



UNIVERSITI PUTRA MALAYSIA

**INFLUENCE OF PERSONAL PREFERRED
CREATIVE PROBLEM-SOLVING STYLE AND ORGANISATIONAL
CREATIVITY FACTORS ON TYPES OF LATERAL THINKING**

OW CHEE KIN, ALEX

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By

OW CHEE KIN, ALEX

Thesis submitted to the School of Graduate Studies, Universiti Putra Malaysia
in Partial Fulfilment of the Requirement for the Degree of Doctor of Philosophy

October 2008



Abstract of thesis presented to the Senate of Universiti Putra Malaysia in partial fulfilment of the requirement for the degree of Doctor of Philosophy

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Chairman: Prof. Dr. Rahim Sail, PhD

Faculty: Education Studies

There were numerous studies on creative thinking especially on individual creativity but not on the types of lateral thinking. In this research, the general objective was to develop a multi-dimensional model of organisational creativity and developed instruments to measure the majority of the factors in the model. The specific objectives were to examine the influence of personal preferred style in creative problem solving and organisational creativity factors on the types of lateral thinking. This study also aimed to explore to what extent the types of lateral thinking could affect the decision outcomes.



The research methodology used was a quantitative survey to test the theory that was hypothesized in the research framework. It involved 217 people across all departments at the supervisory, executive and managerial level from a sample of ten (10) organisations in Malaysia that has undergone creativity training by the researcher from the year 2000 to year 2004. Four (4) instruments were administered by the researcher namely Creative Process Inventory (CPI), Organisational Creativity Factors (OCF), Lateral Thinking Test (LTT) and Decision Making Outcomes (DMO).

The research indicated that personal preferred styles have no significant impact on the explanation of observed variances in the types of lateral thinking. However, the organisational creativity factors showed a significant association with a chi-square value of 30.61. This explained that there could be other factors that influenced the types of lateral thinking. The three variables that are significant predictors of novelty ideas were creativity training, idea implementation process and idea assessment process.

The model explained that the overall predictive accuracy was 68.2% of the types of lateral thinking, thus presenting a relatively good model of exogenous variables. Overall, the model correctly predicted 80.3% of the cases for novelty ideas and 52.6% for predicting effective ideas.

The recommendations for organisations were to train their executives in creative thinking, applications of effective ideas and a chance in leading a problem solving session, setting up creativity assessment and implementation policies. The

recommendations for future research were to identify other factors that may affect individual's preferred styles, types of lateral thinking, and how these affect the decision outcomes.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**PENGARUH GAYA PERIBADI PILIHAN PENYELESAIAN MASALAH
KREATIF DAN FAKTOR-FAKTOR KREATIF ORGANISASI TERHADAP
JENIS-JENIS PEMIKIRAN LATERAL**

Oleh

OW CHEE KIN, ALEX

Oktober 2008

Pengurus: Prof. Dr. Rahim Sail, PhD

Fakulti: Pengajian Pendidikan

Terdapat banyak kajian di dalam pemikiran kreatif terutamanya kreativiti seseorang tetapi bukan ke atas jenis-jenis pemikiran lateral. Di dalam kajian ini, objektif amnya ialah membangunkan satu model kreativiti organisasi yang bercorak berbagai dimensi dan juga membangunkan soal selidik untuk mengukur faktor-faktor majoriti di dalam modal tersebut. Objektif spesifiknya ialah mengenalpasti pengaruh gaya peribadi pilihan di dalam proses penyelesaian masalah dan faktor-faktor kreatif organisasi terhadap jenis-jenis pemikiran lateral dan juga mengenalpasti sejauh manakah idea –idea pemikiran lateral memberi kesan kepada hasil keputusan yang dibuat.

