

Propeller Heads – Handle with Care: Improving the IT-Business Relationship through Cultural Awareness

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Abstract

For organisations to fully exploit information technology and remain successful in today's competitive global economy, it is necessary for everyone to work well together. The absence of an effective relationship between business and IT professionals can limit the successful use of IT in organisations and can also be a drain on the productivity and competitiveness of organisations. An effective relationship therefore needs to be established between the two disparate groups of business and IT. This study explores the IT business relationship from a cultural perspective, and from interviews conducted in two Australian organisations provides insights into the IT culture and the effects of this culture on the IT-business relationship.

Introduction

Since the introduction of business computers in the early 1960s, many organisations have reported a troubled relationship between business and information technology (IT) professionals. Despite many attempts, few organisations have managed to successfully resolve the troubled relationship between business and IT, and tensions still exist.

In continued attempts to improve the IT-business relationship, the focus of recent research has moved towards investigating the 'human' element of IT. The cultural differences between business and IT groups are now being blamed for the troubled relationship between business and IT professionals. From a review of the literature, little research investigating the troubled IT-business relationship from a cultural perspective was found, providing an opportunity to explore the effects of the IT culture on the IT-business relationship.

By bringing together theories from the organisational behaviour literature in relation to subcultures and intergroup relations, a research model was developed for this study to provide insights into the effects of the culture of the IT group on the IT business relationship. Following a description of this model, this paper presents the results of case studies involving two Australian organisations, one in the financial sector and the other a large retailer.

Throughout this paper, the term *business professionals* refers to those people ‘who use IT’ (Grindley 1995, p. 39) in organisations; *IT professionals* refers to the group of people in an organisation whose responsibility is to deliver and support information technology solutions based on the requirements of the business (Grindley 1995).

Research Model

A recognised model for understanding organisational culture and inherently IT culture was used in this study to gain an understanding of the culture of the IT group in organisations. Additionally, an accepted model highlighting six essential ingredients of an effective IT-business relationship was applied to identify weaknesses in the IT-business relationship and also used as the framework against which to assess the effects of the IT culture on the IT-business relationship.

To provide an understanding of the IT culture in the two organisations, Johnson and Scholes’ (1993) cultural web model (illustrated in Fig.1) was used. The centre circle, the paradigm, represents a core set of values, beliefs and assumptions common to the organisation. These values, beliefs and assumptions common to the organisation are reflected through the outer circles, which represent the cultural elements of stories, symbols, power structures, organisational structures, control systems, and rituals and routines.

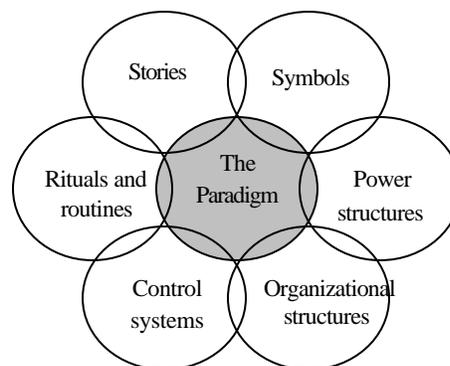


Figure 1: The cultural web of an organisation

Source: Johnson and Scholes (1993, p. 61)

In order to evaluate the effects of the IT culture on the IT-business relationship, and also to assess the health of the IT-business relationship, Henderson’s (1990) model was selected as a useful model for describing and exploring the internal partnership between line and IS managers. This model, illustrated in Fig. 2, is built around two dimensions of partnership:

- partnership in context – key factors necessary for a long term relationship;
- partnership in action – key factors that create an effective day-to-day working relationship.

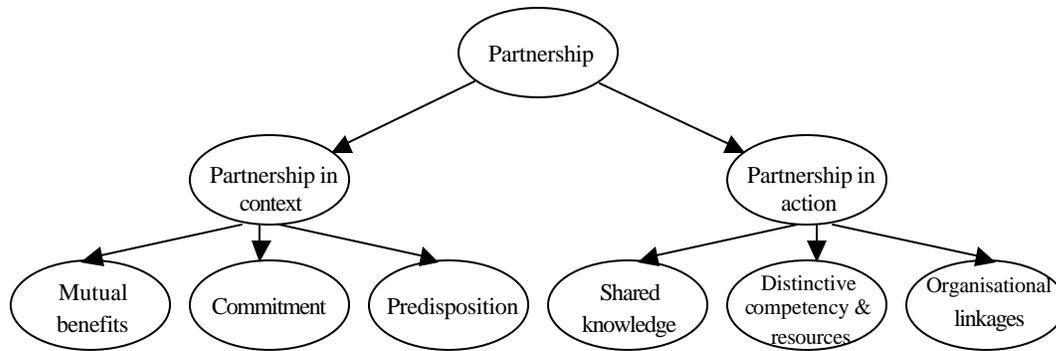


Figure 2: Six determinants of a partnership
Source: Henderson (1990, p. 10)

