puts it: "There is a generational split, with the old guard sticking to old ways and being reluctant to embrace the digital age, and the new guard who see how data can improve delivery. It's like Blockbuster versus Netflix. Those who use data will lead the way in the future."

Like all those other industries before it, when project management adopts big data, it's going to be a big deal.

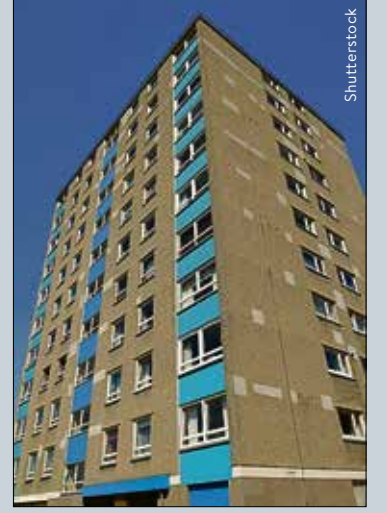
## MAIN CHALLENGES IN IMPLEMENTING BIG DATA IN YOUR COMPANY



Source: Accenture 2014

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## CASE STUDY: SEFTON COUNCIL



Empty houses don't pay full council tax – so occupiers often lie to councils, costing a lot of money. Sefton Metropolitan Borough Council suspected people at almost 4,900 addresses were claiming incorrectly, but carrying out physical house-to-house inspections would have been too costly. The solution? A big data number-crunching exercise. It hired big data consultancy arvato to do the job.

John Wybrant, account director at arvato, explains how data can reveal wrong-doing: "The solution was to look at credit and other financial information, such as insurance history and payment activities, and use specialist software to overlay this data with the data the council already had on each property. The result of this analysis was a ranking table, which provided us with a clearer picture to target the houses that were the most likely to be occupied."

"By using big data in this way, we were able to determine which properties had illegitimately been registered as empty, and subsequently reduce the level of council tax fraud and evasion."

"In fact, Sefton Metropolitan Borough Council was able to classify 434 houses out of 4,900 as highly likely to be occupied and a further 1,313 as reasonably likely. This categorisation helped us prioritise the subsequent physical inspections, starting with those with the highest chance of being occupied. As a result of verifying empty properties, 89 were brought back into occupancy after just the first month of the operation."

# Learning project lessons, sometimes the hard way

Digital megaprojects are the biggest challenges a project manager can face. Here are four smash-hit successes and four dismal failures, with the lessons to be learnt...

**DIGITAL MEGAPROJECTS**  
CHARLES ORTON-JONES



**PROJECT: OYSTER CARD**  
**LESSON: ROLL OUT SLOWLY AND KEEP TESTING**  
The Oyster card is arguably the most successful political initiative in a generation. It revolutionised travel in London for the better. It meant commuters could board buses and Tube trains with a touch of a card. Queuing for tickets became redundant. And it gave Transport for London a detailed record of passenger routes, allowing scheduling to be refined. The TranSys consortium behind the project was made up

of Fujitsu, Cubic, EDS and WS Atkins. The strategy switched early on from a big bang implementation to a slow rollout to give time to iron out glitches. A testing facility ran London Underground through mock-up stations. "The system was given a very thorough thrashing before it was let loose on the public," recalls Pat Morey, project manager for TranSys. It worked brilliantly. The approach deserves to be studied and copied by anyone attempting infrastructure projects on a similar scale.

**PROJECT: HALVING THE ADMIN BUDGET AT BIS**  
**LESSON: BIG GOALS TRIGGER HIGH PERFORMANCE**  
In the drive for austerity after the 2010 general election, the Department for Business, Innovation and Skills (BIS) was whacked harder than any other. The administration budget was to be halved over the course of the parliament. Yet BIS managed it, with no noticeable reduction in function. How? The big goal had project managers thinking creatively. Agencies merged, such as the Office of Fair Trading and the Competition Com-

mission, taking the number from 70 to fewer than 50. A new Enterprise Performance Management IT system gave managers visibility on efficiency. Finance functions were automated. Not for nothing did BIS win the National Audit Office's Excellence in Reporting award in October. Director general of finance Howard Orme kept staff outside with honest messages about the changes. "My approach is to be upfront," he says. "Get people involved in the change, get them to plan it – even those areas closing down."



**PROJECT: CROWN COMMERCIAL SERVICE LAUNCH**  
**LESSON: TRAIN STAFF**  
Project managers in the public sector had a common moan prior to 2011 – the contracts they were executing were often drafted appallingly. They would lack basic key performance indicators, the procurement deals were ruinous and some projects would be 20 years long, with no exit plan if third parties failed to deliver. So in 2011 chief procurement officer Bill Crothers with Francis Maude at the Cabi-

net Office founded the Crown Commercial Service (CCS). Procurement officers would be trained in the new Commissioning Academy. The new training stressed that contract duration should be cut to five to seven years. Projects should be "open book" so managers could see profit levels and other metrics. In 2014 the CCS vetted £15.1 billion of IT spend, saving the DVLA £57 million on a package of contracts. Overall the initiative claims to have saved £5.9 billion in 2014-15.

**PROJECT: 2012 OLYMPIC GAMES STREAMING**  
**LESSON: SOMETIMES YOU'VE GOT TO SHINE**  
The Olympics is more than a festival of sport. It's a chance for the host nation to showcase everything it is good at. And when London hosted the 2012 Games, the BBC wanted to prove it was still the world's best broadcaster. It vowed viewers would never miss a moment and that the coverage would prove the claimed obsolescence of the BBC is nonsense. The BBC would stream

every event simultaneously online, with up to 24 high-definition channels providing 2,500 hours of sport. Access was via mobile, tablet, PC, games consoles and TVs with a red button. There was social media integration, live alerts, an app, and guides to every athlete and event updated in real time. Selected highlights were in 3D. The result? The nation unified behind Team GB. The BBC got its halo effect. And the nation got the Games it yearned for.