Metodologi kajian ialah menggunakan soal selidik kuantitatif untuk menguji teori yang dihipotesiskan di dalam rangka kajian. Ia melibatkan seramai 217 orang di semua jabatan dari tahap penyelia, pegawai sehingga ke tahap pengurus dari sepuluh (10) sampel organisasi di Malaysia yang telah menjalani latihan kreativiti oleh penyelidik dari tahun 2000 ke 2004. Terdapat empat soal selidik yang digunakan oleh penyelidik iaitu "Creative Process Inventory (CPI)", "Organisational Creativity Factors (OCF)", "Lateral Thinking Test (LTT)" dan "Decision Making Outcomes (DMO)"

Kajian ini menunjukkan gaya peribadi pilihan tiada impak signifikan terhadap penjelasan varian di dalam jenis-jenis pemikiran lateral. Walau bagaimanapun, faktor-faktor kreatif organisasi menunjukkan korelasi signifikan dengan nilai chi-square 30.61 yang menunjukkan bahawa model tersebut hanya sederhana padan. Ini mungkin kerana terdapat faktor-faktor lain memengaruhi kreativiti didalam organisasi. Tiga pembolehubah peramal signifikan "idea novelty" di dalam pemikiran lateral adalah latihan kreatif, proses pelaksanaan idea dan proses penaksiran idea.

Model kajian ini menjelaskan ketepatan ramalan adalah 68.2% dari jenis-jenis pemikiran lateral, maka ini menggambarkan perbandingan suatu kewujudan model angkubah yang bererti. Secara keseluruhannya, model ini meramalkan 80.3% ketepatan kes-kes idea novelty dan 52.6% di dalam ramalan idea-idea efektif.

Cadangan kepada organisasi adalah melatih eksekutifnya di dalam pemikiran kreativiti, aplikasi idea-idea yang efektif, memberi peluang untuk mengetuai sesi penyelesaian masalah, menyediakan sistem dan polisi penaksiran dan pelaksanaan kreativiti. Cadangan untuk kajian lanjutan adalah membangunkan dan mengenalpasti faktor-faktor yang lain yang memengaruhi gaya peribadi pilihan, jenis-jenis pemikiran lateral, dan bagaimanakah faktor-faktor tersebut memengaruhi hasil-hasil keputusan.



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I certify that an Examination Committee met on the 15th October 2008 to conduct the final examination of Ow Chee Kin, Alex on his Doctor of Philosophy thesis entitled “Personal Preferred Styles and Organisational Creativity Factors in Influencing Different Types of Lateral Thinking” in accordance with Universiti Putra Malaysia (Higher Degree) Act 1980 and Universiti Putra Malaysia (Higher Degree) Regulations 1981. The committee recommends that the candidate be awarded the relevant degree. Members of the Examination Committee are as follows:

Abu Daud Silong, PhD

Professor
Faculty of Educational Studies
Universiti Putra Malaysia
(Chairman)

Rosini Abu, PhD

Associate Professor
Faculty of Educational Studies
Universiti Putra Malaysia
(Internal Examiner)

Rohani Ahmad Tarmizi, PhD

Associate Professor
Faculty of Educational Studies
Universiti Putra Malaysia
(Internal Examiner)

Rosemary S. Caffarella, PhD

Cornell Department of Education
Ithaca, New York,
USA
(External Examiner)

Hasanah, PhD

Professor and Dean
School of Graduate Studies
Universiti Putra Malaysia

Date:



This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfillment of the requirements of the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

Rahim Md Sail, PhD

Professor
Faculty of Educational Studies
Universiti Putra Malaysia
(Chairperson)

Jegak Uli, PhD

Associate Professor
Faculty of Educational Studies
Universiti Putra Malaysia
(Member)

Shamsuddin Ahmad, PhD

Faculty of Educational Studies
Universiti Putra Malaysia
(Member)

**HASANAH MOHD. GHAZALI,
PhD**

Professor and Dean
School of Graduate Studies
Universiti Putra Malaysia

Date: 15 October 2008



DECLARATION

I hereby certify that the thesis is based on my original work except for quotations and citations, which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any degree at the UPM or other institutions.

