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Abstract

The aim of this research in progress paper is to explore the organisational culture in the context of information technology (IT) projects. Two case study projects are presented and analysed via the Johnson and Scholes (1999) Cultural Web. Data collection was undertaken using the qualitative methods of reflective observation and informal discussion with project team members which was made possible as one of the researchers had worked on both projects. The results show that both projects were quite dissimilar in all but the Rituals component of the Cultural Web. This research has also developed and pilot tested a questionnaire in relation to organisational culture in the context of IT projects, however this is not the focus of this paper.

Keywords

Organisational Culture, Cultural Web, IT Projects, Case Study

Introduction

The human aspect of projects is often overlooked, especially the area of organisational culture within information technology (IT) projects. However it is a very important aspect of any project (Marchewka 2006; Hughes & Cotterell 2006) as all projects are managed by, worked on, and completed by humans, without them a project simply would not exist

This paper reports on research in progress which aims to investigate whether organisational culture provides an environment that promotes or prevents IT Project success. The focus of this paper is a dual case study which has been analysed using Johnson and Scholes' (1999) Cultural Web. Following the case study analysis a questionnaire was developed and a pilot test was undertaken within the case study organisations. The questionnaire and pilot test is not discussed in this paper due to page limit restrictions.

The findings presented in this paper are useful in shaping our knowledge of how organisational culture can impact IT projects and IT project management. This is of particular relevance to IT project success or failure.

The paper is divided into the following components. Firstly literature from the project human resources management (HRM) and organisational culture is presented. The research approach is then discussed followed by the case study projects. The next section analyses the case studies using the Cultural Web. Lastly conclusions are drawn and future research is discussed.

Literature

Project HRM

Project success is usually measured in terms of its three main objectives: scope, time and cost (Marchewka 2006; Hughes & Cotterell 2006; Meredith & Mantel, 2000). Any project management textbook will note the project success factors revolve mostly around planning, defined goals and objectives, top management support and financial support (for example see Marchewka 2006; Hughes & Cotterell 2006). However, an important area which must not be overlooked is the human aspect of IT projects and its ability to impact project success. Cooke-Davies (2002) defines 12 "real" factors of project success, and while not explicitly identifying the human aspect as a critical factor, notes that people are a part of each of the 12 success factors. People are the backbone of any IT project, and more importantly it is essential to understand the human aspects of IT projects.

Fabi and Pettersen (1992) reviewed HRM practices within project management and found that research on this particular topic to be rare and not widely available. However, since this research was completed, there has been a great deal of studies carried out in discovering the impact of HRM on the success or failure of projects.

Among these studies, one of the most significant has been that of Pinto and Prescott (cited by Belout & Gauvreau 2004) who posit that the human factor in project success is only a marginal variable. Conversely,

there have been many works which suggest that the human element actually does have a significant impact on the success of the project. Laplante (2003) who notes that project success relates directly to the quality of talent employed and the manner in which they are deployed. Belout and Gauvreau (2004) posit that social issues are a cause of many major project failures.

The key players in IT projects are the project manager and the project team. There are many aspects of project teams that have been studied, including the characteristics of the project manager, the different types of project team structures, and the roles of team members, all which play a part in the success of IT projects (Marchewka 2006; Hughes & Cotterell 2006).

People have different characteristics, abilities and personalities, which can make managing a team quite difficult and stressful. Smith (2001) considers these different types of roles which people may adopt, how they interact with each other, and how project managers need a team which contains a good balance of roles so that projects can be successfully implemented. Bellefeuille and Kuhl (1990) discuss different types of personal styles within project teams such as the leader; the manager; the coach; the hands-off observer; the follower; the doer and the tracker.

While Smith (2001) and Bellefeuille and Kuhl (1990) discuss the types of roles within the team, Logue and Droullard (2006) discuss the structure aspect of project teams. Regardless of how great the people are if the team has no structure they will flounder (Logue & Droullard 2006).

Meredith and Mantel (2000) also consider project teams. However, their focus is on the motivation or team morale within project teams, especially a team's effectiveness when motivated or empowered. They identify some advantages of possessing a motivated team, such as, team members being able to manipulate tasks and use their own methods for achieving project goals.