**PROJECT: UNIVERSAL CREDIT**  
**LESSON: CONFESS ERRORS AND LISTEN TO CRITICS**  
The idea of Universal Credit is to fuse 30 welfare programmes into a single system. This will make it possible for the Department for Work & Pensions (DWP) to see the financial position of each person, ensuring that in every case the benefit of working outweighs the rewards of staying on government handouts. From that promising starting point, Universal Credit has been a disaster. Delays, grotesque overspend,

technical failures and a lack of enrolment means it's quite possibly the worst administered programme in modern memory. The National Audit Office blamed "a 'fortress' mentality within the programme team and a 'good news' reporting culture". Further reviews said the team was isolated and defensive and gave misleading interviews to the press. The Office for Budget Responsibility condemned "the recent history of optimism bias in Universal Credit plans and other projects of this sort".



**PROJECT: FIRECONTROL CENTRES**  
**LESSON: IS YOUR PROJECT NECESSARY?**  
Even the stony-faced analysts at the National Audit Office (NAO) were aghast at the sheer blithering incompetence of the FireControl project. The goal was to replace 46 fire service control centres with nine purpose-built facilities. A £469-million budget went up in smoke over seven years as the centres were built. None opened. Five years after the whole scheme was axed in 2010, seven of the unused cen-

tres stood empty, bleeding taxpayers' cash. Amyas Morse, head of the NAO, says: "This is yet another example of a government IT project taking on a life of its own, absorbing ever-increasing resources without reaching its objectives. The rationale and benefits of a regional approach were unclear and badly communicated to locally accountable fire and rescue services, who remained unconvinced." In other words, there was zero point to the project. But no one dared say so. Tragic.

**PROJECT: RURAL PAYMENTS AGENCY**  
**LESSON: GETS YOUR SPECIFICATIONS RIGHT**  
The Rural Payments Agency IT system is a start-to-finish horror show. It pays farmers their subsidies. The cost was four times higher than the original forecast of £75 million. An extra £680 million is needed to administer the system. And it didn't work – not even after umpteenth relaunches. At one point farmers were told to revert to paper forms. A key problem was the lack of research into how farmers would use the

system. The mapping software included in the Rural Payments System takes a lot of bandwidth. Farmers are often stuck in broadband black spots, so couldn't use it. Worse, if they did, the numbers of applicants would overwhelm the servers. It was nowhere near being able to cope with 120,000 farmers and 1,200 land agents. Re-engineering the system caused outages. A Public Accounts Committee would ask why the chief executive of the agency was still in his job following the traumas.

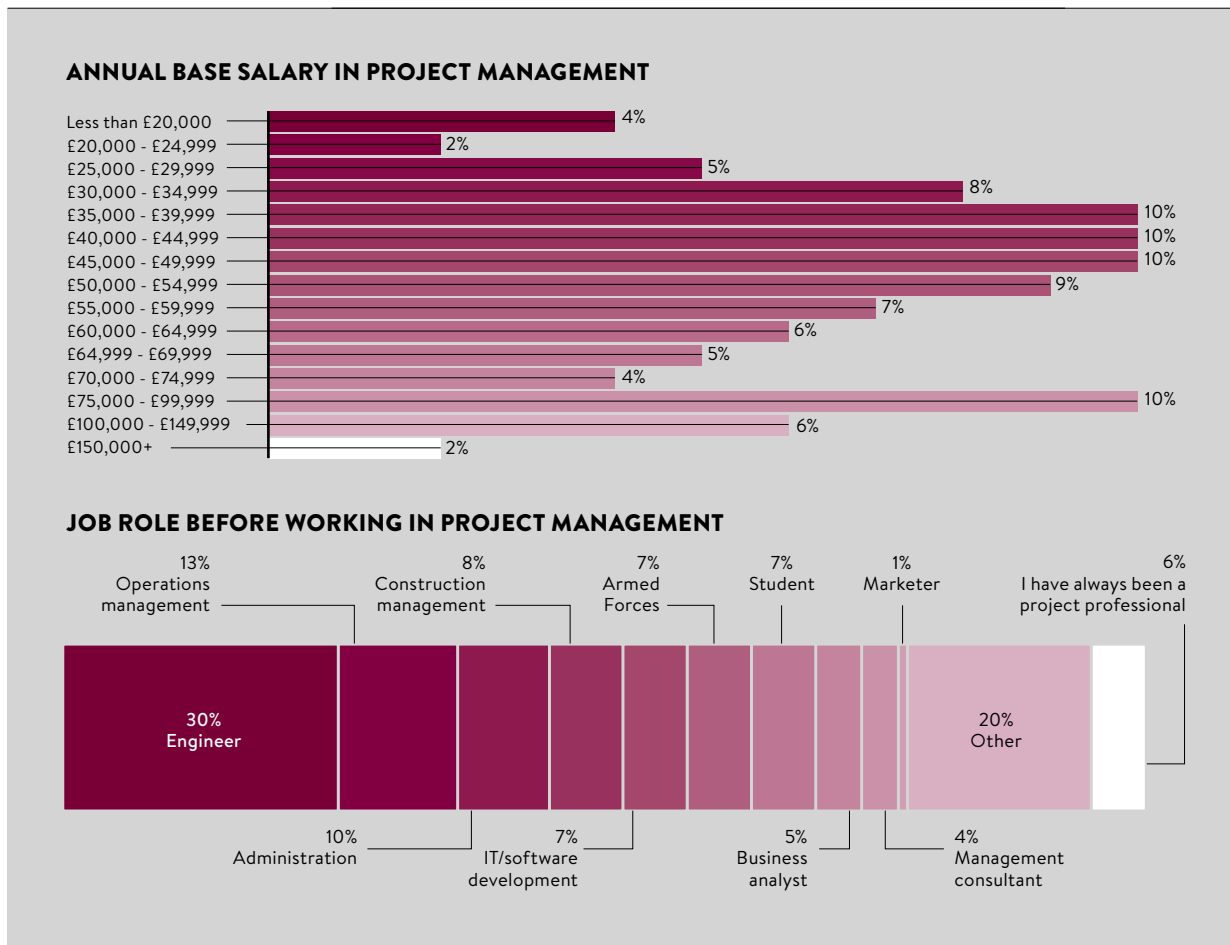


**PROJECT: SURREY POLICE IT SYSTEM**  
**LESSON: DOES THE PRODUCT ALREADY EXIST?**  
All Surrey Police needed was a standard reporting package to log crimes and track cases. Other police forces had workable systems. But Surrey Police decided to re-invent the wheel and build a bespoke system. £15 million went down the drain before the whole project was canned. At which point Surrey Police adopted an existing package which worked just fine.

