

**School of Marketing**

**INTRANET EFFECTIVENESS  
AND ORGANIZATIONAL COMMITMENT**

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**This thesis is presented as part of the requirements for  
the award of the Degree of Master of Commerce (Marketing)  
of the Curtin University of Technology**

**October 2002**

## Foreword

*My experience of the Masters by Research program at Curtin University of Technology bears remarkable similarity to the act of bearing a child (as seen from a father's eye). We begin with a fascination and attraction with a desirable "other", in my case, the use of technology at work, organizational commitment and loyalty. This attraction leads inexorably to the joyous point of conception, the seed of an idea, a scary thought if you picture my supervisor and I in this procreator role in anything more than a metaphorical sense! The first trimester is one of anguish and newness as the candidacy process unfolds. It seems that everyone else has a "family" of prior thesis and publication successes to refer to, and suggest that giving birth to a thesis is a breeze. Many are all too willing to share their knowledge, but some are not unlike the well-wishing distant relatives; appearing from the ether to giving pearls of wisdom on the trials ahead and then disappearing just as quickly when solutions or comfort are sought.*

*The second trimester is one of expectation, learning and relative calm...but watch out, this period passes by so quickly and one morning you awake with a feeling that you have too little time left to prepare for the impending birth. If you are like me, your unborn child in the third trimester grows just too large at times for you to carry and you doubt it will ever make it to the light of day. You begin shamefully and secretly to wish for the mercy of painkillers and the surgeons knife! The surgeons knife is in fact used to par away much of the extra fat that has accumulated in your first draft, and finally your obstetrician declares your baby is now of the appropriate size to be delivered!*

*Ah...the final draft, you have endured the pain, tasted some joys along the way as mostly incremental but sometimes significant learning occurs and yes the newborn is something to be proud of (you hope). Then in the delivery room your child is taken away from you to be examined, the appointed specialists are all suitably impressed. After a seemingly endless process the examiners advise you that the child is near perfect, perhaps just a bit thin in one respect, you laugh ironically to yourself, you knew as all parents do that all that trimming down and changing of structure would come back to haunt you! You care not, you have your child, those close to you tell you how lovely it looks, but you know that this is not enough; for the whole process to have been worth it you will enter your child in endless newborn and young children's competitions for all to see your prodigy....does anyone know what the perfect baby should be dressed in this season? Welcome to the world of academic publication!*

*Thanks go to my obstetrician (Supervisor) professor Leyland Pitt, whose advice and motives at times I did not understand but in retrospect can see exactly why he is a specialist, he has delivered many babies and they all invariably win multiple competitions! My personal strength to pull through this pregnancy unscathed was drawn from three sources, my lifelong wife and friend Kathy, it sounds trite; but you know like no other that without your love and support I would never have made it. My daughter Emma who I have never stopped thinking about as you can see from the thoughts above. And finally my self-appointed mentor and friend Ron Regan, everyone needs someone to share their ups and downs with, you have been an objective yet passionately interested advisor, and at times benefactor.*

*...thankyou, you will all never be forgotten.*

<b>LIST OF TABLES .....</b>	<b>6</b>
<b>LIST OF FIGURES .....</b>	<b>7</b>
<b>LIST OF APPENDICES.....</b>	<b>7</b>
<b>ABSTRACT.....</b>	<b>8</b>
<b>CHAPTER 1: ORGANIZATIONAL COMMITMENT AND INTRANET EFFECTIVENESS .....</b>	<b>9</b>
1.0 INTRODUCTION.....	9
1.1 <i>Organizational Commitment</i> .....	10
1.2 <i>Communication within an Organization</i> .....	10
1.2 <i>Intranet Effectiveness, IPPC: an Employee Viewpoint</i> .....	11
1.3 <i>Primary Research Focus</i> .....	13
1.4 <i>Secondary Research Focus</i> .....	13
1.5 <i>Testing Psychometric Properties of IPPC</i> .....	14
1.6 <i>Broadening Application and Generalizability</i> .....	14
1.7 <i>The Relationship of Intranet Effectiveness with Organizational Commitment</i> .....	15
1.8 <i>Literature Reviewed</i> .....	15
1.9 <i>Research Design</i> .....	16
1.9.1 <i>Methodology</i> .....	16
1.9.2 <i>Data Collection Technique</i> .....	16
1.9.3 <i>Data Collection Instrument</i> .....	17
1.9.4 <i>Data Processing</i> .....	17
1.10 <i>Proposed Chapter Outline</i> .....	17
1.11 <i>Summary</i> .....	18
<b>CHAPTER 2: LITERATURE REVIEW.....</b>	<b>19</b>
2.1 INTRODUCTION.....	19
2.2 INTRANETS: DEVELOPMENT, DEPLOYMENT AND EFFECTIVENESS .....	19
2.2.1 <i>Technology Take-up, Who and Why?</i> .....	19

2.2.1.1 <i>Boundary Spanning</i> .....	21
2.2.1.2 <i>Culture and Collaboration</i> .....	21
2.2.1.3 <i>Novel Uses of Intranets</i> .....	22
2.2.1.4 <i>Groupware (Lotus Notes)</i> .....	23
2.3 INTERNAL MARKETING, PUBLIC RELATIONS & HUMAN RESOURCE MANAGEMENT .....	24
2.3.1 <i>Public Relations and the Intranet</i> .....	24
2.3.2 <i>Australian Financial Industry Context</i> .....	25
2.4 COMMUNICATION THEORY .....	27
2.4.1 <i>Communication Variables</i> .....	27
2.4.2 <i>Computer Mediated Communication</i> .....	28
2.4.2.1 <i>Temporal Barriers</i> .....	28
2.4.2.2 <i>Geographic Barriers</i> .....	28
2.4.2.3 <i>Group Behavior in CMC Environments</i> .....	29
2.4.2.4 <i>Culture and CMC</i> .....	29
2.4.2.5 <i>Involvement in CMC Networks</i> .....	30
2.4.3 <i>Communication Between Multiple Commitment Foci</i> .....	30
2.5 TRANSACTION COST THEORY .....	31
2.5.1 <i>TCT Theory Relevance to HR Practice</i> .....	31
2.5.1.2 <i>Applying TCT to Intranet Form and Function</i> .....	32
2.5.1.3 <i>Relevance of the Theory and Beyond TCT</i> .....	33
2.6 SOCIAL IDENTITY THEORY .....	34
2.6.1 <i>Importance and Relevance of Social Identity Theory</i> .....	34
2.6.2 <i>Origins of SIT</i> .....	34
2.6.3 <i>Identification vs Commitment and Their Various Forms</i> .....	35
2.6.4 <i>Influence of Social Networks on Behavior</i> .....	36
2.6.5 <i>Power and Politics in Social Networks</i> .....	37
2.7 ORGANIZATIONAL COMMITMENT.....	38
2.7.1 <i>Why Seek Organizational Commitment?</i> .....	38
2.7.2 <i>Multiple Commitments</i> .....	39
2.7.3 <i>Dimensions of Organizational Commitment</i> .....	40
2.7.4 <i>Antecedents Effecting Organizational Commitment</i> .....	41
2.7.5 <i>OC Scale Parsimony</i> .....	43

2.7.6 Which OC Dimension Is Desirable?.....	44
2.8 SUMMARY .....	45
<b>CHAPTER 3: PROPOSITIONS AND HYPOTHESES.....</b>	<b>46</b>
3.0 INTRODUCTION.....	46
3.1 ASSUMPTIONS OF BUSINESS ENVIRONMENT.....	47
3.2 THEORETICAL FRAMEWORK.....	48
3.3 HYPOTHESES FORMULATED: .....	49
<i>Hypothesis One</i> .....	49
<i>Hypothesis Two</i> .....	49
<i>Hypothesis Three</i> .....	49
<i>Hypothesis Four</i> .....	49
<i>Hypothesis Five</i> .....	49
<i>Hypothesis Six</i> .....	49
3.4 SUMMARY .....	50
<b>CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY....</b>	<b>51</b>
4.0 INTRODUCTION.....	51
4.1 OBJECTIVES OF THE STUDY .....	51
4.1.1 Replication & Validation.....	51
4.1.2 Extension.....	51
4.1.3 Application.....	52
4.2 METHODOLOGY .....	52
4.2.1 PSYCHOMETRIC PROPERTIES OF SCALES .....	52
4.2.1.1 Theoretical Underpinnings.....	52
4.2.1.2 Validity.....	53
4.2.1.3 Reliability.....	54
4.2.1.4 Factor Analysis.....	54
4.2.2 Response Rates .....	55
4.2.2.1 Response Rates and the Selected OC Measure (Hunt et al., 1985) .....	55
4.2.3 Target Population.....	56
4.2.3.1 Census or Sample?.....	58
4.2.4 Data Collection Technique & Instrument.....	60
4.2.5 Survey Distribution and Collection .....	62
4.3 DATA ANALYSIS & INTERPRETATION .....	63
4.4 SUMMARY .....	64

## CHAPTER 5: RESEARCH RESULTS AND INTERPRETATION

.....	65
5.1 INTRODUCTION.....	65
5.2 CONVERGENT VALIDITY .....	65
5.2.1 <i>Results of Test of Hypothesis One</i> .....	66
5.2.2 <i>Test 2</i> .....	68
5.2.3 <i>Test 3</i> .....	69
5.3 RESULTS OF TEST OF HYPOTHESIS TWO.....	70
5.4 RESULTS OF TEST OF HYPOTHESIS THREE.....	71
5.4.1 <i>Factor Similarity</i> .....	71
5.4.2 <i>Factor Loadings</i> .....	73
5.4.3 <i>Question Misinterpretation</i> .....	74
5.5 RESULTS OF TEST OF HYPOTHESIS FOUR.....	75
5.5.1 <i>Reliability</i> .....	75
5.6 RESULTS OF TEST OF HYPOTHESIS FIVE .....	77
5.6.1 <i>Unidimensionality of OC Measure</i> .....	77
5.6.2 <i>Test 1</i> .....	78
5.6.3 <i>Test 2</i> .....	80
5.7 RESULTS OF TEST OF HYPOTHESIS SIX .....	81
5.7.1 <i>MANOVA Outliers</i> .....	81
5.7.2 <i>Reasons for Mean Differences</i> .....	82
5.7.2.1 <i>The Manager/Worker Divide</i> .....	85
5.8.1 RATIONALE .....	86
5.8.2 MANAGERS & EXECUTIVES, NOMOLOGICAL SIMILARITY.....	86
5.8.2.1 <i>Post-Hoc Analysis 1</i> .....	87
5.8.2.2 <i>Post-Hoc Analysis 2</i> .....	88
5.8.2.3 <i>Managerial Focus</i> .....	89
5.8.3 <i>Post-Hoc Analysis 3</i> .....	90
5.8.4 <i>Post-Hoc Analysis 4</i> .....	92
5.9 MANAGERIAL OBSERVATIONS FROM THE DATA .....	93
5.9.1 <i>Aim of This Section</i> .....	93
5.9.2 <i>Intranet as A Boundary Spanner</i> .....	93
5.9.3 <i>Isolation in Time and Space</i> .....	93
5.9.4 <i>Interpretation of Significant Cohorts of Job / IPPC Dimension Relationships</i> .....	94

5.9.5 Group Significance of Findings.....	95
5.9.6 SUMMARY .....	97
<b>CHAPTER 6; IMPLICATIONS FOR FUTURE RESEARCH, MANAGEMENT IMPLICATION/APPLICATION AND STUDY LIMITATIONS .....</b>	<b>98</b>
6.0 INTRODUCTION.....	98
6.1 THE SIGNIFICANCE OF RESULTS .....	98
6.2 RELIABILITY AND VALIDITY .....	98
6.3 CONCLUSIONS DRAWN.....	99
6.3.1 IPPC is Psychometrically Sound.....	99
6.3.2 Organization Commitment of Some Cohorts is Related to Intranet Effectiveness.....	99
6.3.3 Intranet Effectiveness Construct: Nomological Issues .....	100
6.4 MANAGERIAL APPLICATIONS/IMPLICATIONS .....	100
6.4.1 What is the Intended Use of a Company Intranet? .....	100
6.4.2 Organizational Commitments Connection with Intranet Effectiveness..	101
6.4.3 Uses of IPPC.....	101
6.5 LIMITATIONS OF THE STUDY .....	102
6.5.1 Organizational Commitment Takes Time. ....	102
6.5.2 Committed Respondents.....	102
6.5.3 The Chosen Measure of OC.....	103
6.5.4 Lack of Qualitative Input .....	103
6.5.5 Questionnaire Pretesting .....	103
6.5.6 Anchoring Responses for Nomological Validity.....	104
6.6 FUTURE RESEARCH DIRECTION.....	105
6.7 SUMMARY .....	106
REFERENCES. ....	107

## List of Tables

<i>Table 1 Distilled Factors of the IPPC.....</i>	<i>12</i>
<i>Table 2 Comparison of employee population to actual survey respondent mix.....</i>	<i>59</i>
<i>Table 3 IPPC Factors vs Overall Effectiveness (Regression).....</i>	<i>66</i>
<i>Table 4 ANOVA of IPPC Factors vs Overall Effectiveness .....</i>	<i>67</i>
<i>Table 5 Coefficients of Overall Effectiveness vs IPPC Factors, all Users .....</i>	<i>67</i>
<i>Table 6 Model Summary Overall Effectiveness Vs IPPC all 15 Items.....</i>	<i>68</i>
<i>Table 7 ANOVA Overall Effectiveness Vs IPPC all 15 Items .....</i>	<i>68</i>
<i>Table 8 Stepwise regression of IPPC items against Overall Effectiveness.....</i>	<i>69</i>
<i>Table 9 Construct Validity Comparison of Overall Rating to IPPC Dimensions....</i>	<i>70</i>
<i>Table 10 KMO Sampling Adequacy IPPC Factor Analysis.....</i>	<i>71</i>
<i>Table 11 Scree Plot IPPC Factor Analysis.....</i>	<i>71</i>
<i>Table 12 Total Variance Explained IPPC Factor Analysis .....</i>	<i>72</i>
<i>Table 13 Rotated Component Matrix IPPC Factor Analysis.....</i>	<i>73</i>
<i>Table 14 IPPC Scale Items Internal Reliability Analysis.....</i>	<i>76</i>
<i>Table 15 Sampling Adequacy OC Factor Analysis .....</i>	<i>77</i>
<i>Table 16 Total Variance Explained OC Factor Analysis (Unidimensional Solution)</i> <i>.....</i>	<i>77</i>
<i>Table 17 Individual 15 IPPC items Regressed Against OC Total Score .....</i>	<i>78</i>
<i>Table 18 Individual 15 IPPC items Regressed Against OC Total Score .....</i>	<i>79</i>
<i>Table 19 IPPC Factors vs OC (Regression) .....</i>	<i>80</i>
<i>Table 20 IPPC Factors vs OC (Regression) .....</i>	<i>80</i>
<i>Table 21 General Linear Model of IPPC Dimensions by Employment Level.....</i>	<i>81</i>
<i>Table 22 Additional Multivariate tests of IPPC Dimensions by Employment Level</i>	<i>82</i>
<i>Table 23 Univariate/Between Subjects Test of the Three Factors Against Employee</i> <i>Level .....</i>	<i>84</i>
<i>Table 24 Three Factor Rotated Component Matrix of Managers and Executives</i> <i>Showing Greater Nomological Similarity to IPPC. ....</i>	<i>87</i>
<i>Table 25 ANOVA 15 IPPC Items Regressed against Manager and Exec's Overall</i> <i>Effectiveness .....</i>	<i>88</i>
<i>Table 26. Model Summary 15 IPPC Items Regressed against Manager and Exec's</i> <i>Overall Effectiveness .....</i>	<i>89</i>
<i>Table 27 Summary Model Manager and Exec's Factors Vs Overall Effectiveness.</i>	<i>90</i>
<i>Table 28 ANOVA Manager and Exec's Factors Vs Overall Effectiveness .....</i>	<i>91</i>
<i>Table 29 Model Summary, Original IPPC Factors Regressed against Managers &amp;</i> <i>Execs Overall Effectiveness Rating.....</i>	<i>92</i>
<i>Table 30 Job/Location cohorts with OC significant and markedly different from</i> <i>total sample OC score. ....</i>	<i>94</i>
<i>Table 31 Regression, Peripheral employees (face to face, telephone and NED) IPPC</i> <i>vs OC.....</i>	<i>96</i>
<i>Table 32 ANOVA, Peripheral employees (face to face, telephone and NED) IPPC vs</i> <i>OC.....</i>	<i>96</i>



## List of Figures

<i>Figure 1 Theoretical Framework.....</i>	<i>48</i>
<i>Figure 2 The Manager/Worker division on IPPC scores.....</i>	<i>85</i>

## List of Appendices

Letter of Introduction for Survey	A1
Survey Document (identifying names deleted)	A2
F.O.C.I.S, an Extension of T.C.T to Intranet Strategy	A3
Manova Means with Bonferroni Adjustment	A4

## **Abstract**

*The Intranet Pencil and Paper Checklist (Murgolo-Poore et al., 2002) is a new measure developed to gauge the perceptions of organization members as to the effectiveness of the firms Intranet, from an Internal Marketing and Human Resource perspective. Three dimensions of the construct "Intranet Effectiveness" have been distilled from initial scale development research and testing, they are Operations, Facilitation and Culture.*

*The instrument is now applied to a financial services organization with approximately 3000 staff to test its robustness across all layers of a hierarchy. It performed well, particularly in plumbing the perceptions of management towards their Intranet.*

*Several theoretical perspectives were investigated to understand how OC and Intranet effectiveness may be associated, including Transaction Cost Theory, Communication Theory and Social Identity Theory. With this theoretical underpinning the instrument was administered to discern if an effective Intranet, through its power to communicate and involve multiple stakeholders had any correlation with Organizational Commitment.*

*Intranet effectiveness was found to have a significant correlation, which varied in its effect across user groups. It was suggested as a focus for future research that peripheral groups might have benefited from the Intranet in a way that increased OC amongst those cohorts disproportionately. Should such a theory be borne out by empirical investigation, it has potential application for strategic decision making in Intranet design and management.*

# **Chapter 1: Organizational Commitment and Intranet Effectiveness**

## ***1.0 Introduction***

Intranet effectiveness as a construct from an Internal Marketing perspective (and a scale to measure it) did not exist until development was undertaken in 2001 by a team of researchers at Curtin University in Western Australia. This scale has been published in *Public Relations Review* (Murgolo-Poore et al., 2002) and the authors invited others to use and test it on wider data sets. Our study applies the 15 item Intranet Pen and Pencil Checklist to a population of 3000 employees of a large Australian regional bank and is a rigorous test of its validity, reliability and replicability. The results indicate that with some minimal fine-tuning and considered application it will be a very useful tool for practitioners and scholars alike.

Many authors have suggested that effective communication leads to greater Organizational Commitment (Allen, 1992, Allen, 1996, Eisenberg et al., 1983, Duncan and Moriarty, 1998, Gilly and Wolfinbarger, 1998, Huff et al., 1989, Putti et al., 1990, Scott et al., 1999) . This trend in the literature indicates the need in the 21<sup>st</sup> century to assess the effectiveness of new technologies (Intranets) purported to aid communication and collaboration (Blackmore, 2001, Gonzalez, 1998, Vandenbosch and Ginzberg, 1996). What we achieve in this study is a fuller understanding of the application and efficacy of the IPPC and the level of correlation between an employee's opinion of their Intranet and those same employees Commitment to the Organization. Positive correlations are suggestive of relationships between the two constructs with varying strength dependent upon the cohort examined. The variation in effect is posited as being, in part, a consequence of the relative salience of group memberships within the organization and those groups position within the geographic and hierarchical structure of the firm.

## 1.1 Organizational Commitment

Organizational Commitment is a mature and fascinating field in the Organizational Behavior literature. In the second half of the 20<sup>th</sup> century academics and practitioners alike were pursuing the causes and outcomes of OC, often revering it as the 'holy grail' of firms seeking to extract higher productivity from the workforce. However, with rapidly changing social and business patterns of the 80's and 90's loyalty became less tenable as more firms chose to shed staff in the face of global competition. It became apparent that commitment to the organization was not being reciprocated and employees became more cynical of attempts to engender their loyalty. In the preface of a recent book on Work Commitments (Meyer and Allen, 1997) the authors were mindful of comments by a referred to business executive that it would be a "very short book indeed" ! However, some firms still do manage to engender long and successful partnerships with employees and reap the financial rewards, "Loyalty is by no means dead. It remains one of the great engines of business success." (Reichheld, 1996)

## 1.2 Communication within an Organization

If we are to believe the reported results of successful loyalty leaders it begs the question of how such loyalty is generated and harnessed in the new global economy. The focus then should shift from the antecedents of Organizational Commitment or the voluminous categories and the definitions of OC to finding tools, practices and situations that correlate with staff or cohorts of staff who exhibit atypically high levels of commitment within the organization. Emulating such situations and practices could then lead, in appropriate environments, to similar loyalty dividends.

