

Situational Incompetence: the failure of governance in the management of large scale IT projects¹

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Abstract. *Information technology (IT) projects in the government (public) sector experience significant challenges. Despite decades of research, the adoption of formal methods, the use of external suppliers and packaged software, these remediation attempts have not appeared to have reduced nor mitigated the problems faced when the public sector undertakes large IT projects. This research reports on a qualitative study that investigated 181 interviews and 5,000 pages of project data drawn from a large-scale public sector IT project which resulted in a cost overrun that exceeded AUD\$1 Billion. The interview transcripts and project data were analyzed using an inductive case study methodology and the research process was influenced by aspects of Grounded Theory.*

A new Theory of Situational Incompetence has been developed as a result of the analysis. The research culminates in a proposed measurement instrument intended to gauge leadership competence in the context of increasing project size and complexity.

Keywords: *IT project failure, public sector waste, failed projects, governance, project management, critical success factors, situational incompetence.*

1. Introduction

Information Technology projects fail, and the cost of these failures is staggering². This concern has been highlighted and repeated for more than forty years³.

Recent research by the Standish Group (2017) has found that ‘development projects that exceed \$100 million in labor costs, only 2% are successful, meaning on-time and within budget. Another 51%

¹ This is an updated version of a paper that was presented to the IFIP WG8.6 conference in June 2018

² For example; Engelbrecht, Johnston & Hooper 2017, Hidding & Nicholas 2017, Hughes, Rana & Simintiras, 2017, Hughes, Dwivedi, Rana & Simintiras 2016a, 2016b, Standish Group, 1994 to 2015

³ See; Davis 1974, Lucas 1981, Maddison, Baker, Bhabuta, Fitzgerald, Hindle, and Song 1983, Avison and Fitzgerald 2003, Hoffer Valacich & George 1998, Lauden and Lauden 1998, Hawryszkiewicz 2001, and Nickerson 2001

are considered challenged or over budget, behind schedule or didn't meet user expectations. The rest, 47%, are seen as outright failures'.

Project Size	Scale	Successful	Challenged	Failed
Mega	Over \$100m	2%	51%	47%
Grand	\$10m to \$100m	8%	51%	41%
Large	\$6m to \$10m	19%	51%	30%
Medium	\$3m to \$6m	18%	54%	28%
Moderate	\$1m to \$3m	39%	49%	12%
Small	under \$1m	70%	25%	5%

Two questions arise regarding IT project failure research. First, why is the success rate of IT projects so poor? And secondly, why, despite the efforts of many, the situation fails to improve? This problem is known as 'Cobb's Paradox'. Cobb's Paradox states: 'We know why projects fail; we know how to prevent their failure—so why do they still fail?'. Cobb made the observation in 1995 while attending a presentation by the Standish Group (authors of the Chaos series of reports) while working at the Secretariat of the Treasury Board of Canada. Cobb's observation that "we know why projects fail" should not be taken in a literal, completely black and white sense, rather it should be considered to be a reference to the collective body of expert commentary, opinion, research and project practitioners that have offered solutions. Despite the successful implementation of major IT projects, repeatable success continues to be elusive.

Cobb was not alone in observing that there is a great deal studied and written about project failure and that consulting firms propose methodologies and remedies but little actual progress appears to have been made. The International Federation for Information Processing (IFIP) Working Party 8.6 ran a conference to address this specific issue asking 'why our scholarship has not been more effective. Is the fault one of theory and inadequate understanding? Or is the problem one of knowledge transfer, the failure to embed research knowledge in the working practices of managers and policy-makers'⁴.

⁴ IFIP WG 8.6 proceedings Dwivedi, Wastell, Henriksen & De, 2015

This study reports on the Queensland Health payroll project. Queensland is a state of Australia, located on the north-east coast. Queensland has a population approaching five million persons and covers an area of almost two million square kilometers. The most famous tourist attraction is the Great Barrier Reef. Queensland Health employs 65,000 persons and has an operating budget of AUD\$11 billion annually. Queensland has more than two hundred hospitals and health care facilities.

The primary question of this research is why. Why despite all of the experience, the research, and the training that is available, the consultants and software companies focussing attention on IT projects and the billions upon billions of dollars spent, large scale IT projects continue to fail at a rate that appears little changed over the decades.

