School of Built Environment
Department of Construction Management

27th International Congress of
Applied Psychology ⚥
11-16 July 2010 Melbourne Australia

Development and Validation of the Alliance Psychological Contract (APC) Model and Instrument

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July 2010

Introduction

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Project Alliancing (Alliances)

Project Alliancing is a form of contracting that falls under the umbrella term of 'relationship contracting' and has increasingly been employed by the Australian public sector for managing the delivery of highly visible and complex capital projects (Sakal, 2005).

This type of relationship contracting "is becoming widely accepted as a suitable alternative to transactional oriented forms of procurement" (Davis, 2004, p. 1).

According to Morwood, et al. (2008), "more than 150 alliances have now been successfully set up in Australia" (p. 38).

It has been said that "Australia is leading the world in Alliancing" (Ross, 2008).

What is an Alliance?

Alliances (project alliancing or relationship contracting) are a collaborative and alternative approach to delivering large and complex infrastructure projects where the owner and service providers form a team to work together and share project risks and opportunities. Broadly, the aim of an alliance is to deliver better value for money and improved project outcomes.

Alliances in Australia

Project alliancing (Alliances) **has grown exponentially in Australia during the last decade,** extending from the oil industry to **construction, road, rail, water, power and defence**.

Australian alliances-related research, however, has been **mostly descriptive and exploratory in nature**, or conducted using grounded theory. It has focused on definitions or has been of an anecdotal type (including case-based reviews).

This thesis argues that currently **alliances in Australia are sufficiently mature to be the subject of theory testing using quantitative research**.

"Entering into alliances requires the creation of **the right psychological foundation** and a different **psychological bargain** from more traditional forms of contracting"

Project Alliancing Practitioners' Guide
Victorian Dept. of Treasury & Finance 2006 (p.10)

Aim

and

Research Questions

Aim

1. To test the presence and impact of the PC within a sample of Australian alliances. More specifically, this includes:

- identifying the nature of PCs in alliances;

- developing and validating a generic psychometric instrument to measure the state of the PC within the alliances context;

- determining the interactive effects of trust, commitment and satisfaction in alliance relationships; and

- formulating strategies for managing and maintaining high quality relationships in alliances.

2. To investigate the link between PC alliance relationship consequences and measures of alliance performance outcomes (eg: cost, completion time, quality and safety).

Significance

Significance

There is currently **long pipeline of $8 billion of major infrastructure projects in Australia.**

Alliances in Australia are making a major contribution to the construction industry, a fast-growing national infrastructure and the economy as a whole. Hence, they are receiving increasing attention from researchers.

By testing a model of the PC in the alliances context, which includes developing <u>a generic instrument to measure and diagnose the health of an alliance relationships</u>, and testing links between alliance relationship consequences and alliance performance outcomes, **this study makes an original contribution and adds value to the construction and other others industries involved in large infrastructure projects in Australia.**

It also makes an original contribution in building the body of knowledge of both alliances and the PC literature.

The Psychological Contract (PC)

Literature Review

The "psychological contract"

"The perceptions of both parties to the employment relationship, organisation and individual of the reciprocal promises and obligations implied in the relationship"

<div align="right">Guest and Conway (2000)</div>

David Guest

Professor of Organisational Psychology and Human Resource Management, King's College, University of London

Guest, D.E. (1998) Is the psychological contract worth taking seriously? *Journal of Organizational Behavior*, 19(1): 649-664.

Unpacking the language of psychological contract definitions

- **Promises**
- **Obligations**
- **Expectations**

- **Promises:** Made by one party to another to engage in specific action.

- **Obligation:** Commitments to be delivered by party in receipt of promise.

- **Expectation**: Less binding language than promise and obligation.

The literature on the psychological contract (PC) is extensive and growing. In fact, the PC has been identified <u>as the most emergent area in organisational research</u> (DelCampo, 2007).

DelCampo, R. (2007) Psychological contract violation: An individual difference perspective. *International Journal of Management*, 24(1), 43-52.