OW CHEE KIN, ALEX

Date:

TABLE OF CONTENTS

	Page
ABSTRACT	ii
ABSTRAK	v
ACKNOWLEDGEMENTS	viii
APPROVAL	x
DECLARATION	xii
TABLE OF CONTENTS	xiii
LIST OF TABLES	xvii
LIST OF FIGURES	xix
LIST OF ABBREVIATIONS	xx

CHAPTER

I	INTRODUCTION	1
	The Problem and Its Context	1
	Problem Statement	7
	Objectives of the Study	11
	General Objective	11
	Specific Objectives	11
	Statistical Hypotheses	12
	Significance of the Study	13
	Assumptions	21
	Limitations	22
	Definitions of Terms	23
	Operational Definitions of Terms	25
II	REVIEW OF LITERATURE	27
	Creative Thinking and Lateral Thinking	27
	Two Viewpoints on Creativity	27
	Concept of Creative Thinking and Lateral Thinking	28
	Origins and Theory of Creative Thinking and Lateral Thinking	32
	Theories of Creative Problem Solving	36
	Novelty and Effective Ideas	40
	Types of Problems	42
	Types of Lateral Thinking Ideas	44
	Selection and Evaluation of Ideas	46
	The Manager's Styles in Creative Problem Solving	47
	Factors Affecting Organisational Creativity	51
	Summary of Creative Thinking	55
	Decision Making	56
	Theoretical Background	57
	Decision Making	57



Empirical Research	62
Recent Studies and Scholarly View Relating to Styles of Problem Solving	65
Recent Studies and Scholarly View Relating to Organisational Creativity	68
Summary of Decision Making	71
Relationship Between Creative Thinking / Lateral Thinking and Decision-Making	75
Lateral Thinking and Decision-Making	76
Creativity Tests	77
Creativity Tests Relating to Creative Person	78
Biographical Inventories	78
Special Personal Properties	79
Creativity Tests Relating to Creative Process	83
Test Relating to Creative Products	86
Personal Preferred Styles Tests	86
Organisational Creativity Factors Test	91
Conclusion of Creativity Tests	95
Gaps in the Existing Literature	97
Purpose of the Present Study	98
III RESEARCH METHODOLOGY	100
Theoretical and Research Framework	100
Measurement and Instrumentation	104
Research Design	104
Population	104
Sample Size and Power Analysis	106
Sampling Procedures	108
Instrumentation	110
The Creative Process Inventory (CPI)	111
Scoring of the Tests	111
Organisational Creativity Factors (OCF) Instrument	112
Lateral Thinking Test (LTT) Instrument	114
Decision Outcomes (DO) Instrument	116
Pre-Testing of Instruments	117
Data Collection	121
Statistical Tests	124
The Chi-square (χ^2) Test of Independence	126
Pearson Product-Moment Correlation	127
Logistic Regression	128
Exploratory Data Analysis	129
IV FINDINGS AND DISCUSSIONS	140
Findings and Discussions	140
Demographic Profile of the Respondents	143
Gender	143
Age Group	144
Job Position	145



The Personal Preferred Styles in Creative Problem Solving	145
The Types of Lateral Thinking Used by the Executives	148
The Level of Organizational Creativity Factors Perceived by the Executives	151
Level of Creativity Mechanism	151
Level of Creativity Training	153
Level of Idea Development Process	154
Level of Idea Implementation Process	155
Level of Idea Assessment Process	156
The Relationship between Personal Preferred Style in Creative Problem Solving and the Types of Lateral Thinking	157
The Preferred Styles in Creative Problem Solving by Gender	159
The Preferred Styles in Creative Problem Solving by Age Group	162
The Preferred Styles in Creative Problem Solving by Job Position	164
The Extend to which Organizational Creativity Factors Influence on Types of Lateral Thinking	167
The Extend to which Personal Preferred Style and Organizational Creativity Factors Influence the Types of Lateral Thinking	173
To What Extent the Types of Lateral Thinking Influence or Determine Decision-Making Outcomes	181
Focus	186
Decision Characteristics	187
Alternative Ideas	189
Decision Process	191
The Multi-Dimensional Model of Organisation Creativity and the Three Research Instruments in Measuring the Majority of the Factors Included in the Model	193
V	
SUMMARY, CONCLUSION AND RECOMMENDATIONS	195
Introduction	195
Research Summary	195
Research Questions	195
Research Objectives	197
Research Methodology	198
Summary of Major Findings and Conclusions	201
Findings and Conclusions of the Preferred Style, Organisational Creativity Factors and Types of Lateral Thinking	204
Findings and Conclusions of the Semi-Structured Interview	210
Implications	212
Theoretical Implications	214
Recommendations	216
Recommendations for Practice	216
Recommendations for Future Research	219
REFERENCES	223
APPENDICES	235
A – Creative Process Inventory (CPI)	235
B – Organisational Creativity Factors (OCF) Questionnaire	244