2. Findings

When examining the Queensland Health payroll project files there are clear and obvious factors, which can be identified as having either not occurred or had been executed poorly and could be considered the causes of project failure. Any objective assessment of the project would conclude that project management had failed, there was a lack of requirements definition even though it was the first contracted deliverable, and management across all layers of the project was in conflict. These are all of the issues that appear in the literature on failed projects, and appear to confirm previous research.

Of potential significance is that the evidence provided by witness statements mapped to the project chronology showed that issues related to the identified themes were raised by staff and consultants throughout the project phases, and yet they still they remained as issues that were not resolved nor remediated at the time they were raised. The evidence is that management was made aware of these failures. So it was not a lack of awareness or communication of the failure risks, and therefore highlighting these as the only contributory factors of project failure lacks explanatory completeness, as the issue related to the inability to act on the concerns suggests other contributing factors to project failure.

The incoming Executive Director who oversaw the commencement of the project and managed the first few years had the exit report from the immediately preceding whole-of-government project produced by the external consultants that provided stark warnings of how that project had failed and what was required to ensure the next project would not fail. The only conclusion that can be drawn is that this report was ignored in its totality.

To paraphrase Cobb's Paradox the management of the Queensland Health payroll project should have known why their project was certain to end in failure, yet they failed to act appropriately thereby ensuring that the project did in fact fail, and spectacularly. As was evident from the analysis of the witness statements⁵ in the conduct of the Queensland Health Payroll project - the management was regularly informed of what was going on with their project by both staff and external consultants. Management knew that the project was facing problems (or at least should have known). The reports on the 2005 whole-of-government initiative, the KPMG Report, the KJ Ross report on testing, the IBM and CorpTech report to 'reconstruct' the business requirements and the 2009 Queensland Audit Office report all provided clear statements identifying where the project was failing and what needed to be done to remedy the situation. Yet the problems persisted until the total project costs had blown out to beyond A\$1 billion. Faced with a clear and certain state that the project was performing badly, and with specific statements of where the project was failing, successive management failed to act appropriately to stem the problems. The only conclusion that can be drawn from this failure to act is that senior executives of the Department, the Governance and steering committees, the Executive Director did not know what specific actions were available to them, or what they specifically needed to do in order to be effective. The management and oversight of this project were at a complete loss as to how to effectively manage an information technology project.

This research proposes that the following are the contributory factors that led to the Queensland Health Payroll project becoming a failure:

- a lack of domain expertise by senior management responsible for the project as evidenced by the inability or unwillingness to adopt appropriate governance processes;
- stakeholders remained in conflict throughout the life of the project;
- there was a complete lack of accountability for failure evident throughout the project and especially when it came to vendor and contract management.

⁵ the witness statements were taken by the Commission of Inquiry conducted by the Queensland Government under oath and can be found at <http://www.healthpayrollinquiry.qld.gov.au>

It is not immediately obvious why this situation was allowed to unfold in the manner in which it did. The project appeared to comply with all the appropriate governance structures and reporting requirements, yet a historical or retrospective view would allow that the project was never managed effectively.

Indeed, the findings of the Commission of Inquiry state that 'Its (Queensland Health payroll) failure, attended by enormous cost, damage to government and impact on the workforce, maybe the most spectacular example of all the unsuccessful attempts to impose a uniform solution on a highly complicated and individualized agency'. The Commission's conclusion was that there were two primary causes for the failure of the payroll project:

1. 'unwarranted urgency' and
2. a 'lack of diligence on behalf of State officials'.

The Commissions Report elaborated further on lack of diligence, describing it as 'poor decisions made in scoping the Interim Solution, in their Governance of the project, and in failing to hold IBM to account'. The Commissioner further reported that 'the problems are systemic to government and to the natural commercial self-interest of vendors' which supports the observation that Normalisation of Deviance⁶ was at play throughout the conduct of this project. However, these findings by the Commission do not explain what motivated senior management to ignore the lessons learned from immediately preceding projects, and to ignore the warnings and advice of their own personnel. It is unclear, from the Commissions' report, what specific steps a subsequent project might implement to ensure that they too did not all into these traps.

2.1. Situational Incompetence

The question of most concern to this researcher has been to uncover why, despite all of the research, publications, education, training, and certification that is available to individuals and organizations undertaking project management of an information technology solution, a project could still display all of the mistakes, errors, and failings that have been identified in the literature.