Despite the fact that most of the PC research has focused on employee–employer relationships, <u>it is reasonable and even desirable to extend evaluation of this theory to other fields and relationships</u> (Hill et al., 2009).

Hill, J.A., Eckerda, S., Wilson, D., and Greer, B. (2009) The effect of unethical behavior on trust in a buyer–supplier relationship: The mediating role of psychological contract violation. Journal of Operations Management, 27(4), 281-293

Application of the PC as theoretical framework

Author(s)	Area of research and application
Blancero & Ellram (1997)	➢ **Strategic supplier partnering**
Hill *et* al. (2009)	➢ **Buyer-supplier relationships**
Kingshott & Pecotich (2007)	➢ **Supplier-distribution relationships**
Cutcher (2008)	➢ **Customer service relations strategy**
Stiles *et* al. (1997)	➢ **Performance management**
Walker & Hutton (2006)	➢ **Workplace safety**

Methodology

(Research design, setting, sample and data collection, measures and data analysis)

Sequential Mixed Method Design (qualitative/quantitative) Approach

Stage 1

Qualitative study (7 months)

Interviews with 24 industry experts to validate the model and constructs.

Interviews with 4 academics.

Stage 2

Quantitative study (6 months)

Surveying 16 alliances across Australia and NZ (N= 700).

Study conducted in accordance with the Human Research Ethics Committee (HREC), Curtin University of Technology (Approval number: BE-03-2009)

Qualitative Study

Qualitative Study

Semi-structured interviews were conducted with **24 industry experts**. They differed in their roles, and types of organisations, within the alliance context, and were from various geographical regions throughout Australia.

NVivo 8 qualitative analysis package was used to store, manage, code and analyze the data.

A hybrid approach (inductive and deductive) to content analysis was used.

Qualitative Study (cont.)

In addition to my supervisors' advice and support, Interviews with **four academics specialising in the areas of alliances and psychometrics**.

I also had correspondence with **various international academics** that published in the areas of alliances and the PC, and practitioners.

