COMPETENCE VERSUS CONFIDENCE
in IT Project Leadership and its Impact on Project Outcomes

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• ABSTRACT •

Cobb’s Paradox (Bourne, 2011) asks: ‘We know why projects fail; we know how to prevent their failure — so why do they still fail?’ This study immerses itself into a major Australian IT project in order to unearth the drivers of project failure. Several new and novel findings have emerged. Using Multi-Grounded Theory this research has developed models and rich descriptions of new phenomena. The phenomena identified in this research, are drawn from social psychology and economic theory and highlight the issues of project execution as a social undertaking. This paper addresses one of those findings, namely the lack of domain expertise by senior management and vendor representatives. This paper examines the consequences of ‘actors-working-in-organizations’ (Manning, 2008, p. 678) and in particular looking at individual interactions, decisions and consequences (Goffman, 1959) through the lens of the Kruger-Dunning Effect (1999).

• CONTRIBUTION •

The practice of information systems projects has an appalling success rate. Estimates vary, methods of calculation of success and failure are inconsistent making it difficult to compare individual project performance. Furthermore, and most challenging, objective and transparent data is rarely available. This research has been able to reconstruct a very large project and map its failings and ultimate failure. The results challenge the accepted advice of both academics and consultants and proposes a new set of measures to improve project performance. It identifies several new areas of continuing research.

INTRODUCTION

Information Technology projects fail at an alarming rate (Standish Group, 1994, 2001, 2009, 2010; Croteau and Li, 2003), for a range of different reasons (Ewusi-Mensah, 1997; Baccarini and Salm, 2004; Al Neimat, 2005; Al Ahmed, et al., 2009), and are increasingly being seen as unsuccessful (Standish Group, 2015). Despite a significant body of research into the causes of these failures little consensus exists (Jones, 2004, 2006) as to both the rate of actual failure or even how to measure failure. It is however agreed that in no other engineering discipline would this level of failure be tolerated (Reel, 1999).

Given the immense cost to society of this level of failure (Charrette, 2005; Hass, 2007), it is indeed puzzling that greater progress has not been made after more than 50 years to ensure that IT Projects are consistently delivered to specification and customer satisfaction.

In order to undertake a post-mortem examination of a failed project the study needed access to a wide range of project artifacts. Furthermore, the documentation needed to complete a post-mortem investigation needs to be comprehensive. Access of this nature, and to the detail and specificity required would be virtually impossible to obtain from a failed commercial project where knowledge of that project’s failure is closely guarded. The study is therefore directed towards projects in the public sector: Government projects maintain formal documentation, and, if necessary, the data can be accessed under freedom-of-information (FOI) requests.

LITERATURE REVIEW

Government spending on Information Technology is running at approximately 9.1% of total operational expense (Gartner, 2013) making investments in information technology one of the single largest items of Government expenditure. 71% of that expenditure is on ‘run-the-business’ activities, and 29% on new initiatives and new programs (ibid.), but the success of these new initiatives has been limited with a ‘number of high profile cost and time blow-outs in ICT’ (Victorian Ombudsman’s Report, 2011). The costs involved in the failures of public sector IT projects can be staggering. In the State of Victoria (Australia) we can count few successes in large-scale projects, with disasters such as MyKi ($1.5 billion), HealthSmart ($600 million), Link and RandL (double their projected spend). A study of information technology projects in the British public sector estimated that 20% of expenditures were wasted, and a further 30% to 40% led to no perceivable benefits (WILCOCKS, 1994).

Standish Group (2010) has put the declining success rate at just 6% of all projects undertaken, having previously been recorded at 14%. There is contention and dispute as to whether the Standish data is completely accurate (Eveleens and Verhoef, 2010; El Eman and Ganes Koro, 2008; Glass, 2005; Jogensen and Molokken, 2006; Sauer, Gemino and Reich, 2007) or that it reports the whole truth with respect to Information Technology project outcomes. The research data across the industry (Al Neimat, 2005; Baccarini, Salm and Love, 2004; deBaldier, Boonstra and Workman, 2009; Bannerman, 2008; Benamati and Lederer, 2001; Beynon-Davies, 1999; Boehm, 1991; Jones, 2004; Charette, 2005; Curtis, Krasner and Issco, 1988; Drummond, 1999; Oz and Sossik, 2000; El Eman and Ganes Koro, 2008; Eveleens and Verhoef, 1997; Glass, 2006; Goh and Kaufman, 2004; Greeney et al., 2007; Hass, 2007; Humphrey, 2005) is showing that success is becoming increasingly rare in IT project delivery, irrespective of whether or not that success rate should be measured at the Standish defined metrics, or by some other indicator.

