

# Contrasting IT and Business Managers' Perceptions of Leadership

Glenn Stewart

Information Systems Management Research Centre  
Faculty of Information Technology  
Queensland University of Technology  
Email: g.stewart@qut.edu.au

## Abstract

*This paper shows that the focus of leadership behaviour is different for IT managers as compared to senior business executives in a large public sector agency. In particular, IT managers are more focused on developing teams to be highly skilled and autonomous, whereas business executives are focused on developing and articulating a vision for their division. The research program applied the qualitative research methodology of phenomenography. The revealed differences may in part, explain issues in the relationships between the two communities.*

## Keywords

Information Systems Management; Relationship Management; Leadership; Organisational Culture; Qualitative Research

## INTRODUCTION

The relationship between the business unit managers and the IT senior management team is a critical success factor in the adoption of information technology. Luftmann, Papp and Brier (1999) showed that the leadership of the IT unit and the leadership exhibited by the IT executive in adopting innovation is both a critical enabler and inhibitor of aligning business and IT activity. As such, we suggest that leadership is an area for research with an objective of improving the practices of the IT managers in order to positively influence the adoption and exploitation of Information Technology.

Willcocks (1997) states that the primary goal for an organisation should be to exploit information technology through a consistent focus on investing in strategic applications and infrastructure. Strategic infrastructure includes not only systems such as the telecommunications and corporate database structures, and appropriate corporate level information systems, but also effective IT management processes (Weizer 1993, Cash and McFarlan 1989).

On part of the business community, exploitation of information technology calls for an understanding of its potential and the ability to make suitable decisions for systems development. It further requires a vision of information technology as being able to transform the business, and not just as a means of automating existing processes or providing more effective managerial control systems (Feeny, Edwards and Simpson 1997: 30). Constraints for successful exploitation, on the other hand, arise from business attitudes towards IT, IT organisational structure and position, planning processes and CEO-CIO relationships (Feeny 1997: xxiv).

We sought to understand these relationships, the expressed leadership of the IT management team, and the underlying expectations for leadership as held by the IT and business management communities. We grounded this research in an organisation undergoing

significant change through the infusion of Information Technology. Our research partner was a large public sector agency with over 2,000 employees and 8 divisions. The unit of analysis were the top two tiers of business and IT management levels within this organisation. The sponsor for this research was the Information Resources and Technology Unit (ITRU) within the organisation. They became our industry partner in a three-year project funded under the Australian Research Council Collaborative Research Grant Scheme.

The objective of this project was to improve leadership practices within the organisation in order to make more effective and strategic use of IT resources. The agency sees itself as a leader in management practices and has had some considerable successes in implementing large information systems. The agency participated in this research project as part of their commitment improving practices. The full study program is shown in Figure 1 below.

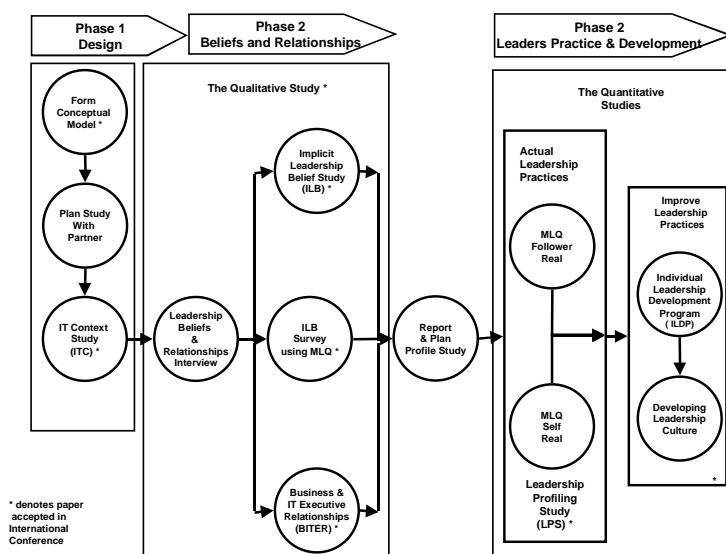


Figure 1: Research Program

In this paper, we focus on contrasting the perceptions of leadership as held by the Business and IT managers. We are not developing a new model of leadership. We commence by reviewing the IS literature, and then briefly describe the related literature in organisational behaviour in order to present the conceptual model guiding the study. We then review the research approach selected to undertake a qualitative study of variations in perceptions: phenomenography. After this, we examine the data collection, its interpretation and finally present the findings.