The Communication literature suggests that effective two-way communication between various organizational players will aid in the formation of commitment (Allen, 1996, Eisenberg et al., 1983, Gonzalez, 1998, Huff et al., 1989, Scott et al., 1999). The mere utterance of the words ' business communication' in a 21<sup>st</sup> century

context engenders thoughts of the Internet and its internal business equivalent the Intranet. Internal Marketing proponents (Pitt and Foreman, 1999, Piercy and Morgan, 1991, George, 1990, Bansal et al., 2001) bring together the Marketers and the Organizational Behaviorists and suggest that organizations need to effectively market the company goals objectives and rhetoric(Cheney, 1991) to all employees to maximize organizational and marketing effectiveness. There is ongoing debate over the effectiveness of Intranet technology to aid with such collaboration and communication(Vandenbosch and Ginzberg, 1996). Much of the empirical work has focused on the technical capabilities of software and hardware at an organizational level(Lai, 2001), not the individual employees satisfaction or acceptance of the technology.

## 1.2 Intranet Effectiveness, IPPC: an Employee Viewpoint.

This “employee side” gap in the knowledge of Intranet effectiveness stems in part from a lack of a suitable scale to measure the effect an Intranet has on communication and collaboration from the individual employee perspective.

To resolve this problem, a team of researchers (Murgolo-Poore et al., 2002) have conducted preliminary research and testing to develop a scale to measure the effectiveness of an organization’s Intranet from the perspective of the user. The scale is known as the Intranet Pencil and Paper Checklist (hereinafter referred to as the IPPC). This scale has value as a diagnostic and research tool for practitioners and academics alike to assess how organizational members feel their Intranet has changed the way they work and communicate and how well it performs its key functions. The construct under investigation is termed “Intranet effectiveness” and through a series of theoretically grounded scale development and testing procedures (Churchill, 1979) an instrument with three dimensions has emerged. The dimensions and essence of the scale used is contained in figure 1, the full questionnaire is contained in the appendices.

DIMENSION 1 OPERATIONS	DIMENSION 2 CULTURE	DIMENSION 3 FACILITATION
<ol style="list-style-type: none"> <li>1. Changed the way our organization <i>communicates internally</i></li> <li>2. is a very effective way of <i>saving resources</i>, such as time, facilities and money</li> <li>3. has become an integral part of the way we <i>operate</i></li> <li>4. brings us together and helps us <i>work more effectively</i></li> <li>5. the attitude of most people is "<i>I don't know how we got along without this</i>"</li> </ol>	<ol style="list-style-type: none"> <li>1. The solution for <i>bringing people within the organization together</i></li> <li>2. Provides a major cultural revolution in our organization about the <i>way people work, think and communicate.</i></li> <li>3. truly allowed a <i>global (national) community</i> to develop</li> <li>4. Many people within our organization <i>talk about the impact</i> the Intranet has had.</li> <li>5. The overall effect of the Intranet within our organization has been to make members of our organization <i>better communicators</i></li> </ol>	<ol style="list-style-type: none"> <li>1. Fosters <i>collaboration</i></li> <li>2. Allows us to <i>effectively implement business strategy</i></li> <li>3. Helps people bring <i>products and services to market much quicker</i></li> <li>4. A way to collaborate to <i>design develop and deliver new products and services</i></li> <li>5. Gives employees the opportunity to <i>feel like a significant part of our company</i></li> </ol>
<b>DISTILLED STATEMENT</b>	<b>DISTILLED STATEMENT</b>	<b>DISTILLED STATEMENT</b>
<i>Saves time and money making us more effective and efficient to the point that we would not like to be without it.</i>	<i>Fosters an often referred to culture of shared thoughts and actions that make us better communicators throughout our nationwide organization.</i>	<i>Facilitates collaborative and internal stakeholder inclusive business strategy that aids product and service design and delivery</i>

**Table 1 Distilled Factors of the IPPC**

The value of the IPPC as a diagnostic and research tool for multi disciplinary Intranet researchers and practitioners is self evident and substantial. A necessary limitation of the original scale verification procedure was that the sample consisted of senior staff within multiple organizations and hence tended to focus attention on the instigators and designers of the Intranet rather than the end users. These management opinion leaders would certainly have a good idea of what the intended outcomes of their Intranet would be. It is less clear that they would be in a position to judge the actual effectiveness/outcomes, after all that is the very purpose of this scale, to permit collection of quantifiable data rather than anecdotal feedback.

### 1.3 Primary Research Focus

With this need for verifying the IPPC as a better measure of individual Intranet perceptions the, the primary focus of this research was to:

***Test the generalizability of the instrument across a larger sample representing users from diverse employee levels within an organization that had a functioning Intranet.***

### 1.4 Secondary Research Focus

If the checklist was found to be stable then research directions suggested by the Computer Mediated Communication literature (Eisenberg et al., 1983, Huff et al., 1989) indicated that development of higher Organizational Commitment could be correlated with Intranet effectiveness. This Organizational Commitment linkage forms the second focus of the research:

***Is there any significant relationship between an effective Intranet and the development of Organizational Commitment at the individual employee level?***

## 1.5 Testing Psychometric Properties of IPPC

The methodology applied follows that laid down by the preceding IPPC researchers (Murgolo-Poore et al., 2002) and the accepted methodological marketing paradigm (Churchill, 1979, Parasuraman et al., 1988). The instrument is assessed for theoretical grounding, Reliability (Cronbach, 1951, Coakes and Steed, 1999, Petersen, 1994), and Validity (Peter, 1981, Stewart, 1981, Norusis, 1997) of the Intranet Effectiveness Construct.

## 1.6 Broadening Application and Generalizability

The organization in which the study was undertaken is a medium to large hierarchically structured financial services company with approximately 3000 employees. Staff are situated in Victoria, Western Australia, Queensland, and New South Wales, albeit with the majority of staff located in one state. It has offered an Intranet to head office and IT staff in various forms for several years. They have (over the past three years) rolled out an Enterprise Information Portal in tandem with a hardware upgrade, giving broader access to all line-staff in a staged process from 1999 to 2001. User training and increasing access points to the system are ongoing in 2002. The portal is built to facilitate corporate communications and improve information dissemination/retrieval; it incorporates existing legacy systems and is delivered using the Lotus Notes Groupware application, a product claimed to encourage collaboration and knowledge sharing, amongst other things (Vandenbosch and Ginzberg, 1996). Lotus Notes is similar but not identical to a browser-based Intranet solution (Gonzalez, 1998), requiring software to be installed on the client PC, but these differences are blurring as designs merge in later versions. This is therefore a heterogeneous sample chosen for its broad employee base and varied skill and experience levels with Intranet technology, making it an ideal group to extend the generalizability of IPPC



## 1.7 The Relationship of Intranet Effectiveness with Organizational Commitment

Many forms of Organizational Commitment are explored in the literature (Beck and Wilson, 2001, Cohen, 1993, Griffith et al., 2000, Hackett et al., 1994, Mathieu and Zajac, 1990, Meyer and Allen, 1997, Meyer and Herscovitch, 2001, Mowday et al., 1979, Mowday, 1998, O'Reilly and Chatman, 1986, Whitener, 2001, Wright, 1990), some possess scales with as many as 23 items (Meyer and Allen, 1997) or 30 with multiple foci (Fink, 1992), treating OC as a multidimensional construct. There is a valid argument for such deep multi-item scales, however in some instances the incremental gains in reliability can come at the expense of reduced validity and non-response bias issues (Drolet and Morrison, 2001). Given the “dual purpose” nature of this study a shorter unidimensional scale of Organizational Commitment (Hunt et al., 1985) is employed to keep the resultant survey short and simple to administer.

## 1.8 Literature Reviewed

The literature review covers the following areas:

- ❖ Intranets: Development, Deployment and Effectiveness
- ❖ Human Resource Management
- ❖ Internal Marketing / Public Relations
- ❖ Computer Mediated Communications
- ❖ Transaction Cost Theory
- ❖ Social Identity Theory
- ❖ Organizational Commitment
- ❖ Psychometric Properties (validity, reliability and robustness) of Scales

The review is necessarily broad but focuses on key issues of Social Identity and Transaction Cost Theory as it applies to Internal Marketing as well as covering the considerable volume of Organizational Commitment literature.

## 1.9 Research Design

The Research design will consider the following:

- ❖ Methodology
- ❖ Target Population
- ❖ Data Collection Technique & Instrument
- ❖ Data Analysis, Interpretation and Processing

### 1.9.1 Methodology

The survey method is employed, administering a mail questionnaire on a convenience sample selected to maximize the number and variety of respondents within a single organizations Intranet.

### 1.9.2 Target Population & Sample Size

A large Australian regional bank with national points of representation and over 3000 thousand employees was selected as offering a broad cross-section of seniority levels from executives to part time clerical staff and geographically distant cohorts. Both these characteristics were important for testing the proposed hypothesis. For operational reasons discussed in more detail later a decision was taken to survey the entire organization population rather than employ any form of sampling technique.

### 1.9.2 Data Collection Technique

Questionnaires were delivered and returned using internal mail systems of the organization with envelopes addressed to individual employees to aid with response rates.

### 1.9.3 Data Collection Instrument

The IPPC scale was utilized with a short unidimensional OC measure (Hunt et al., 1985) to test for correlation between OC and Intranet effectiveness. In order to classify and test the outcomes by various cohorts a number of demographic variables were included

The design is correlational in nature with no intention to draw causal conclusions. Our plan was is to undertake the basic hypothesis tests to clarify the two research questions and then examine the data for patterns that may indicate future research direction. We then advance some practical managerial considerations based on the data to showcase the use of IPPC for decision-making.

### 1.9.4 Data Processing

Statistical package SPSS for Windows V10 and Microsoft Excel 97 were utilized for the analysis and input of data respectively.

## 1.10 Proposed Chapter Outline

This chapter and the preceding abstract serve to introduce the reader to the research problem and outline the approach used to address the question. Chapter two involves a broad literature review of the related Marketing, Organizational Behavior and Computer mediated Communications matter. Chapter three discusses the proposed research questions and hypotheses derived for empirical analysis. Chapter four examines the methodology in depth including the research design. Chapter five presents the output of the analysis, examines and accepts or rejects the hypotheses proposed. In Chapter six we consider implications of the research, some collateral findings and directions for future research. Limitations of the findings are also provided at this stage. The appendices include copies of correspondence with the bank, the questionnaire and some additional discussion on Transaction Cost Theory as it applies to Intranet Internal Marketing that was borne of the literature reviewed in this study which may provide scope for future research.

### 1.11 Summary

Intranets are communication and collaboration tools that can theoretically lead to increased Organizational Commitment. Such commitment is desirable and has a bottom line impact on profits in many organizational settings, however it is not clear what circumstances lead to an effective Intranet impacting on OC or how much of an impact is possible across various cohorts within an organization. The scale developed will shed light on Intranet effectiveness, but it must first be tested for validity and reliability across diverse employee levels. If proved reliable and valid, relationships of a correlational nature between individual and group OC and Intranet effectiveness scores will be an indicator of the magnitude of this impact.

## Chapter 2: Literature Review

### 2.1 Introduction

In this chapter we review a necessarily broad range of literature in considering several theoretical perspectives, as well as methodology for designing psychometrically sound measures for marketing science. We focus particularly on Intranets, Social Identity, Communication, Internal Marketing, Transaction Cost Theory and Organizational Commitment. These areas help us to propose six hypotheses in Chapter 3 from a primary and secondary research agenda that explores Intranet effectiveness and the Internal Marketing impact on Organizational Commitment.

### 2.2 Intranets: Development, Deployment and Effectiveness

Many texts and popular press pieces have been written on design and implementation of an Intranet (Paul, 2001, Pedley, 1999, Blackmore, 2001, McCune, 1996, Goodwin, 1999). Books such as “The 21<sup>st</sup> Century Intranet”(Gonzalez, 1998) cover a broad spectrum of managerial and researcher considerations. She states the following:

*“ An Intranet is a distributed hypermedia system within an organization that enables people to: access information, communicate with each other, share what they know and learn from others. Therefore it changes peoples roles, activities, jobs and ultimately can transform an organization ”*

This definition transcends the more operational definitions of an Intranet as a software solution and gives credence to the potential outcomes of an effective Intranet.

#### 2.2.1 Technology Take-up, Who and Why?

Research suggests the majority (66%) of firms of all size are adopting Intranet technology with varying payoffs. (Eder and Igarria, 2001). Early adopters appear to

be developing more pervasive and complex applications, as the productivity payoffs are incrementally more attractive.

A study completed in 2001 (Lai, 2001) titled "Intranet Impact and Effectiveness" sampled the 500 largest organizations in Hong Kong . This study looked at Intranet adoption, intra-organizational communication, organization size, problems and benefits and resultant overall organizational performance. Whilst Lai asked many questions in the same vein as our study, the unit of analysis was at the organization level whereas we target the individual. Lai discovered that Human Resource departments are considered the largest benefactors of an Intranet. In fact many organizations are adopting Enterprise Information Portals as a major HR strategy.(Greengard, 1999, Chamine, 1998) These EIP's are being designed to allow user customization or " Internal Relationship Marketing" (Doyle-Duncan, 2000) to reduce the impact of information overload on users . This is an important emerging issue with US research by Business Week (referred to by Doyle-Duncan) suggesting workers currently can send and receive an average 201 electronic communications per day!

Lai (2001) factor analyzed the benefits achieved through adopting an Intranet into *Data access, Cost savings and Communication and Management*. Direct comparison of these factors does not reconcile with the IPPC dimensions of Operations, Facilitation and Culture (see page 12, Table 1 Distilled Factors of the IPPC). Even though many scale items were similarly worded the unit of analysis may have confounded comparisons. It is also highly likely that a study of this nature considering organizational behavior variables would be affected by cultural differences. (Kirkman and Shapiro, 2001, Clugston et al., 2000, Abrams et al., 1998, Putti et al., 1990, Piercy and Morgan, 1991).

### 2.2.1.1 Boundary Spanning

Another major benefit of Intranet adoption was to facilitate communication over geographically dispersed departments, most respondents reported cost savings. (Lai, 2001) Examples of substantial savings abound in the popular press, for example Fed-Ex (McCune, 1996) reportedly saves US\$2 Million per annum with its parcel location system that allows customers to interact globally with the Intranet (Extranet hybrid) to reduce enquiry and service costs. Cisco reportedly save US\$30 Million per year from productivity, operating and Human Resource costs across its 16000 staff around the globe (Goodwin, 1999).

### 2.2.1.2 Culture and Collaboration

Lai's study did not find that Intranets generally fostered greater collaborative efforts. This is supported by a study of the Groupware product Lotus Notes (Vandenbosch and Ginzberg, 1996) that found that unless members of the network had a need to collaborate, a culture encouraging collaboration, and training that showed them how to collaborate using the technology that collaboration would not develop. Of those firms that did use the technology collaboratively, higher employee and organizational performance was reported.

Paradoxically it is also true that information technology can have an impact on changing the culture of an organization by incorporating "...a slew of supportive messages and statements often contained in an organizations mission and vision, corporate goals..." and by increased exposure to a colleagues efforts (Dewett and Jones, 2001). That is not to say that a single culture will be displayed by all users of the Intranet. Hinds and Kiesler 1995, as reported in Dewett et al (2000) found that the technical staff of an organization used and preferred computer mediated communication (Bartlett and Ghoshal, 1995) whereas administrative employees preferred voice messaging (monologue). However, six years is a lifetime in any study of societal acceptance of communication over the Net, we reasonably expect

greater familiarity and use of CMC in the year 2001 across technical skill levels as the technology becomes ubiquitous.

There is also the temporal aspect of technology adoption, companies who have only recently adopted technology of this sort cannot expect immediate change. Evidence exists of an learning curve where “co-ordination benefits” (collaboration) are felt at least a year after full implementation (McNaughton et al., 1999)

The organization studied here exhibits many of the characteristics and issues described and may be some time away from reaping the full benefits of its technology investments. According to one model of Intranet Implementation (Damsgaard and Sheepers, 2000) this firms Intranet is most likely in the “contagion” stage where it is yet to achieve the critical mass that guarantees that the Intranet will become self sustaining and self expanding.

#### 2.2.1.3 Novel Uses of Intranets

Not all firms will benefit equally from an Intranet. A high tech company that needs to bring together teams of virtual design engineers obviously needs strong collaboration and operational design. General Motors employ virtual design studios at their North American Design Centre that allow remote participants to view and rotate concept models in 3 dimensional reality whilst conferencing with other on-site designers. This technology even allows the designers to hop in the car together and go for a virtual joyride complete with airbags that deploy in an accident!(Smith, 2001)

Systems exist on Intranets to automatically gather data from all forms of employee communication, employee records, emails, publications and personal site visits to build profiles of expertise. These profiles accurately predict the top ten experts within the company with 70% accuracy on any given topic (Maybury et al., 2001). Tacit knowledge becomes far easier to share when such systems are available. Such



potent work tools could actually dissuade employees from changing firm if their accumulated knowledge is left in the old system. (Calculative OC)

#### 2.2.1.4 Groupware (Lotus Notes)

Groupware used on Intranets to facilitate the compiling of expert profiles and collaborative discussions (asynchronous) has had mixed success. One case study that looked at a large multinational financial services firm found that only select offices used the system as intended, most failed to trust the system integrity and preferred to rely on personal and office contacts to source needed expertise. The groups that did successfully use the technology used it in concert with more traditional social interaction, not as a way of replacing personal interaction, but as a tool to augment it (Kelly, 2001). It seems that the grand claims of the product developers need to be considered in the light of organizational factors such as skills, motivation and culture before such promises are fulfilled.

## **2.3 Internal Marketing, Public Relations & Human Resource Management**

The term Internal Marketing can be attributed to Leonard Berry (Berry, 1980). William George suggested that Organizational Behavior theory indicated the need for Internal Marketing to develop "...all employees as part-time marketers" (George, 1990). Some commentators viewed Internal Marketing as an excuse to take the eye off the ball (Harari, 1993, Harari, 1991) and preferred to consider all staff as serving the external customer directly and with as little duplication as possible.

Whichever perspective is taken, both converge on the need to ensure a common message and consistent acceptable quality is presented to the external customer. In fact scholarly thinking in the marketing field suggests that there is actually a great deal of shared 'real estate' between the communication objectives of internal and external marketing (Gilly and Wolfinbarger, 1998). Organizational communication theorists concerned with identity and its commercial manifestation 'Brand' have even suggested that external and internal advertising should use similar themes and appeals in their rhetoric (Cheney, 1991), as a way of solidifying corporate identity.

The internal market (Brooks et al., 1999) is seen as "consisting of groups communicating to (or with) other groups within the organization". Internal Marketing and its keepers (Human Resource Management and Public Relations) provide a language for analyzing issues such as Power, Politics and Corporate Culture (Piercy and Morgan, 1991) and the strategic need to communicate to internal stakeholders a unifying and consistent message.

### **2.3.1 Public Relations and the Intranet**

Public Relations scholars are keen to contribute to practical application of the communication theory that they embrace (Cornelissen, 2000) and ensure that activities of practitioners are influenced by academic knowledge through a

“translational model” whereby scientific knowledge is used in customized ways by “reflective practitioners”. Such an attitude is seeing Public Relations taking a much more active role in the Marketing Communications mix. This translational model should see interest developing by practitioners in Marketing, Public Relations and Human Resources to apply the Intranet Pen and Paper Checklist (IPPC).

Corporations are becoming more transparent as individuals within the organization and other publics gain greater autonomy and universal access (Badaracco, 1998) . Issues such as ethics and corporate social responsibility need to be conveyed to internal stakeholders and the web is seen as an efficient mechanism to achieve this (Esrock and Leichty, 1998). Any corporation keen to have its employees identifying with the company rhetoric (for development of OC) must now embrace the new technology as a way of engaging internal stakeholders.

The need to consider and publicly espouse ethics in business and the effect this has on ethical conflict and Organizational Commitment has been established (Schwepker, 1999). The advantage of an Intranet is it’s capacity to engage employees in discussion groups, collaborative chat sessions and other Dialogic exchanges (Kent and Taylor, 1998, Kent and Taylor, IN PRESS 2002) . Dialogue is described as involving a cooperative, communicative relationship, the World Wide Web is portrayed as an important way to reduce distance between geographically distant publics.(Kent and Taylor, 1998)

Unfortunately many of these potential benefits are not being consistently achieved by PR practitioners who were commonly reported as relegating this new media to the “B list” of things to do. (Hill and White, 2000)

### 2.3.2 Australian Financial Industry Context

In an Australian market context within the Financial Services sector, evidence exists that firms are adopting Internal Marketing practices, particularly in the larger organizations (Quester and Kelly, 1999). Responsibility for implementing IM

largely falls to the HR manager, Managing Director or a partnership thereof. Interestingly in only 1 of the 88 organizations examined left the IM role solely to the marketing manager. IM strategies appeared to be at a fairly generic level with only 5 companies doing any sort of segmentation of employees for message or objective customization. It follows that many may not be designing their Intranet with collaborative communication goals at the fore. Curiously, amongst a raft of potential IM tactics surveyed by Quester et al (1999) the authors failed to ask whether the organizations had deployed an Intranet as part of their strategy.