⁶ Dr Dianne Vaughan took ten years to study the NASA shuttle disaster when the Columbia exploded because of an O-Ring failure.

The theme that was the most consistent throughout the project was that senior management was repeatably made aware of project risks and failings. Reports had been written about the whole-of-government project prior to the creation of the Queensland Health project that specifically enumerated the challenges and risks that needed to be kept in front of mind to the QH project team. The literature provided no plausible explanation to describe the fact that senior executives responsible for the direct execution of the project, and departmental executives with governance and oversight accountability apparently ignored all of the advice that they were presented with.

What emerged from the data was that the executives in charge of the project, those executives that operated above the hands-on technical level, were manifestly incompetent when it came to issues of information systems project management. The executives simply did not understand the information that was being presented to them, and interpreted professional concerns raised by Queensland Health team members as "personality conflicts". These executives were presented with several formal reports outlining risks and issues and acted in a manner that, under conventional wisdom, would defy rational explanation - the witness statements and project documents provide no evidence of any action being taken to address the issues raised. On more than one occasion IBM complained that employees of Queensland Health were trying to hold IBM to its contract and make IBM meet its obligations. IBM convinced senior departmental management that these staffs were interfering in the project and senior management subsequently ordered their removal from the project.

It has been found that inexperienced managers will seek advice and guidance from inappropriate sources⁷. The famous studies by Kruger and Dunning⁸ offer the observation that the unskilled and unaware are incapable of identifying their own failings, incapable of independently observing and learning from the competence of others, and incapable of identifying competence in others.

These findings have led this researcher to postulate a new theory: Situational Incompetence.

⁷ Recent research by Engelbrecht J, Johnston KA, Hooper V., 2017 "The influence of business managers' IT competence on IT project success", published in the International Journal of Project Management

⁸ Kruger J, & Dunning D., 2009 "Unskilled and Unaware of It: how difficulties in recognising one's own incompetence lead to inflated self-assessments".

Situational Incompetence applies when an otherwise experienced executive is placed in a position of authority or accountability for which they lack experience, training or specific skills. In this new role, they are effectively incompetent and incapable of providing reasoned advice, guidance or management.

Situational Incompetence has implication for how leaders are selected for complex tasks requiring specialist IT domain knowledge and technical competence, it may also apply to other disciplines requiring specific knowledge of unique technology in those domains (eg: science, technology, engineering, medicine, and maths)

3. What the Literature Says About Project Failure

The literature on information technology project management is vast and stretches back over almost fifty years. 'The History of Project Management'⁹, traces the same project management disciplines back to the time of the construction of the Great Pyramids of Giza and the Great Wall of China. In the construction of the Great Wall of China the stages of planning, executing, controlling and monitoring, and closing have been clearly evidenced in the ancient literature. When reviewing the construction of the Great Pyramids, the archeological evidence suggests the creation of an advanced sundial which divided time into twelve roughly equal segments during daylight hours and is evidence that 'scheduling was done using the day as the basic unit of measure'.

'Project leaders under pressure from various stakeholders determine deadlines, scope, deliverables and budget with little or no regard for the hard facts about what will actually be required. At other times, they base their estimates on facts, only to have the estimates ignored. In either case, the result is a set of project parameters and goals that is unrealistic from the beginning'¹⁰. This is known as 'fact-free planning'.

Part of the challenge of measuring project success or failure is the lack of consensus regarding what constitutes a successful project. The CHAOS studies¹¹ measure the success of a project as on time,

⁹ Kozak-Holland. M., 2011 "The History of Project Management", Multi-Media Publications, Ontario

¹⁰ Grenny J., Maxfield D. and Shimberg A., 2007 "How project leaders can overcome the crisis of silence," MIT Sloan Management Review, Vol. 48, No. 4, 2007, pp. 46-52

¹¹ The Standish Group has been publishing the CHAOS reports since 1994

on budget, with the full scope of requirements. However, critical commentators find these criteria incomplete because 'they do not consider, for example, usefulness, value or user satisfaction'¹².

Most companies measure the success of IT projects as meeting implementation deadlines, budgets and agreed requirements. Yet, projects can be on-time and within budget and deliver no actual business value.