## THE CONCEPTUAL MODEL GUIDING THE STUDY

The conceptual model guiding the study was framed through reviewing the IS literature, organisational behaviour literature and the literature in social psychology. This conceptual model is reported in detail in Stewart and Gable (1996) and is only briefly described here. The model representing the complex interactions that lead to the evaluation of leadership effectiveness is shown in Figure 2. This model focuses on those elements that are most associated with the adoption of Information Technology: change and the leadership required to achieve the business benefits of that IT enabled change. These variables include: organisational culture, change orientation, leadership experience, and the interpretation of leadership effectiveness. We now review how these variables were identified.

Luftmann et al (1999) sought to determine the factors impacting on the alignment of IT and business activity. They found that a key inhibitor to aligning IT and business activity was poor leadership practices from the IT Management group and that strong IT leadership was the fifth most important enabler. In particular, they found that alignment required 'strong management, good working relationships, strong leadership, appropriate prioritization, trust and effective communications' (Luftmann, Papp and Brier 1999:1). Thus, we see that leadership is an important variable in allowing organisations to exploit IT for business value.

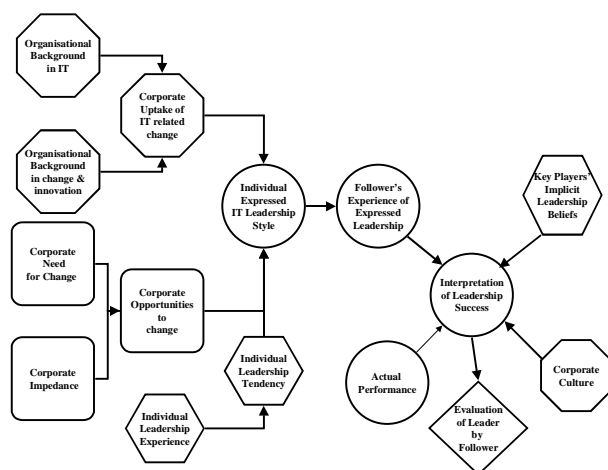


Figure 2: Conceptual Model Guiding the Study

Sutcliffe (1998,1999) used Flamholtz's Leadership Effectiveness framework to examine the effectiveness of IT Leadership in BPR Projects. This framework defines leadership effectiveness as the attainment of organisational goals through influencing behaviour, and defines leadership style in terms of the leaders level of direction to complete tasks: directive, interactive and non-directive. There are a set of situational variables that forms the context of leadership (task deadlines, task programmability, motivation, worker discretion and independence, work skills and experience).

Her work is similar to the findings by the contingency theories of leadership and the focus on the decision making style of the leader. (Vroom- and Yetton (1973), Vroom and Jago (1988)). Other research has sought to develop taxonomies of management practices and develop a set of instruments to measure performances along these dimensions. Two examples of these survey instruments are: Management Practices Survey of Kim and Yukl (1995) and the Management Skills Assessment Instrument by Cameron (1995). These management behaviours are summarised by Yukl (198: 60) as: Planning and Organising, Problem Solving, Clarifying goals and objectives, Informing, Monitoring, Motivating and Inspiring, Consulting, Delegating, Supporting, Developing and mentoring, Managing conflict, Team Building, Networking, Recognising effort. and Rewarding.

Several differences have been noted in the leadership practices of IT executives in firms seeking to exploit IT for strategic value (Earl 1989). A vision for the use of IT within the organisation has to be crafted, sold and embraced by the senior management in the business community. Creative problem solving is necessary to identify strategic opportunities for IT within the organisation and senior board members have to be persuaded and educated to use IT; they have to be motivated and inspired. These are not the skills of an ordinary manager. An ordinary manager is focused on resource management and cost control. The skills demanded in the turnaround or reorientation organisation are the skills of an accomplished, no, an extraordinary leader.

None of these prior studies in Information Technology assessed the leadership style adopted by the CIO and senior IT managers according to some well established explanatory model of leadership. None of these studies sought to match this style to CEO and business manager expectations and/or needs. We sought to address these aspects in this study.