Grant Thornton looked at the wreckage and identified a long list of shortcomings, including a failure to track costs, technology errors and a lack of agile methodology to adapt when things went wrong. The mission was an "ambitious project that was beyond the in-house capabilities and experience". It is a grisly reminder of the tendency for project managers to dream up elaborate solutions when a simple one will do.



## COMMERCIAL FEATURE



## ALL CHANGE: MORE PROFESSIONALS MOVING INTO PROJECT MANAGEMENT

*With more bright, talented people looking to change careers these days, new vocational qualifications and its growing professionalism make project management an increasingly appealing choice*



Today, more of us than ever before anticipate having a second or even third career. A chance to learn new skills, increase our salary and to explore a new aspect of the world of work mean the old idea of a job for life is seen as less of a reassurance and more of a millstone.

One profession that is at the forefront of this trend is project management. New figures released by the Association for Project Management (APM), the UK's leading professional body for project managers, show that more people than ever are moving into the sector from other careers – and many of those within it are enjoying new opportunities.

“Project management is evolving not just because of the new opportunities that it offers, but also thanks to the entry points from other professions,” says Scott Walkinshaw, head of communications at the APM. “More and more bright, energetic and talented people are realising that modern project management is more easily accessible than ever before as a career.”

Around half of respondents (54 per cent) to the latest *APM Salary and Market Trends Survey* have worked in a project management role for fewer than ten years, with about a third (31 per cent) chalking up less than five years.

The survey confirms that an increasing number of those coming into project management have arrived in their current role from professions such as engineering (30 per cent), operations management (13 per cent) and administration (10 per cent).

So what's driving this trend? The survey highlights a wide variety of job roles on offer as well as different sectors in which talented, ambitious people can make their mark.

As well as project managers (38 per cent), respondents were found to be working in programme management roles (15 per cent) and project support roles (14 per cent). In fact, the largest increase was in project support roles, compared with last year's results. Sectors, too, were widely spread. Along-

side traditional engineering projects, there was growth in emerging sectors such as transport and logistics. And for those looking to work abroad, the results identified hotspots across the European Union.

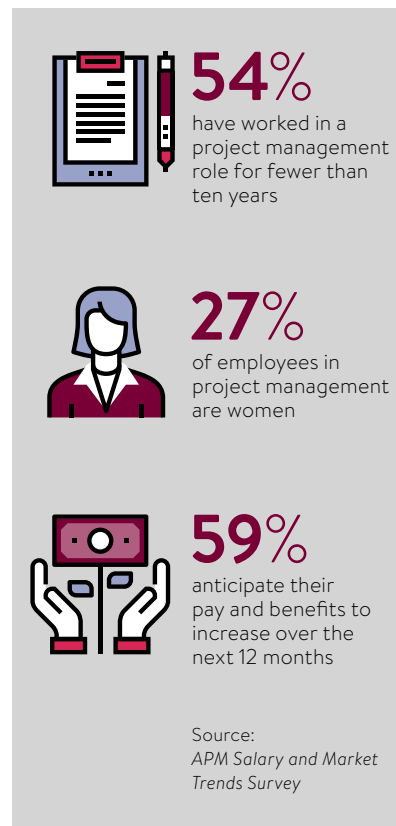
Opportunities for women also stood out, underlining the fact that project management is a thoroughly modern profession, free from the shackles and stereotypes typically associated with more traditional counterparts. This is reflected in the number of women in project management (27 per cent), compared with engineering (9 per cent), according to recent statistics released by the Women's Engineering Society.

Professionalism in the shape of qualifications and ongoing development were noted as significant drivers. Almost half (45 per cent) of those asked in the APM survey hold an APMP, a knowledge-based qualification that enables candidates to demonstrate knowledge of all elements of project management, and how they fit strategically and commercially.

“We're seeing more and more talented individuals taking up roles and developing their careers because they realise project management is a fresh, modern profession

Qualifications such as these allow those accessing the profession to gain the key skills and knowledge needed to bolster their previous expertise in order to manage and lead projects.

People are also frequently updating their skills and qualifications. Nearly a quarter (23 per cent) had studied for a project management-related qualification within the last six months, almost one in seven (15 per cent) seven to twelve



months ago and nearly a quarter (24 per cent) within the last one to two years.

As a result of this increase in skills, almost six in ten (59 per cent) anticipate their pay and benefits to increase over the next 12 months.

The rise in professionalism and the value to both employees and employers of professional qualifications are clearly demonstrated in the survey's findings on remuneration. The median salary among those responding to the survey is £50,000, with 10 per cent earning £75,000 to £99,999.

Their annual gross base salary, according to the findings, is around £52,000, compared with £46,000 for those who aren't members of the APM, while additional annual benefits are £6,000 and £5,250 respectively. The largest group (15 per cent of those asked) received benefits of £7,501 to £10,000. Considerably more than half (59 per cent) expected their salary to rise “significantly” or “slightly” over the next 12 months. As well as rising salaries, the survey also shows that those who had been in project management longest were the most satisfied.

However, perhaps the biggest draw is the chance to be part of a fast-paced, ever-changing profession.

Mr Walkinshaw concludes: “We're seeing more and more talented individuals taking up roles and developing their careers because they realise project management is a fresh, modern profession, which is not only widely accessible, but also offers huge potential whatever your background and experience.”

For more information please visit [www.apm.org.uk](http://www.apm.org.uk)

### DEMAND FOR PROJECT MANAGERS IS GROWING

Britain needs more experienced project managers with a growing number of professional skills that can help them to deliver larger, more complex projects than ever before. March saw the publication of the government's National Infrastructure Delivery Plan which, for the first time, set out its plans for this Parliament's large-scale regeneration and housing projects, as well as its investment in new local schools, hospitals and prisons.