For an effective long-term relationship, three key ingredients were identified: mutual benefits, commitment to the relationship, and predisposition. An effective day-to-day relationship also required three key ingredients: shared knowledge, dependence on distinctive competencies and resources, and organisational linkages (Henderson 1990, p. 10).

The research model for this study was developed by bringing these two models discussed above together. This model, as illustrated in Fig. 3, depicts the culture of the IT group represented by six elements: organisational structure, stories and myths, symbols, rituals and routines, control systems, and power structures; and the IT-business relationship comprised of six essential determinants: mutual benefits, commitment to the relationship, predisposition, shared knowledge, dependence on distinctive competencies and resources, and organisational linkages.

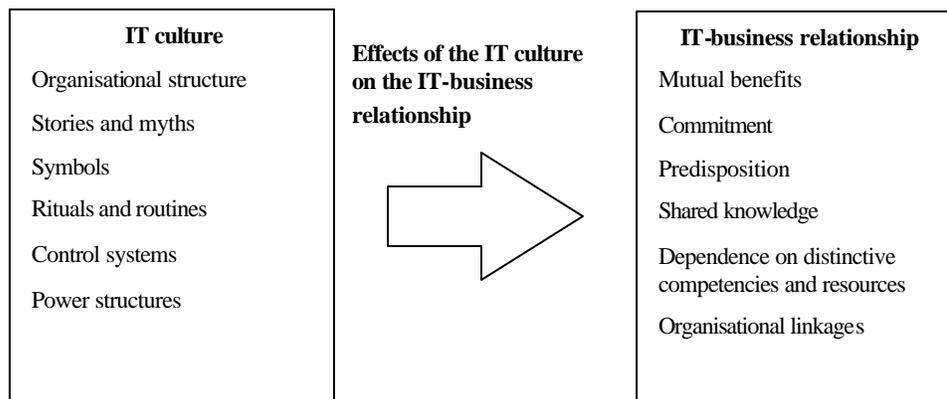


Figure 3: Research model

Methodology

To test the research model, a multiple case study approach was applied using thirteen semi-structured interviews with business and IT professionals in two Australian companies. For each company the health of the IT-business relationship was assessed by examining the characteristics of the IT culture. Themes of culture were identified and the effects of these themes on the determinants of the IT-business relationship were then derived.

Summary details of the two organisations, along with the position titles of the business and IT professionals interviewed in each case are presented in Table 1. Interviewees displayed candor in their responses to the semi-structured interview questions and provided rich descriptions of the implicit and explicit cultural themes of the IT group in their organisations.

Table 1: Business and IT professionals interviewed

Organisation	Business professionals	IT professionals
Financial institution 400 Employees 20 IT Staff	Customer Services Manager Call Centre Manager Credit Manager Audit Manager	Systems Manager Operations Manager
Retail company 80,000 employees 250 IT employees	National Administration Manager Electronic Trading Manager National Systems Accountant National Project Manager Traineeships	Project Manager Comms & Infrastructure Manager Planning Manager

IT Culture in Two Australian Organisations

This section discusses each of the six elements of IT culture in the two organisations, along with the impact of these cultural elements on the IT business relationship. Throughout this analysis, extracts from interviews are used to support the findings and are referenced by the interviewee role (B for business professionals; IT for IT professionals) and interview number. For example, 'IT is recognised as an integral part of the business' (IT2) is a quotation from the second IT staff interview. To maintain the privacy of individuals, the interview numbers do not match the order in which positions are listed in Table 1.

Organisational Structure

Organisational structure was assessed by the positioning of the IT director in relation to the chief executive officer (CEO) of the organisation. In the financial institution, the IT director reported directly to the CEO, and this had a *positive* effect on the IT-business relationship with respect to *organisational linkages*, an essential ingredient of an effective relationship.