Failure, as commonly reported in the literature reviewed, is often defined by both timeliness and budget performance. In many instances, success appears to be a function of finishing the project at any cost, even if some intended functionality is not delivered or is sacrificed in order to meet that deadline. On-time and on-budget are criteria, which may have little or nothing to do with whether or not the product of an information technology project will be deemed a success by the enterprise and the users of the system.

In very large IT projects, the type which the Standish Group has identified as having the lowest success rate, the complexity inherent in the solution being built is very great. 'Today, business processes are more complex, interconnected, interdependent and interrelated than ever before. Additionally, they reject traditional organizational structures in order to create complex communities comprised of alliances with strategic suppliers, outsourcing vendors, networks of customers and partnerships with key political groups, regulatory entities, and even competitors'¹³.

It is this level of complexity which permeates every aspect of a project¹⁴, from the internal complexity of the business problem being solved¹⁵ to organizational complexity that complicates what should have been relatively simple¹⁶. When discussing complexity in this context most projects would be looking at the complexity of the business problem to be addressed, the complexity of the technology being deployed and inter and intra-organisational complexity of dealing with competing demands¹⁷.

The generic phrase "poor project management"¹⁸ is far too broad to provide clarity for what actually drives project escalation and ultimately failure. Project escalation is referred to as being "continued

¹² Eveleens, 2009, p. 7, deBakker, Boonstra & Workman, 2009; Munns & Bjeirmi, 1996

¹³ Hass, 2007, p. 2

¹⁴ Baccharini, 1996

¹⁵ Al Neimat, 2005

¹⁶ Drummond, 1998

¹⁷ Thomas and Mengel, 2008

¹⁸ Keil, 1995

commitment in the face of negative information about prior resource allocations, coupled with uncertainty surrounding the likelihood of goal attainment”.

According to Keil “projects are more prone to escalation when they involve a large potential payoff when they are viewed as requiring a long-term investment in order to receive any substantial gain”. Keil touches on “psychological factors” which may impact a managers decision to continue with a project that appears doomed to failure, and suggests that “escalation is more likely to occur when managers make errors in processing information” but does not delve deeper into why managers make those errors in processing information, whether there are different outcomes associated with different “types” of managers, or whether or not there are underlying factors as to how managers process the information being presented to them.

Keil¹⁹ suggests that certain psychological factors may contribute to escalation. These factors include:

- prior history of success,
- the high degree of personal responsibility for the outcome of the project,
- errors in information processing, and
- emotional attachment to the project.

Prior history of success correlates to Vaughan’s²⁰ observations as to the contributory factors of Normalisation of Deviance. Where an organization has not previously experienced negative outcomes they will continue to assume that taking the same actions or decisions will not produce deleterious results. The fact that failure had not occurred previously is not proof that their decision making was sound, rather it may have been just “luck” that no disaster had previously befallen them. In the specific case of the NASA Challenger space shuttle, various other launches had been successful despite components such as the O-Rings operating beyond their specified tolerances, and so it was assumed that earlier

¹⁹ Keil 1995. pp.431

²⁰ Vaughan studied the challenger space shuttle disaster and found that a culture of poor management led to ‘Normalisation of Deviance’

decisions to launch were sound and this decision would also prove to be sound. The most likely description is, however, that previous launches prior to the Challenger explosion were “lucky” that components operating outside of tolerances had not caused a disaster to occur similar to what happened with the Challenger. A decision by NASA to implement processes to ensure that O-Rings were checked on future launches (the proximal cause) would do nothing to ameliorate the underlying cause (normalization of deviance).

Optimism bias²¹ in a project management environment may also account for why project managers maintain a continued commitment in the face of negative information. But what is absent from the literature is why an experienced manager would suffer from what amounts to a delusional bias in the face of hard evidence to the contrary. Does the project executive not understand the information being presented to them? Does the project executive somehow consider that they are immune to the risks and failures that the majority of projects face? What propels a project executive to operate under the assumption that their project will somehow be one of the very few to be successful? The fact that project executives ignore negative information about project escalation is supported by the evidence. Even the fact that project executives may suffer from optimism bias fails to clarify why an executive would act in this way? What conditions or conditioning lead the project executive to ignore clear evidence that their project is doomed to fail requires a deeper investigation.