We turned to the literature on extraordinary leadership to find a guiding theory, and discovered Bass and Avolio's (1997) Full Range Leadership Model (FRLM) which is based on the theory of Transformational Leadership. This theory explains the components of extraordinary leadership and highlights six behaviour factors linked with organisational performance: Inspirational Motivation, Intellectual Stimulation, Individualised Consideration, Idealised Behaviours and Idealised Attributes. Performance of leaders in each of these dimensions can be measured using the Multi-factor Leadership Questionnaire (MLQ). This instrument was developed in 1985 and refined over a period of 14 years (Bass and Avolio 1985, 1994, 1999). These factors identify the same skills that McFarlan, Hirschheim, Earl and Feeny noted in extraordinary IT directors that have successfully reoriented their firms. These are the skills of motivation, and problem solving and personal attributes that lead to respect by peers, superiors and followers.

### **Problems with the MLQ and how these impacted on the research design**

Though the reliability and validity of the MLQ has been established in a variety of organisational settings including different industry sectors and levels of management, many criticisms of the underlying theory and constructs still exist. In particular, Bryman (1992) states that the MLQ suffers from problems associated with the perception of effectiveness by the evaluator. The high correlations found between the various outcomes and the independent variables of either model could be a product of the respondent's implicit leadership theory - or 'model of how effective leaders behave' (Bryman 1992: 128-129). Bryman called for qualitative work that would reveal these differences in perception.

Ehrlich, Meindl and Viellieu (1990) explored the interaction of these variables in a limited study of high technology contractors. They found some correlation bounding the follower's implicit beliefs to the perception of leader success, and argued for additional work in this area. In particular they suggested that observations of natural events involving transformational leaders be undertaken prior, during and after the transitions faced by the organisation. They recommended that a longitudinal study be undertaken, but acknowledged the difficulty in gaining access to such data and transformational leaders.

We sought to make observations on the initial expectations of leadership, and to measure these expectations after events that significantly impacted on the organisation, and in which transformational leaders were operating. We sought to find a means of measuring the implicit leadership beliefs, and factor these beliefs into how leadership was being evaluated. Two key contributions to knowledge from this sub-study are the methodology employed for gauging implicit leadership beliefs and the resultant models of variation.

It became obvious early in the conduct of the research, that an essential contributing factor to the exploitation of Information Technology was the relationship between the IT community and the senior management in the business community. Another factor was the organisation's historical experience of IT and Information Systems Development and consequent business management expectations (or lack thereof) of IT.

We needed to find an orienting approach to analysing the participants experiences of leadership and to uncover the variations in these experiences. We found this orientation in the research method called phenomenography, which we discuss next.

## PHENOMENOGRAPHY AS A RESEARCH PARADIGM

Phenomenography seeks to map 'the ways in which people experience, conceptualise and understand various aspects of the world around them' (Marton, 1988a p 178 quoted in Bruce 1994 p5-2). The goal of phenomenography is to reveal the variety of ways that the concept is understood, experienced or perceived. Its output is a classification system of what is actually experienced rather than seeking to confirm a theoretical construction of a phenomenon.

When analysing results phenomenographically, one must discard influences from established theories or one's own perceptions. The data itself is to reveal the underlying structure and meaning. The output of phenomenographical analysis is essentially a classification system including labeled conceptions with a description of its meaning. This classification system may be hierarchical, a web, or a set of disconnected experiences. Some factors in the classification have more significant in certain situations. These pre-eminent factors are called figural elements or the theme while the other elements are labeled 'ground elements' and are described as 'being in the margin'.

These differences in awareness may be a function of sub-group variation, in that these difference arise because of some differences in the training, education or experiences of these particular groups. These differences may in fact define the sub-groups rather than being a product of a prior defined groups.

Though the resultant descriptions of leadership are of interest in their own right, we were interested in the variations as this variation may form a barrier in effective relationships between the IT function and the business unit.

Thus, we could ask for three different manifestations - an individual's known definition of a phenomenon, a description of their experience of that phenomenon, or seek to get a synthesis of their experience and their implicit model of that phenomenon. The key outputs of phenomenographical research is the set comprising the categories of description (the referential component), the outcome space and the awareness structures. The actual methodology of the study is shown in Figure 3.

