WHERE IS MY PAY? CRITICAL SUCCESS FACTORS OF A PAYROLL SYSTEM – A SYSTEM LIFE CYCLE APPROACH

Mohan Thite
Griffith University
m.thite@griffith.edu.au

Kuldeep Sandhu
Griffith University
k.sandhu@griffith.edu.au

ABSTRACT

Majority of firms deploy technologies in HR administrative applications. While payroll processing is a routine transactional activity, poor design and implementation of payroll system can cause immense harm to employee and organizational well-being. Based on the case study of a flawed payroll system in a large and complex public sector organization in Australia, we highlight the key success factors using the system life cycle approach underpinned by the agile philosophy. It highlights the critical importance of strategic organizational review, user involvement and ongoing communication with diverse stakeholders during the planning, analysis, design, implementation and review stages of a payroll project. It reinforces the need for the adoption of and adherence to sound project and change management methodologies. We also explore the limitations of shared service center approach.

Keywords: E-HRM; Payroll System Implementation; Queensland Health; System Development Life Cycle (SDLC), Project Management; Critical Success Factors; Shared Service Center

INTRODUCTION

Today, organizations, both in public and private sectors are under constant pressure to seek ways and means of 'doing more with less' and healthcare industry is no exception (Abraham and Junglas, 2011). One way of doing this is by reengineering the business processes and deploying latest technologies that help enhance efficiency and effectiveness. However, this is considered more difficult in a large and complex healthcare environment (Bohmer, 2010). Indeed, by some estimates, the failure rates of new IT systems in general, as measured in their ability to meet deadlines, to be within budget and fulfilling the key objectives, are approaching 50% (Fisher and Howell, 2004). However, research also clearly indicates that it is not technology per se but its faulty implementation and poor understanding of social processes, including inherent organizational rigidity, inertia and resistance to change that is the main reason for firms not being able to achieve all or most of their key goals in any technology project implementation (Klein and Ralls, 1997; Lengnick-Hall and Lengnick-Hall, 2006; Waring, 2004).

Payroll processing is one of the first and most frequent automations of HR activities (Thite et al., 2012). While by itself it adds no value to a firm's competitive advantage, pay slips are the most scrutinized documents by employees and therefore, an incorrect payment of pay can lead to intense employee dissatisfaction. This paper looks at payroll project implementation at Queensland Health, the third largest employer in Australia, which turned out to be a 'debacle' and caused widespread financial losses, decline in employee morale and created a political storm which continued to haunt the organization more than two years after its hasty and ill-conceived implementation. This case mirrors

Shrivatsava and Shaw's (2003) assertion that "horror stories of failed technology implementation efforts abound and hardly inspire confidence" (p. 201).

The purpose of the paper is two-fold: one, to ascertain the main reasons for the failure of the new payroll implementation project in the case study organization using the key findings of published independent reviews, and two, to develop a theoretically and practically derived system development life cycle model identifying key success factors for large scale and complex technical project implementation in a public sector environment that uses the whole-of-government shared service center approach.

The significance and contributions of the study include:

- An examination of a payroll system with a holistic, multiple stakeholder focus which helps us better understand the factors influencing the outcome of information system (IS) implementation. Such a focus pays due attention to the dynamic interaction between organizational factors, technical system, process environment and project/change management.

- It reinforces the relevance of the traditional System Development Life Cycle (SDLC) approach when it is underpinned by new agile methodologies, combining both rigor and flexibility in contemporary organizational settings.

- In addition to the key success factors, the study includes a critical examination of the shared service center approach, as it had a major impact on the payroll implementation in the case study organization, an aspect that has not been sufficiently recognized and addressed in the IS implementation literature of large and complex organizations.

The paper starts with a brief introduction to the critical success factors in technical project implementation, with specific reference to payroll system. It is followed by an over view of the case study organization and the design and implementation of its new payroll system under the umbrella of shared service center. It then examines what went wrong, its fallout and the lessons learnt. The paper concludes with a discussion of findings and their implications for managerial practice.

PROJECT IMPLEMENTATION: CRITICAL SUCCESS FACTORS

At the macro level, the organizational context, in terms of the nature and complexity of its operations in which the technology implementation takes place, is a crucial consideration. For example, Chang et al. (2000) who looked at enterprise resource planning implementation issues in the Australian public sector found that knowledge management, system development concerns and operational deficiencies were of particular concern. In a complex environment, such as a healthcare organization, even routine and trivial software implementation can have a profound effect (Stefanou and Revanoglou, 2006).