#### 2.3.4 IM Outcomes

Scholars propose that in the appropriate circumstance Internal Marketing activities have an impact on external marketing outcomes such as service quality, customer satisfaction and customer loyalty. Such outcomes are a result of job satisfaction; trust in management and loyalty (commitment) to the firm. In order to foster such positive staff attributes HR practices such as training, information sharing and employee empowerment (amongst others) are required (Bansal et al., 2001). It will become evident during the course of this review of the literature that an effective Intranet can deliver such benefits to organizations.

## **2.4 Communication Theory**

### **2.4.1 Communication Variables**

Managing relationships involves communication, which has an integrative role in internal and external customer interaction. (Duncan and Moriarty, 1998). Communication variables regularly find their way into Organizational Behavior and Marketing studies, however it is surprising to note that specifically in Organizational Commitment research it is often a variable group not considered. For example in a Meta-Analysis of Organizational Commitment research (Mathieu and Zajac, 1990) the only variable from 27 antecedents listed that was related to communication was Leader Communication and even this was only present in 4 of the 48 studies analyzed. An updated Meta-Analysis (Griffith et al., 2000) of the closely related Employee Turnover literature identified just 8 studies from 53 that include any measures of communication. The focus of our study on Intranets has highlighted this dearth in the literature.

Why is this relative paucity of communication studies evident? It is feasible that Computer Mediated Communication had less of an impact in times of lower technology, or that popular belief was that personal leadership styles rather than systems based communication were more effective (Bartlett and Ghoshal, 1995). Perhaps the vast array of antecedents and moderators to OC discourage addition of yet more variables with small individual impacts on OC constructs? We argue that inclusion of relatively small-effect explanatory variable in the search for ways to increase Organizational Commitment can still have a worthwhile bottom-line impact on the transaction costs of business. Afterall, a small increase in loyalty can have meaningful impacts on profitability (Reichheld, 2001, Reichheld, 1996)

## 2.4.2 Computer Mediated Communication.

Studies in the Computer Mediated Communication literature that specifically consider communication and Organizational Commitment (Allen, 1992, Allen, 1996, Scott et al., 1999, Putti et al., 1990) suggest that Communication Satisfaction is important to Organizational Commitment. The strongest link between OC and Communication is noted when the foci of Communication Satisfaction is top management. Given the time pressures in modern organizations it seems impractical to suggest top management engage in two-way dialogue with all employees. If an Intranet was designed with such goals in mind it could facilitate efficient compromises such as leader-mediated forums that could involve all who were interested. The point here is that such features must be designed into the entire cultural system, not be expected to evolve of their own accord once the technology is installed.(Vandenbosch and Ginzberg, 1996)

### 2.4.2.1 Temporal Barriers

C. M. C. researchers (Eisenberg et al., 1983) have found relationships between staff isolated through temporal barriers such as shift workers benefit from Computer Mediated Communication. They can exhibit greater levels of commitment related to that communication involvement than their dayshift equivalents, particularly where the individual displays otherwise low job involvement.

### 2.4.2.2 Geographic Barriers

Geographic distance is also a problem with involving peripheral employees that can be overcome with Intranets designed to be inclusive and collaborative. (Scott, 1997, Scott et al., 1999, Bafoutsou and Mentzas, IN Press 2002) It is important that an Intranet be seen as a way of sharing knowledge and valued by the social networks (Cross et al., 2001) that use it to ensure that the Intranet grows from a “Get the word to the troops” medium to a “Collaborative Interaction” platform.(Cecez-Kecmanovic, 1999)

#### 2.4.2.3 Group Behavior in CMC Environments

It has been shown that group norms can evolve in computer mediated communication without individual participants having ever met physically (Postmes et al., 2000). In the case of email it has been found that with the absence of some normal social context cues that different information is transmitted than would occur through face to face communication (Sroull and Kiesler, 1986). This raises the possibility of encouraging positive group norms through the planned use of electronically mediated discussion groups to create new cultural norms, which value the opinion of all participants and reduce status difference. According to writers for the International Association of Business Communication (Wann, 1999), discussion groups are:

*“...proving invaluable in building community – and, by extension, allegiance to the providers of the community-both inside and outside an organization”*

#### 2.4.2.4 Culture and CMC

Organizational culture plays a significant part in such collaborative communication objectives where it is intended that individuals identify with the organization and with the various workgroups they belong to with equal salience (Hennessy and West, 1999). If the culture of the organization does not support collaboration, it simply will not happen. Failure to recognize internal cultural variables is highlighted by a case study of a global electronic banking conglomerate of European origin, “Ebank” (Newell et al., 1999). The central reason given for the failure was the pre-existent communication culture of various sub-units operating independently, they were not comfortable with collaborating and merging knowledge, hence collaborative communication failed. Many more “mega-merged” entities exist in the 21<sup>st</sup> century global economy which need to contend with the fragmented culture

and blurred identity they possess. Related to organizational communication is the concept of freedom of speech communication (Gorden and Infante, 1991) .

Conceivably, a dialogic Intranet supported by the right cultural signals could aid the strengthening of Organizational Commitment through open dialogue between top management and line staff. This concept of being seen to do the right thing is explored in the commitment literature as procedural justice (Meyer and Allen, 1997).

#### 2.4.2.5 Involvement in CMC Networks

Scholars have also found support for the notion that mere exposure and passive receipt of communications from top management does little to improve

Organizational Commitment. It is the act of involvement that predicts favorable organizational behavior (Huff et al., 1989). Of course C.M.C. has limitations for complex decision making which involves groups discussion and debate (Kiesler et al., 1984). However it is a compelling argument to suggest that communication that *involves* the sender and receiver in dialogue could aid identification and commitment

#### 2.4.3 Communication Between Multiple Commitment Foci

Scott (1997,1999) focuses not only on geographical distance, but on multiple foci of commitment and the interaction of the two, this is important as it introduces the theory of Social Identity as relevant to organizational communication and managing these multiple identities. These observations suggest that the Intranet may have a greater impact on staff who are not career oriented or job involved by choice or are for some other reason (distance or time constraints) unable, uneasy, or dissatisfied with top management communication. A study of bank telling staff also indicated that involvement in decision making contributed to Organizational Commitment (Wright, 1990), more so for those who were career oriented



## **2.5 Transaction Cost Theory**

A fundamental concern of TCE is to lessen the hazards associated with opportunism (Williamson, 1975). Pitt & Foreman (1999) suggest that only certain market and organizational forms will have sufficiently high employee related transaction costs to warrant Internal Marketing efforts. The extension drawn here is that firms identified as requiring a degree of Internal Marketing do so, amongst other things, to increase Organizational Commitment as this provides an ongoing transaction cost advantage. One efficient way of delivering IM is via an Intranet, firms who have significant groups of temporally and geographically peripheral employees will benefit more so if their Intranet is effective.

Managers in the Human Resource area are using Transaction Cost Theory to define strategy in what one commentator calls the “third era of human resources” (Gannon et al., 1999). This involves more than just a consideration of the fixed and variable costs of managing people but represents the net effect of whether doing things in-house, outsourcing them or just not doing them at all reduces overall long run costs.

### **2.5.1 TCT Theory Relevance to HR Practice**

As business moves towards strategic Human Resource Management (Wright and McMahan, 1992) application of Transaction Cost Theory is helping unravel some organizational behavior issues because it enables theoretically explained outcomes and permits predictions of behavior for hypothesis testing. Transaction Cost Theory relies on concepts of Bounded Rationality and Opportunism as impediments to frictionless economic exchange.

Theory argues that “firms arise voluntarily because they represent a more efficient method of organizing production”(Coase, 1937), a way of reducing uncertainty in market exchange. The extent of the need to enter transactions to limit this uncertainty is fundamentally a consideration of the level of opportunism likely within the constraints of Bounded Rationality.

Bounded Rationality suggests that people are prone to information processing fatigue involving “neurophysiological limits in one hand and language limits in the other”(Williamson, 1975).

Opportunism is the self interest and guile that parties exhibit in dealings where knowledge and intentions can be misrepresented for strategic advantage (Williamson, 1975), commonly seen in markets as haggling and bargaining

#### 2.5.1.2 Applying TCT to Intranet Form and Function

An overview of the theory of TCT and its dimensions in a study of the health care industry (Stiles et al., 2001) gives insight into the macro and micro effects of bounded rationality and opportunism. The same micro issues of investments in software systems, management of information and involvement of stakeholders were couched in terms of managing both bounded rationality and opportunism to change the protocol of “form filling” to meaningful communication by front line managers. This was an example of a highly relational environment with a market orientation (Pitt and Foreman, 1999) that benefited from close scrutiny through the TCT lens. Pitt et. al. would have described this firm as a Relational Market with a leaning towards the hierarchical form

Attempts to minimize Transaction Costs do result in pressures to create more virtual integration (Sheth and Sisodia, 1999). An Intranet borne of TCT pressures in a highly relational marketplace would be typified by a broad and diverse membership of similarly interested and motivated individuals. Such a situation might exist in organizations where individuals had mixed foci of commitment, perhaps being organizationally committed, but more likely committed to chosen careers/ professions. Such organizations would often have a need to collaborate on specific projects with widely held expertise and would need to have a very open culture to encourage exchange of knowledge.

### 2.5.1.3 Relevance of the Theory and Beyond TCT

Transaction Cost Theory is seen as relevant to Internal Marketing via the Intranet, the literature suggests that in the type of industry we are studying there will be pressures to employ the three IPPC factors of Operations, Facilitation, and Culture to minimize transaction costs. However, the industry type will effect the relative importance of each factor to management strategy on Intranet development. We would expect to find a greater focus on operation and facilitation factors in a banking context, if this is so, it provides support for the relevance of TCT to this field of study.

Transaction Cost Theory cannot of itself fully explain complex Organizational Behavior (nor can any other single theory). We concede, the likelihood of an organization having an effective and fully utilized Intranet will be affected by many other organizational pressures such as the intra-organizational power (Pessali, 1999) and politics (Wilson, 1995) of the various identities that make up the firm. These issues of power and politics are the purview of social identity theory.

## **2.6 Social Identity Theory**

In its most general sense Social Identity refers to a person's self-definition in relation to others. Within Social Psychology, however, it usually has more specific connotation, namely, a self-definition in terms of one's membership of various social groups.(Kuper and Kuper, 1996)

### **2.6.1 Importance and Relevance of Social Identity Theory**

Social Identity has such broad and rich potential in understanding societal and organizational behavior that in 2000 the Academy of Management Review invited papers on the subject for a special section on the topic. Contributions from a number of authors (Albert et al., 2000, Brickson, 2000, Gioia et al., 2000, Hogg and Terry, 2000, Pratt and Foreman, 2000, Pratt et al., 2000) looked at the potential applications and directions for future use of the theory.

Most of these articles had some focus on the plurality of identities within organizations (Pratt et al., 2000) who were "potentially competing identities' and the pressing need to manage the tension between these identity foci. The articles also converge on the concept of power to determine which identities are subordinated and which come to the fore. This has much in common with the parallel research on multiple foci of commitment. (Clugston et al., 2000, Becker et al., 1996, Siders et al., 2001, Scott et al., 1999). For this reason it was felt that no focus on collaboration and communication effects on commitment could ignore the effect of group membership salience.

### **2.6.2 Origins of SIT**

S.I.T has its roots in work (Tajfel and Turner, 1985, Robinson, 1996) on the minimal group paradigm and concerns that Tajfel and others had about minority group treatment in society. The minimal group phenomenon is essentially based

upon experiments that suggest people will identify with groups simply by being placed in a group and favor those in-group rather than other out-groups. Work by more recent scholars has extended this to the organization to explain the management of multiple identities (Cheney, 1991) and on how such identification might impact on organizational outcomes.(Becker et al., 1996, Ashforth and Mael, 1989, Hennessy and West, 1999, Mael and Ashforth, 1995, Scott et al., 1999)

It is reasonable to extend the management of multiple identities to the use of an effective Intranet as a way of strengthening identification with top management and, by association, the organization. Such identification could manifest itself as increased potential to commit to the organization affectively (Meyer and Allen, 1997).

### 2.6.3 Identification vs Commitment and Their Various Forms

Affective commitment is often postulated as the preferred commitment dimension for positive organizational outcomes.(Meyer and Herscovitch, 2001)

Identification with the organization has been linked to turnover intentions. Even in varying cultural settings (Abrams et al., 1998), the Intranet, at a micro level, could be used as a communication tool between various geographically or temporally separated teams and their supervisors. To improve communication quality through the use of bulletin boards or, to apprise all group members of market changes in a timely fashion. If this were done, it has been shown that satisfaction with communication quality (intervening variable) has an impact on Organizational Commitment (Johlke and Duhan, 2001), specifically where the communication is dialogic in nature.

Identification is however not the same thing as commitment (Ashforth and Mael, 1989), a person may identify without committing:

*I work here, therefore I am a worker here, but if it suits me I will leave.*

Identification can be negative as well as positive:

*Yes, unfortunately I am just a clerk, but I am a very senior clerk.*

Identification can be 'holographic' in nature (Hennessy and West, 1999) or as is far more common 'ideographic'. Holographic organizations have a commonness of purpose and identity whereas ideographic organizations have multiple identities where departmental status, power and politics exist and sub-culture identities are present. Of course varying degrees of each typology are more likely than either pole of the dichotomy. Even in the Consumer Behavior discipline it is suggested that by maximizing organizational identification over sub group identities out-group derogation may be reduced. (Bagozzi, 2000)

#### 2.6.4 Influence of Social Networks on Behavior

Social Identity theory has been used to explain organizational socialization of new employees (Mael and Ashforth, 1995, Meyer et al., 1998) and effects this has on Organizational Commitment. In terms of managing diversity in the workplace and being open to change, it has been theorized that in a diverse organizational setting strategies that encourage relationship networks can be expected to result in maximization of diversity benefits and minimizing negative behavior (Brickson, 2000). Any communication tool that facilitated such diverse group interaction could be a useful strategic identity management option.

The fact that organizational identity is not set in stone and can actually shift over time is encouraging. This suggests that such communication initiatives as an Intranet can have an impact through the rhetoric of an organization, what it is, says and does.(Gioia et al., 2000). In fact such initiatives can be designed to build prototypical group behaviors (Hogg and Terry, 2000) by the imbedding of goals and mission objectives/statements in communications using the Intranet.

Hogg et al also suggest that management can manipulate the salience of various identities. This is achieved by either surreptitiously or overtly changing the name, values, goals or composition of groups to minimize poor behavioral outcomes. From an Intranet perspective involvement in online working parties/ think tanks or bulletin boards could conceivably serve to redefine the salient identity of peripheral employees to a more committed group where positive group norms can be modeled.

Researchers (Henry et al., 1999) point out that it is only through interaction that group norms and identity develop. C.M.C. studies (Eisenberg et al., 1983) support this view and suggest it is only through active participation in communication networks that identification or commitment is manifest.

#### 2.6.5 Power and Politics in Social Networks

Finally under the heading of Social Identity we consider the related concept of stakeholder power (Wilson, 1995). In our exploration of Transaction Cost Theory we acknowledged the effect of power and politics. One article in the special Social Identity issue of AMR makes the proposition thus:

*“To the extent that managers perceive a stakeholder as powerful, legitimate and having an urgent claim, they consider the stakeholders needs, values and beliefs more attentively in constructing organizational images”(Scott and Lane, 2000)*

This perspective strikes a chord with the Public Relations and Internal Marketing proponents. The authors (Scott and Lane, 2000) go on to provide some practical implications for media strategy and impression management that fall within the remit of Internal Marketing. They remind us that care must be taken that in constructing groups (for example on-line forums) that the new group does not oppose or conflict with organizational goals and objectives.

## **2.7 Organizational Commitment**

### **2.7.1 Why Seek Organizational Commitment?**

Human Resource practices that focus on creating high commitment employees are experiencing greater total 3-year returns to shareholders, in fact, a 36% variance exists between the profit performance of high and low commitment practices, according to a Watson Wyatt International survey of 7500 US employees (Whitener, 2001). Similarly Mowday (1998) is excited by the results of research (he quotes Huselid, 1995 and Tsui et al. 1997) that is making the connection between human resource practice, commitment, and profits.

These practices commonly include developing a trust in top management that is posited to contribute to Organizational Commitment. Thanks to the work of loyalty proponents such as Frederick Reichheld (Reichheld, 2001, Reichheld, 1996) there seems little doubt that well considered customer and employee loyalty policies can lead to higher than average long term profits.

Even a cursory examination of the writings of Reichheld would uncover the obvious parallels between his findings and the tenets of Transaction Cost Theory, particularly as it applies to HR and Internal Marketing (Pitt and Foreman, 1999). Organizational Commitment is seen as an indicator of turnover (Cohen, 1993) with varying correlational strength, dependent in part upon the time that separates



measurement of OC (cognition) and the actual resignation event (behavior). Bansal et al (2001) make the following point on ensuring commitment as a way to minimize HR costs:

*“Organizations that do not provide job security but attempt to invest heavily in employee training and empowerment, assist competitors by providing them with well-trained autonomous team players”*

Organizational Commitment can thus be seen as a way of reducing transaction costs where the expense of retraining and rehiring are significant, by reducing turnover of a valuable asset, the productive employee.

### 2.7.2 Multiple Commitments

Commitment has a multitude of definitions, meanings and foci as the construct spans many disciplines and has varied purposes for its measurement. Significant contributions have been made by a number of researchers over the past three decades (Meyer and Allen, 1997, Mowday et al., 1979, Morrow, 1993, Fink, 1992, Hunt et al., 1985, Cohen, 1993, Mathieu and Zajac, 1990). Some forms of Commitment include:

- Work Ethic
- Career Commitment
- Job Involvement
- Organizational Commitment

Within Organizational Commitment, Meyer (1997) defines 3 dimensions

- *Affective Commitment*: An employee's attachment to, identification with and involvement in the organization. They are there because they *WANT* to be.

- *Continuance (Calculative) Commitment*: Refers to an awareness of the costs associated with leaving an organization. They are committed because they *HAVE* to stay.
- *Normative Commitment*: Reflects a feeling of obligation to continue. Employees feel they *OUGHT* to stay.

Add to this the multiple foci of commitment:

- Employer (Organization)(Mowday et al., 1979)
- Top Management (Putti et al., 1990)
- Work group/co-worker (Bishop and Scott, 2000)
- Supervisor(Becker et al., 1996)
- Profession(Hunt et al., 1985)
- Customer (Morgan and Hunt, 1994, Reichheld, 1996)
- Union

It is apparent that many theories of commitment overlap and that Organizational Commitment is now considered a multidimensional multiple foci construct. For example one study of a single organization suggested nine separate dimensions of OC could be distilled! (Clugston et al., 2000)

### 2.7.3 Dimensions of Organizational Commitment

Not all researchers concur on the number of dimensions of OC; one two or three dimensions are present in many studies. (Mayer and Schoorman, 1998, Mowday et al., 1979, Hunt et al., 1985) One study reviewed determines five possible dimensions (Dunham et al., 1994) in fact, debate still exists about the unidimensionality of Mowdays OCQ scale (Commeiras and Fournier, 2001). If only the affective dimension of Commitment is being studied, Commeiras et al's

arguments for using the 9-item model are compelling. (It would be considered in further extensions of this current study)

Often it is important to make a distinction at least between Affective (Attitudinal) and Calculative (Continuance) commitments since Meta-Analysis has shown that these two dimensions can account for significant correlational differences. (Mathieu and Zajac, 1990) In the context of our study Affective Commitment seems the more likely commitment dimension to be correlated with some dimensions of Intranet Effectiveness. However, it is possible that an investment in learning to use the firms Intranet and appreciating its functional benefit may have a marginal impact on the continuance component.

It is also conceivable, however unlikely, that computer-mediated socialization might lead to some new beneficial networks and normative commitments. I.e. “I should stay here because they need and respect me in my group”

The earlier review of Social Identity and Identification is also relevant here as scholars operationalize commitment in many cases as the degree to which a person identifies, internalizes and behaves toward multiple organizational identities to build psychological attachment (O'Reilly and Chatman, 1986). They argue that identification leads to commitment and a lessening of turnover related behavior.

#### 2.7.4 Antecedents Effecting Organizational Commitment

Meta-Analysis (Griffith et al., 2000, Mathieu and Zajac, 1990, Cohen, 1993) tend to find antecedents that describe workplace situational variables explain more variance in OC than personal characteristics, with a few notable exceptions ,age (O'Reilly and Chatman, 1986) and tenure(Griffith et al., 2000).

A thorough discussion of age and tenure can be found in the Human Resource Literature (Beck and Wilson, 2001). These authors contend that commitment, both affective and continuance, varies with the experience of an organization. The

construct “Experience” has been shown to moderate the link between to commitment and turnover intentions.(Russ and McNeilly, 1995) Beck and Wilson (2001) also make the observation that experience may include events or shocks that certain cohorts undergo as a result of their period of tenure with the organization that alter their commitment profile. Such significant events include downsizing (Begley and Czajka, 1993) or takeover bids. Their study revealed that, staff who showed high levels of Organizational Commitment felt little residual job displeasure, this is a positive consequence in turbulent economic times. Other lesser imposts in an Australian context may be individual events such as the attainment of long service leave that would have an impact on Continuance Commitment. The organization under study has experienced three rounds of downsizing in the past ten years, there may well be cohorts of individuals whose commitment has been both strengthened and weakened by such events. It was not deemed appropriate to ask questions about attitudes and experiences related to downsizing in our questionnaire, as this re-engineering process was ongoing.