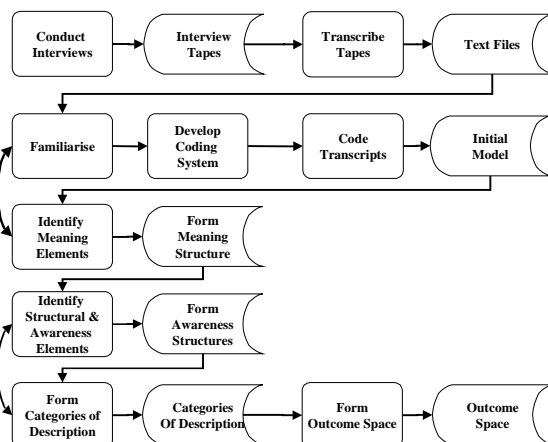


Figure 3: Process of Phenomenographical Analysis

We were not interested in the respondents understanding of a textbook definition of leadership. Indeed, most managers in the research program have never studied leadership as a formal subject. We were interested in their experiences of leading and in particular about differences in perceptions about leadership between the main sub-groups (business and IT professionals).

We were most interested in their internal models of effective leadership, and thus sought to trap their conceptualisations of success and competence. In particular, we sought to identify the existence of any variations in these experiences and conceptualisations, and render these differences in a graphical form. We wanted a snapshot of the beliefs operating in that organisation at that point in time, and to detect any differences between these beliefs.

## METHOD

A series of semi-structured interviews were conducted with key personnel within the organisation. These personnel include the Deputy CEO (Deputy Director General), the executive directors of each of the divisions (8 people), the IT director and his four key staff, and each of the managers of key IT projects within the organisation. The interviews were taped and lasted between 45 minutes and 1.5 hours. The interviewees were given a leadership style survey (the Multi-factor Leadership Questionnaire 5X (Bass and Avolio (1996)) to complete in their own time, as well as an instrument designed to get the respondent's perception of the value of various Information Systems to their business unit.

Respondents were assured of confidentiality. Letters of introduction and the interview questions were distributed several weeks prior to the conduct of the interviews. The project was sanctioned by the IT director and the Deputy Director General.

This section concentrates on the analysis stemming from the questions on leadership. This series of questions were used in order to triangulate findings. The leadership questions were:

*Describe a time when you demonstrated that you were an effective leader.*

*Describe your complete picture of a competent leader.*

In addition to these two questions designed to identify variations in perceptions of effectiveness and competence, two other questions were posed regarding the perceptions of success. These questions were:

*I know someone is a successful leader when ....*

*My organisation perceives that a person is a successful leader when ...*

The order of the questions was important. The personal question on leadership effectiveness was asked in order to identify what the individual believed was their most important attributes of leadership. The question on leadership competence allowed this range of concepts to be extended. In between the questions on effectiveness and competence were two questions relating to the relationships between the IT and business communities and issues in leading IT professionals. We then switched to the questions on leadership success. This was posed in that order to gather fresh insight. We believed that the first question on recognition of leadership success would highlight those few things that the respondent thought was most significant. The second question on organisational perceptions of success was designed to identify any cultural elements of reward or barriers to leadership practice.

Finally, the interviewees were asked questions on innovation - its sources, leadership strategies for encouraging innovation, and any organisational barriers to innovation. The analysis to the questions on innovation are addressed in another paper.

For IT professional managers, an additional question on their career was posed, as for many the transition from technologist to manager has been one of need in order to advance and attract a higher salary. The only way to obtain advancement in the government in IT is to move to the management track. This is often done without any training or managerial experience. This analysis of this issue is also not discussed in this paper.

This range of questions with 24 interviewees led to 245 separate files of textual data to interpret, with seven sub-studies. These sub-studies are labeled as effectiveness, competence, own perceptions of success, organisational perceptions of success, business-IT relationships, innovation, leading IT professionals.

Some leaders were uncomfortable in answering the first question. One declined to answer it entirely. Some leaders had prepared answers for the questions, but most had prepared responses mentally. Some had only glanced at the interview protocol before the meeting. There were no problems raised during the interaction with the interviewer with the questions or the consequential probing. Only one interviewer was used to ensure comparability of results. No more than three interviews were conducted in a day, due to the strain of maintaining concentration during the interviews. Most interviewees were pleased to participate and were willing to share concerns and anecdotes. Only one was hostile.