The plan incorporates the latest version of the National Infrastructure Pipeline which outlines more than £425 billion of investment in over 600 major projects across the UK during the next decade or so. It will be largely down to the new blood pouring into project management, alongside the existing talent, to make sure these vast and essential projects are delivered on time and on budget.

# Computer software can offer a helping hand

Project management software is increasingly sophisticated, but may benefit from improved integration to link systems on major contracts

**SOFTWARE**  
STEPHEN ARMSTRONG

There's an old joke about project managers: a man goes into a pet shop to buy a dog. The first on offer costs £5,000. “Why so much?” the man asks. “This dog can do all your admin on a computer,” the shop owner says. The second dog is £10,000. “This dog can code, create new programs and link your entire house to your phone,” the shop owner says. The third dog is £50,000. “What does this one do?” the man asks. “I haven't seen it do anything yet,” the shop owner replies, “but it tells me it's a project manager.”

“Twenty to thirty years ago you could possibly have made a version of that joke about project management software,” says Mario Sanvitale, managing director of project management consultancy Milestone. “You had one-size black-box planning tools like Artemis, which not everyone could use, let alone understand.

“Today, not only is the use of such software spreading across businesses, but different businesses have different needs and different factors to control. Capital projects like bridges and the Olympics have to be delivered on time. Others need to monitor costs above all things. So the software has changed to catch up software systems that integrate more of the project life cycle.”

Where project management software used to be and on occasions still is little more than an Excel spreadsheet, now there are four key types – desktop based, client-server based, web-based and integrated. These can carry out scheduling, cost control and budget management, resource allocation, collaboration, communication, and even quality management.

Desktop solutions, for one PC or a small network, can offer the most responsive and graphics-friendly interface. Storing data, however, tends to be restricted to specific files and, while multiple users can often access the data, usually only one can do so at a time. Client-server-based collaborative systems can overcome that by holding data centrally and offering collaboration tools allowing multiple users on different project paths to work at the same time.

But these can be expensive and, while useful for companies where a team may be based in one building or one country, struggle to serve the complex needs of multinational projects. Web-based or cloud-based solutions, conversely, are designed for those needs. They can be accessed from any type of computer, without the need to install software, and the system can be regularly updated by the service provider or vendor as new features come on stream. Cloud-based systems operate on a licence-fee basis, usually a monthly fee which is cheaper than buying and maintaining the software outright.

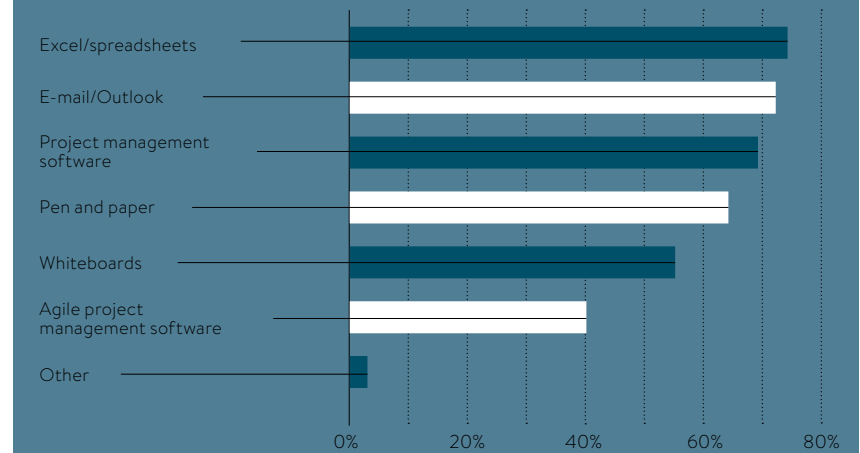
Within these, there are packages that offer different focuses, from software that can estimate cost and time, tools that deal with document management and work group collaboration, software that can help with tracking costs, tariffs and exchange control, and defect-tracking software.

In some cases, there are specific project management packages for specific industries. ATC Professional from InterPlan Systems, for instance, is specifically designed to plan oil refinery and petrochemical plant maintenance projects, while Easy Projects is a web-based system targeting IT departments. Others are becoming increasingly important to the overall operation of entire companies.

“At the moment most project managers use various software systems from a mixture of suppliers; one for producing esti-

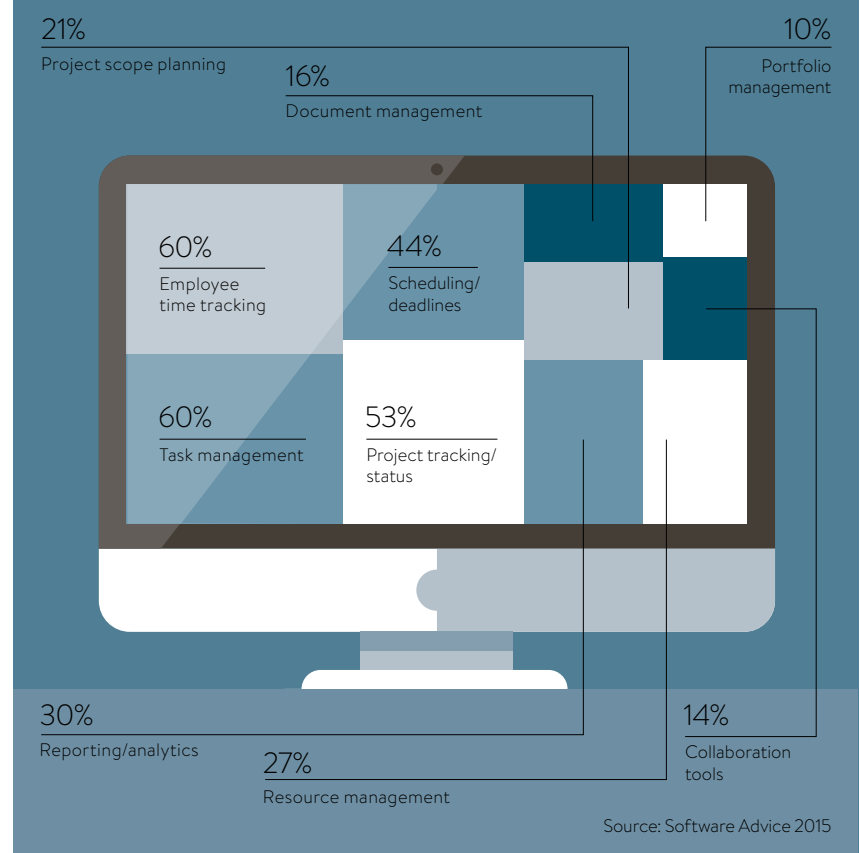
### PROJECT MANAGEMENT METHODS CURRENTLY USED