Different styles of leadership also affect the efficiency of a project team and their ability to successfully deliver a project (Smith, 2001). Wang et al. (2005) found that a charismatic leader ultimately influences overall project team operation. Leadership styles within project management indentified by Smith (2001) include: the *laissez-faire* style, which is characterised by managers who are laidback, relaxed and are open to creativity without the structure of solid business processes; the transactional style managers, who are usually risk averse, process orientated and goal focussed; and the transformational style managers, who are usually risk taking and focus more on leading rather than managing. Glen (2004) identifies two types of managers: managers of things (who share many of the same characteristics as Smith's (2001) transactional manager) and managers of people (who are similar to the transformational style managers).

Culture

With advancing technology the world is getting smaller and it becomes almost impossible for international organisations to avoid global projects with distributed or virtual project teams. This makes project management more complex and possibly makes it more difficult for project managers to deliver successful projects (Hughes & Cotterell 2006; Shore & Cross 2005).

A recent literature review by Henrie and Sousa-Poza (2005) found that culture within project management has not been heavily examined or studied in the past due to the following broad reasons:

- Measuring culture is not easy

- There is a deficiency in the research on leadership of multinational teams

- There is confusion over the definition of culture

Although research shows that there are gaps within the literary topics of culture within project management, organisational culture has been widely researched. Project management texts often discuss project culture in terms of organisational culture rather the from the project perspective (Marchewka 2006; Hughes & Cotterell 2006). A number of cultural models exist and the following three models will be briefly discussed:

- Manifestations of Culture (Hofstede et al. 1990)

- The Cultural Web (Johnson & Scholes 1999)

- Levels of Culture (Schein 1992)

Manifestations of Culture

Hofstede et al. (1990) developed the manifestations of culture which has four key components:

- Symbols represent the objects or language within the culture. Symbols include logos, slogans, expressions and terminology.

- Heroes as the champions or leaders of the culture. They are role models for the culture and it is important to identity the heroes or champions of any project to help understand its culture.

- Rituals are the processes and procedures carried out on a daily basis. Rituals include things such as morning coffee routines and weekly team lunches.

- Values relate to the core feelings that underlie the culture.

Symbols, Heroes and Rituals are all practices and form the building blocks for an organisation or project's culture. Hofstede et al. (1990) classify these as what the person feels is the culture. Values on the other hand are the foundations upon which the Symbols, Heroes and Rituals lay. Values are what the person feels should be the culture (Hofstede et al. 1990).

The Cultural Web

Johnson and Scholes developed the Cultural Web as a "representation of the taken-for-granted assumptions or paradigm, of an organisation and the physical manifestations of organisational culture" (1999:p73). The Cultural Web identifies seven areas of organisational culture:

- Organisational Structure outlines important relationships and emphasises what is important in the organisation.

- Control Systems are the "measurements and reward systems" which help uncover the organisation's or project's areas of importance and focus.

- Power Structures aim to uncover the sources of power within an organisation. For example executives hold the power within the organisation, but many other sources of power exist which do not necessarily match the organisational structure.

- Stories include gossip, rumours and the grapevine. They are "told by members of the organisation to each other, to outsiders, to new recruits" (Johnson & Scholes 1999:p74). They are typically based on heroes, villains, successes and failures.

- Rituals and Routines are formal or informal things that are done in the organisation. Rituals are usually activities which take place to promote the culture of the organisation such as after work drinks, and informal gatherings. Routines are processes and procedures and methodology focussed on getting the actual work done.

- The Symbols element of the Cultural Web consists of "logos, offices, cars, titles, or the type of language and terminology commonly used" (Johnson & Scholes, 1999:p74).

- The Paradigm is the underlying theory or concept of the organisation. By combining each section of the Cultural Web a general perception of the organisation can be formed.

Levels of Culture

Schein (1992) simplifies organisational culture by decomposing it to three levels:

- Artefacts are the highest level and include items which are visible and able to be seen. Examples of artefacts include the organisation's "physical environment, its language, its technology and products… manners of address, emotional displays, myths and stories" (Schein, 1992). However, the meanings of the artefacts are difficult to interpret and understand without knowledge of the lower levels of the cultural model.

- Espoused values are usually about how things are done. Once these are accepted the team usually adopts these beliefs and they become the overall values for the organisation or project.

- Basic underlying assumptions are the actions, opinions, and unquestioned basis on which people behave. These behaviours are usually automatic and done without thought. They are often brought about by espoused values which have been embedded so deeply that they become assumptions.