However, in the retail organisation, the reporting relationship of the IT director was somewhat unclear. 'There is really a dotted line between the IT director and the managing director' (IT1). This positioning of the IT director had a *negative* impact on the IT-business relationship in terms of *organisational linkages*. 'You've got these guys, but they don't report to this fellow. There's some confusion, and this is still to be sorted out. We're still working through that as a company' (IT2).

Stories and Myths

Both success and horror stories were considered in relation to stories and myths. In the financial institution, some of the IT staff were spoken very highly of by the users. 'She's an expert. She's brilliant' (B3). 'There are some very competent people in IT' (B2). These success stories had a *positive* impact on the IT-business relationship in relation to *predisposition*.

The Y2K project was reported as a success in the retail organisation. 'The Y2K project was a massive, massive project. We spent three to five years on that, and it cost in the vicinity of thirty to forty million dollars. I think it is safe to say that we flew through New Year's Eve and February 29 2000 without a hitch. That has to be an IT success story' (B1). However, this success story was found to have no positive effect on the IT-business relationship. 'People don't walk around going, "bloody good about Y2K hey!"' (B1).

Both organisations reported many more horror stories than success stories about the IT group. In the financial institution, the horror stories related mostly to the IT group being downsized. 'I have lost two systems people who haven't been replaced, and that has resulted in backlogs of work in certain areas that we are just unable to service' (IT1).

In the retail organisation, many horror stories surfaced about systems that were started but never finished. 'Five million dollars later the project was canned because no-one could settle on where it should finish and where it should start so it was basically thrown away' (B2). 'That 47 million dollars could have been invested in something more productive, like new [buildings] or something else' (B1).

The consequences of these horror stories were found to dampen the enthusiastic support of business, having a *negative* effect on the IT-business relationship in relation to *mutual benefits* and *predisposition*.

Symbols

Many symbols emerged in relation to the IT group in both organisations. The symbols identified at the financial institution generally had a positive effect on the IT-business relationship. These were: low staff turnover of IT staff, good analytical skills held by IT, the IT group has a good understanding of the business, and the organisation exercises an in-house software development policy. Being located separate to the rest of the business was the only symbol analysed to have a *negative* effect on the IT-business relationship at the financial institution, specifically in relation to *organisational linkages*. Having the IT group located separate to the rest of the business restricted opportunity for interaction.

Contrary to the IT group in the financial institution, the IT group in the retail organisation was criticised for its lack of communication with business people. 'I don't think we communicated progress properly so it just seemed to be secret IT business' (IT3). The IT people in the retail company were also criticised for their lack of knowledge and understanding of business issues. 'A lot of the people that work in IT sit at their PCs and they cut code and do those sorts of things. I don't know that they ever get to see the big picture of actually going out to a store and seeing the other end of it, so it is not just data going in and data going out, but actually the purpose it is serving out there in the store. What happens if an overnight batch job fails? They [IT] think "oh my job has fallen over, I have to fix it" but I don't think they have the appreciation of what that means to the people at the store that have to deal with that when it doesn't happen. I think if they had that knowledge they would have a different approach to it. You really need to see all parts of the business to really appreciate what is going on out there' (B3). 'They've got their highly skilled and good, knowledgeable workers working on a particular project, and it will be brilliant, and you'll be chuffed, at other times you'll get the software and it will be a piece of crap that will fall to bits and explode.' (B2). The IT group was regarded by the business as very technical. The IT

people tend to be technocrats, like Dilbert' (IT3). '[IT people are] technical propeller head type people' (B3).

The problems of lack of communication and lack of business knowledge in the retail company were compounded by a high turnover rate and low skill level of IT staff. '[IT staff] don't tend to stay long' (B2). 'If you look at all the key projects we've undertaken in the last five years the main players in those projects would be contractors, and that says a lot about loss of corporate memory, and that can only be bad for [the retail company] when you lose all that corporate memory' (B2).

Similar to the financial institution, the retail organisation also had an IT group located separate to the rest of the business. 'We are physically housed in different buildings, different suburbs. It's a 15-minute drive' (B4). This symbol had a *negative* impact on the IT-business relationship with regard to *organisational linkage*. 'Typically the business will go to IT. If IT is supposed to be a service group, I believe that the greater percentage of visits should be the other way, that IT should be coming across here' (B4).

The Help Desk team in the retail company had recently adopted a distinctive corporate uniform: 'They now have a uniform. The guys have red shirts which makes them clearly identifiable. That's good. I think that was a fairly significant move towards an attempt at customer service. Since those red shirts have gone in, their service levels have improved a thousand-fold. They now respond, they're quick, they're here, and they fix your problem. Prior to that, we could raise a service request, and a week later you'd still seen no-one. You wouldn't even know who to ring. Their attitude was "there's more than one PC on the floor, go and use another one"' (B1).