SURVEY OF PROJECT MANAGERS



### TOP-REQUESTED SOFTWARE FUNCTIONALITY

BASED ON WEB-BASED PROJECT MANAGEMENT SOFTWARE



mates, another to schedule tasks, perhaps a third to monitor progress and another for billing,” Professor Dave W. Farthing, head of informatics at the University of South Wales, explains.

“These separate systems don't communicate very easily, especially if they aren't from the same software vendor. In fact, even systems from the same vendor don't always work together well. For example, in

“Many software designers are borrowing design and function from social networking sites so staff recognise the interface intuitively and require little or no specific training

order to transfer tasks automatically from Microsoft Project to Outlook, you need to install a special server at extra cost.”

Professor Farthing's own university hosted website carries a list of more than four dozen different packages, although he's keen to emphasize the range of choice makes recommending individual packages tricky.

He argues it would be helpful if systems were to communicate with each other much more easily so that estimates of duration could be fed into the scheduling software. The schedule could appear as tasks or events in each team member's calendar and the team members could record progress, which is then fed back into the schedule.

“However, we don't want monolithic systems,” he adds. “Systems that integrate many small software components can be easier to use. Also it is easier to migrate from the current set-up by replacing just one small component at a time rather than being faced with a huge capital investment for a large system.”

Choosing the right software is a vital C-suite decision. These days, explains Amy Hatton, editor of *Project Manager Today*, the role of project manager has expanded into something closer to a strategic business adviser.

“With the right software and a large enough project, a good project manager can have a good view of the entire business and identify strengths, weaknesses and problems faster than almost any other part of the company,” she says. “And these days, many software designers are borrowing design and function from social networking sites like Facebook and Twitter so that staff recognise the interface intuitively and require little or no specific training.

“It can become a business tool for the entire organisation from product development to corporate strategy rather than management appointing some bloke in IT to sort out a new computer system as used to be the case.”

The rise of agile project management – an iterative, incremental method of managing – has fuelled this, although there are different requirements in different sectors. The public sector, for instance, tends to have a greater need for accountability, so software that provides detailed tracking of changes and effective cost-summarising is important.

As for the future, Professor Farthing sees clear demands for certain changes. “Many years ago most project management software vendors embraced the need to provide a web-enabled front end,” he says. “However, to date very few have embraced the use of mobile devices. Of course, a mobile device could access the website, but users would benefit from a mobile app that provides full touch-screen interface and improved security.”

Once all employees can access fully collaborative software on their own phone, the whole mystique around project management may disappear completely. This may be good or bad depending. But if you're a dog looking to charge £50,000 for doing nothing, it means you're probably going have to learn some pretty spiffy new tricks to keep on impressing people.

### STOP AND THINK

Editor of *Project Manager Today* **Amy Hatton** urges caution when selecting software for a project management office

**01 FIND OUT WHAT YOU WANT**  
Take a good look at the size of your business and what exactly you need the software to do. If you can't explain that to the vendor, you'll struggle to get the right solution.

**02 ACCESS POTENTIAL COSTS**  
Think about cost, vendor support and vendor relations. You might be able to manage with basic free software, you might find a licence for a cloud package is right or you might prefer to splash out on the full monty.

**03 STAFF AND TRAINING**  
Which area of your business is managing this software? Do they have people and systems in place to manage the transition, or will you need vendor support and training or to staff up?

**04 GROWTH PLAN**  
Do you have a clear idea of where you want your business to be in two, ten and fifteen years' time? Finding software compatible with your growth will prove easier than buying in brand new systems each time you expand.

**05 MANAGE EXPECTATIONS**  
Make sure you have a reasonable idea of your expectations. You shouldn't assume the software will solve all your problems for you. It's still just a tool in the hands of your people.

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# Managing Emirates project was winning team effort

Star project manager Paul Mitchell at engineering consultants Arcadis tells how he netted success building Arsenal's Emirates Stadium

INTERVIEW  
EDWIN SMITH

Today, Arsenal's Emirates Stadium is a stronghold that plays host to Champions League matches, represents one of the toughest away days of the season for other Premiership clubs and has served as a home away from home for the Brazilian national side on seven occasions.

With a capacity of 60,260 and 150 executive boxes, it's also a crucial element of the club's financial health. In a sport where multi-million-pound losses in a single year are par for the course, match day revenues of £100 million – more than any other English club – have been crucial in allowing the North London club to buck the trend and record a profit of £27.4 million last year.

But it wasn't always like this. Turn the clock back to the year 2000 and the Ashburton Grove site that the Emirates now occupies was home to around 100 different businesses and organisations, including a local authority waste disposal unit.

"At that point it was really just a pipe dream," explains Paul Mitchell, the project manager from engineering consultants Arcadis, who worked alongside Sir Robert McAlpine, HOK Sport (now known as Populous) and Happold on the construction of the new stadium. "We started work on it 16 years ago, and you forget, but talking about it now, I'm reliving some of the nightmares and remembering the late nights."

Of course, as we now know, the project was a success; finished on time and on budget. Something that Mr Mitchell says wouldn't have been possible without first putting the right team together.