Summary

While the three cultural models have differences they are quite similar as they all suggest a number of facets to organisational culture, i.e., the way we do things, the way we should do things and the setting we work in.

The Manifestations of Culture and the Cultural Web both show that organisational culture contains various important elements, however, the Cultural Web takes one further step and illustrates that these elements are intertwined. Although the Manifestations of Culture model shows a number of elements within culture, similarly to Schein, it also shows organisational culture as having multiple levels, where Symbols is the most

obvious and visible level and Values is the least visible. Schein drills down to a deeper level than Hofstede et al. with the level of Basic underlying assumptions.

Schein's model works at a higher level of detail than the Hofstede and Johnson and Scholes models as the Artefacts level encompasses numerous components of both models such as Hofstede et al.'s Symbols, and Johnson and Scholes, Symbols, Control Systems, and Stories. Hofstede also doesn't go into as much detail as Johnson and Scholes where Hofstede et al.'s Hero component can be mapped to Johnson and Scholes Organisational and Power Structure components.

Research Method

This dual case study used an interpretive and qualitative approach as the research attempts to understand the actual context of the area under study from the point of view of the participants (Crotty 1998; Sarantakos 1998). The cases are a Sarbanes-Oxley Act (2002) Compliance Project within an Oil company and an Anti-Money Laundering/Counter-Terrorist Financing Project within a Bank.

Hamel et al. (1993:p45) defines a case study and an 'in-depth investigation using different methods to collect information and to make observations. These empirical materials help to understand the object of the study'. McNeill & Chapman (2005:p120) offer a similar definition by stating a case study is an 'in-depth study on a single example using a range of research methods'.

Data collection used the qualitative techniques of reflective observations and informal conversations with people in the field (McNeill & Chapman 2005; Sarantakos 1998; Hamel et al. 1993) as one of the researchers had worked on both projects. Therefore reflection on past observations, for information relating to the studied project teams was the primary source of information for the SOX Compliance Project while on-site observation was the primary source of information for the AML/CTF Project. The literature review also provided a basis for comparing and contrasting observations identified.

Johnson and Scholes' (1999) Cultural Web will be used to analyse the cases studied. From the reflective observation style used to carry out the case studies, it is impossible to fully understand and correctly define the Paradigm as defined by Johnson and Scholes, of each case. Further studies such as questionnaires, interviews and focus groups within the cases are necessary to draw a clear picture and near-accurate conclusions. For the purposes of this study, the Cultural Web is slightly modified and the Paradigm section of the Cultural Web will remain as an area for further research and refinement.

The Oil Company Project

The Oil Company employs approximately 109,000 people across 140 countries under a number of different operating companies. These operating companies cover areas such as exploration and production, oil products, gas and power, chemicals, and trading. Operating across a number of different countries with two head offices, in Houston, managing the North America (NA) Region and in London, managing the World Outside North America (WONA), the Trading Company consists of following business units which all played an important part in the project:

- Global Commercial Operations which covers general trading activities

- Finance Management which includes tax, treasury, trade finance, and credit and debtor management

- Finance Services which includes Financial Accounting, best practice initiatives and where the SOX Compliance project resided

- Risk Control and Compliance manages and measures risks, compliance

- IT which covers the development, implementation and support of business applications and tools

The SOX Compliance Project Team structure consisted of two main lines – Business and IT. Within these two lines, they were divided again by region, NA and WONA. At the beginning of the project, each region and line of work had its own Project Manager all who reported to the Business Implementation Manager (BIM). The project steering committee was made up of the BIM and the managers for each of the business units within the Trading Company who were all located in the London Head Office.

The project was enacted to allow the Oil Company and its operating companies to become compliant with the Sarbanes-Oxley Act 2002 (SOX). This case study is based on Section 404 of the Compliance Project (SOX Compliance Project) within the Trading Company Subsidiary of the Oil Company. The SOX Compliance Project was split into three phases. Table 1 outlines these phases and the key activities.