In brief, the symbols that were reported in the retail company about the IT group had *negative* effects on the IT-business relationship, except for the symbol of the red shirts worn by IT Help Desk staff, which had a *positive* effect on the IT-business relationship.

Ritual and Routines

Rituals and routines were assessed by looking at organisational procedures the IT group had introduced. In both organisations, such procedures were unpopular with the business professionals.

In the financial institution, two procedures were highlighted: the customer service request (CSR) procedure, and systems development process. The CSR procedure had been developed to better control and manage the demands by the business people on the IT group, and as such forced business people to justify their requests for assistance. 'You've got to come up with facts and figures and how much you're going to save' (B4). Once submitted, these requests were then prioritized. This procedure was frustrating for the business and had a *negative* effect on two aspects of the IT-business relationship: *mutual benefits* and *organisational linkages*. Due to staffing constraints, only high priority requests were completed, leaving many tasks untouched. As a result, organisation linkages degenerated, as the business became less willing to approach the IT group. 'What's the point of putting in a CSR when you know damn well it's not going to get a high priority' (B3).

The systems development process concerned the business people in the financial institution for two reasons. First, there was the perception that IT systems were implemented without

completing the systems development process. 'The systems aren't entirely complete when they're put in' (B2). As a result of incomplete development, systems sometimes failed, having a negative effect on the IT-business relationship. 'Final testing is done on customers' (B2). Failed systems impacted on operations efficiency and the quality of work life for the users of these systems. As such, *mutual benefits* were not affirmed. The second reason business people were concerned with the systems development process was because the second and subsequent phases of projects were never delivered. 'Whenever you hear phase two, forget about it, because phase two never eventuates' (B3). Again, *mutual benefits* were not affirmed, as the IT group was not meeting the needs of the business through failure to deliver quality business systems.

The two main procedures mentioned in the retail company were the Help Desk procedures and again, systems development process. The Help Desk procedure was a source of frustration for both business and IT professionals, and had a *negative* effect on the IT-business relationship in terms of *mutual benefits*, *organisational linkages* and *predisposition*, as the IT group was not contributing to operations efficiency or increasing the quality of work life for staff. 'I find it very frustrating. I'm not really getting very good help' (IT1). *Organisational linkages* were lacking due to the failure of IT to provide feedback and also because the IT group was discouraging interaction. 'When you get a new person come in, you have to raise one service request to get a phone, one service request to get a PC, one service request to get software, and one service request for their security. Those sort of things are frustrating' (IT1). The Help Desk people were also perceived as having a process mind-set, not a customer service mind-set, leaving the business people with the following predisposition: 'Don't come and see me [IT] to get help unless you have got a service request number. You make sure you log a call first, no jumping the queue' (B3).

In the retail company, the IT group had only recently introduced a system development process. 'That is only a new concept. A little bit of it was used for the Y2K project. Right from step one it has been used on the GST project' (IT1). The method, despite helping the IT group, was initially resisted by the business. 'Initially everyone was fairly against it. They didn't really see the value. People complained it was bureaucratic and adding extra layers and slowing things down' (IT1). This new method was a new approach to developing IT projects for the business. It was forcing business to take more ownership of their projects. Although the IT people didn't want to drive the implementation of the methodology, they ended up doing so. 'We forced them [the business] to do the requirement documents; we forced them to do the functional specifications because otherwise they wouldn't have got done. In the past IT used to do those' (IT1).

The response by the business people to this systems development process had a *negative* effect on the IT-business relationship in relation to *predisposition*. 'We've had about four shots in the last five years at putting into place a good IT project methodology. We've spent a lot of money spinning our wheels in that slush fund, in that area' (B4). Further, the business people had some reservations about the methodology, and about its contribution to improved business efficiency, thus hindering *mutual benefits*. Also, the business felt that subsequent phases of projects were never delivered once phase one had been implemented. 'When we've achieved our agreed function for phase one, we never see phase two, three, or four. It's a very common mistake' (B4).

In brief, rituals and routines had *negative* effects on the IT-business relationship in both organisations.

Control Systems

In relation to the cultural element of control systems, it was mostly IT staff that managed the business projects (with an IT component) in both organisations. This control of projects by the IT group was found to have a *negative* effect on the IT-business relationship in relation to *organisational linkages*.