"The crucial things are having the right people in the right places to provide their expertise for their pieces of the development," he says. "If you don't pick the right team from the beginning, you're battling it straight away. Invariably, it's about the people; the people who have done it before, who have got the experience and are prepared to go the extra mile for the clients. That's one thing we had, which very few projects ever get."

"At the time, it was actually mirrored by what was happening on the pitch," adds Mr Mitchell. "Arsenal were winning the Premier League and FA Cup. The club brought that whole winning philosophy through the project, so there was a fantastic team spirit – and I'm saying that as a Tottenham fan."

However, Mr Mitchell notes that a project manager who recruits the right people with the right attitude is far from guaranteed success. Timing is also key. "With a project of this size, you have to be cautious early on, because fees can run away with you quite quickly. Before you know it, the client could have spent millions and still not have anything that is buildable and viable. So you start off with a small core of expert people, then that grows as the teams within the individual companies get



01 Arcadis was involved in the construction of the Emirates Stadium, which opened in October 2006

02 Paul Mitchell, Arcadis

03 Work has already begun on the redevelopment of Tottenham Hotspur's White Hart Lane ground

04 Stamford Bridge, home to Chelsea Football Club, is set to reopen in 2020 after redevelopment



bigger and the whole thing becomes more likely to become a project."

Other projects on Mr Mitchell's CV include the Olympic Stadium at Stratford, East London, which like the Emirates, was delivered on time and on budget, as well as ongoing pieces of work for two of London's other big football clubs. One of these is the redevelopment of Stamford Bridge that is expected to see Chelsea relocate to Wembley for three seasons until its completion in 2020. The other is the scheme to revamp Tottenham Hotspur's White Hart Lane ground, which comes with its own particular challenges, including the requirement to temporarily remove the grass soccer pitch in order to expose an artificial American football playing surface that will be used for at least two NFL games each season.

As you might expect, Mr Mitchell says that when it comes to projects of this scale and complexity, there is no one-size-fits-all model that can be used to manage the various



elements. "But that doesn't mean the general principles aren't often similar," he says. "You have to plan it, you have to deliver it and there are a few standard things that we do. But it's done project by project, to suit the particular nuances of each one."

The initial stage of project management is often as simple as drawing up some bullet points on an A4 sheet of paper. In the case of the Emirates, the bullet points might have been: "Procure the site; get planning permission; go out to tender; get a builder; construction period; finish the stadium; client learning and commissioning; handover and, finally, play the first football match."

Then, as meat is added to the bones of the plan: "The documentation evolves and everything becomes more detailed.

Sometimes flow charts are quite good to demonstrate processes and what we expect of people. Sometimes it's bar charts. When you get into detailed construction, it's usually gantt charts and virtually day-by-day programmes and planning.

"On the big megaprojects, you end up with various project managers on the team who will often use their own programmes and methodologies to deliver their piece of the jigsaw. That then feeds into the master plan – the whole picture evolves all the time," says Mr Mitchell.

This hands-on approach to tackling the job perhaps explains why he places such little faith in formalised project management methodologies. "We're not really into that stuff," he says. "I'm sure that there are people who do it within our busi-

ness, but in any of the big projects that I've been involved with it's not used." While the daily meetings stipulated by some project management methodologies might suit certain industries well, Mr Mitchell believes they don't tend to work in construction where things are less immediate. Instead, he likes to encourage weekly meetings of the key leaders and then get the relevant people together to assess specific elements of the project as and when they are needed.

Of course, no matter what approach a project manager takes, it's always possible for unforeseen events to force a change of plans. In the case of the Emirates Stadium, Mr Mitchell says he encountered no catastrophic problems, but he was involved in a decision to make a fundamental change to the design of the stadium.

Initially, the plan was for the stadium to be partly sunk into the ground. However, Mr Mitchell and his team worked out that in order to shift the earth that would have to be displaced, between 100,000 and 200,000 lorry journeys would have been required. The expense and logistical demands of that were assessed and it was decided that plans should change.

However, deciding to build the stadium at ground level would mean that its height exceeded the original plans. "And that's why the roof slopes down," he explains. "Often an issue that you come up against will have a knock-on effect. On complicated projects, so many issues are interlinked."

This crease was ironed out early in the life of the Emirates project, but when incidents aren't swiftly dealt with, they can often result in delays and, to compound the problem, negative media coverage. Is this something that can, or should, fall into the project manager's remit?

"I don't think what's written in the press really affects us guys at project level," says Mr Mitchell. "When something goes wrong or a project gets held up, there are usually a lot of complicated reasons for it that the people in the press don't fully understand. Quite often the headline will concentrate on one thing that has gone wrong, but nine times out of ten, there will have been a chain of events leading up to that one thing which has been described as the cause of the delay or of going over budget."

"When the construction of Wembley was delayed, there were good reasons why. But the most important thing was that people stayed with the job and it got sorted out in the end. The way that these things get resolved is far more important than the negative press coverage about how they went wrong. You have to give credit to the people who ignore all these things and carry on so that they can get the project over the line. The Channel Tunnel was another one – you turn back the clock to 20 years ago and look how much of a slating the Channel Tunnel got, but everyone goes on Eurostar now and it has been forgotten."

Since Mr Mitchell began his career as a surveyor back in the 1980s, he's witnessed a number of changes. The most obvious of all has been the increased prevalence of technology. Even basic computers were hardly used at all at the beginning of his time in the industry. Today, of course, technology makes things easier in many respects, but Mr Mitchell isn't convinced that its impact on project management has been universally positive.

"There are a lot of people now in project management who are process driven," he says. "That can be good, but sometimes there are things that you have to leave behind and come back to later. That's where the good guys carry it more in their brain rather than in their laptop."

Another change, Mr Mitchell says, is the way that the industry has become far more collaborative. "It is the only way these

megaprojects could ever get built," he says. But this makes communication even more important and means that, if companies or individual people are ever tempted to hide behind the literal terms of their contract, things can quickly go wrong. "I suppose it brings us back to where we started," says Mr Mitchell. "It's all about the strength of the people and their keenness to get the project over the line."