## **FINDINGS**

Identifiable groups in this study can be partitioned into two sets: business and Information Technology. This leads to approximately the same numbers in each group with 11 business managers and 13 IT managers. This partitioning was done based on the current posting of the individual. This partitioning can lead to problems. One senior IT person spent most of his professional life as a business executive. One senior business manager spent most of his professional life as an IT executive. One senior business person has spent some substantial time functioning as a senior IT manager. This person's experience was acknowledged to be of the standard of an IT professional in his election to the Australian Computer Society. These individual histories are known, and so their 'bias' towards one orientation or another can be distinguished. What will ultimately determine their set membership is the degree of alignment with the found meaning and reference structures. For the original parsing of the data space, we decided to leave them in their employment categories because each of these people had spent the last two years at least in that capacity.

It became clear that another group was also emerging - a sub-branch manager for the IT unit. Indeed, there was only one executive in the IT unit by definition, but each of the IT branch heads shared a common set of experiences and were acting as executives in their own domains and in conduct of business with the business partners.

We coded the IT branch managers and IT executive directors as all Senior IT executives (SITE), and their sub-branch managers as Senior IT Managers (SITM). A final group within the IT units was the external project management consultant. These people were sufficiently different from their experience set and employment to label them as a separate group - the Senior IT consultant (SITC). In total, there were 24 interviewees consisting of 7 Senior Business Executives (SBE), 4 Senior Business Managers (SBM), 4 Senior IT Executives, 7 Senior IT Managers (SITM) and 2 Senior IT Consultants (SITC).

### **Interpretation of the conceptions of success**

We commenced with analysing the variations in conception of leadership success. On review of the total set of transcripts, it became clear that this question provided a means of identifying those few things that the interviewees believed to be most important.

We divided the transcripts into their subsets (SBE, SBM, SITE, SITM, SITC). For each response, we counted the number of concepts embedded in the text, and counted the number of sentences used to convey the intent. Most respondents described their perception of a successful leader as a multi-dimensional set and expressed between two and three concepts. They used anywhere between 1 and 21 sentences to convey this message. Most of the content

in lengthy statements was used to qualify the circumstances under which the behaviour was valid.

We used a key word to capture the intent of the expressed concepts, and found means of relating these concepts to a higher order concept. Rather than use frequency counts, or an organising framework, we sought to identify what were the key embedded concepts.

All the text could be so organised in using six categories of description. Not all categories of description were in fact referred to by each group, and thus we see immediately variation according to the role that they play within the organisation. There are two dimensions that discriminate in these perceptions: whether the individual is an IT or business person, and whether the individual is an executive or middle manager. The focal point in each category also had slight variations. The six categories of description are shown in table 1.

Concept	Description
Vision	Expressions dealing with the establishment of a future and developing plans to achieve that future; includes terms vision, goal, objective, strategic direction. Uses stages of creation, adoption and communication.
Change	Issues dealing with effective change management, being a change agent, effecting long term sustainable change
Task Outcomes	Expressions describing the completion of a task, project, improved process.
Staff Outcomes	Expressions describing the support of staff, care of staff
Leader State	Expressions of qualities attributed to the leader as a result of their leadership activity. These terms include trust, respect, credibility and confidence.
Skills	Expressions relating to the practices of leaders based on skills as negotiation, delegation, communication, planning and strategy formulation.

Table 1: Categories of Description

### Sub Group Variations

Closer inspection of these key categories reveals that some are figural elements in the perception of the respondent. For example, the concept of vision is pre-eminent in the utterances of the Senior Business Executives and does occur in the utterances of the Senior IT Executive. The word is absent largely from the data collected from Senior Business Managers and Senior IT Managers. They replace this concept with a derivative of a vision, namely a set of goals and objectives, or moving forward, getting somewhere.

Another key variation is the attention paid to the development of the team. This is absent from the utterances of the Senior Business Executives, but present in all other data sets.

All data sets do refer to the attainment of task and personnel outcomes. This becomes a hallmark of leadership success.

Finally, the IT managers admired autonomous teams that could work independently of the leader, achieve their tasks, and become creative. These words are absent from the utterances of the business community.