C – Lateral Thinking Test (LTT) Questionnaire	250
D –Decision Making Outcomes (DMO) Questionnaire	255
BIODATA OF THE STUDENT	260



LIST OF TABLES

Table		Page
1	Definitions of Creativity and Innovation	32
2	Theorists and Models of the Creative Problem Solving Process	36
3	Pre-Test Results for Creative Process Inventory and Organisational Creativity Factors	119
4	Pre-Test Results for Decision Making Outcomes	120
5	Demographics of the Sampled Organisations	124
6	The Rule of Thumb of Size / Magnitude / Strength of Correlation or Relationship	127
7	Magnitude of Relationship Between Two Variables	128
8	Tests of Normality (I)	130
9	Test of Normality (II)	131
10	Kolmogorov-Smirnov Statistics of Normality Test for the Variables	135
11	Demographic Profile of the Respondents – Gender, Age Group and Job Position	144
12	Statistics Level of Organisational Creativity Factors	152
13	The Preferred Style in Creative Problem Solving by the Types of Lateral Thinking	158
14	The Preferred Style in Creative Problem Solving by the Gender	160
15	The Preferred Style in Creative Problem Solving by the Age Group	164
16	The Preferred Style in Creative Problem Solving by the Job Position	165



17	Model Summary	168
18	Omnibus Tests of Model Coefficients	168
19	Hosmer and Lemeshow Test	169
20	Variables not in the Equation	169
21	Classification Table	170
22	Variables in the Equation	170
23	Model Summary	174
24	Hosmer and Lemeshow Test	174
25	Omnibus Tests of Model Coefficients	174
26	Model if Term Removed	175
27	Classification Table	176
28	Variables in the Equation	177
29	Variables not in the Equation	178
30	Demographic Profile of the Respondents – Gender, Age Group and Decision Outcome	181
31	Descriptive statistics of Each of the Independent Variables in Decision-Making Outcomes	183
32	Descriptive statistics of Each of the Independent Variables in Decision-Making Outcomes (n=30)	185



LIST OF FIGURES

Figure		Page
1	A Model of Processes related to Decision Making Outcomes	74
2	A Model for Classifying Creative Decision Outcomes	75
7	Theoretical Model of the Study	99
8	Research Framework	103
9	Normal Probability Plot of Clarifier	131
10	Normal Probability Plot of Ideator	132
11	Normal Probability Plot of Developer	132
12	Normal Probability Plot of Implementor	132
13	Normal Probability Plot of Creativity Mechanism	133
14	Normal Probability Plot of Creativity Training	133
15	Normal Probability Plot of Idea Development Process	133
16	Normal Probability Plot of Idea Implementation Process	134
17	Normal Probability Plot of Idea Assessment Process	134
18	Frequency Distribution of the Personal Preferred Styles in Creative Problem Solving used by the Executives	146
19	The Types of Lateral Thinking used by the Executives	149
20	Observed groups and predicted probability of membership for effective ideas.	172
21	Observed groups and predicted probability of membership for effective ideas.	180