Gender has also been reported as significant in some studies (Mowday et al., 1979), however its effect is diminishing in a modern workplace (Griffith et al., 2000) albeit with some interesting differences in commitment profiles of gender that still requiring further investigation (Ladik et al., 2002 In Press). There are myriad related and antecedent variables posited to have an impact upon the development of Organizational Commitment, some of the more commonly reported ones appear below (Morrow, 1993, Mowday et al., 1979, Mathieu and Zajac, 1990, Meyer and Allen, 1997):

- Tenure (Cohen, 1993, Griffith et al., 2000, Mayer and Schoorman, 1998, Meyer et al., 1990, Hackett et al., 1994)
- Retirement benefits (Mayer and Schoorman, 1998),
- Education (Meyer et al., 1993)
- Age (Meyer and Allen, 1997, Hackett et al., 1994)
- Perceived Job Alternatives (Mowday et al., 1979)

- Organization Climate (Meyer and Allen, 1997)
- Job Satisfaction (Mowday et al., 1979)
- Communication (Mowday et al., 1979)
- Role Ambiguity, Conflict & Overload (Mowday et al., 1979)

Meyer & Herscovitch focused on simplifying the blinding array of commitment definitions and constructs and admit themselves that “ Differences among the multidimensional frameworks stem largely from different motives and strategies involved in their development.(Meyer and Herscovitch, 2001)

#### 2.7.5 OC Scale Parsimony

Meyer et al (1997) list 37 categories of antecedents shown to have some impact on OC, clearly for our study some simplification/rationalization of the literature is warranted. This view is supported by the work on content overlap of the OCQ (Bozeman and Perewe, 2001). With this in mind and an eye on the length of our questionnaire it was evident that a narrower view of OC was preferable to support the primary goal of testing the IPPC. A uni-dimensional measure of OC was suggested (Hunt et al., 1985) that had 4 items that plumbed affective, calculative and normative commitment (yet tend to load to a single factor) was selected . The four items in the scale are:

I would be willing to change companies if the new job offered a 25% pay increase (Calculative)  
 I would be willing to change companies if the new job offered more creative freedom (Affective)  
 I would be willing to change companies if the new job offered more status (Normative)  
 I would be willing to change companies if the new job was with people who were more friendly (Affective)

This scale was derived by Hunt et al (1985) from a similar scale (Aluto and Hrebiniak, 1973) which Morrow (1993) categorizes as a Calculative Commitment scale. However creative freedom and personal friendship certainly have an affective component to them. In a subsequent conceptual framework by the co-author of this

scale on salesforce performance (Chonko, 1986) an acknowledgement was made of the confusion and overlap that surrounds commitment measures, a view that we share . Support for the use of this smaller scale is found in the Journal of Personal Selling and Sales Management (Johlke and Duhan, 2001), who similarly were studying the relationship of communication quality with job satisfaction and Organizational Commitment.

#### 2.7.6 Which OC Dimension Is Desirable?

Meyer and Herscovitch (2001) arrive at an eloquent conceptual graphic of the optimal ‘ commitment mix’ that has the highest probability of stimulating the focal commitment behavior AND of related positive discretionary behavior. This mix is essentially affective in nature with no financial (continuance) or social (Normative) ties keeping a person in a job; they just love the job and the organization.

If individuals love the job and the identified organization they may well act as prototypes in a social context for others to develop similar attitudes.(Salancik and Pfeffer, 1978). Utopia to be sure, but nonetheless a noble goal!

The role of Internal Marketing (hence Intranets) in promoting organizationally committed employees is crystallized by the following observation of Meyer et al (1998):

*“...organizations will have to ensure not only that they provide employees with positive experiences, but also make special efforts to ensure that employees are aware of the extent to which the organization is instrumental in providing such experiences. ”*

Discussions from the results of this and related studies by the same authors beg the question of which identity (foci) an employee attributes positive experiences. Positive experiences such as competence enhancing work (as an example; training or perhaps workgroup/think tank/project involvement) This line of thinking also stimulates some interesting discussion on HR strategy effectiveness to promote the

organization essentially as the party to be 'grateful to' and reward it with increased affective commitment.

## **2.8 Summary**

Research propositions and hypotheses are explored in detail in Chapter 3, from the literature reviewed here, two broad research agendas/propositions emerge:

1. The IPPC will possess sound and replicable psychometric properties when tested on a broad heterogeneous sample.
2. Organizational Commitment will be positively related with IPPC score as a consequence of the impact of Transaction Cost Theory and Social Identity Theory from an Internal Marketing perspective. These impacts will vary in strength according to cohort examined and organization characteristics.

## **Chapter 3: Propositions and Hypotheses**

### ***3.0 Introduction***

In Chapter 1 the reader was introduced to the key concepts and study direction. This Chapter is a culmination of the literature in Chapter 2 leading to the problem to be researched being identified, a statement of the broad intent of the research, and formulation of specific hypothesis for testing.

From the preceding literature review (Chapter 2) it is evident that many firms have or will soon adopt an Intranet. These firms will need, amongst other things, a tool to measure effectiveness from an Internal Marketing perspective. This tool is IPPC and in order for managers to have confidence in its use further testing on large diverse user groups is mandated.

With these broad goals in mind the following direction for this study are formulated:

1. Advance or improve the potential generalizability of the IPPC
2. Explore the linkage between an Effective Intranet and Organizational Commitment.
3. Make some specific diagnosis of the Intranet studied to demonstrate how management can apply the IPPC to a real case.



### **3.1 Assumptions of Business Environment**

It would seem from a selection of authors views on Intranets (Blackmore, 2001, Gonzalez, 1998, Pedley, 1999)) and similar Groupware products (Vandenbosch and Ginzberg, 1996) that many of the promised outcomes of an Intranet often do not eventuate unless certain prerequisites are fulfilled.

These writers concur that there must be:

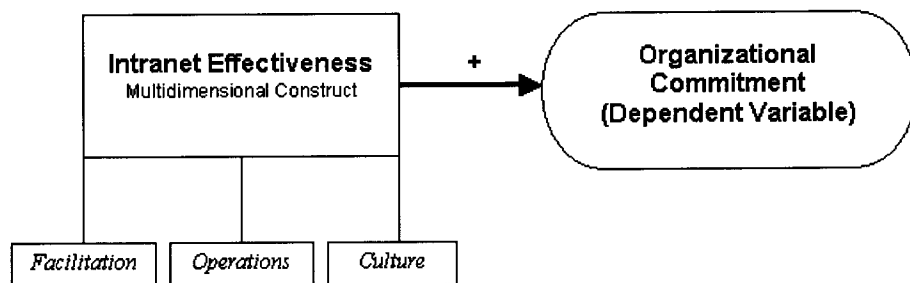
1. Training that enlightens staff to the possibilities.
2. A pre-existing demand for collaboration tools.
3. An appropriate organizational culture accepting of open collaboration.

The study undertaken here necessarily assumed that the organization studied gave adequate attention to these issues, however some open question responses in the questionnaires call into question these basic assumptions, particularly from an access to training standpoint. This issue will be discussed further in the limitation section in Chapter Six. The point is made here simply to highlight the folly of attempting causal links between OC and Intranet effectiveness from a single shot study of this nature.

Similarly, it was determined that subsequent research would require a focus on better affective OC measures and defining distinct peripheral employees groups (Identities) in advance so that hypothesis on the strength of commitment/IPPC linkages could be made and tested empirically.

### 3.2 Theoretical Framework

Having considered the boundaries of this initial study, the following diagram of the theoretical framework for direct hypothesis testing is offered:



**Figure 1 Theoretical Framework**

We anticipated finding a positive relationship between Intranet Effectiveness and Organizational Commitment. If this is in fact the case then the framework could be expanded to consider the moderating effect of temporal and geographic distance from top management of multiple identities. Within the confines of this initial framework six hypothesis were proposed. Four were replication and validation related and two were an extension and application of the IPPC.

### **3.3 Hypotheses Formulated:**

#### **Hypothesis One**

IPPC will possess **Convergent Validity** as defined and measured (Murgolo-Poore et al., 2002) in the preceding study

#### **Hypothesis Two**

IPPC will demonstrate **Construct Validity** as defined and measured (Murgolo-Poore et al., 2002) in the preceding study

#### **Hypothesis Three**

IPPC will possess **Nomological Validity** as defined and measured (Murgolo-Poore et al., 2002) in the preceding study

#### **Hypothesis Four**

IPPC will possess good **Internal Reliability** (Cronbach Alpha > 0.80)

#### **Hypothesis Five**

There will be a statistically significant correlation between the score achieved using the Intranet paper and pencil checklist (IPPC) and total score on the Organizational Commitment scale.

#### **Hypothesis Six**

There is a significant difference between the IPPC scores of different job-level employees.

### **3.4 Summary**

Based upon the literature examined in Chapter 2, testing of Hypothesis one through four will demonstrate the psychometric properties of IPPC and attest to its generalizability, given our larger more diverse sample.

Hypothesis five will provide organization level correlational evidence of the effectiveness of the Intranet to foster greater levels of commitment. Given the multiple sources of Organizational Commitment we anticipated these relationships would be small and vary across cohorts within the organization, but would be statistically significant.

Hypothesis six will provide evidence of the linkage between those individuals and cohorts that display a connection between their opinion of the effectiveness of the Intranet and their individual commitment levels to the organization. Examination of cohorts that are peripherally located within the organization will shed light on the proposed transaction cost/social identity linkages.

Sample design in this study will allow stronger assertions of generalizability across various employee levels than was possible in the initial IPPC study.

In Chapter four we will look at specific design and methodology issues to facilitate testing of these hypotheses.

Positive outcomes to hypothesis five and six would indicate the need to undertake more detailed studies focusing on affective commitment and specific foci of organizational Identification/Commitment.

## **Chapter 4: Research Design and Methodology**

### ***4.0 Introduction***

This chapter describes the research design, psychometric properties, sample selection, questionnaire design, delivery method, response levels, and statistical techniques to be employed.

### ***4.1 Objectives of the Study***

#### **4.1.1 Replication & Validation**

By repeatedly testing the IPPC scale on different populations, it can be refined to improve its psychometric properties, norms can be established for the scale and ultimately its utility for managerial application will be enhanced. Therefore this study is required (as its primary imperative) to collect a large sample of responses from an organization that contains a population that is representative of typical large businesses that adopt Intranets. The Australian retail-banking environment seems ideal for such a replication. The study will then seek to confirm the dimensions and scale items developed

#### **4.1.2 Extension**

Literature suggests that through identity management and transaction cost minimization the Intranet will have a holistic effect on Organizational Commitment over time. It is further hypothesized that between-group variations in this effect will be evident and that the variation can in part be explained by the centrality of employees to the organizational top management. The objective is to show that some degree of correlation exists between Effective Intranets and Organizational Commitment. If such a linkage is detected further studies will be required to deepen the OC and SIT measures and understanding.

#### **4.1.3 Application**

Application of the IPPC and will generate managerial insights on where to focus strategy for further implementation of the Intranet to support Internal Marketing objectives. Findings of the study will draw attention to specific issues outside the scope of this thesis that require further investigation, In this way we will demonstrate the practical application of the Pencil and Paper Checklist to measure Intranet effectiveness. Hence the third objective is to showcase the IPPC as a predictive and diagnostic tool for business research and managerial application.

### **4.2 Methodology**

#### **4.2.1 Psychometric Properties of Scales**

The paradigm for developing better measures of marketing constructs (Churchill, 1979) is followed in this study as it was in the original work of Murgolo-Poore et al (2001). Strong similarities exist between this methodology and the ServQual instrument development upon which it is based.(Parasuraman et al., 1988)

##### **4.2.1.1 Theoretical Underpinnings**

The study has components of descriptive analysis, exploratory research and hypothesis testing. The experimental design is an extension and replication of previous work (Murgolo-Poore et al., 2002) and the instrument used will yield correlational rather than causal inferences. A theoretical framework was developed, hypothesis formed and tested, and some further exploratory analysis planned on strong OC cohorts revealed. The main focus will be on ensuring scale reliability and validity. However since the IPPC is a new scale, some observations and tests of replicability lead to observations of limitations and possible improvements. In selecting and assessing scales for use we considered the issue of parsimony as it

effectuated Validity (Drolet and Morrison, 2001) and Reliability (Cronbach, 1951, Parasuraman et al., 1988)

#### 4.2.1.2 Validity

Validity is composed of both internal and external components. Measuring and reporting validity has the aim of allowing the results of experiments to be generalized to the population. What we intend to measure is actually what we do measure, and that the thing we measure is identifiable as a separate construct. In our financial services setting, we expect to lose some internal validity as the convenience sample is drawn from the real world, not a controlled experiment.(Sekaran, 2000). In assessing Validity guidance was taken from the work of several authors (Churchill, 1979, Parasuraman et al., 1988, Churchill, 1995, Sekaran, 2000, Peter, 1981)

#### 4.2.1.3 Reliability

“Reliability (external) assesses the issue of the similarity of results provided by independent but comparable measures of the same object, trait or construct (Churchill, 1995), p. 483). Internal reliability is commonly assessed using Cronbach’s Coefficient Alpha (Cronbach, 1951), findings of a meta analysis of this measure were used to set benchmarks for acceptable internal reliability (Petersen, 1994). Reliability of scales is a key concern, particularly when used in multiple regression analysis where factor analysis is employed and multicollinearity problems arise (Mason and Perreault, 1991). A high degree of reliability will not stop these problems, but at least one can be more confident that they are not instrument related.

#### 4.2.1.4 Factor Analysis

As a means of strengthening claims of construct validity, or to uncover latent dimensions in the data, factor analysis is a valuable tool. However, it becomes something of a fishing expedition if not theoretically grounded and carefully performed. We have followed the same methodology used by Murgolo-Poore et al 2002 (and hence Parasuraman et al, 1988) and the advice of Stewart (Stewart, 1981) in understanding the limitations of this data reduction technique and trade-offs in predictive capability and parsimony that arise with its use. The dimensions that can be plumbed by considered analysis of factors can be of immense use to management in applying the results of research to business (Parasuraman et al., 1988). We retain the methodology of extracting factors using scree plots and minimum eigen values of one to determine Factor cutoffs.(Stewart, 1981)



#### 4.2.2 Response Rates

Another issue that will affect assessment of validity and reliability is the adequacy and representativeness of responses. We considered the work done by others to maximize response rates and verify non response bias (Fox et al., 1988, Yammarino et al., 1991). Some techniques were impractical or simply inappropriate for this study (such as incentives for return and follow-up contact). In both meta-analysis referred to, preliminary notification was a strong influencer on response rates, as was survey length, supplying a return envelope and identifying the University as an independent sponsor of the research. These measures are adopted and discussed further in the methodology section of this paper.

##### 4.2.2.1 Response Rates and the Selected OC Measure (Hunt et al., 1985)

After the broad literature review on Organizational Commitment one could be excused for questioning why we selected such a brief measure of OC. Even though it was claimed that these four items had been shown to be Unidimensional in previous studies, it was likely that they in fact represented single item measures of the three dimensions of Meyer et al's view of OC, with a double weighting of the affective component. Bearing this in mind, recall the primary purpose of this study was to detect relationships between an Effective Intranet and OC.

It seems from the literature reviewed that effectiveness of the Intranet is most likely to stimulate affective commitment if it increases collaboration and sense of belonging to the organization identity. Perhaps calculative commitment would be increased if the Intranet is such a valued productivity tool that to loose it by switching companies would be a decision factor in turnover intentions, however this seems a best a marginal probability.

It is also unclear how the Intranet might stimulate normative commitment, perhaps through membership and participation in high profile or prestigious workgroups or

forums (should these exist) within the Intranet user population surveyed. There was clearly a case for parsimony in scale selection for survey response rates (Fox et al., 1988) and survey length issues (the survey was at the suggested 4 page level (Yammarino et al., 1991) with the smaller four item OC measure.

Mowday (1998) also suggests that correlates of OC do not have to have large  $R^2$  to be important to an understanding of antecedents, as there are a multiplicity of possible relationships to such a broad construct. This point is also made by researchers (Becker et al., 1996) that found variances explained in the order of 4% but argued that in such a crowded domain as commitment research that 4% can be substantial depending if placed in context.

#### 4.2.3 Target Population

The population selected was the employee base of a retail financial services organization with approximately 3000 staff and a corporate history of over 100 years. The organization had broad access to an Intranet. Some staff were competent users having had several years of exposure (predominantly central head office employees) and others (certain departments with peripheral or specialist roles, retail metropolitan outlets and country offices) were new to the Intranet at the time of the questionnaire distribution. The organization had invested in some initial training for these new users, however this was in most cases limited to one or two-day familiarization sessions. The firm had points of representation in four states of Australia.

We were therefore confident that in terms of Intranet users this organization represented a wide scope of experience and skills. A hierarchical and mature organization such as this also has a significant spread of educational and IT skills. It spanned many levels of seniority from part time clerks to board level executives of a medium to large corporation.

It is necessary here to explain the salary grading system of employees and some extraneous issues that may have an uncontrolled for effect on results.

The employee grades were an indicator of seniority within the firm hierarchy:

- ❖ Clerks were sometimes in supervisory positions, often held support functions or were service staff with direct customer contact but no supervisory responsibility.
- ❖ Appointed officers were sometimes responsible for team leader roles and were widely spread throughout the organization.
- ❖ Managers did not necessarily manage staff, but they were the first level of seniority that were salaried and not on an hourly pay rate. There were a relatively large number of head office departmental staff in this category.
- ❖ Executives always had direct reports and had key strategic roles within the organization. Executive staff had a different motivational incentive in the form of share ownership schemes not generally available to other staff.

Managers and Executives were on performance contracts introduced in the preceding twelve months and were not covered by union awards. The above issues are born in mind as extraneous factors when tentative correlational findings are made between group membership, Organizational Commitment and salary grade.

#### 4.2.3.1 Census or Sample?

One concern was to ensure the sample was representative. Investigation revealed that there was no record kept of who were the users of the Intranet (as distinct from registered to use, but had not done so). There was reason to suspect that the majority of staff had some exposure, but were unsure whether this exposure was homogenous or concentrated in head office and 'technology intensive' pockets of the company.

The only data available to us on population structure was segmentation by years of service. Given that some quite small pockets of peripheral staff may be significant benefactors of the Intranet, we needed to include these groups in statistically significant numbers. Erring on the side of caution a census of the population was indicated, if population bias was detected, stratified random sampling from within the respondent sample could be applied to ensure the maximum number of salient group identities were represented. As can be seen from table 2 (page 59) the respondent mix is very close in terms of tenure to the population segments. This makes us confident of the representativeness of the respondents and is an indication that non-response bias (Fox et al., 1988, Churchill, 1995) is not serious.

One problem with this assumption is that there are still likely to be characteristics of non-respondents that make them atypical. Of specific concern is research done on noncompliant employees (non responders) which shows that they are less organizationally committed (Rogelberg et al., 2000). These researchers also confirm that the strongest deterrent from responding (correlation of 0.35 and significant  $p < .05$ ) was distrust of the intended use of the results. Given our survey asked questions about intent to leave, it is fair to assume that the impact on our survey would be at the higher end of expectations. To overcome this problem we emphasized that university staff would compile the results and only aggregated results offered to the surveyed firm. To signal this anonymity the surveys were pre return-addressed for return to an on-campus location for collection and no identifying codes were included. The respondent profiles achieved were very encouraging.

Years of Service as at 2 <sup>nd</sup> Feb 2002	0 < 5 Years	5 < 10 Years	10 < 15 Years	15 < 20 Years	20 < 25 Years	25 + Years	Total Staff Numbers
<b><u>Total Bank Employee Numbers</u></b>							
Number in Category	1380	635	540	233	79	103	<b>2970</b>
Percentage in Category	46.46%	21.38%	18.18%	7.85%	2.66%	3.47%	100%
<b><u>Survey Respondent Comparison</u></b>							
Survey Respondents	234	146	126	74	27	25	<b>632</b>
Percentage in Category	37.03%	23.10%	19.94%	11.71%	4.27%	3.96%	100%
<b>Difference</b>							
	<b>-9.44%</b>	<b>1.72%</b>	<b>1.75%</b>	<b>3.86%</b>	<b>1.61%</b>	<b>0.49%</b>	

**Table 2 Comparison of employee population to actual survey respondent mix.**

Initially plans were included to analyze data from non-users of the Intranet as a control group for the OC measure. However, the close correspondence of the “user cohort” to the general population profile made this unnecessary, particularly given that the responses we did receive from non-users were not similarly representative. Hence the nonuser responses were discarded from the analysis.

#### 4.2.4 Data Collection Technique & Instrument

The questionnaire used was reviewed by two university colleagues and by the designers of the original instrument (Murgolo-Poore et al., 2002). The questionnaire then went through an internal university approval procedure to satisfy quality standards. It is therefore reasonable to claim that the instrument was relatively error free in its basic design.