To successfully acquire an enterprise resource planning (ERP) software, Verville et al., (2005) demonstrate that clarity of authority, a structured, rigorous and user-driven planning process, well defined evaluation criteria and partnership between implementation team, users and the vendor are the key success factors. Researchers also emphasize the importance of top management commitment to provide adequate resources (Ngai and Wat, 2006), total employee involvement and buy-in (Barker and Frolick, 2003; Ehie and Madsen, 2005), continuous monitoring and feedback (Varma and Gopal, 2011), thoughtful consideration of system-design elements (Fisher and Howell, 2004), particularly based on the modern socio-technical view that prefers empowerment over control (Benders et al., (2006), careful change management and cultural readiness (Motwani et al., 2005) and communication processes (Stone and Lukaszewski, 2009). Similarly, in the post-implementation stage, a systematic and planned review of overall project scope and planning, driving principles of project development, misfit resolution strategies and evaluation of benefits and user learning are critical (Nicolaou and Bhattacharya, 2006).

At a more general level, the technology acceptance model proposes that perceived ease of use and usefulness are primary determinants of technology acceptance (Ma and Liu, 2004). However, technology implementation can lead to both functional and dysfunctional or intended and unintended consequences. In order to minimize unintended consequences of technology implementation, such as users avoiding to use the system (inertia) or work around it (reinvention), some researchers highlight the importance of human agency perspective that directs attention toward social contexts and processes whereby rather than technology, variety of stakeholders or actors exercise social influence to alter the pattern of use leading to desired organizational change (Boudreau and Robey, 2005; Light and Wagner, 2006).

In contrast with the hard-wired, inflexible routines embedded in technology, particularly in vanilla-based ERP packages, the socio-technical view and human agency perspective prefer empowering employees with the required flexibility and discretion to overcome technology constraints as they learn to navigate the new system under the influence of different social actors. This approach supports Orlikowski's (2000) 'technology-in-practice' framework which argues that technology's consequences emanate from user enactment and improvised learning rather than technical features of a new system and therefore should be proactively managed. Here, organizational factors, such as the nature and structure of work play an important role influencing how individuals use technologies (Dery et al., 2006). Further, Orlikowski and Scott (2008) propose a 'sociomaterial' approach to study the fusion of technology and work in organizations with a view that "there is an inherent inseparability between the technical and the social" (p.434).

Taken together, the critical success factors in any IT project can be summarized under the five stages of a typical system development life cycle (SDLC), namely, planning, analysis, design, implementation and maintenance/review (Alge and Upright, 2012). We will later use the SDLC approach to highlight what went wrong with the new payroll system in the case study organization. The typical traditional approaches to SDLC (often called incremental, waterfall or stage-gate models) are deemed to be rationalized, rigid and purely engineering-based with lack of attention to fast changing needs of the customers and the impact of social factors in technology implementation, such as organizational culture and teamwork (Nerur, Mahapatra and Mangalaraj, 2005). In contrast, the newer agile methodologies focus more on people than processes, more responsive to changing environments and user requirements and are characterized by flexibility, leanness and collaboration (Dyba and Dingsoyr, 2008). Another study recommends an iterative system development cycle (ISDC) with inbuilt feedback loops or prototyping cycle in a public sector environment (Rubin, 1986).

PAYROLL SYSTEM: DESIGN & IMPLEMENTATION

The payroll function is generally administered by the Finance department in close coordination with HR which feeds employee compensation and benefits data. As labor costs are typically the largest variable cost of most firms and pay check is the most visible symbol of employment relationship, it is vital that payroll records are timely and accurate. A survey by the American Payroll Association reported that more than two-thirds of Americans live paycheck to paycheck and expect to be paid on time, every time (The Pak Banker, 2010). Therefore, payroll should be flawless for the organizational and employee well-being (Fay and Nardoni, 2012).

Considering that an enormous amount of data needs to be generated, received and processed to ensure timely and accurate salary payments as well as compliance with legislative requirements, "the union of technology and payroll seems like a perfect marriage" (Danilewicz, 1997, p. 6). The "Y2K" crisis highlighted the challenge of using up to date technologies to constantly and continually update or replace legacy systems for effective and seamless payroll service delivery (Dennis, 1997). Further, with the increasing emphasis on performance based pay, the payroll system has to be substantially

transformed to link pay with employee stock ownership schemes and other progressive HR policies and practices, such as self service portals that let employees to access payslips online, electronic transfer of pay directly into employee bank accounts and adopting HR shared service center concept (Phelan and Hayes, 2005; Jereb et al., 2009). Based on a study of payroll application users, Hunton and Price (1997) highlight the importance of user participation and involvement in developing the system as it enhances their perception of procedural justice and control.

An increasing trend in large organizations to derive further benefits of technology in HR service delivery is to bundle HR administrative tasks within a shared service center (SSC) (Isenhour, 2012). It is a collaborative strategy whereby several related functions and processes are clustered under the umbrella of an independently managed strategic business unit or center of excellence in order to reduce costs and improve quality (Goh et al., 2007). For this strategy to succeed, the business units whose functions are being transferred to SSC need to establish an overarching vision, trust each other, be open and transparent and follow a thoughtful and thorough change management approach (Accenture, 2007). Jereb et al. (2009) demonstrate that within the SSC architecture, transparency and comparability of payroll processes can be significantly enhanced by focusing on key performance indicators (KPIs) and benchmarking.