“The club brought that whole winning philosophy through the project, so there was a fantastic team spirit”

MITCHELL'S MAJOR STADIUM PROJECTS					
<b>Emirates Stadium</b> (Arsenal)	<b>Olympic Stadium</b> (London Olympics)	<b>White Hart Lane</b> (Tottenham)	<b>Stamford Bridge</b> (Chelsea)	<b>Old Oak Common</b> (QPR)	
New 60,000-seat stadium development completed in 2006	New 80,000-seat athletics stadium completed in 2012	61,000-seat stadium and mixed-use redevelopment, due for completion in 2018	60,000-seat stadium redevelopment, due for completion in 2020	New 40,000-seat stadium and mixed-use development, completion unknown	

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# The Mentor Edge

...potent ways we get your company executing strategy



By David Hilliard and Ian Waters

# Moving earth, iron, ice... and a community

Relocating an entire town in the Arctic Circle must rank as one of the most challenging projects to manage ever attempted

## CASE STUDY

JIM MCCLELLAND

During our lifetime, many of us will move house at least once and maybe even move city. Properties, streets and neighbourhoods stay where they are, while we, the human inhabitants, relocate. This might seem a statement of the obvious, unless you are one of 6,000 residents of the northernmost town in Sweden, Kiruna. This is because the town of Kiruna itself is on the move.

Under snow for more than half the year, Kiruna sits 90 miles up beyond the Arctic Circle in Lapland. This is the land of midnight sun and polar night: summer months when the sun does not set, resulting in 24-hour daylight; as well as a few winter weeks of almost perpetual darkness, with no sunrise. The local climate is classed as subarctic, with temperatures as low as -43C.

The reason Kiruna was established in the first place is also now the reason it has to move 3km east – iron. Kiruna sits atop a vast body of iron ore and is being undermined, literally, with increasing risk of subsidence. This is no small extraction operation. State-owned mining company LKAB founded the town in 1900 and is now the largest iron-ore pellet producer in Europe, with a net value of SEK16.2 billion (£1.4 billion). LKAB is funding the relocation in order to sustain mining activity until 2033.

The decision to move a city is not to be taken lightly or implemented hastily. A decade of planning has passed since the Municipality of Kiruna first issued a press

release in 2004 headed: "We are going to relocate a town". Infrastructure work on high-voltage power and new sewage has been under way for years and the railway already rerouted. The final political green light was received in 2011.

The urban transformation will happen in phases: first public spaces, then residential areas. Unprecedented in scale, the move will directly affect about one in three of the 18,200 population, who have understandably met this prospect with a mixture of enthusiasm and anxiety.

Project management priority number one has to be the people, insists Erika Lindblad, the project's urban transformation communications officer for LKAB. "The biggest challenge is that we are

“Kiruna sits atop a vast body of iron ore and is being undermined, literally, with increasing risk of subsidence

moving a community, but we must address every individual person's concerns in a way that makes them feel secure," she says. "The complexity of urban transformation means it is often difficult to give a direct, simple answer. Transparency, accessibility and an ongoing dialogue are vital if we are to retain the trust of those around us."

The second critical factor is time. Kiruna will be a long-running project to manage, but one of the first things the architects proposed was for the team to start thinking five times longer and envisioning a successful community for the next century.

In 2013, White Arkitekter, working with Ghilardi + Hellsten Arkitekter, won the international competition for a 20-year phased relocation of Kiruna by 2033. Challenging the municipality's brief, the winning proposal features a 100-year masterplan with the goal of not only relocating, but creating a sustainable model for the city.



Images of Kiruna

Shifting to a longer-term mindset is critical for resilience planning, explains lead architect at White Arkitekter Krister Lindstedt. "Twenty years is a very short time for a city, even 116 years – the age of Kiruna – is quite short. When building a new town, it makes sense to stress-test the plan with different scenarios," he says.

"Mining in the Kiruna region will most likely continue beyond the 20-year timeframe. However, mining is susceptible to the world market and global demand for minerals, a finite resource. To make Kiruna truly sustainable, we need to enable it to have a future beyond extraction."

The local demographic has evolved considerably since the town's inception as a mining settlement. The aspiration today is for an increasingly diverse community

and economy, favourable to other sectors such as tourism. There is a fresh dynamic afoot already, with Kiruna having the fastest-growing rate of small businesses in Sweden. Also, after years of population decline, a large demand is emerging now for housing, with new accommodation to be built in addition to 3,000 homes relocated.

From a planning and project management perspective, it is therefore essential to adopt a spatial framework with maximum flexibility built in, while still retaining a sense of design intent. The methodology must be exploratory and responsive.

According to Mr Lindstedt, ongoing public consultation is proving critical in informing an agile, intelligent vision. "The new city has a mix of uses and is much more compact. It will have

high-quality meeting places offering a platform for broadening the economy. At the same time, the new urban fabric will create a closer relationship to nature and the outdoors. These features directly reflect the findings from the informal feedback by our in-house social anthropologist Viktoria Walldin and have given the consultation process credibility," he says.

Eventually, while planning might not stop, construction has to start. In 2014, LKAB and the municipality announced the first phase of the masterplan programme, with LKAB pledging investment of £328 million. Work began that summer.

Transformation will take place in phases. A series of projects will allow the city to "crawl" along an urban belt to its new home. Kiruna will have a new civic square, with historic clock tower, as well as a new travel centre, city hall, library and swimming pool.

Old Kiruna will gradually be phased out and once the new centre becomes alive, res-



idents will relocate too. At present, there is agreement to carry across 21 of the most culturally characteristic buildings. Treasuring the community's collective city memory is important to retaining the sense and love of place, says Ms Lindblad. "Some of the old buildings with high cultural value, such as the wooden church by architect Gustaf Wickman, will be moved to ensure Kiruna retains its memories, character and unique identity," she says.

Quite how many private homes can be moved and to what extent existing building parts get reused is an open and interesting question. White Arkitekter hopes to address this issue in part with its concept of The Portal: an extra-large communal shop and "build it yourself" facility. This construction recycling depot will have remnants of the old city which can be collected, reused, recycled and retrofitted into the new. This will put less strain on the production cycle and transport of materials.