This analysis presents the following awareness spaces for each sub-group, where certain elements have retreated to the background or margin. Other elements are in the foreground of the conceptualisation held by the respondent groups in characterising a successful leader. We



have shown the foreground elements as the labels associated with the vertices of a triangle, as at least three concepts of success seem to be collectively held in that sub-group. The most important concept is shown at the top of the triangle, with concepts of secondary importance on the base. Background elements are shown in the background as a label only indicating an assumed state of existence. Outcomes from these leadership practices are shown at the centroid of the triangle. These outcomes become the focal point of leadership activity and the manner in which the individual ultimately measures leadership success.

These relationships are shown in Figure 4. Note that the senior business executives assume that the use of the executive skill set will enable the effects at the vertices of the triangle. This is represented by the outward directed arrows. The Senior Business Manager (SBM) is not as driven by the vision. The vision is expected to be given, and a clearer set of goals and objectives forms the context in which these people operate. Outcomes become the pre-eminent way of determining if a leader has been successful. This is based on effective use of skills (communication, negotiation), and the support of the staff. The effect on the team itself is a marginal element. This is evidenced in the lack of expressions on the effects on the staff in the interview transcripts. One key outcome for the leader, is the development of respect for the leader from the follower by achieving the outcomes in a manner harmonious with the followers. Thus, this becomes a derived end state for the leader as a result of their practices. This is indicated by the use of the arrows pointing into the centroid. These elements are shown in Figure 5.

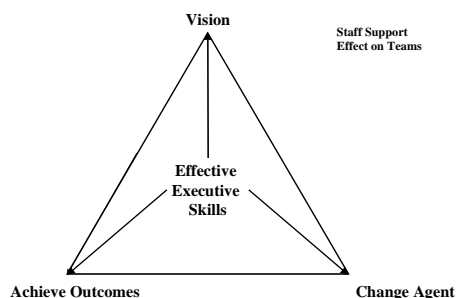


Figure 4: Figure-Ground Elements for Senior Business Executives

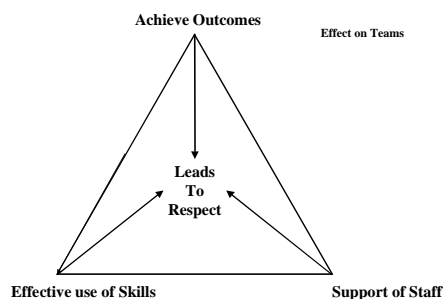


Figure 5: Figure-Ground Elements for Senior Business Managers

Success is also measured in a temporal sense. There is a short-term time frame, in which task attainment is the focal point. There is a medium term time frame in which the development of the group skill set and developing group morale is more important than task attainment. The

medium term interactions between leader and superior creates the trust, respect and credibility. The onus appears to be on the direct report of the Senior Business Executive to move the relationship in this direction. Finally there is a long-term time frame for which the visions are being framed, the plans to achieve these visions are crafted and sustainable long-term change is sought.

There is a tension between the need to achieve the immediate task, and develop the plans for future activities. There is a tension between the need to achieve the immediate task and the need to develop the group to be autonomous and become high performing.

We first examine the concepts of leader success for the business community. For the Senior Business Executive, all is driven by the vision. This vision generally promotes change. This change should be sustainable in the long term, so the correct changes must be made, and effective change management practices adopted. Change must be achieved as the primary outcome, but the business unit has other results that must be attained as well. Change requires executive skills of planning, strategy formulation, and communication. The executive skill set also ensures that the leader's objectives are on the agenda of senior management. The leader achieves results, build upon knowledge and effective communication. This results in follower commitment, as evidenced by enthusiasm in pursuing the vision. In the background are issues of effective team work, staff morale and staff support for the changes, in the manner meant by the other groups. Other groups measure staff support in terms of skills transference, commitment, and the ability to work autonomously. The senior business executive sees staff support as holding the shared vision.

The Senior IT executive is also driven by the need to achieve outcomes. They do so, in such a way, as to minimise trauma on the staff, yet are supporting the right organisational objectives. They have an internally generated set of goals, rather than driven by a vision. The vision is in the background for these executives. They see that much of what has impacted on the organisation has led to significant change, and so to accommodate that level of change requires effective change management. Their role is to ensure that there is minimum trauma on the staff. They still have a range of products to deliver, or service to provide, and the attainment of these goals on time, to budget and to the standards demanded by the customer pervade their working environment. Thus, the nature of the outcomes is slightly different to that of the business group. It is very important to this group to be seen to be achieving in delivering their products, services and achieving their goals. These elements are represented in Figure 6 below.