The Alliance Psychological Contract (APC)
An Infrastructure Industry Report
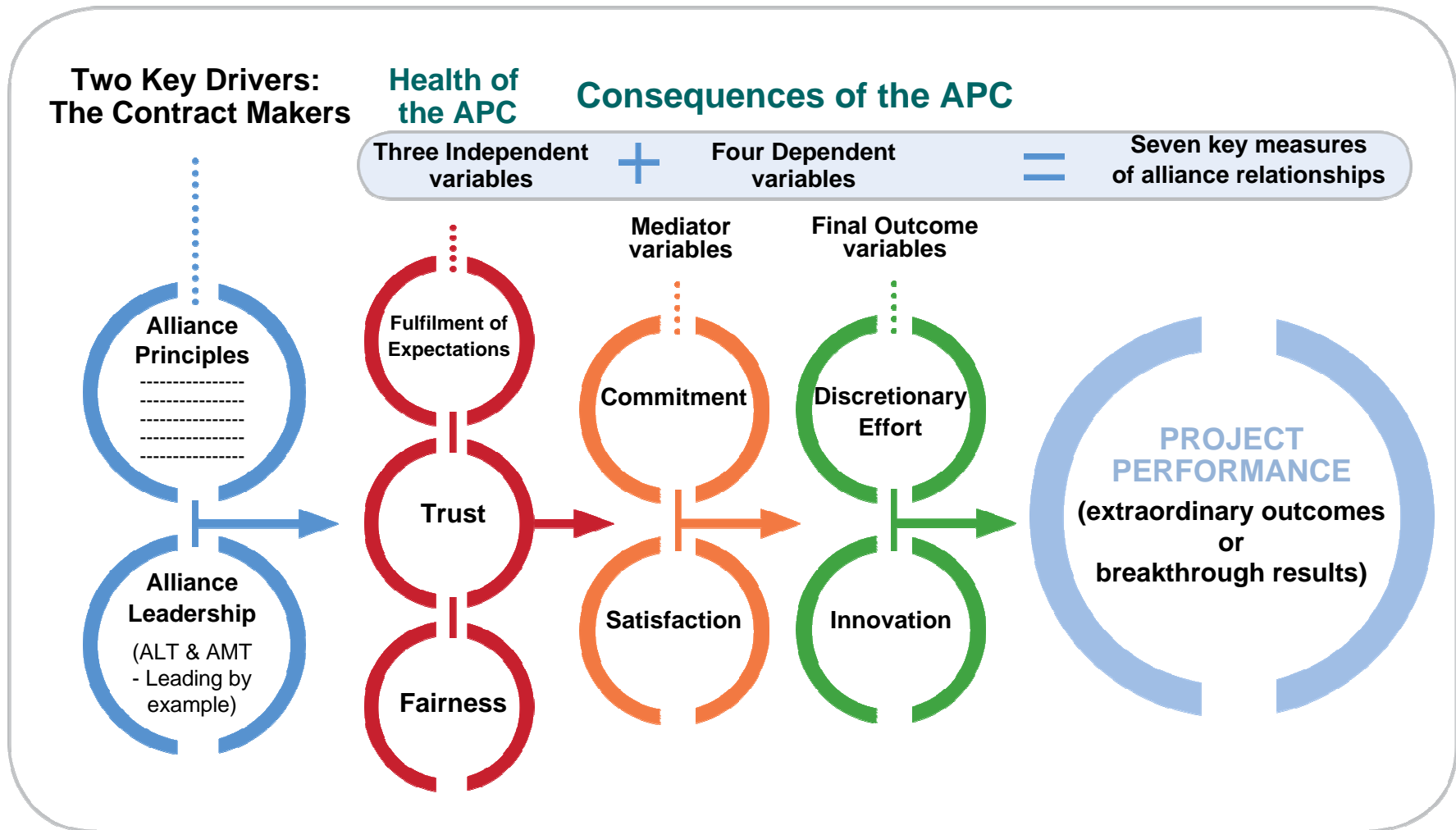
Seven Key Measures of
Successful Alliance Relationships

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September 2009

The APC Model

**Two Key Drivers:
The Contract Makers**

**Health of
the APC**

Consequences of the APC

| Three Independent variables | + | Four Dependent variables | = | Seven key measures of alliance relationships |

**Mediator
variables**

**Final Outcome
variables**

**Alliance
Principles**

**Fulfilment of
Expectations**

Commitment

**Discretionary
Effort**

**PROJECT
PERFORMANCE**

**(extraordinary outcomes
or
breakthrough results)**

**Alliance
Leadership**

(ALT & AMT
- Leading by
example)