4. The Case Study²²

In 2002, the Queensland Government decided to establish a ‘shared services initiative’ (SSI) to provide IT services as a shared electronic payroll resource amongst most Queensland Government departments and other statutory government agencies. As part of this initiative, the SSI undertook the management of the existing Lattice Payroll System in independent use by several departments, Queensland Health (QH) amongst them.

By the 1st of July 2003, the SSI was underway and was called CorpTech. In August 2005 CorpTech was granted A\$125 million to build and operate a whole-of-government human resources and finance

²¹ Prater, Kirytopoulis & Ma, 2017

²² the case study was based upon the witness statements provided to the Queensland Government inquiry headed by The Honourable Richard N Chesterman. Further information was sought using Right-to-Information requests

IT software solution. Multiple vendors were commissioned to implement the solution and support CorpTech. There were smaller numbers of contractors engaged to build an integration between SAP ECC5 to WorkBrain for payroll rostering and time and attendance recording. These multiple related system developments by different vendors were intended to be interoperable with no discernible separation to the end-user.

In March of 2006 Queensland Health (QH) had transferred responsibility for the maintenance of human resource software and hardware to CorpTech. At this time, the provision of a new computerized payroll system for QH employees was thought to be urgent because the existing system, known as LATTICE, was nearing the end of its useful life. By 2007, an independent review known as the 'Kelliher Report' found that the whole of Government system was significantly behind schedule.

A series of reviews and tenders were undertaken to fix the project by introducing a Prime Contractor. IBM subsequently won that tender to commence in December 2007. 'By October 2008 IBM had not achieved any of the contracted performance criteria, but it had been paid about \$32 million of the revised contract price of \$98 million, and it forecast that to complete what it had contracted to undertake would cost the State of Queensland \$181 million'²³.

With the QH Payroll Project, IBM had agreed to undertake a project, at a fixed price, for which no statement of work existed and no detailed planning of any description had been undertaken.

The externally engaged legal firm, in preparing their advice with respect to each of the proposals from Accenture, IBM and Logica, stated that 'we believe on balance that IBM's Offer gives rise to a greater number of material issues and less thought has gone into IBM's Offer regarding contractual mechanisms that will assist the customer or enhance the working relationship between the parties'.

At this stage of the Queensland Health Payroll project, the Queensland Government had accepted a contract to implement an IT project to a business problem for which no business case existed and no technical solutions architecture had been provided. The IT project was shown by the evidence tabled at the Commission and by the analysis of documents, to be a solution to fulfill an unknown set of requirements at a fixed price and timescale, and oddly one already in government use on an existing

²³ Chesterman 2013, para 2.13

challenged project. Furthermore, senior management was acting against the advice of their technical experts and external legal advisors.

On the 14th of March 2010 the QH payroll system finally “went live” (operational) after ten failed prior attempts. The resulting system was reported to have 35,000 payroll anomalies or processing errors and consequently required 1,000 clerical staff to manually process fortnightly pays that otherwise was intended as the most basic core function of the new system.

After the “go live” was achieved, the Queensland Government was facing a total expenditure in the range of AUD\$1.2 billion for a total cost of ownership of the project.

5. Discussion

‘Organisational artifacts such as mission statements, goals and objectives, strategic plans and the like function as tools to reduce choice, not to guide it’²⁴. In the same manner, the specification of requirements, the business case, the architecture and solution design of the project are all intended to constrain the choice to deliver ‘order’. In the QH project ‘order’ should have been represented by a defined scope of work, a defined project plan which sets out not only what work will be done, but also what work will not be done, and by an agreed contract. None of these things existed on the QH payroll project, and any efforts to enforce them were resisted by the vendor with the support (tacit or otherwise) of departmental executives.

The issue of transparent flows of information between parties, of experts being able to make informed decisions utilising tacit information compared to less experienced people needing to ‘follow the script’²⁵, of actors controlling the release of information, and of stakeholders presenting different versions of themselves across multiple stages becomes critical when one considers both the makeup of the governance and management of the QH project and the individuals involved. “The involvement of non-IT stakeholders can actually work detrimentally and confound and confuse proceedings, even causing an error”²⁶. Non-IT experienced management, placed in a position of authority may be influenced by some suppliers or colleagues to whose IT knowledge they had access, and insist on a certain

²⁴ Manning, 2008, p.677

²⁵ Vo-Tran, 2014

²⁶ Engelbrecht, Johnston & Hooper, 2017, p.995

course of action which may result in confusion, delay or inappropriate decision making, and contribute to the risk of IT project failure.