There have been several instances of payroll system implementation going horribly wrong with severe financial consequences for the organization and employees and resulting in poor industrial relations. For example, the roll out of a new payroll system for the Southern California District in the USA as part of a new integrated technology system lead to underpayments, overpayments and incorrect withholdings for over 35,000 employees (Trotter, 2007). It was acknowledged that the payroll system's rollout was rushed and tainted by numerous programming glitches, such as insufficient system testing and poor training of payroll officials. Similarly, the Australian Defense Force (ADF) payroll system overpaid allowances to some military staff deployed overseas and the ADF's attempts recover them became a sensitive issue in the media and lead to the announcement of a high level task force to fix the problems (Dodd, 2010).

CASE STUDY

Research Design

Considering the exploratory nature of our study, the qualitative case study method is an appropriate choice. According to Doz (2011), qualitative research is uniquely suited to "opening the black box of organizational processes" and can make a "substantial contribution" to areas, such as theory building as it stimulates deeper thought by "providing rich, thick descriptions of real phenomena and action instances (p. 583-584). We used 'document analysis' as our primary source of data for this particular case study because considering the enormous size and scale of the payroll implementation failure in terms of financial loss, public outrage and employee unrest, several reputed consulting organizations were asked by the government to probe and deliver the findings on this case. These consultants were given unhindered access to all the key stakeholders to prepare their reports and what is more, these reports have been placed in the public domain. As Yin (2003) points out, the strengths of documents as a source of evidence are that they can be viewed repeatedly, they are exact (in details), they have a broad coverage (of time, events and settings) and they are unobtrusive (not created as a result of the case study) (p. 86).

The following case study on Queensland Health (hereafter referred to as QLD Health), the Queensland State Government run health department in Australia, has been prepared with the following key official documents that have been publicly made available by the Queensland government, as a primary source of data:

- Reports by the Auditor-General of Queensland submitted to parliament on the Queensland Health payroll system (AGQ, 2010a; 2010b)

- An independent review of Queensland Health payroll implementation by KPMG (KPMG, 2012; 2010a; 2010b)

- An independent review of Queensland Health payroll and rostering solutions by Ernst and Young (Ernst & Young, 2010) and

- An independent review of the shared service model for Queensland government by PricewaterhouseCoopers (PWC, 2010)

The independent reviews by KPMG, Ernst and Young and PricewaterhouseCoopers involved extensive consultations with all the key stakeholders, including QLD Health managers, payroll staff, employees and trade unions, the owner of shared service centre and the vendor. As these reports incorporate the voices of all key stakeholders and written by independent experts, the data provided in these reports over a two year period can be considered sufficient enough to undertake an informed analysis of the case study organization. In addition, QLD Health web site, newspaper reports and government announcements and notifications were used as secondary source of data.

'Applied social research' is most suitable for the subject in this study because of its potential for actionable outcomes, as it helps us better understand the problem in order to find the most suitable solution, particularly in the context of government agencies (Richie and Spencer, 1994). Document analysis, as part of grounded theory approach, is a potent way to carry out qualitative research (Bowen, 2009). One of the problems in undertaking exhaustive applied research in an institutional context is the lack of access to key policy makers and implementation actors for reasons of confidentiality. Therefore, this study has relied on publicly available consultancy reports commissioned by the government and tabled before the legislature as the researchers who submitted these reports were given unhindered access to all key documents and stakeholders.

In terms of data analysis, the authors first 'familiarized' themselves with the data from different sources, 'identified a thematic framework' and then 'indexed, charted and mapped' the data before objectively 'interpreting' it (Richie and Spencer, 1994).

Organizational Profile

QLD Health aims at achieving good health and well being for all Queenslanders. Through a network of hospitals, healthcare facilities and Health Service Districts, QLD Health delivers a range of integrated services including hospital inpatient, outpatient and emergency services, mental health services, primary healthcare and chronic disease management in hospitals and community health centers. With over 85,000 staff in permanent, casual and temporary positions in both clinical and non-clinical areas, QLD Health is the third largest employer in Australia.

The organization has a complex system of employment terms and conditions governed by 12 awards and 6 industrial agreements which provide for over 200 different allowances and up to 24,000 different combinations of pay. There are over 1000 new starters and leavers in a standard fortnight reflecting the fluidity in its workforce composition. QLD Health pays on an average $250 million in salaries and entitlements on a fortnightly basis to its employees spread over 300 work sites.