Fortune and White (2006) studied the critical success factors of projects drawn from a review of 63 peer-reviewed publications. They observed that there was ‘a lack of agreement between authors’ as to what were the CSFs for project success or failure, and that the ‘inter-relationships between factors was at least as important as the individual factors’. Fortune and White catalogued their data according to the following:

1. Empirical-data mainly obtained from survey(s);
2. Empirical-data mainly obtained from case studies;
3. Theoretical - but data often based on the work of others.

The results of this work were an observable difference between the CSFs identified through the use of theoretical models or survey instruments that were created from theoretical models, and those observed from case studies.

THE CASE STUDY

In 2002, the State Government of Queensland (Australia) decided to establish a ‘shared services initiative’ (SSI) to provide Information Technology services as a group resource across most Queensland Government departments and agencies. As part of this initiative the SSI undertook the management of the Lattice Payroll System in use by several departments, Queensland Health amongst them.

By the 1st of July 2003 (WS122, p. 10) the SSI was underway and was named CorpTech. In August of 2005 CorpTech was granted A$125 million to build and operate a whole-of-government human resources and finance solution. Multiple vendors were retained to implement the solution and support CorpTech: Accenture Australia Holdings Pty Ltd (Accenture) with
respect to human resource and payroll programs and Logica CMG Pty Ltd (Logica) for the delivery of finance solutions. There were several numbers of contractors from SAP Australia and IBM Australia to build a solution. SAP ECCS and Workbrain for payroll rostering and time and attendance recording.

In March of 2006 Queensland Health had transferred responsibility for the maintenance of human resource software and hardware to CorpTech. At this time the provision of a new computerised payroll system for its employees was thought to be urgent because the existing system, known as LATTICE, was nearing the end of its useful life (WS122, p. 11). By 2007 an independent review, known as the ‘Kelliher Report’ found that the new system was significantly behind schedule. At about the same time Queensland Health was advised that the support for the ageing Lattice System would cease in 2008.

A series of reviews and tenders were undertaken to determine a different approach built around the idea of a ‘Prime Contractor’. IBM subsequently won that tender and were awarded the contract to proceed on the 5th of 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 contract price of $98 million; and it had been paid about $32 million of the contract price of $98 million.

In total more than 200 documents were obtained. These documents were initially in the form of concatenated PDF files and needed to be separated into individual documents. Once broken up, there were 355 files, of which 116 were witness statements from the Commission of Inquiry, and the balance of 239 files have been sourced by FOI. The documents sourced by FOI contain multiple records in each file, bringing the total number of files to be examined to approximately 1,000.

The total number of pages of witness statements amounted to 3,050. In addition, there was the collection of project documentation which exceeded 5,000 pages of emails, reports, project plans and other data. The task of investigation – detailed scientific investigation – requires the researchers to understand the decision making that was made at the time that those decisions were made, with the information that was available to members at that time (Vaughan, 1996 & 2016, and Dekker, 2014).

Vaughan investigated the Challenger space shuttle disaster and developed new theories to explain how an organisation of individuals can make what in retrospect appeared to be ill-informed and careless decisions. Vaughan referred to this phenomenon as “The Normalisation of Deviance.” The significance of Vaughan’s work from other investigations was her insistence on reconstructing the events and data flows surrounding the incident as it unfolded, “To understand decision making in any organisation, we must look at individual action within its layered context: individual, organisational, and environment as a system of action” (Vaughan, 2016, loc: 1245).

Vaughan further opined that “individual choice is constrained by institutional and organizational forces”, undermining the reductionist view that “individuals make individual decisions” (ibid.). In other words, individuals attempt to make the best decisions that they can given the data available to them at the time, and within the known or experienced constraints of the institutional and organizational forces arrayed before them.