The instrument was similar to that used by Murgolo-Poore et al. with the addition of the OC scale and demographics that would assist with issues most useful for salient group identification (geographic location, main job function, salary grade, tenure & gender). Unfortunately a category for shift-workers was omitted from the final questionnaire, this omission does create limitations in classifying group identities in terms of Organizational Commitment for temporally peripheral employees (Eisenberg et al., 1983).

During the questionnaire development phase 15 copies of the prototype were sent to senior management of the organization for review, this prototype had identical wording on the IPPC scale to the original instrument. Feedback suggested that some of the language used may be too complex for some respondents and that terminology familiar to this organization should be used where possible. Changing the wording could have considerable impact on replication of results so only two changes were made. The key offending word was “Intranet” which was considered by the firm as too close to ‘Internet’ for low technologically aware staff. Also, given the firm was not a multinational, the statement “truly global community” in question 5 needed to be changed to a national context.

It was therefore decided to amend the questionnaire, principally to remove the word Intranet and replace it with a phrase that represented the firm’s Intranet. A problem arose as some staff only knew of the Intranet as (Name Suppressed), whilst others who had used the preceding systems referred to it as the “Notes Database” or “Lotus

Notes". In addition, with the introduction of the Enterprise Information Portal the interface was redesigned to look like an Internet homepage, which had been named "My (Organization Name)"

It was determined that those staff who knew of the previous systems would also be aware of the updated name and that the newest users of the Intranet would only know of it as (Name Suppressed). The EIP upgrade included a change of proprietary software from Lotus products to the MS Office suite whilst retaining the Lotus Notes Groupware. There was a risk that newer staff may focus on these business applications rather than the Intranet in its totality.

To overcome this concern the introductory paragraph of the survey made the linkage between an Intranet and the name this organization used for the new interface. Reminding respondents that it included email and communication tools and referred to it as "the organizations own private Internet".

An open question was included, principally to provide some design issue feedback to the participating firm and aid in identifying problems with the scale through user feedback. The content analysis of this question was not part of the current study, however anecdotal comments considered of import were noted.

An examination of comments of respondents made in the open statement section of the questionnaire did not indicate any widespread confusion with the Intranet nomenclature issue. An analysis of multivariate outliers of the three IPPC dimensions using Mahanobli distances (Coakes and Steed, 1999) only found ten outliers (6 of which only just failed the critical  $F$  statistic test) in a sample of 632. It was therefore reasonable to discount any impact it may have had on results.

#### 4.2.5 Survey Distribution and Collection

A database of all employees listed in the internal directory was made available. After scrubbing for a number of incomplete and dual listings 2741 useable addresses were retained. These were all internal mail addresses as permission was gained to use the secure internal mail service to reach all employees. Of the reported 2970 employees of this organization we therefore were surveying 92.28%. Some sampling bias is evident here, as the list used would not include the newest employees yet to be added to the database. Given that turnover in this organization was quite high, and that turnover (Mathieu and Zajac, 1990) tends to be higher among new employees this sample potentially under-sampled new employees. This concern is supported by the modest under-representation of staff with less than five years tenure in table 2.

The questionnaire was supplied with a return envelope addressed care of an office of the firm located on campus from whence it was collected by university researchers. The envelopes were collected regularly and most responses were received in days 3 to 7 with responses collected for 3 weeks.

An email was forwarded to all department heads which encouraged participation (voluntary) two weeks before the survey was sent as pre-notifications have been found to increase response rates significantly in survey technique meta-analysis (Yammarino et al., 1991, Fox et al., 1988). A response rate of 23.05% was achieved with 632 useable responses received. Surveys with single missing items were included. Multiple omissions were discarded, the single missing items were replaced by the total survey average for that item unless some obvious indicator from surrounding questions allowed for completion of a missing item prior to input. 37 surveys were discarded for gross errors and 19 were included after applying averages to missing items.



### **4.3 Data Analysis & Interpretation**

Data was collected in Microsoft Excel and imported into SPSS Base version 10.0 for analysis. The following analysis techniques were used:

- ❖ Outlier analysis using Boxplots and mahanoblis distances of the IPPC dimensions where appropriate.
- ❖ Scale reliability using Cronbach's alpha Co-efficient for internal reliability analysis.
- ❖ Multiple Regression, stepwise and all variable entry of Factors and individual items hypothesis testing.
- ❖ Factor Analysis, principle components with factor rotations using Varimax
- ❖ Post-Hoc tests, MANOVA with accompanying tests for assumptions of homogeneity and normality. Additional regressions were used explore correlates within the sample groups.

Guidance on statistical technique was drawn from several texts.(Churchill, 1995, Coakes and Steed, 1999, Norusis, 1997, SPSSVersion10, 1999) along with academic press article input where appropriate.

It was planned to answer the six hypotheses as a minimum and then use that available data to advance further propositions on enhancement of the IPPC as well as directing further research on Organizational Commitment in the IPPC context.

#### **4.4 Summary**

This Chapter has presented the methodology and design parameters of the study. This design is of necessity a balance between parsimony and predictive capacity while still providing support for the main research questions. It has been demonstrated that the sample collected is representative of the whole organization and concerns with of non-response bias were not great. Statistical techniques were discussed as was the actual study population makeup and business characteristics that molded the design parameters. Chapter 5 moves to apply the analysis techniques described in this chapter to the data collected and interpret the output in light of the theory uncovered in Chapter 2.

## **Chapter 5: Research Results and Interpretation**

### ***5.1 Introduction***

In the preceding chapter we presented the methodology and objectives of the research by transforming hypothesis from Chapter 3 into a workable plan based upon the literature reviewed in Chapter 2 and the characteristics of the organization under investigation. We used this knowledge to design an experiment which would extend the reliability and validity claims of the IPPC as well as shedding light on the Intranets impact on OC. First we test the validity and reliability issues of the scale and then moving on to IPPC's relationship with OC. Since a statistically significant relationship existed further analysis was possible to uncover the more subtle nuances of this relationship among varying cohorts of respondents. By doing this we demonstrate IPPC's capacity for use as a diagnostic tool for companies investing in Intranets.

### ***5.2 Convergent Validity***

Convergent validity is normally indicated where significant and substantial correlation exists between two independent measures of a construct administered to the same subject at the same time. Since this is a new construct under investigation with no similar construct measures available, the method adopted was to regress the single item "overall effectiveness" question against the three IPPC dimensions. By considering all variables before and after combining to factors using normal and stepwise regression it is possible to gain additional insight into the relative strength of the associations that exist.

### 5.2.1 Results of Test of Hypothesis One

***H<sub>01</sub>*** IPPC will possess convergent validity as defined and measured by Murgolo-Poore et al (2002)

Tests Proposed:

1. Regress the three IPPC dimensions against overall effectiveness for all users.(MAIN test of convergent validity)
2. Regress (enter all variables) of original IPPC against Overall Effectiveness for all users. (Indication of predictive power lost through data reduction)
3. Regress (Stepwise) the 15 IPPC items against Overall Effectiveness. (Indication of main contributing variables in our sample)

Hypothesis 1, Test 1

The regression and ANOVA tables below of IPPC dimensions vs overall effectiveness (Table 3 and Table 4) suggest that 35.5% (significant at 0.0001 level) of the variation in why respondents considered the Intranet effective using a single item measure is explained by the IPPC factors. This compares with the original study R<sup>2</sup> of 33%. This is a highly consistent result with both studies explaining significant and substantial variation. With this larger sample and larger R<sup>2</sup> giving a strong indication of replicated convergent validity.

**Model Summary Original IPPC Factors Vs Overall Effectiveness All Users**

Model	R	R Square	Adjusted R Square	S.E.E	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.598 <sup>a</sup>	.358	.355	.428	.358	116.635	3	628	.000

a. Predictors: (Constant), FACILITN, OPERATN, CULTURE

b. Dependent Variable: OVERAL20

**Table 3 IPPC Factors vs Overall Effectiveness (Regression)**

**ANOVA Original IPPC Factors Vs Overall Effectiveness All Users<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	64.243	3	21.414	116.635	.000 <sup>a</sup>
	Residual	115.301	628	.184		
	Total	179.544	631			

a. Predictors: (Constant), FACILITN, OPERATN, CULTURE

b. Dependent Variable: OVERAL20

**Table 4 ANOVA of IPPC Factors vs Overall Effectiveness****Coefficients All Users original IPPC Factors Vs Overall Effectiveness<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.451	.077		18.770	.000
	OPERATN	.214	.029	.408	7.366	.000
	CULTURE	7.448E-03	.032	.013	.232	.817
	FACILITN	.116	.032	.211	3.583	.000

a. Dependent Variable: OVERAL20

**Table 5 Coefficients of Overall Effectiveness vs IPPC Factors, all Users**

Further analysis of the coefficients of the three IPPC dimensions contribution to this  $R^2$  (Table 5) would seem to indicate that for our sample only two dimensions are having an impact. The *Culture* dimension does not correlate with the single item “Overall” measure of effectiveness. This does raise concerns over the stability of the factors but it does not mean that the *Culture* dimension does not exist, rather, it indicates that respondents in our sample do not consider it important when assessing “overall effectiveness” of their Intranet.

Therefore:

***H<sub>01</sub> IPPC will possess convergent validity is supported and accepted***

### 5.2.2 Test 2

As a further check of the efficacy of the data-reduced factors we undertook a regression analysis of the 15 individual scale items against the 'overall' measure. The results appear in tables 6 and 7. Given the aim of factor analysis in this instance is to reduce the variables for analysis and to classify the items into useful managerial diagnostics, the loss of predictive capacity is minimal. The full 15 items only explaining an extra 2.7%, that is .382 compared to .355 for the 3 factor regression. This provides further support of the utility of these factors.

**Model Summary, All Users Forced Entry of all 15 Items<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Est.	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.630 <sup>a</sup>	.397	.382	.42	.397	26.984	15	616	.000

a. Predictors: (Constant), Q15 Makes us Better Communicators, Q10 Everyone Talks About Impact, Q8 Integral Part of Operations, Q1 Bring Together, Q13 Collaborate To Design and Deliver New P&S, Q11 Can't Do Without, Q7 Saving Resources, Q3 Changed Internal Comms, Q6 Implement Bus Strategy, Q5 Fosters Collaboration, Q2 Cultural Revolution, Q14 Makes Employees Feel a Significant Part, Q4 Trans National Community, Q12 Speeds Up Product/Service Development, Q9 Work Effectively

b. Dependent Variable: Overall Effectiveness Score

**Table 6 Model Summary Overall Effectiveness Vs IPPC all 15 Items**

**ANOVA All Users Forced Entry of all 15 Items<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	71.194	15	4.746	26.984	.000
	Residual	108.350	616	.176		
	Total	179.544	631			

b. Dependent Variable: Overall Effectiveness Score

**Table 7 ANOVA Overall Effectiveness Vs IPPC all 15 Items**

### 5.2.3 Test 3.

A stepwise regression was then performed on the 15 items against 'overall effectiveness' to see if a simpler model explained more variation. The model derived did in fact have an almost identical  $R^2$ . This is further evidence of the usefulness and convergent validity of the 3-factor model. Of interest in this case was the relatively high impact of Question 9, indicating that many respondents may have considered the improvements in efficiency (the operations factor) to be the largest benefit of the Intranet. This will be discussed in more depth in the 'findings' section.

**Model Summary, All Users, Stepwise Entry of Variables**

Model	R	R Square	Adj. R Square	Std. Error of the Est.	Change Statistics				
					R Square Change	F Change	df 1	df2	Sig. F Change
1	.548 <sup>a</sup>	.300	.299	.45	.300	269.82	1	630	.000
2	.583 <sup>b</sup>	.340	.338	.43	.040	38.317	1	629	.000
3	.601 <sup>c</sup>	.361	.358	.43	.021	20.302	1	628	.000
4	.610 <sup>d</sup>	.372	.368	.42	.012	11.549	1	627	.001
5	.617 <sup>e</sup>	.380	.375	.42	.008	8.168	1	626	.004
6	.621 <sup>f</sup>	.386	.380	.42	.005	5.249	1	625	.022

a. Predictors: (Constant), Q9 Work Effectively

b. Predictors: (Constant), Q9 Work Effectively, Q6 Implement Bus Strategy

c. Predictors: (Constant), Q9 Work Effectively, Q6 Implement Bus Strategy, Q11 Can't Do Without

d. Predictors: (Constant), Q9 Work Effectively, Q6 Implement Bus Strategy, Q11 Can't Do Without, Q10 Everyone Talks About Impact

e. Predictors: (Constant), Q9 Work Effectively, Q6 Implement Bus Strategy, Q11 Can't Do Without, Q10 Everyone Talks About Impact, Q7 Saving Resources

f. Predictors: (Constant), Q9 Work Effectively, Q6 Implement Bus Strategy, Q11 Can't Do Without, Q10 Everyone Talks About Impact, Q7 Saving Resources, Q1 Bring Together

g. Dependent Variable: Overall Effectiveness Score

**Table 8 Stepwise regression of IPPC items against Overall Effectiveness**

### 5.3 Results of Test of Hypothesis Two

**H<sub>02</sub>** IPPC will demonstrate Construct Validity as defined and measured by Murgolo-Poore et al (Murgolo-Poore et al., 2002)

OVERALL EFFECTIVENESS SINGLE ITEM RATING	Operations Factor Mean Scores	Culture Factor Mean Scores	Facilitation Factor Mean Scores	Respondents in Category
1	3.18	2.70	2.70	12
2	3.12	3.07	2.95	117
3	4.40	3.98	4.03	470
4	5.65	4.99	5.10	33
<b>Average Factor Score/ Overall Rating.</b>	<b>4.21</b>	<b>3.84</b>	<b>3.86</b>	<b>632</b>

**Table 9 Construct Validity Comparison of Overall Rating to IPPC Dimensions**

Construct validity is defined (Sekaran, 2000) as "...how well the results obtained from use of the measure fit the theories around which it is designed"(page 208). No other theory has previously defined this construct, therefore concurrent construct validity measures are needed. The analysis above is a good concurrent indicator, as it shows that respondents who gave the Intranet a good rating overall (the single item independent measure) also followed the same rationale when responding to the three dimensions of IPPC. In fact the trend in the "rating to factor" is more linear than the original study (Murgolo-Poore et al., 2002). Given that ours was a larger sample and the trend in all but one cell was consistent (rating 1 for the operations factor was marginally higher than rating 2 for the same factor) we can be confident of good Construct Validity.

**H<sub>02</sub>** IPPC will demonstrate construct validity is accepted



### 5.4 Results of Test of Hypothesis Three

**H<sub>03</sub>** IPPC will possess good nomological validity as defined and measured in the original study (Murgolo-Poore et al., 2002)

#### 5.4.1 Factor Similarity

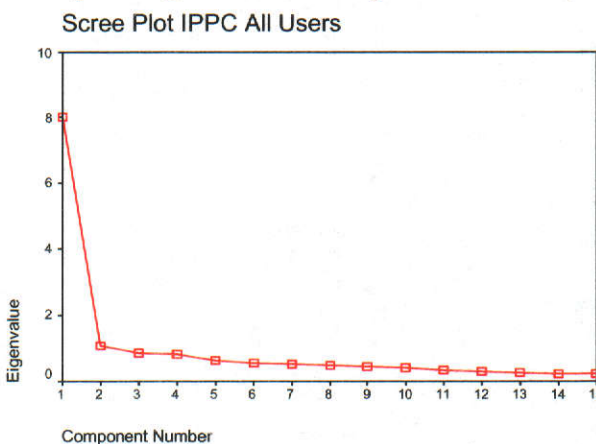
One way of testing nomological validity is to compare the derived factors from the parent study with this study. We therefore followed an identical process of factor analyzing the full sample using the minimum one Eigenvalue criteria and Scree Plots to assess the number of factors to extract, these factors were then rotated using Varimax with Kaiser Normalization.(SPSSVersion10, 1999)

**KMO and Bartlett's Test IPPC for All Users**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			.943
Bartlett's Test of Sphericity	Approx. Chi-Square	5769.101	
	df	105	
	Sig.	.000	

**Table 10 KMO Sampling Adequacy IPPC Factor Analysis**

From table 10 it is evident that the Kaiser-Meyer-Olkin-Measure of Sampling Adequacy indicates the sample is sufficiently large to be an accurate factor source. (.943> 0.6) The sample also passes Bartlett's Test of Sphericity with a very large chi-square significant at an alpha of 0.0001. (Coakes and Steed, 1999).



**Table 11 Scree Plot IPPC Factor Analysis**

**Total Variance Explained IPPC Items for All Users**

Comp.	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Tot.	% of Var.	Cum. %	Tot.	% of Var.	Cum. %	Tot.	% of Var.	Cum. %
1	8.016	53.44	53.437	8.016	53.44	53.437	6.227	41.51	41.512
2	1.061	7.074	60.512	1.061	7.074	60.512	2.850	19.00	60.512
3	.855	5.698	66.210						

Extraction Method: Principal Component Analysis.

**Table 12 Total Variance Explained IPPC Factor Analysis**

Given that KMO and Bartlett's test make us confident of the representativeness of factors extracted, the Scree Plot and Minimum Eigenvalue tests are of concern. Both the Scree Test and the Minimum Eigenvalue assessments suggest only two factors exist for this population. In fact the second factor only just makes the cut off.

### 5.4.2 Factor Loadings

A closer look at the factor loadings (Table 13) shows question 10 (everyone talks about impact of our Intranet) as being the only clear component of the second factor with the other three items in the factor “teetering on the edge”. One could be tempted to suggest that in this study the 15 items might be unidimensional if it were not for the preceding evidence of construct and convergent validity.

<b>Rotated Component Matrix IPPC Items for All Users<sup>a</sup></b>		
	Component	
	1	2
Q9 Work Effectively	<b>.820</b>	.224
Q7 Saving Resources	<b>.792</b>	7.041E-02
Q5 Fosters Collaboration	<b>.734</b>	.347
Q4 Trans National Community	<b>.723</b>	.337
Q3 Changed Internal Comms	<b>.722</b>	.231
Q2 Cultural Revolution	<b>.710</b>	.281
Q8 Integral Part of Operations	<b>.670</b>	.102
Q1 Bring Together	<b>.658</b>	.270
Q6 Implement Bus Strategy	<b>.658</b>	.426
Q15 Makes us Better Communicators	<b>.625</b>	.448
Q12 Speeds Up Product/Service Development	<b>.574</b>	.525
Q10 Everyone Talks About Impact	-6.226E-02	<b>.842</b>
Q14 Makes Employees Feel a Significant Part	.502	<b>.634</b>
Q11 Can't Do Without	.534	<b>.539</b>
Q13 Collaborate To Design and Deliver New P&S	.514	<b>.534</b>

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

**Table 13 Rotated Component Matrix IPPC Factor Analysis**

#### 5.4.3 Question Misinterpretation

There is also a concern with the wording of the scale item (question 10) “*Many people within our organization talk about the impact our Intranet has had*” The intent of this question was to suggest that staff often express how important the Intranet is. However some respondents may well have taken a more cynical view of this statement. Some respondents did pass comment in the open statement section that they felt that many people responsible for implementing the Intranet “promoted benefits that did not eventuate” or circled the word “TALK” and followed this with a number of exclamation marks. This dual meaning of the word “talk” would seem to confound results and it is suggested that in future the item should read: “*Many people within our organization talk sincerely about the positive impact the Intranet has on them*”.

Whilst it is possible that factor structure may alter if this change was made, results as they stand are not indicative of strong nomological validity.

Therefore:

***H<sub>03</sub> IPPC will possess good nomological validity is not supported.***

## **5.5 Results of Test of Hypothesis Four**

***H<sub>04</sub>*** IPPC will possess internal reliability (Cronbach Alpha > 0.80)

### **5.5.1 Reliability**

The full sample had high internal reliability with an Alpha of .9328 and a standardized item alpha of .9353 (refer Table 14 page 76) This compares with the initial study alphas of .9036 and .9308 (Murgolo-Poore et al., 2002). The literature on Cronbach's alpha suggests that in the area of applied research, which is where we see this scale being useful, that an alpha of between 0.9 and 0.95 is required, the instrument meets these criteria. In addition, support is found in the literature to claim excellent internal reliability against comparable studies. A meta-analysis (number of studies,  $N = 601$ , using similar 'perception' scales) place this in the top quartile of internal reliability alpha's, with a median alpha of .79 (Petersen, 1994) . This fact, considered in tandem with the corresponding high alpha of the initial study strongly supports hypothesis four.