An appropriate lens through which to view this performance construct is referred to as the Dunning-Kruger Effect. This effect is where the less competent an individual is with respect to a particular domain then the more they are likely to overstate their perceived knowledge and ability. This may be referred to as a 'confidence/competence dissonance'. Individuals that lack competence in a particular domain (incompetent) but are not self-aware of their lack of competence, generally perceive their performance to be not significantly inferior to those who possess significant competence, training, and ability (the experts).

Essentially UUP²⁷ argues that individuals that are unskilled in a particular domain overestimate their own competence in both absolute terms and relative terms. Top performers, on the other hand, underestimate their absolute and relative performance. Kruger and Dunning found that an unskilled person was more likely to dramatically misstate their belief in their own competence at the task that requires some degree of technical skill or training. It has been argued that UUP is a persistent feature of decision making. Furthermore, and potentially much more concerning for complex IT projects, Kruger and Dunning determined that the skills necessary to do the job, are the same skills necessary to identify competence in others. This facet of the UUP research is particularly important when an unskilled individual is placed in a position of decision-making authority, in this case with respect to an IT Project. Where an unskilled individual possesses neither the skills necessary to do the job nor the skills necessary to identify competence in others they are not in a position to make informed decisions on complex issues. The application of this principle to the Queensland Health Payroll project would suggest that the Executive Director, the Department Secretary, and the governance boards lacked the skills needed to identify competency in others and to comprehend informed advice when it was provided.

It has been found that also found that 'business managers may be influenced by some suppliers or colleagues to whose IT knowledge they had access, and insist on a certain course of action. If that business manager is particularly influential in an organization, then there could be similar confusions,

²⁷ Ryvkin, Krajc & Ortmann, 2012

delays, and even inappropriate decisions'²⁸. This finding is reflective of the behaviors referred to in the Witness Statements from the Commission of Inquiry. The senior executives of Queensland Health deferred to the advice of the vendor, rather than their own staff. It is this lack of knowledge of information systems projects, and the executive's inability to parse the data being presented that builds the foundations of a theory to explain how the Queensland Health payroll project became so dysfunctional and ended in failure.

Given the importance of information systems to business success, and their presence in almost every endeavor, one would expect to see an increase in technically literate, skilled or experienced managements to provide effective oversight and governance. Only 10 percent of organizations have Chief Information Officer (CIO) or equivalent representation at the board or executive level²⁹. Only 15 percent of organizations had board members with any IT-related qualifications, and in their United Kingdom (UK) sample, no organization exhibited board-level oversight of organizational IT through qualified representation directly as a board member. A focus on general business competence over specific IT competence continues at the CIO level where less than 50 percent of CIOs in the United States of America (US) public sector had primary qualifications from technical or engineering backgrounds³⁰.

'Over the last 30 years, confidence has replaced competence'³¹. Positive thinking has replaced knowledge. An increase in narcissism correlates with the unskilled and unaware problem (UUP) in that 'individuals become so self-obsessed they cannot identify their own weaknesses or learn from others'³². Narcissistic self-belief and confidence may go some way to explain why an executive with little knowledge of information technology and no formal training or experience in information technology would agree to take on the responsibility of running 'the largest organizational reform undertaken within the State Government'. When it comes to the QHP payroll project, it was stated very clearly by the Deputy-Secretary of the Department that the newly appointed Executive-Director was not skilled in information technology but was a very experienced people manager with greater than 30 years in the public sector. The Executive-Director described her education and work experience as mostly being in the human resources domain.

²⁸ Engelbrecht, Johnston & Hooper 2017

²⁹ Coertze and vonSolms 2013

³⁰ Ionescu, 2017

³¹ Kremer, 2013

³² Kruger & Dunning, 2009

The potential risk that this lack of domain expertise causes for Information Technology projects generally, and the Queensland Health project as a specific example is encapsulated by the Dunning-Kruger Effect, 'that incompetent individuals lack the metacognitive skills that enable them to tell how poorly they are performing, and as a result, they come to hold inflated views of their performance and ability'. They are therefore potentially prone to ignore mounting evidence of their contribution to project-related issues, to over-estimate their own ability to diagnose and resolve issues and to listen to and take advice from unreliable sources. All of which was evident in the witness statements.