Overview of Previous Payroll System

In terms of the payroll process, the information on all rosters, shift changes, allowances and leave entitlements is provided by QLD Health payroll staff to a contracted firm to produce printed payslips. It is noteworthy that about 40,000 emails and faxes containing payroll processing requests are received by payroll staff per pay period. Since not all employees regularly use computers, payslips are printed

as agreed with the trade unions representing the workforce. There is a small time period of two days available to make corrections and adjustments to perform ad hoc pay runs before the electronic file is provided to the various banks to deposit pay directly into employee bank accounts. This often results in ad hoc pay and differences between net pay shown on the payslip and the amount deposited into the employee bank account. This has been a normal part of the payroll process leading to an increase in rate of errors reported by employees and 15,000 adjustments or 'reworks' required after each pay run.

The previous system was built on LATTICE in 1997. Due to the limitations of the LATTICE payroll system and the underlying complexity of the QLD Health awards and allowances, the payroll 'rework' rate was approximately 20% of total payees. This situation was clearly unsustainable and needed urgent attention. In addition, vendor support for the LATTICE payroll system expired in June, 2008 leading to an urgent need for its replacement.

Design & Implementation of New Payroll System

The Queensland Government established Corp Tech, a shared service entity, with a 'whole of government' approach over the acquisition of information technology infrastructure (including hardware and software) for all Queensland government agencies. Under the shared service initiative, all agencies were mandated to implement a standard software suite, including 'SAP HR, WorkBrain rostering software and SAP Finance' with IBM as the prime contractor to both manage and implement payroll and rostering systems. The first pilot project was done by IBM at the Queensland Department of Housing in 2007 and QLD Health was the next agency in line.

Three key players were involved in the replacement of QLD Health payroll system:

- Corp Tech, a specialized government business unit under the shared service concept, and the owner of SAP HR and WorkBrain systems

- IBM, as the prime contractor to Corp Tech, to direct, manage and control the project and to implement SAP HR and WorkBrain solution to replace LATTICE

- QLD Health, the business user responsible for the payment of salaries and entitlements to its employees. Primarily responsible for ensuring that scope of works reflected business requirements, data cleansing and migration, user acceptance processes and staff training.

IBM was required to replace the QLD Health payroll system by implementing the Department of Housing model of SAP HR 'with very little customization'. Corp Tech approved the initial planning and scoping of the LATTICE replacement 'interim solution' with the specifications for the design, configuration, build, testing and implementation documented in a Statement of Work in January, 2008. However, in October, 2008 "detailed planning revealed that the size, complexity and scope of this phase of the program had been severely underestimated, with the consequence that its revised implementation cost estimates significantly exceeded the original tender proposal" (AGQ, 2010a, page 16).

Corp Tech approved over 47 change requests from IBM which "were mainly due to the business requirements not being clearly articulated and agreed to at the outset of the project" which resulted in the continuous failure of the user acceptance testing criteria. Consequently, 'the system implementation was over 18 months after the scheduled Go-Live date and approximately 300% over the original cost budget'. When the new payroll system went live in March, 2010, QLD Health experienced significant payroll errors resulting in staff being overpaid, underpaid, or not paid at all.

What Went Wrong?

The Auditor-General of Queensland (AGQ, 2010a), highlighted several key reasons for the failure of the new payroll system as below:

Under-estimation of Project Scope & Complexity: The QLD Health payroll system is very complex due to a large workforce and multiple employment awards and agreements and therefore, needed careful attention from start to finish. The prime contractor was expected to use the same SAP HR system that was used for Queensland Housing with 'very little customization' and provide 'like for like replacement' for the previous LATTICE system. However, the requirements of QLD Health were significantly more complex than that of the Department of Housing because the latter had about 1300 employees with one employment award whereas the former had 78,000 employees with multiple awards. In addition, the business rules for LATTICE and SAP HR are very different with the latter requiring more rigor and discipline making the 'like for like' assumption invalid (page 23 and 25).

Poor Governance: The governance structure of the system implementation between the key agencies, that is Corp Tech, IBM and QLD Health, was not clear, causing confusion over the roles and responsibilities, authority and accountabilities of various parties. In the complex shared services arrangement, despite attempts to clarify roles and responsibilities, there still existed some tension between QLD Health as owner of data and Corp Tech as owner of the system (page 3).

Poor User Involvement & Buy-in: The 'the identification of the customer in this project was confusing' (page 21). While key project deliverables were signed between shared service entity (Corp Tech) and prime contractor (IBM), there was no explicit endorsement by QLD Health, the system user.

Ill-defined Project Scope: The 'project scope was not formally agreed to by QLD Health, and negotiations over the scope occurred throughout the project, resulting in over 47 change requests' (page 21). The scope definition was formally approved by QLD Health, '20 months after the commencement of the project' (page 25).The 'project creep' occurred because there was inadequate documentation of business requirements at the commencement of the project. The absence of periodic review of the business needs contributed to subsequent difficulties with system testing and implementation. The 'absence of an agreed scope from all key stakeholders from the beginning of the project' lead to cost blow out and delays in implementation.