Therefore:

***H<sub>04</sub>*** IPPC will possess internal reliability is strongly supported



ITEM	Scale Mean If Item Deleted	Scale Variance If Item Deleted	Corrected Item-total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
Q1	55.4731	162.1958	.6466	.5018	.9289
Q2	55.5348	159.0796	.7066	.5795	.9273
Q3	55.1677	157.0907	.6916	.5601	.9277
Q4	55.7389	157.6671	.7460	.6439	.9262
Q5	55.6788	159.3689	.7604	.6533	.9261
Q6	55.4699	160.7851	.7404	.5683	.9267
Q7	55.1345	159.4098	.6566	.5283	.9286
Q8	54.6820	163.2632	.5756	.4337	.9308
Q9	55.3307	157.2043	.7745	.6721	.9254
Q10	56.2326	167.3927	.3323	.2190	.9394
Q11	56.4589	157.5165	.6908	.5189	.9277
Q12	55.6788	158.4276	.7161	.6527	.9270
Q13	55.5617	160.6681	.6636	.5998	.9284
Q14	56.1028	158.7041	.7127	.5876	.9271
Q15	55.6187	157.5548	.7226	.5552	.9268

**Table 14 IPPC Scale Items Internal Reliability Analysis**

## 5.6 Results of Test of Hypothesis Five

Hypothesis for testing:

***H<sub>05</sub>*** *There will be a statistically significant correlation between the score achieved using the Intranet Paper and Pencil Checklist (IPPC) and total score on the Organizational Commitment scale.*

### 5.6.1 Unidimensionality of OC Measure

As a pre-requisite to testing this hypothesis it was necessary to test that the chosen OC measure does load to one factor (Unidimensional) so that scores may be summed.

KMO and Bartlett's Test OC items all users			
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			.765
Bartlett's Test of Sphericity	Approx. Chi-Square	614.567	
	df	6	
	Sig.		.000

**Table 15 Sampling Adequacy OC Factor Analysis**

Total Variance Explained OC items all users						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.341	58.522	58.522	2.341	58.522	58.522
2	.694	17.350	75.871			
3	.518	12.942	88.813			
4	.447	11.187	100.000			

Extraction Method: Principal Component Analysis.

**Table 16 Total Variance Explained OC Factor Analysis (Unidimensional Solution)**

From Table 15 the Kaiser-Meyer-Olkin-Measure of Sampling Adequacy measure indicates the sample is sufficiently large to be an accurate factor source. (.765 > 0.6) The sample also passes Bartlett's Test of Sphericity with a large chi-square significant at an alpha of 0.0001. (Coakes and Steed, 1999). Scree plots and

ANOVA confirmed that the variance explained was significant at the 0.001 level and the scree plot clearly showed responses to be unidimensional. It is therefore statistically correct to add the scores for comparison purposes between respondents and against OC norms. In light of the literature on Organizational Commitment we do note that in all likelihood we are collapsing a multidimensional construct into a single dimension for practical reasons. This will be discussed further in limitations and future research direction. Given that within our sample there is a problem with nomological validity of the factors it was prudent to regress the individual items against OC as well as the posited IPPC factors and compare resultant  $R^2$  and significance levels.

#### 5.6.2 Test 1.

The 15 Items of IPPC were regressed stepwise against OC total score as a base measure of the predictive capabilities of the unfactored scale items for comparison purposes as a unidimensional construct ‘ Intranet Effectiveness’.

**Model Summary All Users 15 item IPPC Vs OC summed score**

Model	R	R Square	Adjusted R Square	Std. Err.Est.	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.209 <sup>a</sup>	.044	.042	4.129	.044	28.709	1	630	.000
2	.232 <sup>b</sup>	.054	.051	4.110	.010	6.779	1	629	.009

a. Predictors: (Constant), Q14 Makes Employees Feel a Significant Part

b. Predictors: (Constant), Q14 Makes Employees Feel a Significant Part, Q6 Implement Bus Strategy

c. Dependent Variable: Total OC score

**Table 17 Individual 15 IPPC items Regressed Against OC Total Score**



ANOVA All Users 15 item IPPC Vs OC summed score

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	489.347	1	489.347	28.709	.000 <sup>a</sup>
	Residual	10738.526	630	17.045		
	Total	11227.873	631			
2	Regression	603.841	2	301.921	17.875	.000 <sup>b</sup>
	Residual	10624.032	629	16.890		
	Total	11227.873	631			

a. Predictors: (Constant), Q14 Makes Employees Feel a Significant Part

b. Predictors: (Constant), Q14 Makes Employees Feel a Significant Part, Q6 Implement Bus Strategy

c. Dependent Variable: Total OC score

**Table 18 Individual 15 IPPC items Regressed Against OC Total Score**

The predictive power of the full 15 items is low but statistically significant with 5.1% of the variance explained. It is interesting to note that this stepwise model only retains two items with the majority of the variance explained by question 14. *“In our organization the Intranet gives employees the opportunity to feel like a significant part of our company”*. This would seem to suggest that employees who felt some increased commitment as a consequence of using an effective Intranet did so not because of operational issues such as its efficiency, but because it allowed them to identify with the organization. (Relates to social identity theory)

### 5.6.3 Test 2.

Having determined that the regression of individual items had only a small correlation with OC it was apparent that the data-reduced factors of the IPPC would not perform well. However it did produce a still significant explanation of variance of 3.6%. (Tables 19 & 20)

**Model Summary (Forced Entry) IPPC Dimensions Vs OC all Users<sup>b</sup>**

Model	R	R Square	Adj. R Square	Std. Err. Est.	Change Statistics				
					R Square Change	F Change	df 1	df 2	Sig. F Change
1	.201 <sup>a</sup>	.040	.036	4.14	.040	8.791	3	628	.000

a. Predictors: (Constant), Facilitation Factor, Operations Factor, Culture Factor

b. Dependent Variable: Total OC score

**Table 19 IPPC Factors vs OC (Regression)**

**ANOVA (Forced Entry) IPPC Dimensions Vs OC all Users<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	452.531	3	150.844	8.791	.000 <sup>a</sup>
	Residual	10775.342	628	17.158		
	Total	11227.873	631			

a. Predictors: (Constant), Facilitation Factor, Operations Factor, Culture Factor

b. Dependent Variable: Total OC score

**Table 20 IPPC Factors vs OC (Regression)**

Therefore:

***H<sub>05</sub>*** *There will be a statistically significant correlation between the score achieved using the Intranet Paper and Pencil Checklist (IPPC) and total score on the Organizational Commitment scale is supported.*

The level of correlation is modest for the total sample. Reasons for this are discussed in limitations and deeper analysis in the post-hoc section of this chapter did shed some light on the reasons for this modest  $R^2$  over the entire sample.

## 5.7 Results of Test of Hypothesis Six

***H<sub>06</sub>*** There is a **significant difference** between the IPPC scores of different job-level employees.

A Multiple Analysis of Variance procedure was undertaken to compare the three IPPC dimensions across the four employee grades. (Table 21)

Salary Category General Linear Model IPPC Dimensions and Employee Level					
Dependent Variable	Salary Category	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Operations Factor	clerk grades	4.390	.103	4.188	4.591
	Appointed grades	4.267	.060	4.149	4.384
	Managerial Grades	4.061	.067	3.930	4.192
	Executive Grades	4.150	.226	3.707	4.593
Facilitation Factor	clerk grades	4.235	.095	4.048	4.422
	Appointed grades	3.993	.056	3.884	4.102
	Managerial Grades	3.598	.062	3.477	3.720
	Executive Grades	3.260	.210	2.849	3.671
Culture Factor	clerk grades	4.134	.093	3.951	4.317
	Appointed grades	3.981	.054	3.874	4.088
	Managerial Grades	3.573	.060	3.454	3.692
	Executive Grades	3.540	.205	3.138	3.942

**Table 21 General Linear Model of IPPC Dimensions by Employment Level**

### 5.7.1 MANOVA Outliers

Prior to undertaking the MANOVA the data was checked to ensure that the three dimensions of IPPC did not contain Multivariate outliers. Calculating Mahanoblis distances for each respondent on the IPPC dimensions identified that across 632 cases only 10 outliers were present, and six of these only just exceeded the critical  $F$

statistic. This was acceptable in a sample of this size so all cases were retained. It is interesting to note that the means flow consistently down as seniority is achieved with the exception of executives who consider the Intranet operationally superior when compared with managers.

### 5.7.2 Reasons for Mean Differences

A possible explanation for the lower scores of execs for *facilitation* and *culture* may well be that they are central to the political and power centers of the organization and hence benefit less from these components of the Intranet (Wilson, 1995). Box's Test of Equality of Covariance indicated that the data possessed homogeneity at an alpha level of 0.0001.(Coakes and Steed, 1999), and Levene's Test of Equality of Error Variance confirms that there is homogeneity of variance for each of the dimensions, as the test is not significant at an alpha level of 0.05.

**Multivariate Tests General Linear Model IPPC Dimensions and Employee Level**

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.882	1562.265 <sup>a</sup>	3.000	626.000	.000
	Wilks' Lambda	.118	1562.265 <sup>a</sup>	3.000	626.000	.000
	Hotelling's Trace	7.487	1562.265 <sup>a</sup>	3.000	626.000	.000
	Roy's Largest Root	7.487	1562.265 <sup>a</sup>	3.000	626.000	.000
SALARY28	Pillai's Trace	.114	8.286	9.000	1884.000	.000
	Wilks' Lambda	.887	8.570	9.000	1523.670	.000
	Hotelling's Trace	.127	8.786	9.000	1874.000	.000
	Roy's Largest Root	.117	24.523 <sup>b</sup>	3.000	628.000	.000

a. Exact statistic

b. The statistic is an upper bound on F that yields a lower bound on the significance level.

c. Design: Intercept+SALARY28

**Table 22 Additional Multivariate tests of IPPC Dimensions by Employment Level**

"Pillai's Trace criterion is considered to have acceptable power and be the most robust statistic against violations of assumptions"(Coakes and Steed, 1999). Pillai is significant at an alpha level of 0.0001(Table 22). The univariate/between subjects test of the three factors indicates that all have significantly different means at alpha of 0.05. (Table 23, page 84). Therefore it is valid to interpret the univariate F tests using "post hoc contrasts" provided within the MANOVA options of SPSS for each dimension of IPPC. In these circumstances of multiple tests of a sample a Bonferoni

adjustment is recommended (Coakes and Steed, 1999). The output size of the table is cumbersome making interpretation awkward, it has been placed in the appendices for the interested reader, a summary of only the statistically significant mean differences is more relevant and is presented in Figure 2, page 85.

**Tests of Between-Subjects Effects General Linear Model IPPC Dimensions and Employee Level**

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Operations Factor	9.229 <sup>a</sup>	3	3.076	3.017	.029
	Facilitation Factor	41.634 <sup>b</sup>	3	13.878	15.803	.000
	Culture Factor	32.244 <sup>c</sup>	3	10.748	12.808	.000
Intercept	Operations Factor	4173.692	1	4173.692	4093.255	.000
	Facilitation Factor	3338.860	1	3338.860	3801.904	.000
	Culture Factor	3401.930	1	3401.930	4053.941	.000
SALARY28	Operations Factor	9.229	3	3.076	3.017	.029
	Facilitation Factor	41.634	3	13.878	15.803	.000
	Culture Factor	32.244	3	10.748	12.808	.000
Error	Operations Factor	640.341	628	1.020		
	Facilitation Factor	551.514	628	.878		
	Culture Factor	526.996	628	.839		
Total	Operations Factor	11835.040	632			
	Facilitation Factor	10025.760	632			
	Culture Factor	9888.600	632			
Corrected Total	Operations Factor	649.569	631			
	Facilitation Factor	593.148	631			
	Culture Factor	559.240	631			

a. R Squared = .014 (Adjusted R Squared = .009)

b. R Squared = .070 (Adjusted R Squared = .066)

c. R Squared = .058 (Adjusted R Squared = .053)

**Table 23 Univariate/Between Subjects Test of the Three Factors Against Employee Level**

The full table of mean comparisons in the appendix shows that significant differences between the perceptions of different job level employees do exist and that these variations tend to reflect lower ratings for higher-level employees.

Therefore:

**H<sub>06</sub>** There is a **significant difference** between the IPPC scores of different job-level employees is **SUPPORTED**

### 5.7.2.1 The Manager/Worker Divide

Peripheral Workers Management	Clerical Grade	Appointed Grade
Manager Grade	$F = .637$ $C = .561$ $O = .329$	$C = .408$ $F = .395$
Executive Grade	$F = .975$	$F = .733$
$F$ = Facilitation Dimension $C$ = Culture Dimension $O$ = Operations Dimension Only job-level IPPC Mean Scores different at 95% confidence are shown		

**Figure 2 The Manager/Worker division on IPPC scores**

Following the methodology of the original IPPC authors test of between group means (Murgolo-Poore et al., 2002) and including dimension comparisons between job level, it is possible that within our study the wider variation of employee job-level (seniority) could mean that:

- ❖ Junior/lower/peripheral staff have a higher opinion of Intranet effectiveness across most dimensions.
- ❖ Or, alternatively it may be that the instrument is not stable across the management/worker divide. Some post hoc analysis of the data was undertaken to shed light on this concern.

In either event, it was clear that two separate groups exist (senior/junior)

## **5.8 Post-Hoc Observations of the Data**

Tests conducted:

1. Factor Analysis of Execs & Managers cohort responses to IPPC 15 Items
2. Regress (Stepwise) subset of Execs & Managers against Overall Effectiveness
3. Regress (Stepwise) the 3 new factors of subset of Execs & Managers against Overall effectiveness for this cohort and compare  $R^2$  to that achieved using full data set achieved in Hypothesis One.
4. The original IPPC factors regressed against OC scores of management and executives only

### **5.8.1 Rationale**

Prior to describing each of the four extra analysis undertaken we explain the reasoning for conducting these extra procedures in light of the theory and the initial output from hypothesis testing.

### **5.8.2 Managers & Executives, Nomological Similarity**

The factor solution using only responses from managers and executives seems to indicate that both these levels of management evaluate the effectiveness of their Intranet through the same psychometric process uncovered in the initial IPPC study. This factor loading is clearly superior in similarity to the original IPPC than the total sample factor solution. This analysis lends support to a post hoc observation that the published IPPC dimensions and construct is more nomologically valid when the instrument is administered to Management and Executives than when it is applied to the general workforce. Kaiser-Meyer-Olkin-Measure of Sampling Adequacy indicates the Management and Exec sub-sample is sufficiently large to be an accurate factor source. (.920 > 0.6) The sample also passes Bartlett's Test of Sphericity with a very large chi-square significant at an alpha of 0.0001. (Coakes and Steed, 1999).



### 5.8.2.1 Post-Hoc Analysis 1

Rotated Component Matrix for Managers and Executives				
		Component		
		1	2	3
Operations	Q7 Saving Resources	.774	.199	.167
	Q8 Integral Part of Operations	.767	5.285E-02	.223
	Q3 Changed Internal Comms	.696	.188	.299
	Q9 Work Effectively	.683	.480	8.945E-02
Culture	Q1 Bring Together	.372	.727	2.603E-02
	Q14 Makes Employees Feel a Significant Part	.173	.694	.363
	Q4 Trans National Community	.454	.618	.192
	Q10 Everyone Talks About Impact	-.238	.602	.306
	Q5 Fosters Collaboration	.503	.581	.237
	Q6 Implement Bus Strategy	.421	.554	.322
	Q2 Cultural Revolution	.526	.543	.202
Facilitation	Q15 Makes us Better Communicators	.496	.497	.193
	Q13 Collaborate To Design and Deliver New	.188	.168	.861
	Q12 Speeds Up Product/Service Development	.301	.294	.791
	Q11 Can't Do Without	.432	.326	.531

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 14 iterations.

**Table 24 Three Factor Rotated Component Matrix of Managers and Executives Showing Greater Nomological Similarity to IPPC.**

### 5.8.2.2 Post-Hoc Analysis 2.

ANOVA (Stepwise) Execs & Managers IPPC 15 Items Vs Overall Effectiveness <sup>f</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.367	1	22.367	91.371	.000 <sup>a</sup>
	Residual	60.709	248	.245		
	Total	83.076	249			
2	Regression	28.032	2	14.016	62.895	.000 <sup>b</sup>
	Residual	55.044	247	.223		
	Total	83.076	249			
3	Regression	30.953	3	10.318	48.695	.000 <sup>c</sup>
	Residual	52.123	246	.212		
	Total	83.076	249			
4	Regression	32.499	4	8.125	39.358	.000 <sup>d</sup>
	Residual	50.577	245	.206		
	Total	83.076	249			
5	Regression	33.699	5	6.740	33.305	.000 <sup>e</sup>
	Residual	49.377	244	.202		
	Total	83.076	249			

a. Predictors: (Constant), Q9 Work Effectively

b. Predictors: (Constant), Q9 Work Effectively, Q6 Implement Bus Strategy

c. Predictors: (Constant), Q9 Work Effectively, Q6 Implement Bus Strategy, Q8 Integral Part of Operations

d. Predictors: (Constant), Q9 Work Effectively, Q6 Implement Bus Strategy, Q8 Integral Part of Operations, Q1 Bring Together

e. Predictors: (Constant), Q9 Work Effectively, Q6 Implement Bus Strategy, Q8 Integral Part of Operations, Q1 Bring Together, Q10 Everyone Talks About Impact

f. Dependent Variable: Overall Effectiveness Score

**Table 25 ANOVA 15 IPPC Items Regressed against Manager and Exec's Overall Effectiveness**

### 5.8.2.3 Managerial Focus

**Model Summary (Stepwise) Execs & Managers IPPC 15 Items Vs Overall Effectiveness**

Model	R	R Square	Adj. R Square	Std. Err. Est.	Change Statistics				
					R Square Change	F Change	df 1	df 2	Sig. F Change
1	.519 <sup>a</sup>	.269	.266	.495	.269	91.371	1	*	.000
2	.581 <sup>b</sup>	.337	.332	.472	.068	25.422	1	*	.000
3	.610 <sup>c</sup>	.373	.365	.460	.035	13.785	1	*	.000
4	.625 <sup>d</sup>	.391	.381	.454	.019	7.491	1	*	.007
5	.637 <sup>e</sup>	.406	.393	.450	.014	5.928	1	*	.016

a. Predictors: (Constant), Q9 Work Effectively

b. Predictors: (Constant), Q9 Work Effectively, Q6 Implement Bus Strategy

c. Predictors: (Constant), Q9 Work Effectively, Q6 Implement Bus Strategy, Q8 Integral Part of Operations

d. Predictors: (Constant), Q9 Work Effectively, Q6 Implement Bus Strategy, Q8 Integral Part of Operations, Q1 Bring Together

e. Predictors: (Constant), Q9 Work Effectively, Q6 Implement Bus Strategy, Q8 Integral Part of Operations, Q1 Bring Together, Q10 Everyone Talks About Impact

f. Dependent Variable: Overall Effectiveness Score

**Table 26. Model Summary 15 IPPC Items Regressed against Manager and Exec's Overall Effectiveness**

Tables 25 & 26 show output of tests of the variation in  $R^2$  of only the Managers and Executives unfactored 15 item IPPC responses through a stepwise regression against the Overall Effectiveness measure. It suggests that Management might have considered the Intranet to be a productivity tool with a focus on the Operations dimension items. This is interesting when compared to the stepwise regressions undertaken in testing Hypothesis five (OC). In that analysis it seemed plausible that the staff were committing to the organization as a result of the capacity of the Intranet to aid identification by making them *"feel like a part of the company"*. If these tentative correlations were borne out it would seem that management are either purposively or accidentally ignoring this potential benefit of an effective Intranet. Put simply, management want the Intranet to extract greater economies and efficiencies whereas more generally workers appreciate its capacity to involve them with the organization.

### 5.8.3 Post-Hoc Analysis 3.

After distilling the new factors for Managers and Execs those factors were regressed against the ‘overall’ measure. All three factors entered the equation at the 0.0001 significance level with, predictably, the new hybrid four-item “operations” factor accounting for the largest  $R^2$  explaining 31% of the variation from a total of 42.8%. Table 27) Of course we would expect a higher  $R^2$  for this sample specific factor, however it does lend further support to the assertion that IPPC will perform at it’s peak when administered to Management and Executives.

**Model Summary Execs & Managers New 3 Factor Solution Vs Overall Effectiveness <sup>d</sup>**

Model	R	R Square	Adj. R Square	Std. Err.Est.	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.56 <sup>a</sup>	.315	.311	.423	.315	67.266	1	146	.000
2	.62 <sup>b</sup>	.387	.379	.401	.072	16.995	1	145	.000
3	.66 <sup>c</sup>	.440	.428	.385	.052	13.450	1	144	.000

a. Predictors: (Constant), score for grades E & M head office factor 1

b. Predictors: (Constant), score for grades E & M head office factor 1, score for grades E&M head office factor 2

c. Predictors: (Constant), score for grades E & M head office factor 1, score for grades E&M head office factor 2, score for grades E&M head office factor 3

d. Dependent Variable: Overall Effectiveness Score

**Table 27 Summary Model Manager and Exec’s Factors Vs Overall Effectiveness**

ANOVA Execs & Managers New 3 Factor Solution Vs Overall Effectiveness <sup>d</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.020	1	12.020	67.266	.000 <sup>a</sup>
	Residual	26.088	146	.179		
	Total	38.108	147			
2	Regression	14.757	2	7.378	45.815	.000 <sup>b</sup>
	Residual	23.352	145	.161		
	Total	38.108	147			
3	Regression	16.751	3	5.584	37.649	.000 <sup>c</sup>
	Residual	21.357	144	.148		
	Total	38.108	147			
a. Predictors: (Constant), score for grades E & M head office factor 1 b. Predictors: (Constant), score for grades E & M head office factor 1, score for grades E&M head office factor 2 c. Predictors: (Constant), score for grades E & M head office factor 1, score for grades E&M head office factor 2, score for grades E&M head office factor 3 d. Dependent Variable: Overall Effectiveness Score						

**Table 28 ANOVA Manager and Exec's Factors Vs Overall Effectiveness**

#### 5.8.4 Post-Hoc Analysis 4.

The original IPPC factors regressed against OC scores of management and executives only were not significant in predicting OC at the 95% confidence interval and even at a 90% interval the  $R^2$  of 1.5% was less than the original IPPC model. By this regression we might be 90% confident that the three new sample specific factors have only a 1.5% impact on Organizational Commitment. Given our predictions about peripheral staff getting inordinate benefit from the Intranet this finding seems valid. We expect Managers and Executives would receive little or no OC benefits from the Intranet as they are posited to be more central in communication networks and hence see the Intranet just as a productivity tool for others in the firm to use.