Table 1: SOX Project Activities

Phase	Activity
Phase 1 – Process Documentation	Following Group-defined high risk business processes, document as-is processes and financial controls such as: • Manual Controls • Application Embedded Controls • Business Segregation of Duties
	Following Group-defined high risk IT processes, document as-is processes and financial controls such as: • Application Management, maintenance, support etc manual and application embedded controls • Infrastructure Management, maintenance, support etc manual and application embedded controls • IT Segregation of Duties
	Identify control gaps or deficiencies within processes documented.
Phase 2 – Remediation	Remediation of gaps or deficiencies identified in Phase 1, by either implementing new manual controls or developing application embedded controls
Phase 3 – Testing	Design Effectiveness walkthrough testing Operation Effectiveness testing

The Bank Project

The Bank, headquartered in Sydney, employs approximately 27,000 people across Australasia and the Pacific region and has operations covering areas such as: Business and Consumer banking, Wealth Management, Institutional banking, New Zealand Retail banking, Pacific Banking and a recently acquired Financial Institution (based in Adelaide)

Money Laundering and Terrorist Financing has become a significant area of interest. As a result, the Australian Government along with the Australian Banking Industry have worked together to create the Anti-Money Laundering and Counter-Terrorist Financing (AML/CTF) Legislation.

By understanding the basic requirements of the AML/CTF Act, the Bank initiated various AML/CTF work steams in order to comply with the potential legislative requirements. These works streams were:

- Customer Information Program

- Transaction Information Program

- Detection Services Program

- Case Management Program

- Reporting Program

The project team consisted of a small consultancy firm which provided 5 on-site staff (3 part-time and 2 full-time) and full-time off-site staff member. The bank provided two staff to the project with one being the overall project manager for the AML/CTF initiative.

The scope of this case study is the Customer Information Program of the overall AML/CTF project. This sub-project was tasked with determining the work required to comply with minimum AML/CTF requirements and ran across all business units of the bank. The project was broken down into three phases as shown in Table 2.

Table 2: Customer Information Program Project Activities

Phase	Activity
Phase 1 – Discovery	• Identify current processes for collection, storage and propagation of data for selected systems • Identify the quality of data in these systems • Identify current customer identification and matching processes for the selected systems • Identify the potential for notification of a change in organisation details from external source(s) • Determine minimum requirements for organisational data formatting
Phase 2 – Analysis & Solution Development	• Document current customer establishment data and process deficiencies and constraints • Investigate and develop potential solutions to remedy these current deficiencies • Identify and recommend potential solutions likely to meet requirements as identified • Assess data management and governance needs and impacts • Identify potential low-cost/short-term interim solutions • Investigate and understand front-end system process flows • Provide indicative costs and time estimates for the recommended solution(s) • Assess impacts on nominated systems, processes and data • Review staffing needs, including training • Deliver a Benefits Statement
Phase 3 – Development of an Implementation Roadmap & Final Report	• Finalise a recommended option or combination of options including high level costs and benefits, and to prepare a high-level implementation plan

Discussion

In order to understand the culture within the SOX project and the AML/CTF Project, both projects have been analysed using the Cultural Web (Johnson & Scholes 1999).

The Cultural Web and the SOX Project

Organisational structure

The organisational structures where fluid and ever-changing within the SOX Project. The IT Project Team's organisational structure was based on the whims of the Global IT Project Manager. On one occasion he restructured the IT Project Team to make himself the manager of four work streams instead of the initial two work streams. On the Business Project Team, the main driver of structural changes was the WONA Business Project Manager. She used all her power and influence to restructure and climb the hierarchical ladder herself.

Overall, in the SOX Project Team, there were many organisational structure issues that took the focus away from getting the job done. Most of the time, staff where unsure who they were reporting to, and what their roles and responsibilities actually were.

Control systems

Targets, goals and aims were never set within the Project Teams. This was mostly due to the majority of staff being contractors. As contractors, the perception is that they don't get rewarded, unless it was a contract extension, or new contract. As a result, achievements were rarely recognised and rewarded.

Power structures

The most apparent sources of power used during this project were authority and alliances. In many cases, a person's combined position and alliances gave them great power to manipulate the project. For example the Global IT Project Manager used his position to recruit two acquaintances and the WONA Business Project Manager used her alliances with, and close geographical position to, the BIM to get promoted to Global Quality Assurance Manager.

Another noticeable source of power was that of personal charisma and charm. This power source was used quite frequently by the contractor staff in order to get contracts renewed. In most of the cases power was used

for personal agendas, such as one senior project team lead ensuring her direct reports did 'out-of-her-scope work' in order to keep her high position of authority by having a so-called 'finger in every pie'.

Stories

New members on the SOX Project were constantly told about this project's disorganisation, and especially the ease of which they could take advantage of the WONA IT Project Manager's inability to delegate. It was known throughout the teams, and especially highlighted to newcomers that everyone could generally get what they wanted, as long as they persisted in asking and make a lot of noise.