Trust

Satisfaction

Innovation

Fairness

Framework and Hypotheses

Structural Model
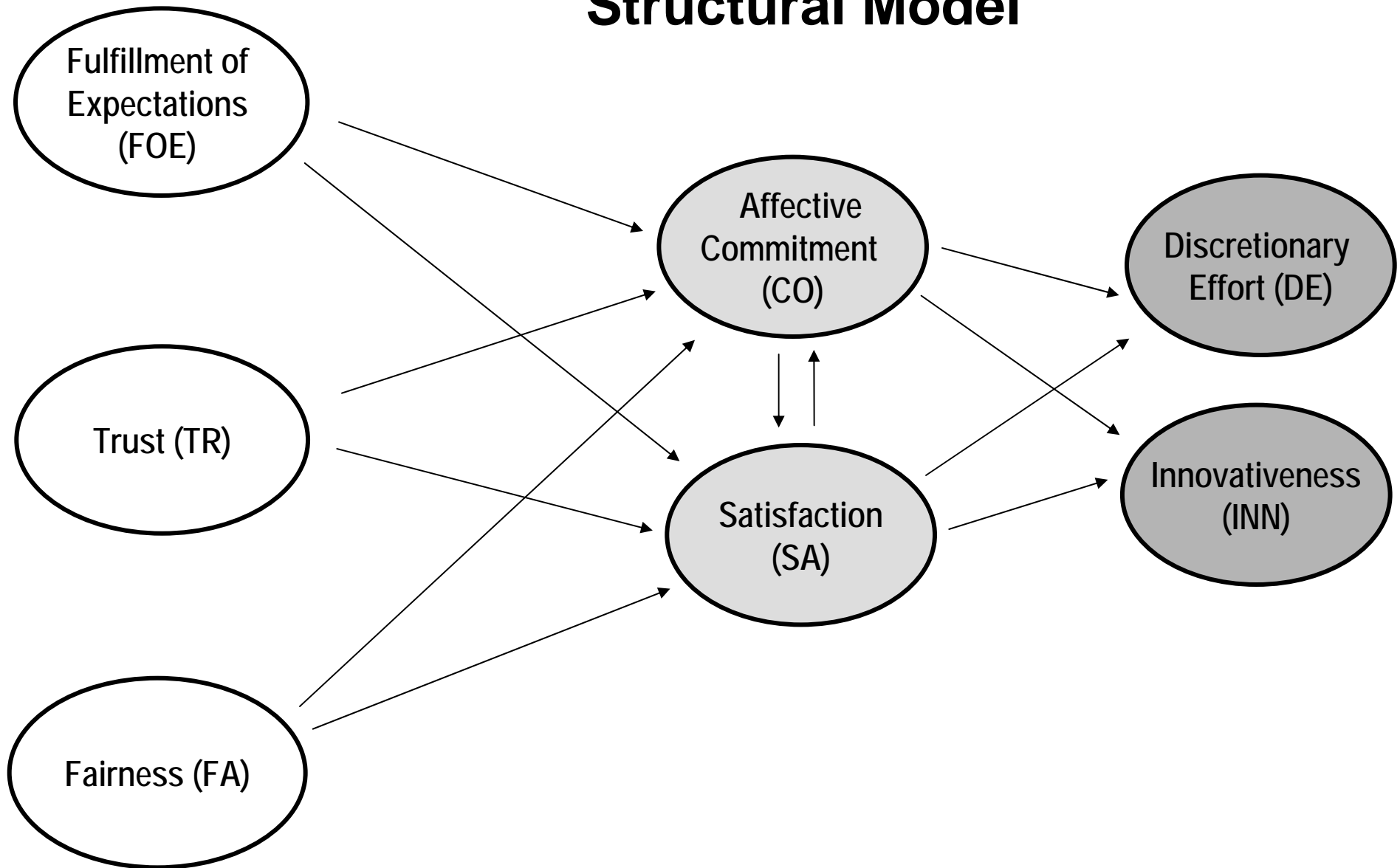