**Model Summary Regression Manager & Execs only,  
3 new factors vs OC**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.165 <sup>a</sup>	.027	.015	4.15	.027	2.295	3	246	.078

a. Predictors: (Constant), Facilitation Factor, Operations Factor, Culture Factor

b. Dependent Variable: Total OC score

**Table 29 Model Summary, Original IPPC Factors Regressed against Managers & Execs Overall Effectiveness Rating**

## **5.9 Managerial Observations from the Data**

### **5.9.1 Aim of This Section**

The final objective of this study, beyond hypothesis testing was to demonstrate how the IPPC might be used as a diagnostic tool to provide managerial insight. What follow are observations from the data, still having consideration for the theory espoused. Cohorts of staff are isolated who conceivably have benefited from the 'Dialogic' Communication (Kent and Taylor, 1998) made possible by the Intranet.

### **5.9.2 Intranet as A Boundary Spanner**

Certain employees were considered more isolated either temporally or geographically from their own top management. This 'distance' could result in a greater actual or perceived payoff from using the Intranet. Conversely a staff member closer to his or her salient "top management" would find the communication advantages of the Intranet less compelling.

As managers or researchers we could not probe directly how 'isolated' a person might feel from top management as this may have had political overtones. The best surrogate indicators of this level of isolation available to us were geographic location and job type.

### **5.9.3 Isolation in Time and Space**

As is common in many hierarchical service organizations the customer facing, telephone customer service, and mobile sales staff are widely geographically spread and often quite temporally isolated from top management. Sales staff often work evenings and are mobile, telesales and tele-service personnel also work shifts. They are largely dependent upon codified knowledge to fulfill customer needs, as tacit



knowledge from experienced supervisors is not as readily available outside normal office hours or on the road. With this organization having a head office in one state but several national points of representation it also seemed possible that the 2-3 hour time zone differences may also play a role in defining those more likely to benefit from the use of the Intranet (Huff et al., 1989). Investigation of the variation in the Organizational Commitment-Intranet Effectiveness link at the job-type level of cohort proved very revealing: A stepwise regression analysis of each Management/Executive cohort regressing the IPPC dimensions against Organizational Commitment resulted in four significant equations with adjusted  $R^2$  ranging from 0.036 to .372. The tabulated results appear in Table 30 below:

Job Type/Location Cohort	Factors Significant Stepwise	Adjusted $R^2$	F statistic Change	Significance	N
G1. HR & Training	Culture	.372	8.122	0.016	13
G2. Info Systems & E Commerce	Operations	.136	8.533	0.005	49
G3.Face to Face Sales & Service	Facilitation	.146	17.56	.000	98
G4. Not elsewhere described (NED)	Facilitation	0.083	8.56	0.004	85

**Table 30 Job/Location cohorts with OC significant and markedly different from total sample OC score.**

#### 5.9.4 Interpretation of Significant Cohorts of Job / IPPC Dimension Relationships

Contrary to expectations the eastern time-zone cohort did not display any significant relationship between IPPC and OC and the western time-zone Cohort was so large as to simply mirror the total sample regression equation. Further consideration of the Eastern States cohort revealed that they were fairly autonomous groups located



centrally in each capital city in a single building. They did not actually fit the peripheral employee typology as was at first assumed. What was enlightening is the much stronger  $R^2$  of the four Management/Executive job classifications shown in Table 30, the factors that explained the variations made sense when considering their individual predicaments.

#### 5.9.5 Group Significance of Findings

Groups 1 and 2 in Table 30 were identified by other studies as major benefactors and contributors to Intranet adoption (Lai, 2001). One concern, prior to conducting the survey, was that these IT and HR staff may have had vested interests in perceptions of the Intranet as its designers and proponents, this may impact upon their scores. Alternatively it may be that with a more complete knowledge of the collaborative features of the Intranet (Notes environment) these cohorts take advantage of functions that do encourage them to identify more strongly with the organization.

Group three is the Sales and Service cohort, already described as likely to benefit from an Intranet due to their peripheral position in the organizational structure. Group four, the “not elsewhere described” cohort are by definition somewhat peripheral, as these are (primarily) staff displaced from current jobs on retraining, or small support teams involving peripheral functions and project work.

Taking a conservative view and discounting the HR and IT results as being to some extent self-serving in their responses, it seemed plausible that peripheral employees (groups 3 & 4) were benefiting (from an OC perspective) from the Intranet.

A final analysis looked at a combined cohort of telesales, face to face and “not elsewhere described” (NED). This group represents all staff no matter what seniority or location they were that occupied what could be described as jobs on the periphery of corporate decision-making. The results of this regression are again

supportive of IPPC impact on OC. The impact of IPPC here is 10.4%, this is considerably greater than the entire sample of 3.6% (hypothesis 5) or the Manager-Executive  $R^2$  of 1.5% These collections of  $R^2$  when presented together add weight to the posited Social Identity/Internal Marketing perspective of the Intranet for peripheral employees.

**Model Summary Peripheral employees (face to face, telephone and NED) IPPC vs OC<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.343 <sup>a</sup>	.118	.104	4.28	8.740	8.740	3	196	.000

a. Predictors: (Constant), Facilitation Factor, Culture Factor, Operations Factor

b. Dependent Variable: Total OC score

**Table 31 Regression, Peripheral employees (face to face, telephone and NED) IPPC vs OC**

**ANOVA Peripheral employees (face to face, telephone and NED) IPPC vs OC<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	480.698	3	160.233	8.740	.000 <sup>a</sup>
	Residual	3593.457	196	18.334		
	Total	4074.155	199			

a. Predictors: (Constant), Facilitation Factor, Culture Factor, Operations Factor

b. Dependent Variable: Total OC score

**Table 32 ANOVA, Peripheral employees (face to face, telephone and NED) IPPC vs OC**

### **5.9.6 Summary**

In this chapter we have identified that IPPC possesses construct and convergent validity, however our findings do not support a claim of nomological validity. We further argued from the results that the problems of nomological validity, in this sample at least, seem to indicate that the IPPC is a more valid measure for senior employees within an organization. The scale presented excellent internal reliability to commercial application standards. We then confirmed that a small but significant correlation exists between IPPC and Organizational Commitment. In view of the myriad variables the literature suggests have an impact on OC, a small positive correlation is worthy of further investigation.

Closer scrutiny of the results from a Social Identity perspective on Internal Marketing suggests some interesting links exist between cohorts that are at the periphery of the organization and OC.

We then demonstrated some uses of the IPPC as a diagnostic tool to focus on the three dimensions of an effective Intranet in the Post-Hoc analysis section of this chapter. In Chapter 6 we bring together these findings and discuss the significance and limitations of the results before suggesting Management implications and future research agendas.

## **Chapter 6; Implications for Future Research, Management Implication/Application and Study Limitations**

### ***6.0 Introduction***

This study has tested the IPPC's validity and reliability with mainly strong findings in favor of the scale. In Chapter 5 we discovered a correlation between IPPC and one short measure of Organizational Commitment (Chonko, 1986), whilst making observations about its strengths and areas for further development. The literature review in Chapter 2 lead to a position on the impact an effective Intranet may have on peripheral employee groups that was supported in the analysis in Chapter 5. We demonstrated that the IPPC could be used as a valuable diagnostic tool, to focus management attention upon specific dimensions of an effective Intranet that may or may not require remedial attention or development.

### ***6.1 The Significance of Results***

This study of a large financial services organization represents a sample frame spanning all levels of hierarchy and large geographic distances. It has verified and strengthened the claims of the IPPC as a generally applicable lens through which to view Intranet effectiveness.

The study shows that there is a significant correlation between an effective Intranet and Organizational Commitment and post hoc analysis suggests that the size of that correlation is related amongst other things, to the temporal and geographic distance of employees from managerial decision-makers.

### ***6.2 Reliability and Validity***

The psychometric properties of the instrument have been verified; it does behave in a stable manner across samples and within sample (nomological validity aside).

With consideration of the way in which the IPPC is administered to increase respondent comprehension of some concepts and some minor changes to wording as discussed, it is probable that the current nomological concerns will be diminished.

The value of the dimensions of Culture, Operations and Facilitation, when viewed from the Transaction Cost and Social Identity perspectives outlined in Chapter 2 literature review far outweigh the marginal loss of predictive power and nomenclature problems that this data reduction technique introduce. It is certainly preferable for management to focus on three broad areas of strategic Intranet development and then drill down to the individual items and cohorts to solve individual implementation/behavioral issues, much as this paper did in the post hoc observations undertaken. The richness of the instrument allows this without losing its simplicity in administration.

### **6.3 Conclusions Drawn**

#### **6.3.1 IPPC is Psychometrically Sound**

The findings of this study generally support the assertion that IPPC has sound psychometric properties. This was a correlational study, any causal inferences drawn are for discussion purposes only. However, the arguments are well supported from a theoretical perspective and have empirical relevance within this study.

#### **6.3.2 Organization Commitment of Some Cohorts is Related to Intranet Effectiveness**

We conclude that, broadly speaking, a positive relationship exists between how effective a peripheral employee views the Intranet and their level of Organizational Commitment. Management and Executives appear to gain little from using the Intranet in terms of Organizational Commitment, in fact in this case they have been shown to generally (with the exception of the operations dimension for executives) have a lower perception of the Intranet on the three dimensions described. In this case the Intranet appears to be a business strategy to facilitate operational productivity improvements, not to foster company-wide collaborative effort or dialogic communication.

Given this focus on productivity and operational impact, a welcome, if it appears unplanned relationship, has been a moderate increase in OC from members of peripheral organizational cohorts not otherwise able to become involved in management decisions.

### **6.3.3 Intranet Effectiveness Construct: Nomological Issues**

Some concerns with nomological validity were evident, however because of inadequacies in pretesting phase of this study (see section 6.5.5 Questionnaire Pretesting, page 103 for further discussion) it is unclear whether these problems are context or scale related.

## ***6.4 Managerial Applications/Implications***

### **6.4.1 What is the Intended Use of a Company Intranet?**

Most organizations will need to consider implementing or have already implemented an Intranet, the degree to which they utilize the Intranet for Internal Marketing can be assessed using insights gained from Transaction Cost, Computer Mediated Communication and Social Identity Theory. If a firm implements an Intranet, the IPPC has been shown to be a reliable to commercial standards and a valid instrument to allow ongoing monitoring of its strategic success from a user perspective along the three dimensions proposed.

#### 6.4.2 Organizational Commitments Connection with Intranet Effectiveness

We have shown that a correlation does exist between an effective Intranet and OC in an organization that did not design the tool with that outcome high on its agenda. Whilst the effect is small, it is still significant and if exploited could be a source of reduction in associated HR retention and training costs (Transaction Costs)

#### 6.4.3 Uses of IPPC

We have demonstrated one application of IPPC and contend that the same methodology could be applied to consider any component of a firm's organizational behaviour that has a similarly theoretically sound linkage with Intranet effectiveness or other communication variables. Such a tool reduces the guesswork involved in establishing what works and what doesn't from an Internal Marketing perspective.

## **6.5 Limitations of the Study**

The study was a mail survey with all the attendant concerns of non-response bias and respondent errors of interpretation that this entails. Strategies to reduce these errors were discussed and comparisons of responses to company employee data suggest this problem is minimal. Failure to include a question on hours of work (shift work) in the questionnaire limits the temporal argument advanced to inference only.

### **6.5.1 Organizational Commitment Takes Time.**

One limitation of this study is that many users of the Intranet at this organization are relative newcomers, literature was reviewed that provided evidence that the benefits of an Intranet do not begin to impact on organizational outcomes for a year or more after full implementation (McNaughton et al., 1999). The value of this instrument may well be in longitudinal studies to track user perceptions as the system evolves. A return to our surveyed organization in another year may yield a different outcome.

### **6.5.2 Committed Respondents**

The relatively higher Organizational Commitment levels of a voluntary survey respondent will confound OC relationships. However this problem is common to all OC studies and therefore between-study comparison is valid. It is valid for future studies mapping the linkage of OC and IPPC to draw on this study for comparison purposes. The response rate of 23% over a 3-week collection window and the absolute size of the 632 useable questionnaires allows some degree of confidence in stating this is how financial service employees in Australia view IPPC and OC.



### 6.5.3 The Chosen Measure of OC

The OC measure itself is acknowledged as a compromise and is insufficient to draw anything more than correlational inference of a construct some demonstrate to have many and varied dimensions. Future studies seeking to confirm the relationship should consider using a scale that focuses on the affective component of Organizational Commitment.

### 6.5.4 Lack of Qualitative Input

Qualitative responses were encouraged in an open question for the benefit of the organization's IT and HR management, but these statements were not analyzed in this study (beyond anecdotal reference). However, they did provide a rich source of feedback on both practical implementation issues for management and rich data for further scale development of the IPPC. This complexity is necessarily lost in a more precise quantitative study. Future studies should include a plan to content analyze such responses, not just provide anecdotal feedback to management.

### 6.5.5 Questionnaire Pretesting

There is some doubt over nomological validity when the instrument is applied to lower level employees. However, this problem may well be context specific and a result of inadequate pre-testing of the questionnaire prior to administration. In hindsight, the sample questionnaire was only administered to senior employees of the bank and as such we may have created some bias in the results. By describing the outcomes possible from an effective Intranet in more detail (in the questionnaire preamble) it may give all level of respondents a benchmark to anchor their responses on the dimensions, in a similar vein to how SERVQUAL (Parasuraman et al., 1988) measures distance between perceptions and expectations.

#### 6.5.6 Anchoring Responses for Nomological Validity

The issue of nomological validity whilst shown to be acceptable for our analysis of results does require further refinement and some scale modification for scholarly and managerial use. Inadequacies of the current study aside, it appears that IPPC in its current format and preamble is less dimensionally stable across all organizational levels. It is best administered to managerial employees who understand the “strategic ideal” as well as their own position on how effectively the Intranet meets this objective.

## **6.6 Future Research Direction**

In order to strengthen the linkage between OC and IPPC, further correlational studies are required. Future studies should focus on affective commitment and look to map which cohorts receive maximal Internal Marketing benefit from an effective Intranet. Cluster analysis may be of value here to uncover the cohorts or Identities that could be described as benefiting inordinately from an Intranet. Future studies would also benefit from an initial assessment of the strategic focus of Intranets studied so that strategy outcome could be measured along the three IPPC dimensions. This would result in a picture of where and when strategic objectives of an Intranet are achieved and what are the OC outcomes of focusing on any combination or all of the IPPC dimensions.

Future studies could ask direct questions about salient group memberships within the organization to aid this interpretation as not just workgroup, but social group membership could be instigated or facilitated via the Intranet.

Focus on a temporally distant organization with multinational representation or a company with a heavy reliance on 24-hour shift-workers would also appear worth pursuing.

Commitment scholars (Allen and Grisaffe, 2001) realize that commitment research as a maturing field of study needs next to focus on “mapping the linkages” between employee commitment and customer reactions. Similarly, now that we have a measure of Intranet effectiveness and a tentative link between effectiveness and commitment, it would be useful to track customer reaction to employees empowered with an effective Intranet. Are customers in fact the ultimate benefactors of this Internal Marketing initiative as was the original intent of IM scholars?

## **6.7 Summary**

In this chapter, the results of the study were examined. The IPPC was found to be a valid and reliable instrument and did correlate with Organizational Commitment. Limitations were identified, as was the way forward to resolve these issues. In just one example of the application of the IPPC to understand the impact of an Intranet we uncovered several possible lines of future research. The potential applications of IPPC and the proposed commitment benefits of the Intranet to peripheral employees are of strategic business importance in the information economy. It is clear that without the IPPC, spotting the relationship between Intranet effectiveness and peripheral employees would not have been possible. The word best used to describe the IPPC is 'potential'; it has much to offer those wishing to use and develop it further.

*NB: In the appendices to this paper some further discussion on the application of this research to strategic Internal Marketing decisions utilizing an Intranet are discussed where the work of Internal Marketing authors (Pitt and Foreman, 1999) is extended to consider the role of Intranets to IM.*

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CRICOS Provider Code 00301J

STUDY  
NOVEMBER 2001

Dear Employee

Curtin University is taking part in a significant survey by researchers at Curtin University of Technology from the school of Marketing to better understand the effectiveness of **Desktop 2000**. (Your Intranet) The survey will record your impressions and responses to the various components that go to make up an effective Intranet.

The aggregated results will also form a base measure of the effectiveness of **Desktop 2000** and assist the advancement of scholarly understanding of what constitutes an effective Intranet.

As you would be aware from recent communications this survey has the approval of both your Divisional Director and People and Organisational Development (POD). The survey will only take 15 minutes to fill in and the completed survey can be returned via the internal mail system for collection at **Building 100** Curtin CSC.

Even if you do not use **Desktop 2000** we would appreciate you completing the indicated part of the survey to give us a better understanding of exactly who is using **Desktop 2000**.

Thank you,

Paull Weber  
Curtin University of Technology  
School of Marketing

### The Role of XXXXXXXX xxxx in XXXXXXXX

This survey considers the use of XXXXXXXX xxxx (called an Intranet) within XXXXXXXX and the impact XXXXXXXX xxxx has on the organization. An Intranet can be broadly defined as “the principles and protocols of the Internet applied to a private network which enables people within organizations to communicate” -in other word, it is an organization’s own private Internet, accessible only to the organization’s members, or those to whom it decides to give access. We are interested in the state of the Intranet within our organization - the extent to which it is being used or not, what it is being used for and the organizational results we may have achieved by using it. **Please only complete this survey if you have accessed XXXXXXXX xxxx**

#### Questions: Statements regarding XXXXXXXX xxxx within XXXXXXXX

Please answer the questions on the following pages by indicating the extent of your agreement or disagreement with the statement. Do this by circling the appropriate point on the scale provided. Thus, if you agreed strongly with the statement, you would circle a 7, and if you disagreed strongly with the statement you would circle a 1. If the extent of your agreement or disagreement were less strong, you would circle a number somewhere in between. **There are no “wrong” or “right” answers** - all we are interested in is a number that best reflects your opinion.

In many cases you might be tempted to say, “It all depends” - the best way to deal with this is to work quickly, and simply record your first impression.

An example of how to answer a particular statement follows:

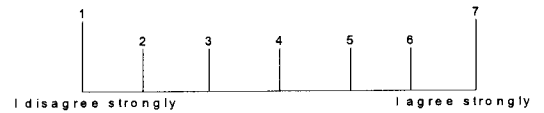
Lets say the statement read as below, and that you neither agreed nor disagreed with it. You might want to respond by circling the number “4”:

<b>Example.</b> Our company encourages casual dress.	
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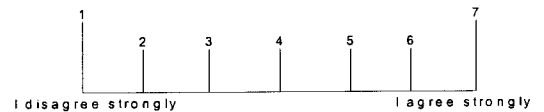
Now, please answer the following questions by circling the appropriate point of the scale provided:

1. Our Intranet is the solution for bringing people within the organization together.	
2. The Intranet provides a major cultural revolution in our organization in the way people work, think and communicate.	
3. An Intranet is a vital tool to bring a company together and give its members a strong sense of common purpose.	
4. Our Intranet has changed the way our organization communicates internally.	
5. The Intranet in our organization has truly allowed a global community to develop.	
6. The Intranet in our organization fosters collaboration.	

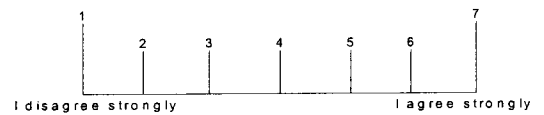
7. The Intranet in our organization allows us to effectively implement business strategy.



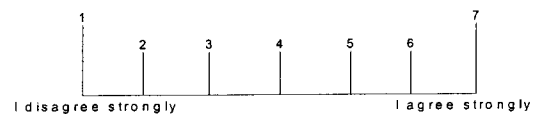
8. The Intranet in our organization is a very effective way of saving resources, such as time, facilities and money.



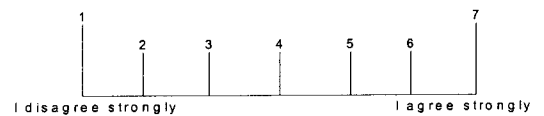
9. The Intranet within our organization has become an integral part of the way we operate.