The Senior IT Manager also sees success predominantly as achieving the required outcomes, but with greater involvement and less effect on staff. Their notion of staff support is richer, with concerns of high morale, effective teams, and ensuring that the environment is such that the autonomous team can function. They see that the most important leadership skill is that of effective delegation which is based on trust. The concept of vision is missing. This group sees that their followers have to move forward, but do not base this on a clearly articulated vision. Their measure of successful leadership is that all of the elements contribute to the development of autonomous teams that have the necessary skill set to get on with the job, and the knowledge of the purpose of the task at hand. This is summarised in Figure 7.

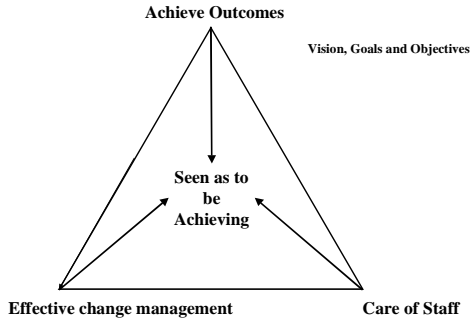


Figure 6: Figure Ground Elements for Senior IT Executives

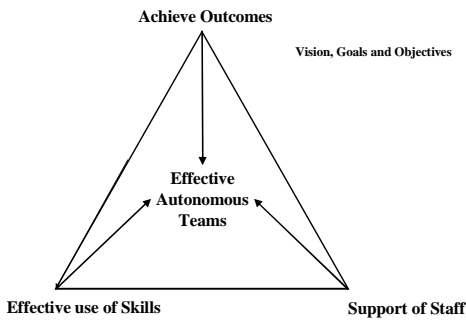


Figure 7: Figure Ground Elements for Senior IT Managers

We were not able to derive a figure ground relationship for the Senior IT consultants, because there were only two cases, and the utterances in these cases were sparse.

## DISCUSSION ON THE NOTIONS OF SUCCESS

We commenced this review of the notions of success through analysing the interview data from a phenomenographical perspective. We were interested in characterising the concepts of Leadership success as held by senior management. In particular, we sought to determine if any variations in these notions existed between the Business and Information Technology senior management communities. We believed that this answer to these questions would highlight those concepts that figured most prominently in their evaluations of a leader. It would signal the means by which the business management team was evaluating the IT management team and conversely. Significant differences in this underlying belief state of successful leadership could assist in explaining the assessments of leadership as an enabler or as an inhibitor to the alignment of business and IT activities. We sought to find a methodology for evaluating implicit leadership beliefs.

There were commonalties held by the groups. These commonalties included the orientation towards achievement of outcomes, staff support and having effective skills. There were differences. The business executive is driven by vision creation and change. They expect a high standard of communication skills. The IT executive were more driven by the need to achieve their stated goal set, rather than articulate a vision. They recognized the need for change, but thought that change needed to be managed in such a way as to have limited impact on staff. In the figure-ground analysis of the SITE and SBM groups, we see more similarity. This is possibly because most Senior IT Executives are at the same organisational level and

experience set as the Senior Business Managers. The Senior IT Managers were more concerned about ensuring that they had practices in place that led to their IT teams become effective, autonomous and productive. IT teams are product or service driven. In either arena, the need for the team to achieve their task unsupervised is essential. This latter conceptualisation of the drive for autonomy is also in light with the findings of other studies. Dengate, Cougar and Weber (1990) found IT professionals were motivated more by a need for autonomy, effective feedback, task variety, task identity and task significance, than other professional groups.

The qualitative approach of determining variations in perception did lead to identification of difference. In addition, this approach was well received by the senior management team, who found the questions useful in opening up dialog between the ITRU and the business community. We also see that the models derived from the notions of success are in line with the findings from leadership research.

## **LIMITATIONS OF THE STUDY AND FUTURE RESEARCH**

The nature of qualitative research using a phenomenographical approach limits the number of interviewees. Sample size is in accordance with the methodology used, but is small when compared to other qualitative studies. In addition, this research was grounded in one organisation, in order to determine if the methodology to understand implicit leaderships beliefs worked, and to reveal barriers to current practices. Small sample size, and grounding in a single organisation limit the findings of the research, and point to future research.