Poor Project Management: The pre-implementation system and process testing failed to identify significant implementation risks. Moreover, a number of critical business readiness activities and practices were not fully developed prior to implementation. 'No specific project management methodology was applied throughout the life of the project' (page 3). There was 'no one entity monitoring and managing total project budget versus costs being incurred by all of the various stakeholders' resulting in no accountability for project costs (page 27).

Mad Rush to Go Live: Parallel payroll testing was done at the same time as user acceptance testing for a sample of 10% of employees and 60% of functionality of the new system. 'SAP recommended a full parallel pay run comparison' between the old and the new system prior to Go-Live; however, this 'recommendation was not accepted by the Project Board due to the size and complexity of undertaking this task' (page 29).

Poor Risk Management: Before the final decision to Go-Live, a full risk profile was undertaken; however, 'the risks were not quantified to indicate the extent of the problem, should the risk materialize, that is how many or what category of staff may not be paid'. The code fixes were migrated to the production environment prior to the business cut-over which 'is not considered good practice' as 'it increased the risk that the live system could become unstable' (page 30). There was no 'contingency planning for business cut-over'.

Adapting from Jereb, Kuchem and Sohn (2009), Figure-1 presents the key causes of failure of the QLD Health payroll system under four headings, namely, organization, project/change management, systems and process environment.

The Fallout

While IBM as the prime contractor defended the quality of its work, the payroll staff identified 70 major problems with the system and according to the Australian Services Union, there were 35,000 wage anomalies and around three-quarters of the issues involved system or configuration errors (The Australian, 2010a and 2010b). With the press reporting that the 'sick' payroll system that cost $64.5 million 'does not work' and calls for the resignation of the Health Minister, the Queensland government went into damage control promising a quick fix and terminating the services of two senior executives (The Australian, 2010c).

It was reported in the media that the system was deducting overpayments from employees' bank accounts automatically and without consent in breach of employment agreement but QLD Health expressed its inability to stop it as it was a 'whole-of-government' problem (Courier Mail, 2010a). With thousands of QLD Health employees continuing to report errors in their pay checks for several pay cycles, the government appointed KPMG to review the payroll system and according to the media, KPMG report revealed 'turmoil and incompetence' with the government admitting that QLD Health's initial efforts were "not good enough" and that there was no sufficient contingency plan to protect staff from the system's failure (Courier Mail, 2010b). Later, with the release of the Auditor General's report that 'found the botched payroll system was approved despite serious awareness of the extent of its risks', the Queensland Public Sector Union called it an 'unprecedented failure of public administration' (Courier Mail, 2010c).

With the change of government in 2012, the new government commissioned another enquiry by KPMG which reported that the total cost of the payroll system would be around a whopping $1.2 billion, between 2010-2017 (KPMG, 2012).

Lessons Learned

The Auditor General's report highlights the following major lessons for future projects (AGQ, 2010a, page 3):