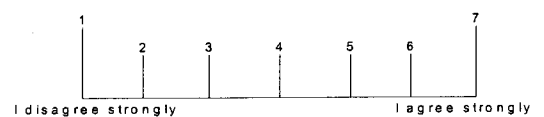
10. The Intranet within our organization brings us together and helps us work more effectively.



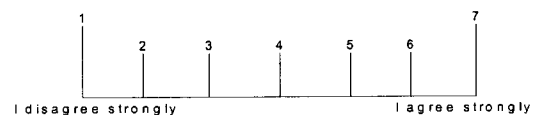
11. Many people within our organization talk about the impact the Intranet has had.



12. The attitude of most people toward the Intranet in our organization can be summed up by the statement, "I don't know how we got along without this."



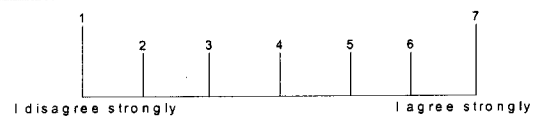
13. The Intranet in our organization helps our people to bring products and services to market much quicker.



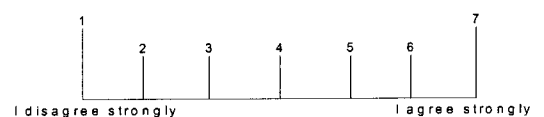
14. Our Intranet is a way to collaborate, design, develop and deliver new products and services.



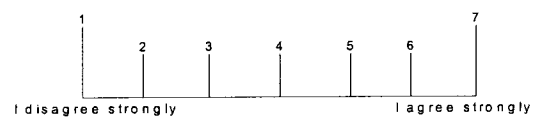
15. The Intranet in our organization gives employees the opportunity to feel like a significant part of our company.



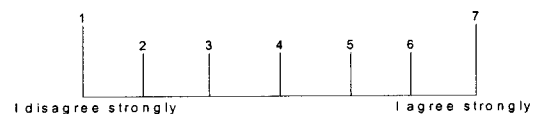
16. The overall effect of the Intranet within our organization has been to make members of our organization better communicators.



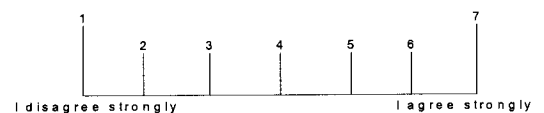
17. The Intranet in our organization has meant that many employees now communicate with fellow employees with whom they had not communicated before.



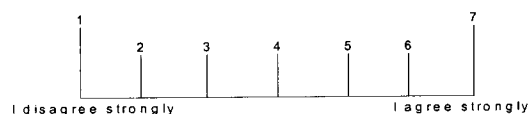
18. The Intranet within our organization has enabled managers to more quickly learn of problems that cause anger and frustration than was previously the case.



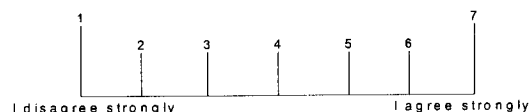
19. The Intranet in our organization has changed the nature of the interaction between supervisors and subordinates.



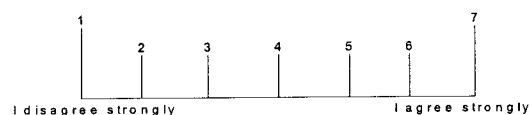
20. I would be willing to change companies if the new job offered a 25% pay increase



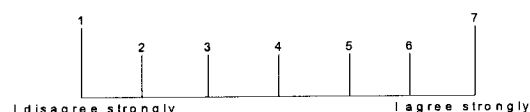
21. I would be willing to change companies if the new job offered more creative freedom



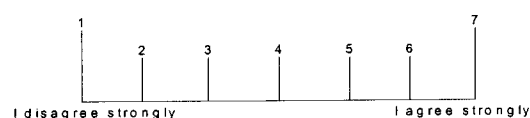
22. I would be willing to change companies if the new job offered more status



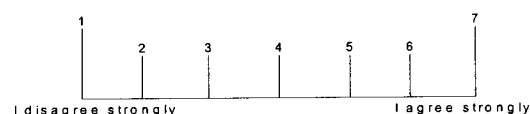
23. I would be willing to change companies if the new job was with people who were more friendly



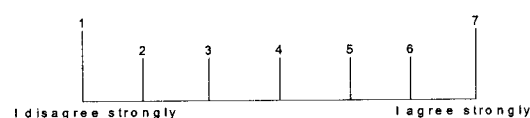
24. Managers basically agree that our business unit's ability to learn is the key to our competitive advantage



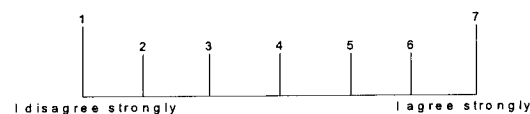
25. The basic values of this business unit include learning as key to improvement



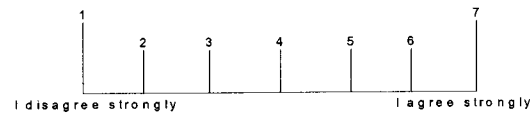
26. The sense around here is that employee learning is an investment, not an expense.



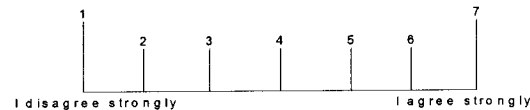
27. Learning in my organization is seen as a key commodity necessary to guarantee organizational survival.



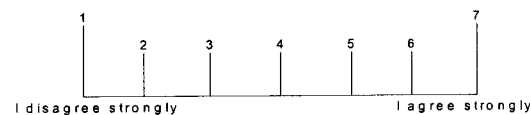
28. Our culture is one that does not make employee learning a top priority.



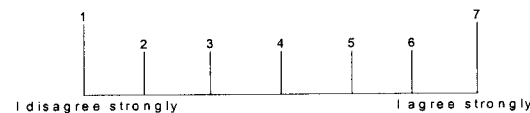
29. The collective wisdom in this company is that once we quit learning, we endanger our future.



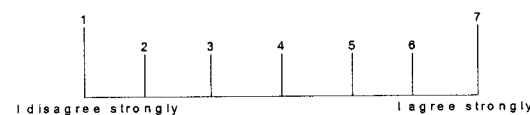
30. There is a well-expressed concept of who we are and where we are going as a business unit.



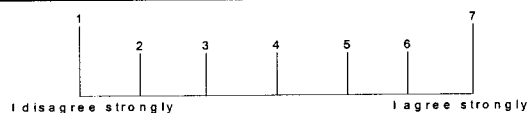
31. There is total agreement on our business unit vision across all levels, functions, and divisions.



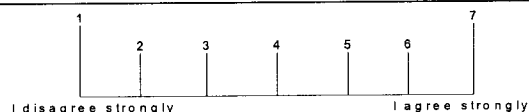
32. All employees are committed to the goals of this business unit.



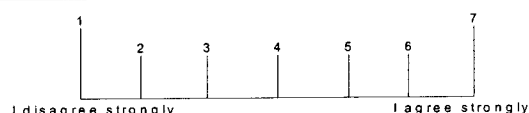
33. Employees view themselves as partners in charting the direction of the business unit.



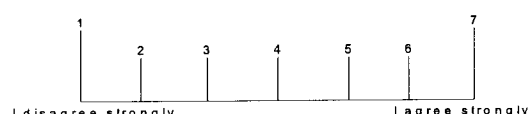
34. Top leadership believes in sharing its vision for the business unit with the lower levels.



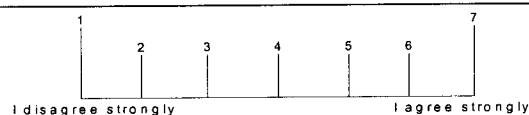
35. We do not have a well-defined vision for the entire business unit.



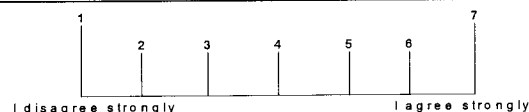
36. We are not afraid to reflect critically on the shared assumptions we have about the way we do business.



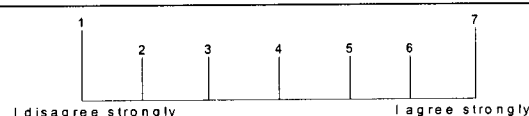
37. Managers in this business unit do not want their "view of the world" to be questioned.



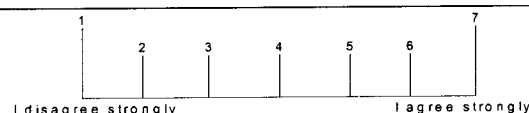
38. Our business unit places high value on open-mindedness.



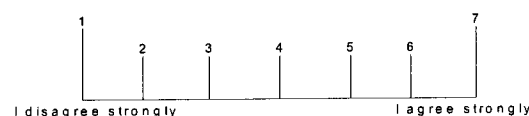
39. Managers encourage employees to "think outside of the box".



40. An emphasis on constant innovation is not a part of our corporate culture.



41. Original ideas are highly valued in this organisation.



42. Overall, how would you rate the effectiveness of your organization's Intranet?

Please **Circle** the appropriate selection:

1. Very unsuccessful	2. Unsuccessful	3. Successful	4. Very successful
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The following questions are general information about you, these details will be used to analyze differences between different people and different business units, they will not be used to identify you as an individual, only aggregated anonymous information will be available to management. Please **CIRCLE** the single item that best describes you at each question.

EXAMPLE. How many years did you attend school?		1 2 3 4 5 <b>6</b> 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 over 25	
43. What sex are you?		Male	Female
44. How many years have you been employed by the bank		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 over 25	
45. What salary grade are you?		1. C Grade	2. A Grade
		3. M Grade	4. Executive
46. What is your employment mode?		1. Full-time	2. Part-time
		3. Casual	4. Contract
47. Which <b>ONE PHRASE</b> best describes the work you mainly perform in the organisation. PLEASE CIRCLE that phrase  <b>Example</b> <b>13.Bookkeeper</b>	1. Accounting & Finance	2. Marketing & P.R	3. Human Resources
	4. Information Systems	5 Executive and Divisional Management.	6. Corporate and Commercial Banking
	7. Face to Face Sales & Service	8. Telephone Sales & Service	
	9. Clerical & Admin not elsewhere described	10. Secretary or P. A.	11. Internal Support Services
			12.Audit & Compliance

Thank you very much indeed for your kind cooperation.

Please ensure your efforts are not wasted by returning the completed survey via the internal mail to XXXXXXXX Curtin CSC in the sealed envelope provided for collection by staff from the Curtin Business School, School of Marketing.

### ***Appendix A3 F.O.C.I.S, an Extension of T.C.T to Intranet Strategy***

As a consequence of the literature reviewed and the subsequent analysis of the questionnaires in this study a pattern in the data emerged that was outside the scope of the study but nonetheless was deemed worthy of further development. What follows is the literature reviewed and relevant to an extension of a paper (Pitt and Foreman, 1999) on Transaction Cost Theory , applying it to Internal Marketing and the strategy behind Intranet adopted by an organization.

The decision to adopt the use of an Intranet and formulation of communications objectives, particularly in large organizations (Allen, 1992) will be driven by such things as:

1. Geographical distance between top management and decision-makers. (McCune, 1996, Scott, 1997, Cheney, 1991, Putti et al., 1990)
2. Temporal distance of workers (Huff et al., 1989, Sproull and Kiesler, 1993)
3. The Transaction Costs of HR/IM in the relevant industry (Pitt and Foreman, 1999)
4. The relative strength and salience of multiple identities to the ideal, planned or overarching organizational identity (Scott et al., 1999)

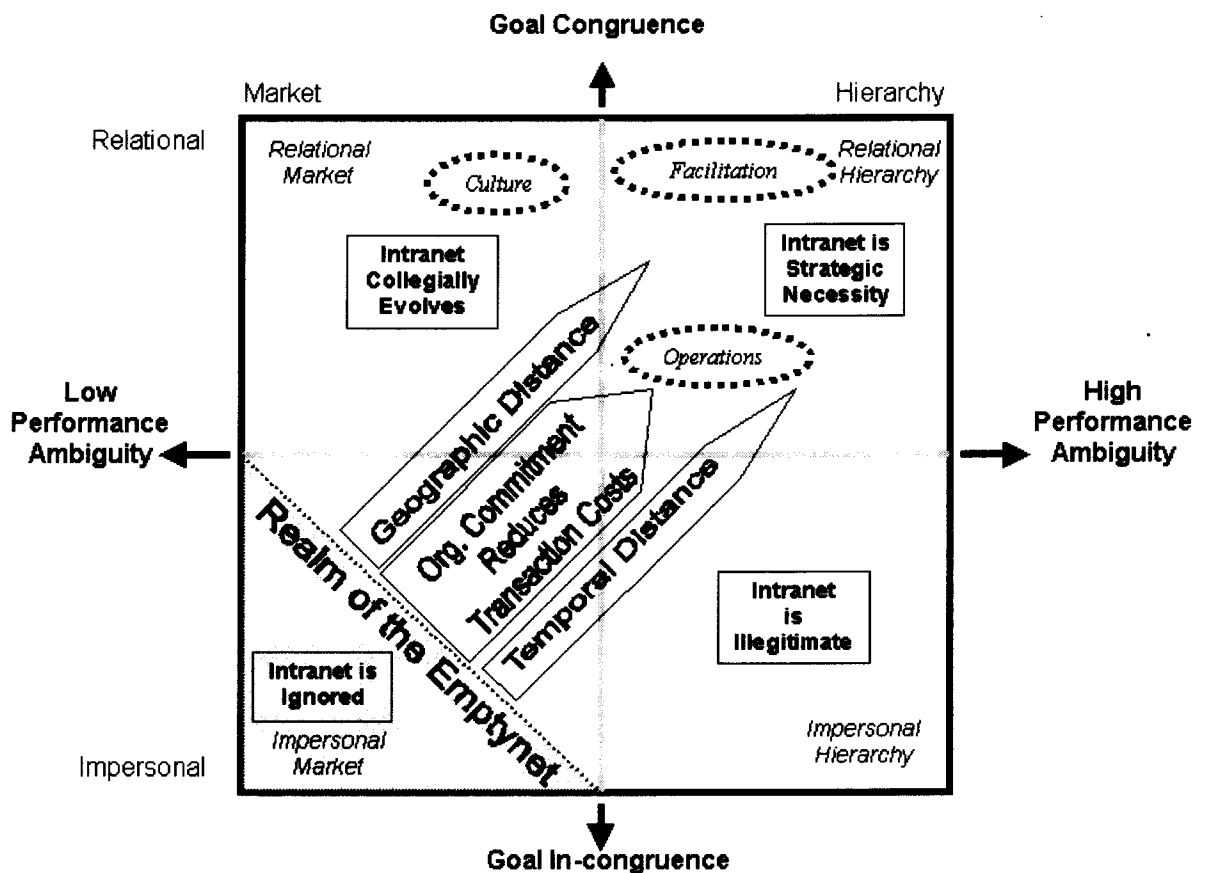
Implied in all of these motives for Intranet implementation is the strategic importance to management of maintaining salience of Organizational Identity (Cheney, 1991) in the management of multiple employee identities (Scott, 1997, Putti et al., 1990).

These identities are deeper than just age, race, and other broad demographics (Hogg and Terry, 2000) . They revolve around salient group membership (Hennessy and West, 1999) and the behavioural outcomes of outgroup identity conflict.

Social Identity Theory (Tajfel and Turner, 1985) gives us a useful lens through which to view these identities. Hierarchical organizations tend to place functions in 'Silos' a design which aids in intragroup communication but can form unduly strong group

commitments at the expense of organizational outcomes (Brickson, 2000). This problem requires a consideration of the multiple foci of commitment (Becker et al., 1996, Bishop and Scott, 2000, Siders et al., 2001) and the communication imperatives that this Multiple Identity- Multiple Foci schema entail.

Intranets promise to deliver a way of reaching multiple groups at all hierarchical levels of an organization. The choices made reflect the organizational complexity and the costs of bringing together the skill sets required to deliver the product or service. The IPPC is a way of gauging effectiveness of some of the intended outcomes of these Organizational Behavior, Communications and Human Resource issues. It is useful here to graphically represent the concept, the model used is an extension based of an earlier framework (Pitt and Foreman, 1999) adapted to the Intranet context.



Adapted from "Internal Marketing Role in Organizations: A Transaction cost perspective (Pitt and Foreman, 1999)

### Facilitation, Operations & Culture of Intranet Strategy (FOCIS)

This F.O.C.I.S. diagram presents the relative importance of the three dimensions of IPPC to assist in reaching temporal and geographically peripheral employees. It depicts internal marketing strategy and the appropriate circumstances for Intranets to focus on various commitment and communication objectives.

The position of each dimension represents the likely order of inclusion of design and implementation mandates from an Internal Marketing and HR perspective. The efficiency factor (*Operations*) would enter most decisions to implement an Intranet with greater import in more complex organizational structures as a way of codifying and sharing knowledge (Cross et al., 2001, Dewett and Jones, 2001).

It is suggested that hierarchical firms that had large numbers of peripheral employees who were still costly to monitor and train would also focus on the *Facilitation* factor

More relational, “collegial” Intranets would find the *Culture* dimension also appropriate as a planning focus. In fact the culture dimension would likely be present in such organisations already and simply be mirrored in the Intranet style adopted.

This is not to imply that all three dimensions are not desirable in an Effective Intranet, rather to identify the relevant Transaction-Cost benefits of focusing on particular effects across organizational types.

The region of the diagram referred to as the realm of the “EmptyNet” (Pedley, 1999) depicts a market place close to a “commodity” labour market. This is where any attempt to create an Intranet would be ignored by employees who have no loyalty (OC) and are price takers, resulting in an Intranet with no value to stakeholders, essentially a waste of money and likely to be void of content.

F.O.C.I.S offers an additional viewpoint from the Transaction-Cost perspective to explain the dimensions most important for an Effective Intranet for different organizational Types. Prior acceptance of such a schema before system implementation would make it

simpler for managers to set benchmarks for IPPC scores on the three dimensions and perhaps use the scale as a longitudinal performance indicator. The initial study did provide evidence of differential levels of commitment associated with peripheral employees; further development of the strategic value of this observation seems worthwhile but is outside the scope of this thesis.

## Appendix A4 Manova Means with Bonferroni Adjustment

### Multiple Comparisons of Manova Means between groups

Bonferroni							
Dependent Variable	(I) Salary Category	(J) Salary Category	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Operations Factor	clerk grades	Appointed grades	.123	.119	1.000	-.191	.437
		Managerial Grades	.329*	.122	.044	5.268E-03	.652
		Executive Grades	.240	.248	1.000	-.417	.896
	Appointed grades	clerk grades	-.123	.119	1.000	-.437	.191
		Managerial Grades	.206	9.E-02	.131	-3.109E-02	.443
		Executive Grades	.117	.234	1.000	-.502	.735
	Managerial Grades	clerk grades	-.329*	.122	.044	-.652	-5.268E-03
		Appointed grades	-.206	9.E-02	.131	-.443	3.109E-02
		Executive Grades	-8.913E-02	.235	1.000	-.712	.534
	Executive Grades	clerk grades	-.240	.248	1.000	-.896	.417
		Appointed grades	-.117	.234	1.000	-.735	.502
		Managerial Grades	8.913E-02	.235	1.000	-.534	.712
Culture Factor	clerk grades	Appointed grades	.153	.108	.936	-.132	.438
		Managerial Grades	.561*	.111	.000	.267	.855
		Executive Grades	.594	.225	.051	-1.383E-03	1.189
	Appointed grades	clerk grades	-.153	.108	.936	-.438	.132
		Managerial Grades	.408*	8.E-02	.000	.193	.623
		Executive Grades	.441	.212	.227	-.120	1.002
	Managerial Grades	clerk grades	-.561*	.111	.000	-.855	-.267
		Appointed grades	-.408*	8.E-02	.000	-.623	-.193
		Executive Grades	3.304E-02	.214	1.000	-.532	.598
	Executive Grades	clerk grades	-.594	.225	.051	-1.189	1.383E-03
		Appointed grades	-.441	.212	.227	-1.002	.120
		Managerial Grades	-3.304E-02	.214	1.000	-.598	.532
Facilitation Factor	clerk grades	Appointed grades	.242	.110	.170	-4.948E-02	.534
		Managerial Grades	.637*	.113	.000	.337	.937
		Executive Grades	.975*	.230	.000	.366	1.584
	Appointed grades	clerk grades	-.242	.110	.170	-.534	4.948E-02
		Managerial Grades	.395*	8.E-02	.000	.175	.615
		Executive Grades	.733*	.217	.005	.159	1.307
	Managerial Grades	clerk grades	-.637*	.113	.000	-.937	-.337
		Appointed grades	-.395*	8.E-02	.000	-.615	-.175
		Executive Grades	.338	.218	.732	-.240	.916
	Executive Grades	clerk grades	-.975*	.230	.000	-1.584	-.366
		Appointed grades	-.733*	.217	.005	-1.307	-.159
		Managerial Grades	-.338	.218	.732	-.916	.240

Based on observed means.

\*. The mean difference is significant at the .05 level.

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