To examine a case from the perspective of a timeline of events, of data and advice that was available at the time, to the participants, the researcher must endeavor to reconstruct the project from the available information. Dekker refers to this method of investigation as being ‘inside the tunnel’. “This is the point of view of people in the unfolding situation. To them, the outcome was not known (or they would have done something different). They contributed to the direction of the sequence of events on the basis of what they saw on the inside of the unfolding situation. To understand human error, you need to attain this perspective.” (Dekker, 2014, p.18)

RESEARCH FINDINGS

Project Management failed, there was a lack of requirements definition, and management was in conflict - all of the issues that appear in the literature on failed projects. Yet, such issues as these got flagged by staff and consultants throughout the project (PD103, WS012, WS003, WS053), and still they remained as issues. No one could suggest that management was not made aware of these failures. The findings indicated it was not an absence of problem awareness that allowed a lack of project management discipline to continue unabated. Management was well informed of what was going on with its project, both by staff and external consultants who knew how the project should be run to avoid problems of the nature experienced. The report on the 2005 Whole-of-Government initiative (WS039), the KPMG Report (WS003), the KJ Ross report on testing (PD103), the IBM and CorpTech report to ‘manage’ the business requirements (PD063), and the 2009 Queensland Audit Office report (PD100) 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 $1 billion.

To paraphrase Cobb’s Paradox - the State Government of Queensland understood why projects fail and what specifically was going wrong on their payroll project; they had been informed of what needed to be done to prevent failure and were well aware of the methodologies and governance arrangements that were required — so why do they still fail?

The proximal causes of failure, as identified in this research, are:

1. a lack of domain expertise by senior management responsible for the project as evidenced by the inability or unwillingness to adopt appropriate good practice
2. stakeholders remained in conflict throughout the life of the project;
3. internal advice was ignored (or worse) and team members were unable to find an avenue to raise their concerns;
4. there was a complete lack of accountability for inaction throughout the project and especially when it came to the vendor and contract management.

ANNEX

An Information Technology project employing dozens or hundreds of people from different stakeholder groups, with different training, experience and motivations is a microcosm of society - it is to be unique social construct, existing within a larger organisation. This research is therefore considering the production of ‘actors-working-in-organisation’ (Manning, 2008, p. 670) and in particular looking at individual interactions, decisions and consequences. Goffman (1959), investigating the microsociology of face-to-face interactions developed a theory referred to as ‘dramaturgy’ that states ‘we are all performers in the interest of order’ (Manning, 2008, p. 679). Dramaturgy refers to the manner in which individuals ‘perform’ in social situations in order to produce a result. Performance ‘comes and goes as required’ and ‘selectively presented, selected respectively to, and selectively adequate to sustaining the working consensus on which interaction depends’ (ibid.).

The actors in the Queensland Health Payroll project came from many different organisations: IBM, CorpTech, Queensland Health, Department of Works, KJ Ross & Associates, independent contractors working for any of the aforementioned, and several senior executives with no discernible experience or knowledge of information technology projects being asked to run a large and complex project interacting with other individuals all ‘acting their parts’.

In the Queensland Health Payroll project there was a range of people, with different backgrounds and experiences interacting in an organisational setting. The manner in which they respond to ‘events’ or ‘problems’ depended upon a range of inputs - their personal experiences, education and training, the availability of explicit knowledge in the form of documented and available materials, and the use of tacit knowledge (Vo-Tran, 2014, p. 15) found that ‘stakeholders who possessed greater amounts of experience tended to rely upon the use of their tacit knowledge to manage and share information. Whereas stakeholders who possessed lesser amounts of experience had a tendency towards the use of explicit forms of documentation.’

In a ‘goffmanian’ environment individuals will behave differently depending upon whether or not they are ‘acting’ front-stage or back-stage (Vo-Tran, 2014, p. 131, Manning, 2008):

• Front Stage – where the actors’ actions are visible to the audience and form a part of the performance. The person knows that they are being watched and acts accordingly.