The finding of differences between the IT and business communities in their primary leadership focus should be tested in other agencies and in the private sector. The model of leadership develop through this analysis needs further extensions to trap other leadership behaviours. A clear mapping between this model and other models from leadership research can be undertaken, but this was not the purpose of the study.

## **REFERENCES**

- Bass, B.M. (1985) *Leadership and Performance Beyond Expectations* The Free Press
- Bass, B.M. and Avolio, B.J. (1994) *Improving Organisational Effectiveness Through Transformational Leadership* SAGE
- Brier, T., Luftmann, J. and Papp, R. (1999) "Enablers and Inhibitors of Business-IT Alignment" *Communications of the Association of Information Systems*.  
<http://cais.aisnet.org/articles/default.asp?vol=1&art=11>
- Bruce, C. (1995) *The Conceptions of Information Literacy* unpublished doctoral thesis University of New England
- Bryman (1990) *Charisma and Leadership in Organisations* Sage
- Cash, J. and McFarlan, W.F. (1990) *Competing Through Information Technology* Harvard Video Series
- Cameron, K.S. and Quinn, R.E. (1999) *Diagnosing and Changing Organisational Culture Based on the Competing Values Framework* Addison-Wesley OD Series
- Dengate, G. Cougar, J.D. and Weber, R. (1990) "Motivational characteristics of Australian information systems personnel" *Australian Computer Journal* vol 22 no 3 August 1990
- Earl, M. J. (1989) *Management Strategies for Information Technology*, Prentice Hall, Englewood Cliffs, NJ.
- Earl, M. J. and Feeny, D. F. (1997) "Is your CIO adding value" in: L. Willcocks, D. Feeny, and G. Islei, (eds.) *Managing IT as a Strategic Resource*. McGraw Hill, Berkshire, 3-21.

- Feeny, D. F., Edwards, B. and Simpson, K. (1997) "Understanding the CEO-CIO relationship" in: L. Willcocks, D. F. Feeny, and G. Islei, (eds.) *Managing IT as a Strategic Resource*. McGraw Hill, London. 22-42.
- Kim, H. and Yukl, G. (1995) Relationships of self-reported and sub-ordinate reported leadership behaviours to managerial effectiveness and advancement *Leadership Quarterly*, 6, 361-377
- Marton, F. (1994) "On the structure of awareness" in: John A Bowden, E. Walsh (eds.) *Phenomenographic Research : Variations In Method; The Warburton Symposium*. ERADU, RMIT, Melbourne, Vic., 89-100.
- Sandberg, J. (1994) *Human Competence at Work: An Interpretative Approach*. BAS, Göteborg.
- Snyder, M. (1984) *When belief creates reality* in L. Berkowitz (ed.) *Advances in Experimental Social Psychology* (vol 18, pp 248-306) New York ;Academic Press
- Stewart, G. and Gable, G. (1996) *Matching IT Leadership Styles to Corporate Needs* in Proceedings of Australasian Conference for Information Systems Hobart 1996
- Stewart, G. and Gable, G. (1999) *Developing a Leadership Culture and Improved Leadership Practices among IT Managers and Executives* Americas Conference on Information Systems Milwaukee Minnesota August 16 1999
- Sutcliffe, N. (1999) *Impact of Trust on IT Leadership Effectiveness in Business Process Reengineering (BPR): An Exploratory, Longitudinal Study* Americas Conference on Information Systems Milwaukee Minnesota August 16 1999
- Weizer, N. (1991) *The Arthur D. Little Forecast on Information Technology and Productivity*. Wiley, New York.
- Yukl, G. (1998) *Leadership in Organizations* Prentice Hall International

## ACKNOWLEDGEMENTS

We wish to thank the Australian Research Council for its support for this research, and to the members of the Information Resources and Technology Unit for their support and interest in this study.

## COPYRIGHT

Glenn Stewart (c) 2000. The authors assign to ACIS and educational and non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The authors also grant a non-exclusive licence to ACIS to publish this document in full in the Conference Papers and Proceedings. Those documents may be published on the World Wide Web, CD-ROM, in printed form, and on mirror sites on the World Wide Web. Any other usage is prohibited without the express permission of the authors.