UNIVERSITI PUTRA MALAYSIA

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

OW CHEE KIN, ALEX

FPP 2009 13

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

OW CHEE KIN, ALEX

DOCTOR OF PHILOSOPHY

UNIVERSITI PUTRA MALAYSIA

2009

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

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

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

By

OW CHEE KIN, ALEX

October 2008

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

Pengurusi: **Prof. Dr. Rahim Sail, PhD**

Fakulti: **Pengajian Pendidikan**

Terdapat banyak kajian di dalam pemikiran kreatif terutamanya kreativiti keseorangan 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 mojoriti 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 sejuah manakah idea –idea pemikiran lateral memberi kesan kepada hasil keputusan yang dibuat.

Metodolgi 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. Tedapat 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 bagaimanpun, 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 mempergaruhi kreativiti didalam organisasi. Tiga pembolehubah peramal signifikan “idea novelty” di dalam pemikiran lateral adalah latihan kreatif, proses perlaksanan 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 perlaksanaan kreativiti. Cadangan untuk kajian lanjutan adalah membangunkan dan mengenalpasti faktor-faktor yang lain yang mempergaruhi gaya peribadi pilihan, jenis-jenis pemikiran lateral, dan bagaimanakah faktor-faktor tersebut mempergaruhi hasil-hasil keputusan.

ACKNOWLEDGEMENTS

I am fortunate to have had the opportunity to learn empirical research in this programme. At the same time, I am indebted to many people. Foremost, among these is my supervisory committee comprising Professor Dr. Rahim Md Sail, Associate Professor Dr. Jegak Uli and Dr. Shamsuddin Ahmad and many others at the Faculty especially Prof. Dr. Aminah, Dr. Maznah and Dr. Bahaman who have extended their great support and advise throughout the programme.

I am also grateful for the detailed and thoughtful comments from distinguished scholars. They have relentlessly provided inputs in assisting me with this study especially in the survey instruments. I also like to express my gratitude to them in the deeper understanding on the analysis in the study.

By the same token, I also acknowledge my debt to the many senior managers and human resource managers with whom I have recently met in the industry without which this study would not have materialized. These professionals were extremely helpful in granting me permission to conduct this research at their respective plants, the multinational corporations and large local corporations, some in exchange for executive summary and some for their valuable insights into the industry, all of which have shown great hospitality. Appreciation also goes to the selected organisations officials, especially the graduates of creative thinking and lateral thinking training for their cooperation and efforts in rendering me the database.

Additionally, I had the privilege of earnest support and generosity of my colleagues and especially the senior staff of my company, Infor Resources System Sdn Bhd who have in their own way supported and assisted me to make this study possible.

On a more personal level, it is a fitting tribute to my wife and children, my parents and friends for their patience, unfailing love and support, concern, and encouragement. To all these people, I would like to say, from the bottom of my heart, Thank You and May God Bless You Always.

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

LIST OF TABLES

LIST OF FIGURES

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)