Of even greater concern is the UUP findings³³ that not only do domain illiterate individuals tend to overestimate their own ability relative to their actual performance, they are also at risk of being deficient in identifying relevant domain competence in others, 'participants who scored in the bottom quartile were less able to gauge the competence of others than were their top-quartile counterparts'³⁴. Furthermore, they found that 'incompetent individuals fail to gain insight into their own incompetence by observing the behavior of other people. Despite seeing the superior performances of their peers, bottom-quartile participants continued to hold the mistaken impression that they had performed just fine'.

A possible explanation contributing to the Queensland Health Payroll project failure is that where managers are not technically competent, but perceive themselves as managerially capable, not only are they potentially at risk of overestimating their own ability and underestimating the relative competence of the skilled workers on the project, they do not have the skills to discern the quality of advice being given to them. Essentially, the evidence suggests that they are at high risk of not being able to assess the difference between the veracity of a confident but incompetent colleague or vendor providing advice, in comparison to a competent but less-confident colleague.

These managerial perceptions about domain expertise, confidence and competence carry the risk of significant contribution to poor project management decision-making and governance with implications for overall project failure and success. The decision-making senior project manager with accountability, responsibility, and authority needs to be able to assess the information provided to them in order to make well-informed decisions. It is contended in the interpretation of the QH project data presented

³³ Ryvkin, Krajc & Ortmann, 2012

³⁴ Kruger & Dunning, 2009

in this study that the consequences of placing domain-challenged persons in positions of project-critical authority are likely to lead to unsatisfactory outcomes where:

- managers who lack domain expertise will act the part that they perceive they need to adopt;
- these managers tend to be incapable of identifying the skilled and competent individuals that can be trusted for expert advice;
- these managers will not have the cognitive or experiential tools to determine an appropriate course of action when faced with a project related crisis; and
- these managers are likely to confuse confidence with competence and may be subject to undue influence by other incompetent actors.

In summary, the Queensland Health Payroll project was potentially placed at significant risk by failing to appoint management, governance, and oversight that comprised sufficient domain expertise appropriately matched to the size, complexity, and nature of the project.

6. Situational Incompetence

It has been argued in this paper that situational incompetence is allowed to persist because of the normalization of deviance. Normalization of deviance implies that incompetence is tolerated because it has not previously caused significant failures. It is known that smaller projects have much higher rates of success than larger projects, and as a consequence the skills needed to effectively manage very large projects are rarely put to the test and competence deficiencies escape detection.

The implication for the industry of this research is that more attention needs to be paid to the skills and competence of the individual that will have direct authority over an IT project. Specifically, the larger and more complex the project the more important that the leader is technically skilled and experienced. While an unskilled individual may not expose a small project to significant risk, the success rate of large and complex projects is so small that ensuring a positive project outcome for even the most skilled and experienced practitioners is challenging. Organizations cannot afford the increased risk of management not having the competence to provide effective oversight and governance.

This research identified that the leading cause of failure for the Queensland Health payroll project was that the project executives and governance bodies were ill-equipped to understand the complexity

of an IT project. This lack of competence meant that the project executives did not have the experience to allow them to infer appropriate actions in the face of adverse circumstances. Project executives with little knowledge or skills in Information Technology were found to be unable to (i) recognise their own limitations, (ii) identify competence in others, (iii) learn from their mistakes (iv) learn from the example of others (v) and tended to favor inappropriate sources of advice and guidance. The final word on situational competence comes from the proceedings of the IFIP Conference on IT Project Failures (2015): 'someone implementing IT needs to know which levers to pull, in which context, and at what time'. IT project leaders do not need to be technical experts, but they do need sufficient knowledge and experience to recognize the expertise and to take appropriate actions when the situation demands.

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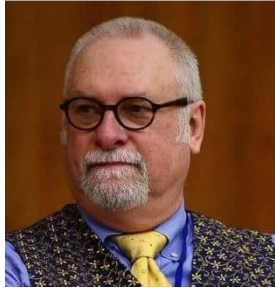
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