LIST OF ABBREVIATIONS

PPS	Personal Preferred Styles
CPI	Creative Process Inventory
OCF	Organisational Creativity Factors
CM	Creative Mechanism
CT	Creative Training
IIP	Idea Implementation Process
IAP	Idea Assessment Process
LTT	Lateral Thinking Test
TLT	Types of Lateral Thinking
DMO	Decision Making Outcomes
FA	Focus Area
DC	Decision Characteristics
AI	Alternative Ideas
DMP	Decision Making Process
N	Novelty Ideas
E	Effective Ideas



CHAPTER 1

INTRODUCTION

The Problem and Its Context

The Ninth Plan is organised according to the thrusts of the National Mission. The following are the key highlights and programmes of the Ninth Plan under each of the five thrusts. Thrust 1 is to move the economy up the value chain; Thrust 2 is to raise the capacity for knowledge and innovation and nurture “first class mentality”; Thrust 3 is to address persistence social economic inequalities constructively and productively; Thrust 4 is to improve the standard and sustainability of quality of life and finally thrust 5 is to strengthen the institutional and implementation capacity.

In the Ninth Malaysian Plan, it re-examines the policies and strategies that were put in place, proposes changes in the development approaches, and introduces new policy initiatives. The changing domestic and global economic landscape, require initiatives to enhance national competitiveness and resilience. Hence in the Plan period, the macroeconomic will focus on sustaining growth and strengthening the economy’s capacity to cushion against downside risks and shocks.

According to the Ninth Plan, the quality of the nation’s human capital will be the most critical element in the achievement of the National Mission, and human capital development will be a key thrust in the Ninth Plan period. Human capital



development will be holistic; encompassing the acquisition of knowledge and skills or intellectual capital including science and technology (S&T) and entrepreneurial capabilities as well as the internalization of positive and progressive attitudes, values and ethics through education, training and lifelong learning. The focus is also in capacity building in order to develop knowledgeable, skilled and innovative human capital to drive a knowledge-based economy. Emphasis will also be given to develop human capital that is progressive in thinking and attitude with strong ethics and universal values as espoused by *Islam Hadhari*.

An innovation-based economy will include a commitment to a continual renewal of products, systems, processes, and people. Products and service leadership is one way to succeed in an innovation economy. The knowledge worker will function as a business unit and will be more motivated and inclined to self-learning whereas an entrepreneurial worker will apply his knowledge and creativity to create value in businesses.

The heightened competition within today's business climate has forced organisations to re-examine the assumptions of traditional theories of decision-making process. Established formulas for decision-making have become less applicable, because these formulas were based on principles in promoting and reflecting the stability of a previous era. Traditional procedures for routinising problem solving process through the use of structural systems have being challenged and shown to be inefficient. These shortcomings aroused from the failure of older theories need to incorporate the flexibility and adaptability required by organisations in the current era.

Given the challenges faced by today's organisations, the relevance of creativity to problem solving, decision-making and research and development is clear. To remain competitive, business can no longer follow time-tested formulas of precedent; the executives must be able to produce and be receptive to innovation, which is synonymous here with creativity in decision-making process. Making the right decision at the right time is crucial in staying ahead in competition. Henceforth, executives need to learn on how to use creativity in making right decisions with limited resources, within their capabilities and also following the intuition abilities (Mason & Mitroff, 1981; Martin, 1993; Hayashi, 2001).

How can study on creative thinking or lateral thinking help us to understand types of lateral thinking in influencing decision outcomes? Consider first the thinking process. Thinking is so important to make things happen. When we do not have enough information, we have to think. Likewise, when we have too much information, we have to think so as to make a valid decision. At times, when there are many alternatives or choices of action, we still have to think. Therefore, continuing education and training and development activities always play a very important role in equipping the adult learners and company executives with the relevant knowledge and skills. Company executives with different leadership styles can be trained in creative thinking and using creativity in making the right decisions so that they are more prepared to make use of the available information wisely (Amabile, 1997; Jung, 2001)