The 'grapevine' played a particularly large part of this project organisation as formal communications were not generally in place. Rumours were formed, spread and caused lots of low morale, stress and tension within the teams and between the team members. These types of stories were particularly harmful to the project and many team members were more focused on what 'might happen' rather than actually getting the work done.

Rituals and Routines

The first and most important informal ritual of the SOX Project Team was after work drinks which became imperative for team members who wanted to keep their job. Being good friends and socialising on a regular basis with the Project Managers gained Project Team members high status and in some cases achieved promotion. 'The morning coffee' was also a deeply embedded ritual that kept team members up-to-date with the goings-on of the project as there was a lack of regular meetings and formal announcements

Symbols

For Phase 1 and Phase 2 of the SOX Project, the WONA IT Project Team, was housed in small and cramped converted training room. The PC's supplied were old training machines which were overdue for recycling. For months this training room was known as the 'SOX War Room'.

The SOX project used a pair of woollen socks as its symbol. This logo was quite prominent within the NA group and was used on pens, t-shirts and mugs. These items were distributed widely throughout both the NA Business and IT Project Teams but failed to reach the WONA Project Teams. Senior members of the WONA teams managed to get hold of some of these items on business trips to the NA office. This created a large gap between the two regions, which may have been one of the underlying causes of the apparent disconnect between the regions. A number of slogans derived from the London Underground's 'Mind the Gap' spread through the WONA Business and IT Project Teams such as 'Find the Gap' for Phase 1 and 'Fix the Gap' for Phase 2.

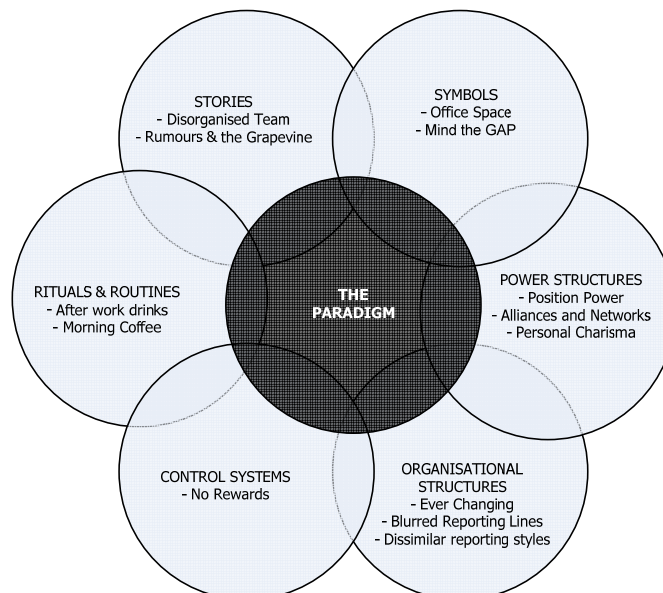Figure 1 below shows a summary of the cultural web analysis for the SOX project.

Figure 1: SOX Project Cultural Web

The Cultural Web and the AML/CTF Project

Organisational Structure

The organisational structures were fairly stable within the Bank's AML/CTF Project Teams. For the duration of the project they rarely changed, however within the consultancy team, roles and responsibilities continually changing. This was due to the small size of the team and the wide variety of tasks to be completed.

While the roles and responsibilities were frequently changing, the biggest distraction for the consultancy team was not an internal but external. The Bank and Financial Institution each had their own IT and Business departments which were essentially acting independently. The source of difficulties for the consultancy team, were that they only dealt with the representatives of the Bank. The Bank's representative was responsible for communicating the deliverables, tasks and procedures necessary to complete the project on time and within budget. However, like Chinese whispers, messages were scrambled which caused delays in the project.

Control Systems

Although several of the consultancy firm staff were contractors, achievements were generally recognised by the permanent senior staff of the firm. This produced a positive effect on the team and heightened team morale.

Power Structures

The political environment within the Bank's AML/CTF project was less complicated than that of the Oil Company SOX Project.

The consultancy firm director frequently used his position as an authorised source of power. It was his company so all major decisions had to be acceptable in his point of view. Using this line of thought, he used his power to change major pieces of work. Other senior permanent consultancy firm team members used their information and expertise as a source of informal influence and power to sometimes sway the director's decisions.