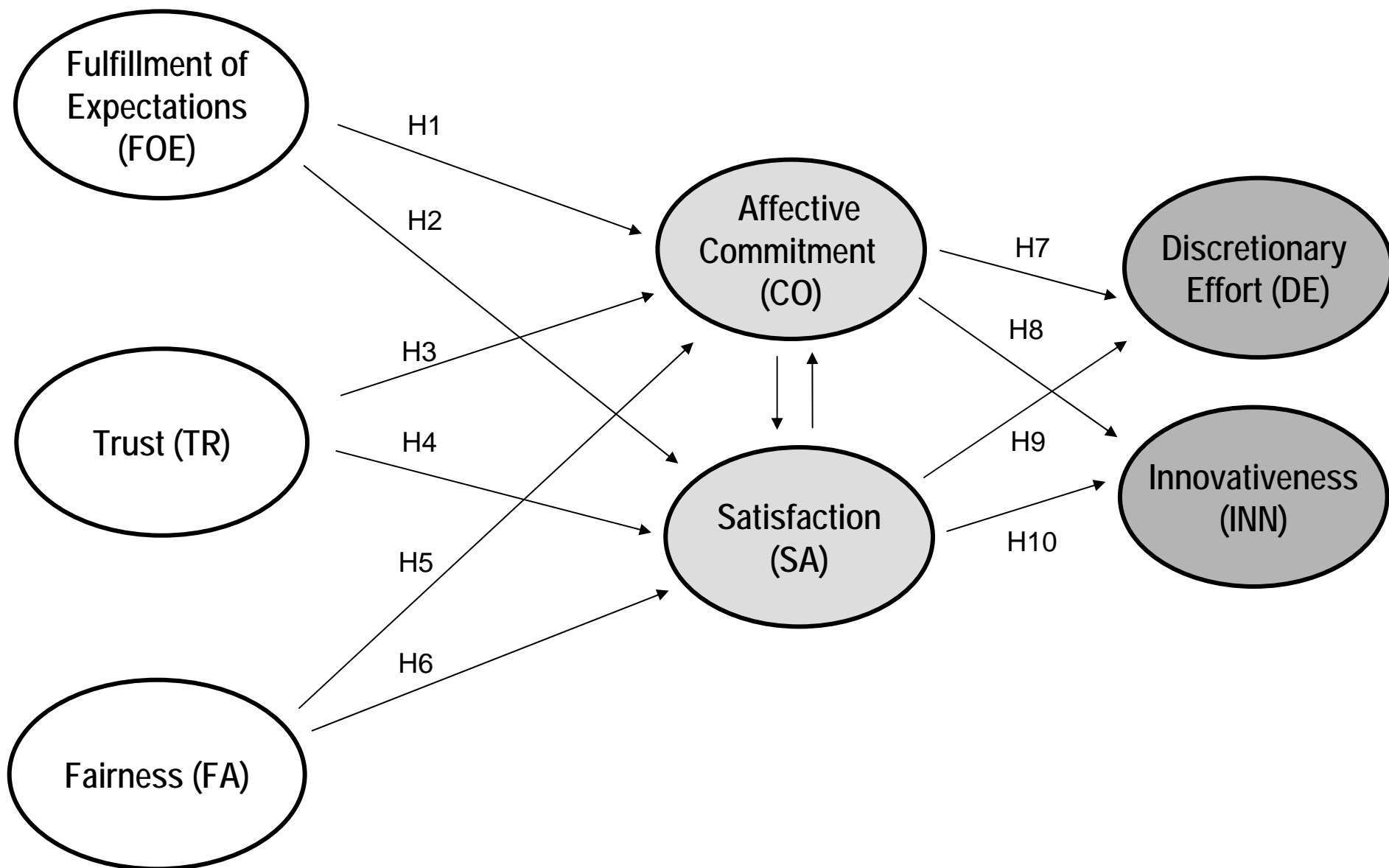
APC Questionnaire Final Instrument: 3 versions