- Simplification of employment awards and agreements to remove complexities that affect the efficiency and effectiveness of payroll process
- Establishing clear lines of accountability, roles and responsibilities to ensure end to end governance structure
- Ensure assessment of full impact of system change and readiness of the business before going live and
- Identify all risks and put in place robust contingency plans and risk management strategies.
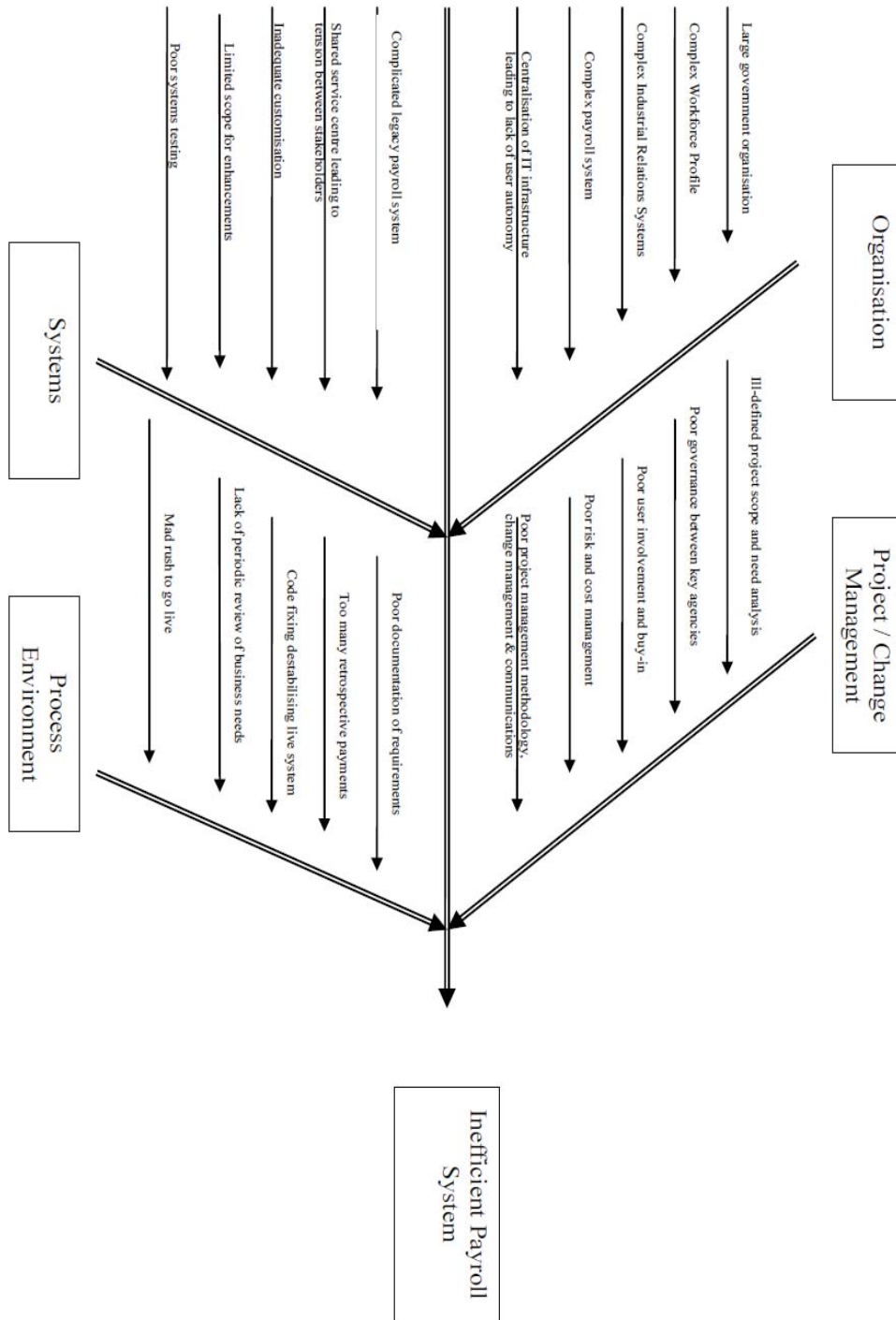
Figure 1. Key Causes of Failure of the QLD Health Payroll System

An independent review by Ernst and Young (2010) after extensive stakeholder consultation identified 'ongoing people, process and technology issues with the current solution' (page 2). Its vendor analysis revealed that SAP was an appropriate payroll solution for QLD Health. While it recommended to 'stabilize and optimize' the current system rather than replacing it, its central recommendation was the need for comprehensive support for subsequent project activities in the form of "change management, training planning and execution to support staff and minimize negative impacts, create consistent and broadly disseminated communication, and effective, targeted training and education" (page 3).

Similarly, KPMG (2010a; 2010b) recommended improved project governance and management, better system design and technology support and improved change management, including, user involvement throughout the process, integrated approach to communicate with diverse stakeholders and training.

The report by Ernst and Young (2010, page 31) listed several critical success factors that should have been taken into account to ensure the smooth implementation of this project: well defined business requirements and clearly articulated Statement of Works; alignment with project management methodology; mature and consistent testing approach; comprehensive change management and training schedule; effective and timely communication; implementation in a controlled, staged manner; early establishment of conditions for stakeholder cooperation and expectation management; alignment of people, process and technology; availability of resources, including staff training and ongoing vendor management.

PricewaterhouseCoopers (PWC, 2010) which reviewed the shared services arrangement concluded that while all levels of government in Australia have moved toward various models of shared services in line with Western countries, its successful introduction within the public sector is 'challenging' due to increased complexity of stakeholder relationships, public ownership and scrutiny of government activities and lower appetite for risk. It recommended an "integrated operating model which combines the benefits of central control, scale and standardization with a flexible, service-centric approach" (page viii).