Stories

Stories in the consultancy firm team revolved around the confused and disorganised qualities of both the Bank and the Financial Institution.

Rituals and Routines

The AML/CTF project had a habit of 'the morning coffee', however, this morning coffee was selective, and only certain members of the team were invited. This caused isolation of team members and created further gaps between the knowledgeable and the un-knowledgeable.

Symbols

Of the five on-site consultants, only the two full-time team members had permanent desks. The other three had to find seating each day, depending on who within the organisation had taken a sick day, was off on training or on a holiday; and sometimes this was many floors apart. This made communication quite difficult.

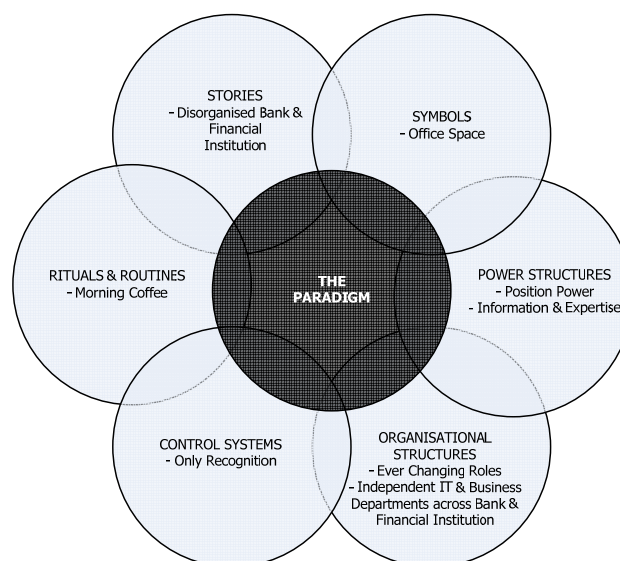Figure 2 below shows a summary of the cultural web analysis for the AML/CTF project.

Figure 2: AML/CTF Project Cultural Web

Conclusions

The two case studies presented in this paper offer an insight into the cultural aspects of IT projects from an organisational perspective. Both case studies were analysed using the Johnson and Scholes (1999) Cultural Web. Using the Cultural Web as an analytical tool allowed a number of conclusions to be drawn regarding the culture of these specific projects.

The two projects investigated were quite opposite in terms of organisational structure with management and hierarchy continually changing in the SOX Compliance Project but remaining stable in the AML/CTF Project

A key finding was that of the differing control systems between each project investigated in the two major case studies. The AML/CTF Project Leaders were in the habit of recognising good achievements which encouraged a higher level of morale. To the contrary, the SOX Compliance Project rarely provided rewards or recognition which in turn led to low staff motivation.

In relation to the power structures within the two projects the AML/CTF Project promoted and encouraged project success, while the SOX Project was one which encouraged the demise of the project. The highly political environment which encompassed the SOX Compliance Project was realised through the personally endorsed methods and objectives of the Project Leaders.

It can be seen through the Stories element of the Cultural Web the different types of communications which exist within the projects. In the SOX Compliance project the grapevine was a very powerful means of informal communication which took the focus away from accomplishing project tasks and also lowered staff morale. The grapevine, rumours and stories about project failures and villains can act as a distraction and steer the project in the wrong direction. Conversely, stories about project heroes and successes can act as motivators and help increase project team morale.

Many of the Rituals and Routines between the two cases studied were found to be similar in that some rituals, such as morning coffee, were imperative to stay in the 'project knowledge game'.

Symbols are an important component of any project. It is important to provide adequate office space which for the project to ensure a fun environment which promotes hard work is maintained even if it is referred to as a 'war room' The SOX Compliance Project also used logo's to encourage a team spirit but failed to implement it across the global full project team, which lead to a disconnect between the two regions.

Future Research

As mentioned in the introduction section this is research in progress. Currently the research position stands at a questionnaire on project culture having been developed and subjected to a preliminary pilot test courtesy of members of both project teams. Obviously further work is needed on the questionnaire and a further pilot test must be conducted on a random sample of project managers and project team members. Following this the questionnaire can be amended as required and then distributed to a wide range of project staff and potentially project stakeholders. This research would aim to understand, on a wide scale or perhaps within a specific industry sector, the impact of organisational culture on IT project success. The next step is to document the creation of the questionnaire and the various pilot test results to ensure that a valid and reliable instrument has been developed.

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