• Back Stage – where the audience is not visible and the actors continue their actions without the fear of being watched.
value, veracity and completeness. Experienced stakeholders ‘tended to have greater back stage presence’ (V Tran, 2014, p. 1232) through the use of tacit knowledge built-up by experience. In contrast less experienced actors were thrust onto the front stage where they relied upon ‘the script’ (explicit forms of documentation) to complete their performance’ (ibid.). On a project as complex as Queensland Health payroll, with multiple vendors and stakeholders, actors would be holding one set of conversations back at ‘home office’, another with their ‘partners’ and a third with the client. When the communication fails, the problem needs to be isolated and identified as to where it occurred; the formal procedures, committees and documentation. This 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’ (V Tran, 2014, p. 135), of actors controlling the release of information, and of stake- holders presenting different versions of themselves across multiple stages becomes critical when one considers both the make-up of the governance and management of the project and the diversity of roles and thinking necessitated in the front and back stages. An appropriate lens through which to view this performance construct has been described by Justin Kruger and David Dunning (1999) and is referred to as the Kruger-Dunning Effect. This research identified 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’ (Kruger & Dunning, 1999, p. 38). Of even greater concern is the UUP observation that not only do the domain challenged individuals overestimate their own ability relative to their actual performance, they are also incapable of identifying 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’ (Kruger Dunning, 1999, p. 37). Moreover, this research identified 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’ (Kruger Dunning, 1999, p. 38). With respect to the Project, what this means is that where managers are not technically competent, not only are they unable to gauge the competence of others, but they are also unable to self-regulate by rationalizing the relative competence of the skilled workers on the Project, they do not have the skills to discern the quality of actual performance from their own. Essentially, they cannot tell the difference between the veracity of a confident/incompetent player providing advice, and a competent/ less-confident actor. The ramifications for this disconnect are massive and cannot be overstated. We have already observed that different parties to the Project, from different vendor and stakeholder groups, are ‘acting’ in back-stage and front-stage scenarios, and that they withhold information in order to manipulate outcomes. We have already seen that information is compromised as it flows through an organisation becoming ‘bland, filtered and unreliable’. The manager with accountability, respon-
EXPLORING SOLUTIONS

The research into the Kruger-Dunning effect and the Unwarp and Unwarp (Ehrlich et al., 2008) reaffirms that those that lack domain expertise also lack the ability to identify competence in others. The research also found that as competence is improved through training, the ability to identify competence in others simultaneously becomes more accurate (Ehrlich, 2008, p. 118; Kruger and Dunning, 1999, p. 1128). The Kruger-Dunning research also demonstrated (Kruger & Dunning, 1999, p. 1121) that those individuals lacking in domain expertise were least likely to benefit from ‘social comparison’, that is, they are unable to amend their own performance by observing the performance of others. Direct intervention is required by way of explicit education into the domain specifics. The June 15th issue of Businessweek was a special edition about computer coding. The essay outlined the now outdated coding requirement by way of explicit education into the domain specifics. Now that software lives in our pockets, runs our cars and homes, and dominates our waiting lives, ignorance is no longer acceptable. The world belongs to people who code. Those who don’t understand will be left behind (Ford, 2015).

Horwitz (2014) published an opinion piece in Sr. Dobbs Journal of Software Development arguing ‘engineers managing engineers should code 30% of their time’. Horwitz related his own experiences and noted that while he left coding skills he faced issues such as an increasing ‘technical debt’ and a lack of ‘continuity of understanding’.

A number of coding studies have explored the issue of incompetence, but a topic regularly discussed in the professional literature. Reinforcing the lessons learned from Ehrlinger et al. (2008) and Kruger and Dunning (1999) that the benefit from coming being trained in the domain specific area is to increase the ability of the manager to identify informed opinion, and to make informed decisions. The executive and senior management of the Queensland Government were not equipped to understand the information they were being presented with. The expertise of the actors playing the presented data. Senior management acting on their ‘technique specific area’ is to increase the ability of the manager to identify informed opinion, and to make informed decisions. The executive and senior management of the Queensland Government were not equipped to understand the information they were being presented with. The expertise of the actors playing the presented data. 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