The key recommendations for improvement as a result of the above independent reviews can best be summarized under the system development life cycle (SDLC) approach that classifies the key success factors under five distinct and iterative phases, namely, planning, analysis, design, implementation and maintenance/review. As presented in Figure-2, before addressing the issues raised under the SDLC approach, an organization should conduct a thorough strategic review of its external and internal environment to identify the best possible solution. The case study clearly highlights two critical issues of technical project management, namely. user involvement and ongoing and integrated communication with diverse stakeholders throughout the process and as such, Figure-2 presents them as being critical during all the five phases.
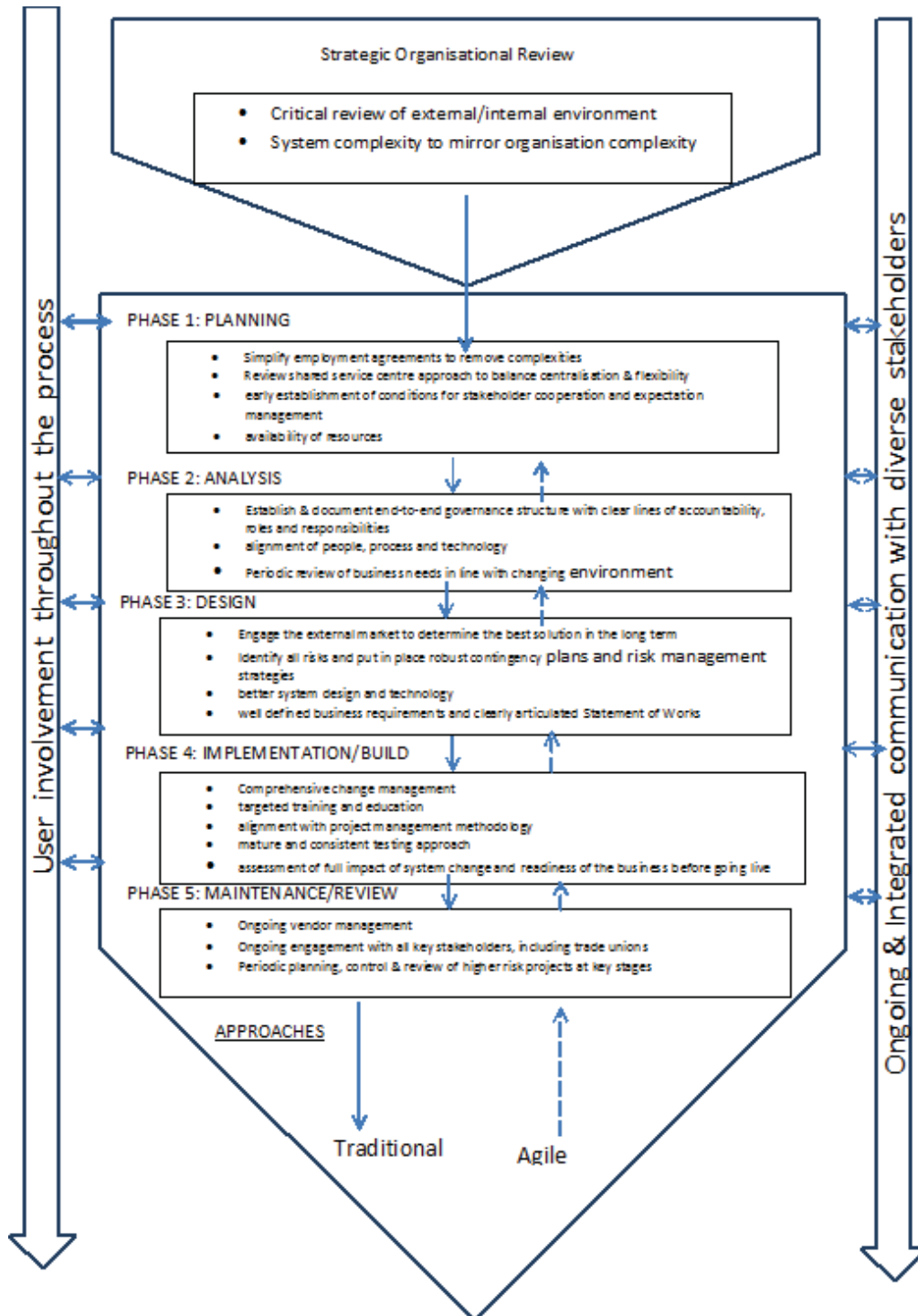
Strategic Organisational Review

- Critical review of external/internal environment
- System complexity to mirror organisation complexity

User involvement throughout the process

Ongoing & Integrated communication with diverse stakeholders

PHASE 1: PLANNING

- Simplify employment agreements to remove complexities
- Review shared service centre approach to balance centralisation & flexibility
- early establishment of conditions for stakeholder cooperation and expectation management
- availability of resources

PHASE 2: ANALYSIS

- Establish & document end-to-end governance structure with clear lines of accountability, roles and responsibilities
- alignment of people, process and technology
- Periodic review of business needs in line with changing environment

PHASE 3: DESIGN

- Engage the external market to determine the best solution in the long term
- Identify all risks and put in place robust contingency plans and risk management strategies
- better system design and technology
- well defined business requirements and clearly articulated Statement of Works

PHASE 4: IMPLEMENTATION/BUILD

- Comprehensive change management
- targeted training and education
- alignment with project management methodology
- mature and consistent testing approach
- assessment of full impact of system change and readiness of the business before going live

PHASE 5: MAINTENANCE/REVIEW

- Ongoing vendor management
- Ongoing engagement with all key stakeholders, including trade unions
- Periodic planning, control & review of higher risk projects at key stages