Seizing the opportunity to embed sustainability, the new development is also designed to a carbon-neutral agenda, with the ambition to harness the enormous amounts of waste heat generated by the mining and industry, combined with wind turbines for clean, green power.

Moving Kiruna, physically and mentally, requires strategic planning and close consultation with the entire community. Yes, the location and the climate are a challenge. However, Kiruna is used to snow-handling and project management of delivery logistics. The scale of operation might be much grander than anything seen before, but the knowledge is already there.

For the city, the real measure of project management success will be in the people metrics, concludes Ms Lindblad: "Our greatest legacy we hope will be an open dialogue with residents and a transparent process to ensure that we achieve the best result for Kiruna."

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## COMMERCIAL FEATURE

# TECHNOLOGY FOR AGILE BUSINESS

As traditional ways of doing business are turned on their head, a tidal wave of change is sweeping the field of project management

Disruptive technologies, which encompass everything from artificial intelligence and robotics to machine-learning and the internet of things, are having a profound impact on business operations and processes.

While no industry can consider itself immune to the technology revolution, some sectors – manufacturing, construction and energy, for example – are being affected more than others.

And as the pace of disruption looks set to accelerate, organisations within these sectors need to embrace technological advancement, understand the implications for project management, and respond in a flexible and agile manner. By doing so, they stand to benefit significantly, while those that fail to respond could be left at a competitive disadvantage.

Beyond the impact of change on the project management function, in an increasingly tech-driven age, a chief executive needs to know how these changes will impact the boardroom. They need to be aware of the challenges, recognise the opportunities and understand the commercial realities.

As chief executive of global enterprise applications firm IFS, a pioneer of agile business technology solutions, Alastair Sorbie is seeing how the business world is responding, first hand.

He says: "Project management is becoming much more dynamic and multi-faceted, as a myriad of new devices and data streams continue to emerge, with companies increasingly implementing internet of things or IoT solutions. Rather than expecting project managers to simply tune into this, businesses must communicate what is happening, clearly, from the top down, and weave innovation into their company culture and DNA."

Working with clients from a range of industries, IFS provides them with a range of tools designed to deliver visual insight,

understand enterprise performance and enable better decision-making in an integrated way.

It is industries such as manufacturing and oil and gas, arguably the sectors most exposed to economic challenges and fluctuations, where an integrated project management solution can potentially deliver the biggest benefits.

However, organisations in these sectors need to adopt a management ethos that is both forward looking and efficiency driven, because for all the advantages that disruptive technologies such as IoT can bring to project management, as it becomes more widely adopted, it can create challenges.

“The IFS Enterprise Operational Intelligence solution enables an enterprise-wide, top-down perspective of processes and performance aligned with the business strategy

Mr Sorbie refers to the mismatch that exists between the flexibility of these new disruptive technologies and the inflexibility of fixed mindsets that many companies bring to project management.

"For example, project life cycles tend to be complex in nature, and managers will often use different software products to manage various stages of the project from tendering through to commissioning and servicing," he says. "This fragmented approach is problematic as disparate project areas are unable to 'talk' to each other. This leads to managers spending more time and energy mapping and monitoring

their relationships and connections, which in turn leads to a lack of efficiency."

There is also the issue of a technology mismatch, with many organisations relying on outdated, cumbersome legacy business systems that are unable to support modern IoT platforms. In a changing technology landscape companies must ensure they have the right tools to adjust and take stock.

"Resolving this type of challenge requires a change of mindset and culture," says Mr Sorbie. "Sectors with ageing workforces will have to engage the more conservative project managers by educating them about these new technologies and how project management tools should evolve accordingly."

The benefits of an integrated project management solution, one that offers enhanced control and visibility, and real-time control over cost, cash, time, resources and risk, are being realised by a growing number of global companies.

The IFS Enterprise Operational Intelligence (EOI) solution enables an enterprise-wide, top-down perspective of processes and performance aligned with the business strategy, and was recently adopted by North American service provider Serco Inc.

Director of business services at Serco Jason Adolf says: "Our legacy suite of business intelligence tools provided standard reporting, but we really needed a way to allow our managers to make decisions on the data coming through the EOI tool – actionable intelligence, you could say."

This actionable intelligence had previously only been available at predefined points in time; for example, through a fortnightly, monthly or annual report. With IFS EOI, Serco managers can access daily and even real-time data, enabling them to make faster, more responsive decisions throughout the day rather than just at the end of the week or even later.



As a result, Serco provides much higher levels of service to its own customers. The company has also enhanced its ability to win new customers and focus its investments more accurately on areas that need improvement.

Having adopted IFS EOI as its global standard for enterprise operational intelligence, Mr Adolf now sees huge growth potential for Serco. He says: "The tool is going to be an integral part of our value proposition to our customers, a way for us to show true differentiation, but also to be more efficient, to work better and work smarter."

Research has shown that agile project management methods are making their mark in business. Comparing IT project outcomes between agile and traditional waterfall methodologies, across all project sizes, the 2015 CHAOS Report,

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ABOVE Visual insight into project portfolio performance

LEFT Alastair Sorbie Chief executive IFS Worldwide

produced by IT research advisory firm the Standish Group, found that agile approaches resulted in more successful projects and fewer outright failures.

Project success rates could be further increased if companies avoided off-the-shelf solutions and opted instead for solutions that can be configured to the needs of their industry and scopes of their budgets.

The IFS solution transformed Serco's multiple legacy business intelligence solutions into a standardised single-platform solution, meeting its requirements for both business and operational intelligence, and providing the differentiation that is now part of the company's strategy.

Organisations cannot afford to ignore the technological changes that are already taking place and will undoubtedly increase over time. It is imperative that they abandon traditional, fixed, process-driven approaches to project management in favour of one built around principles, and based on flexibility and agility.

Mr Sorbie concludes: "Companies should now be focusing on an integrated project management suite, one that captures the true spirit of IoT, and enables them to adapt to constant change and disruption, and most importantly, to maintain their competitive edge for today – and for what's next."

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