In the financial organisation, one reason that IT professionals managed projects on behalf of the business group was that the business people lacked project management skills. 'The business users are not very good at project management and in fact, I'd say poor at project management' (IT2). Linkages between business and IT groups were reduced because business people abdicated the responsibility of managing projects to the IT group. 'Most projects are driven by IT simply because we [IT] tend to be more proactive, we tend to be more analytical, we tend to ask questions and the users tend to sit back and be spoon fed to a certain extent' (IT1).

Similarly, in the retail company, the IT group controlled the majority of projects. 'IT's been driving things less now. When I joined, it was throw the requirements over the fence, and then the business were completely out of the loop while IT were in the lab, knocking up the system. Then, IT would take it to the gate and leave it there. Business would go to the gate, pick up what they imagined they asked for, and go, "well, wait a minute" '(IT3). 'There's a "It's still very much our system, we developed it, you guys just use it" mentality and approach' (B1). In this organisation, it was seen as difficult for a business person to control a project 'because he doesn't own the resources within IT, he can't set their schedule, he can't set their priority' (B4).

The management of projects by the IT group was found to have *negative* effects on the IT-business relationship as there was no joint involvement by both business and IT in project management, demonstrating a lack of *organisational linkages*.

Power Structures

In relation to the cultural element of power structures, and particularly interdependence power, the dependence one group has on another, this study found that both organisations had a high dependence on their IT groups, having a *positive* effect on the IT-business relationship in relation to *dependence on distinctive competencies and resources*. In these organisations, the business people reported that they invest time to establish good personal relationships with IT professionals as they are highly dependent on the IT group, and that a good personal relationship may help when the business is in need of the IT group to perform.

The following comments are from the financial institution. 'I try to get on with them personally because it might serve my purposes later on' (B3). 'I really try to keep friendly. If you have something you want done, you can go through the back door and you know they'll do it' (B4). 'You'll try anything basically to get your work done before somebody else's' (B4).

Those interviewed from the retail company were also conscious of the personal relations that business people develop with IT people to get work done. 'My best opportunities for having the technology available to do the things I need to do, from a business perspective, is based

on building relationships with the key people in IT" (B4). 'If you develop personal relationships with development managers and developers you actually got a lot more done, and that's what I did' (B2). 'They go through the back door [to people who have solved their problems in the past]' (IT3).

Summary

The financial institution had a moderately effective IT-business relationship; the IT director was a senior executive of the organisation; there was effective communication between business and IT professionals; and there was a low staff turnover rate. Additionally, all software development was done in-house, the IT group had a good understanding of the business, and the IT group controlled the strategic direction of IT in the organisation.

In the retail company, a very poor IT-business relationship existed: business and IT groups had opposing views on the role of IT; the IT director was not a senior executive of the organisation; there was poor communication between business and IT; and a high rate of staff turnover in the IT group. Additionally, the business people had developed some interesting strategies to bypass IT procedures so that service could be achieved from the under-resourced, business-naïve IT staff.

Both organisations were highly dependent on their 'propeller heads', a term used by the business people when referring to the IT staff. However, in both organisations the following cultural themes hindered the IT group from successfully meeting the needs of the business: a centralised IT structure, horror stories told about the IT group, the lack of involvement by business people in IT project management, and poorly implemented Help Desk procedures and systems development procedures.

Overall, it was found that in the two organisations, the IT culture was such that mutual benefits were not derived from the IT-business relationship, and also that there was a lack of organisational linkages and processes between business and IT. However, there was a high dependence on the IT group, this was the strongest ingredient present in the IT-business relationship.

Conclusion

This research concludes that the IT culture in organisations is associated with tensions in the IT-business relationship. For the two Australian organisations that participated in this study insights have been provided into their IT culture, and the effects of this culture on the IT-business relationship. These insights serve as a useful starting point for these two organisations to improve the IT-business relationship, hence increasing the organisations' potential for success. Cooperation between business and IT professionals contributes to a healthier IT-business relationship, leading to successful outcomes for business.

This research extends on previous IT research by applying organisational behaviour theories to understand the IT culture and its effect on the IT-business relationship. Through application of existing theories on organisational culture and intergroup relationships and bringing these together to look at the how the IT-culture affects the IT-business relationship, this research has progressed the position of previous research by providing insights into the effects of six elements of the IT culture on six essential ingredients of an effective IT-business relationship.

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