APPROACHES

Traditional   Agile

Figure 2. The SDLC Approach

DISCUSSION & CONCLUSIONS

Considering that the HR technologies are predominantly used for HR administrative applications, including payroll and benefits administration (CedarCrestone Survey, 2010), this case study has profound implications on the evaluation of their effectiveness. While transactional HR processing adds little value to an organization's bottom line, failure to pay people on time and the right amount can cause immense employee dissatisfaction and distress which in turn can severely dent the employer branding. Apart from the indirect cost of loss of employer reputation, the direct costs of rectifying the flaws of a new payroll system can run in to millions of dollars for a large organization. As we have seen in the case of QLD Health, the initial budget is likely to exceed by 2000% from $50 million to over $1 billion between 2010-2017. By any standards, this is an utter disaster and if QLD Health was a private enterprise, it's very future would have been in doubt.

An analysis of what went wrong by the government and independent agencies reveals exactly all the key lessons found in the literature on technology implementation: lack of clarity on business requirements, poor needs analysis, ill-defined project scope leading to major scope creep, confusion on roles and responsibilities between stakeholders, lack of user involvement in system design, inadequate risk assessment and planning for risk mitigation, poor project and change management, insufficient parallel pay run prior to going live, poor alignment between people, process and technology, lack of user training and inconsistent communication. In addition to the above, there were additional complexities arising out of the organizational profile and whole of government approach to IT infrastructure management. The payroll process by its very nature is complex and challenging at QLD Health brought about by multiple employment awards. This complexity was completely ignored during the planning and design process as the prime contractor was asked to provide like-for-like replacement modeled on another much smaller government department.

By adopting the system development life cycle (SDLC), Figure-2 captures the key factors that should have been taken into account in designing, implementing and rolling out the new payroll system at QLD Health. It reconfirms the findings in another case study of a successful IS implementation in a healthcare organization where the key success factors included link with organizational strategy, planned change with stakeholder consultations and collaboration, role and process transparency and accountability, ensuring training appropriateness and fostering continuous learning and improvement (Abraham and Junglas, 2011, p. 189). Thus, the factors that contribute to the success or failure of project implementation are the same which reinforce their reliability and validity.

The project should have begun with a thorough organizational environmental analysis and a strategic review of business needs. For example, an academic review of QLD Health payroll case recommends the integration of IT design with organizational design to adequately respond to the dynamic and complex organizational environment (Silva and Rosemann, 2012). The agile methods to SDLC have certain distinct advantages in the context of this case study as they particularly focus on key non-technical factors, such as diverse organizational cultures and collaborative work teams that emphasize shared responsibilities in order to be lean, flexible and customer-centric. However, some studies find that the superiority of agile methods have not been conclusively established and that they are not particularly suitable for large and complex projects (Dyba and Dingsoyr, 2008; Awad, 2005) while others recommend integration of the traditional methods with agile methods to improve cost control, product functionality and on-time delivery (Karlstrom and Runeson, 2005). Accordingly, Figure-2 depicts both traditional and agile methods as complimentary rather than alternate approaches to SDLC for successful technical project implementation.

The whole of government approach to IT under the shared service center (SSC) concept added another layer of complexity. While SSC is a well accepted model in the Western countries, its implementation

is 'almost invariably been problematic' in a public sector environment due to 'systematic underestimation of the costs and/or risks of implementation caused by behavioral factors (such as) optimism bias by proponents at the whole-of-government level and fear of loss of control by players at the individual agency level' (AIM, 2011, page 2). In this case, the SSC entity owned the system and signed the key project deliverables with the contractor whereas the end user who owned the data and was responsible for payment to employees was kept out of the loop and it took over 20 months for the end user to sign on the project scope. The governance structure between the three key parties was conspicuous by its absence. This resulted in 47 change requests throwing the budget and implementation schedule into chaos. While the SSC approach to central control has its benefits, a large organization also requires flexibility and autonomy to effectively manage its internal complexity.

The authors recognize that hindsight-bias is one of the weaknesses of the study. However, research suggests that use of multiple informants increases the reliability and validity of informant reports (Kumar, Stern and Anderson, 1993) and as the study relies on multiple reports conducted over a considerable period of time by multiple agencies, it lends credibility to the findings reported in the study.

The case study confirms the central message in the literature that it is not technology per se but the underlying social and organizational processes that mainly derail the implementation and cause the failure to realize the intended benefits. In this case, the vendor analysis by the independent agency revealed that the technologies chosen were sound, well tested and well suited for the organization's requirements. As the CedarCrestone Survey (2010) cautions, HR technologies cannot fix inadequate or broken processes. The case study highlights the importance of the social actors, their motives and interactions underpinned by the socio-technical view and the human agency perspective in minimizing the unintended consequences of technology implementation.

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