ALT

↓

AMT
(Alliance Manager)

↓

WPT
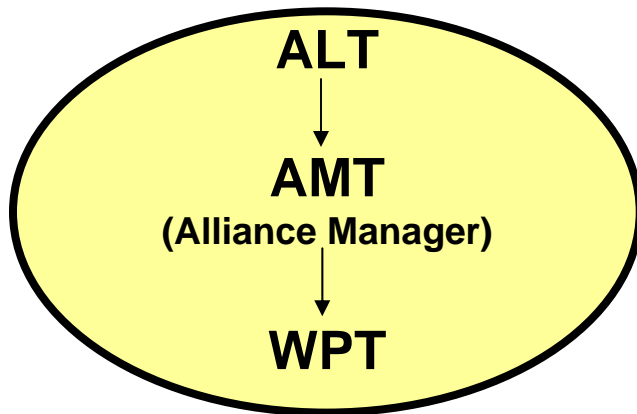
1. Alliance Leadership Team **(ALT)** version: **45 items**

2. Alliance Management Team **(AMT)** version: **56 items**

3. Wider Project Team **(WPT)** version: **63 items**

Sample

483 respondents (357 from program and 126 from project alliances) at the Wider Project Team (WPT) level.

Concurrently, data was also collected from Alliance Leadership Team (ALT) members (N= 98 – 75 program and 23 project alliances), and Alliance Management Team (AMT) members (N = 107 – 88 program and 19 project alliances). Please note that the ALT and AMT versions of the survey were slightly different from the WPT version by virtue of the hierarchical structure of alliances.

SAMPLE	ALT Program	AMT Program	WPT Program
Gender	69 M; 6 F	71 M; 17 F	266 M; 91 F
Average age (years)	49.1	44.1	40.6
Length of time in alliance (months)	18	20	14

Psychometric Properties

Internal consistency (Cronbach alpha) coefficients for the scales

Reliability	Cronbach alpha coefficient ALT Pgm	Cronbach alpha coefficient AMT Pgm	Cronbach alpha coefficient WPT Pgm
Trust within team	.92	.94	.92
Trust with the AMT	--	--	.94
Trust with the AM	--	.94	.96
Trust with the ALT	--	.96	.95
Fairness	.94	.91	.92
Commitment	.89	.93	.91
Satisfaction	.72	.79	.79
Effort	.86	.92	.86
Innovation	.89	.88	.89

Multiple Regression Analysis (for WPT program only)

(a) Satisfaction (S) and Commitment (C), _predicting Discretionary Effort (DE)_

	Variance
Satisfaction and Commitment	**DE** **14%**

(b) Satisfaction (S) and Commitment (C), _predicting Innovation (INV)_

	Variance
Satisfaction and Commitment	**INV** **17%**

(c) Alliance Psychological Contract Health Variables (APCHV), _predicting Commitment (C)_

	Variance
Alliance Psychological Contract Health Variables	**C** **58%**

12 Expectations Predicting Commitment (C)

	Expectation	Standardised regression coefficient: Commitment	Ranking	Relative contribution (%)
1	Decisions made best for project	.052	9	5.2
2	Commitment to drive innovation	.171	1	17.1
3	Risk managed collectively	.148	2	14.8
4	Clarity concerning project scope, goals, & deliverables	-.056	12	-5.6
5	Responsibilities accepted & acted out	.133	3	13.3
6	Collaboration & productivity	.093	7	9.3
7	Accountability of members to each other	.120	6	12.0
8	Effectiveness of processes & systems	.011	11	1.1
9	Responsiveness – no red tape	.014	10	1.4
10	Flexibility	.122	5	12.2
11	Access to 1st class resources	.133	4	13.3
12	Disagreements, conflicts or disputes addressed	.057	8	5.7

Scale Intercorrelations, WPT program

	1 EFI	2 Trust within WPT	3 Trust with AMT	4 Trust with AM	5 Trust with ALT	6 Fairness	7 Commitment	8 Satisfaction	9 Discretionary Effort	10 Innovation
1	1	.693**	.652**	.477**	.556**	.660**	.646**	.697**	.230**	.246**
2		1	.694**	.541**	.530**	.716**	.611**	.586**	.215**	.224**
3			1	.662**	.659**	.698**	.606**	.615**	.186**	.208**
4				1	.504**	.574**	.560**	.498**	.192**	.242**
5					1	.615**	.526**	.563**	.204**	.253**
6						1	.705**	.653**	.266**	.303**
7							1	.767**	.368**	.407**
8								1	.320**	.314**
9									1	.548**
10										1

Limitations

This research has an **Australian alliances focus** and **might not be generalisable** to other forms of relationships contracting or settings.

Using self-reported measures to measure the independent and dependent variables, and the fact that **this is cross-sectional rather than longitudinal study**, **increases the risk of error due to common method variance (CMV)**.

A further disadvantage of a cross sectional studies is that by collecting data at one point in time **trends are not detected**.

The use of Likert-type scales in the questionnaire. While some individuals have the **tendency to provide extreme responses** at the extremes of the scales, others take a more cautious approach using the middle range of the scale (Bollen, et al. 2005).

Conclusion

The APC model of the alliance psychological contract, and associated survey, is strongly predictive of commitment and satisfaction, which in turn are moderately predictive of discretionary effort and innovation.

Feedback, Comments and Questions

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