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Building A Culture Of Innovation: A Case Of Pharmaceutical Industry In Jordan

By

Abeer Abdul-Karim Pharaon

A Doctoral Thesis

Submitted in Partial Fulfilment of the Requirements

For the Award of Doctor of Philosophy

Of Loughborough University

Wolfson School of Mechanical and Manufacturing Engineering

November 2010

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"رَبِّ أَوْزِعْنِي أَنْ أَشْكُرَ نِعْمَتَكَ الَّتِي أَنْعَمْتَ عَلَيَّ

وَعَلَى وَالِدَيَّ وَأَنْ أَعْمَلَ صَالِحًا تَرْضَاهُ وَأَدْخِلْنِي

بِرَحْمَتِكَ فِي عِبَادِكَ الصَّالِحِينَ" سورة النمل آية 19

"MY LORD, DIRECT ME TO BE APPRECIATIVE OF THE BLESSINGS YOU HAVE BESTOWED UPON ME AND MY PARENTS, AND TO DO THE RIGHTEOUS DEEDS THAT PLEASE YOU. ADMIT ME BY YOUR MERCY INTO THE COMPANY OF YOUR RIGHTEOUS SERVANTS".

QURAN CHAPTER 27 VERSE 19

*To my husband Othman
It was your inspiration, love and encouragement
It is all yours*

Acknowledgements

This thesis was not to be completed without the collection effort of many people.

I would like to express my gratitude and appreciation:

- *To a role model and a father figure, my supervisor Prof Neil Burns who has guided and supported me during my study. You provided invaluable advice and experienced guidance which I will continue to value and benefit from during my professional life. Thank you for believing that I can continue at times when I believed not.*
- *To My respected father Justice Abdul-Karim Pharaon and great mother Zahra who have closely joined the PhD journey moment by moment. Your prayers to GOD and daily support were the motivation to keep me going. This thesis is dedicated to you both. I'm grateful to the seeds you have sown for an endless thrust to knowledge and high achievement. The dream has become true.*
- *To the Innovation and Productivity Grand Challenge (IPGC) and IMCRC for funding this research and all its related expenses, thank you for your funding.*
- *To the Arab Pharmaceutical Manufacturing (APM) company in which I have spent two years working to develop the research model and introduce changes. My special thanks go to GM Dr Rakan Rshaidat and Mr Rida AlGhoul, GM after Hikma Acquisition for allowing the access and enabling changes, to all APM managers and personnel for their high cooperation especially Dr Nadia Ghazal, the Technical Director, Mrs Mai Jairoudi, the Quality Unit Director, and Quality Unit team and members. Special thanks also to Mrs Suhad Ashadafan and Miss Maha Quteishat for their continuous support and for facilitating contacts, interviews and data analysis.*
- *To Wolfson School: Prof Rob Parkin, the head of school, Prof Mike Jackson, deputy head of school (Research), Prof Chris Backhouse Acting Dean of Engineering, and to the ladies in the general office, thank you for your support and continuous help.*
- *To Ms Jo Mason as a close friend, you have been there all the time whenever I needed help, we are blessed with a special Research Administrator like Jo, thank you for your continuous support and words: "Keep swimming! I'm behind you all the way!".*
- *To Mr Derrick Hurrell, Technical Instructor and all his lab colleagues for their mostly appreciated help and assistance.*
- *And finally but most heartedly, to my Husband Othman Moqbel and our beloved children (Bushra, Zahra and baby Abdul-Rahman) who matured to appreciate mummy's busy schedules. You will grow up and achieve better in life.*

Publications and Awards

1. Pharaon, A. and Burns, N.D. (2010), *Building A Culture of Innovation: A Case of Pharmaceutical Industry in Jordan*, *Journal of Business and Policy Research*, Vol.5, Issue 1, pp.12-27. (Pharaon&Burns, 2010).
2. *Loughborough University Sir Robert Martin Faculty of Engineering Prize for outstanding academic and non-academic achievement*, June 2010.
<http://www.lboro.ac.uk/eng/research/imcrc/abeer-pharaon-prize.html>
3. *Best Paper Award at the 12th International Business Research Conference in Dubai*, April 2010.
<http://www.lboro.ac.uk/staff/news/articles/2010/abeer-award.html>
4. *Paper titled: "Developing an innovation culture in Pharmaceutical Organizations"*, Presented to the *Facilitating Innovation conference*, Loughborough University, February 2009.
5. *Runner-up in the East Midlands Award in the British Council SHINE International Student competition*, 2008.
6. *The East Midlands International student of the year 2008 and in recognition of this achievement*,
7. *The Loughborough University Ambassador Award presented by Loughborough University Vice- Chancellor Prof Shirley Pearce*, 2008.
8. *First prize in the UK Doctoral conference*, Nottingham University, June 2007.

Abstract

The purpose of this research is to support organizations to sustain competitiveness by building an innovation culture and supportive climate which empower employees to provide new valuable creative ideas and achieve better performance. Studies into innovation are generally devoted to studying process innovation and/or new product introduction neglecting organizational culture as a major determinant of continuous innovation.

The Innovation Culture Enhancing Model (The ICE Model) and guidelines developed in this research were based upon extensive literature survey and practical feedback. The ICE model was tested over a two-year period in a large pharmaceutical company in Jordan using an action research methodology in an in depth case study obtaining major improvements to the innovative capacity of the company involved. The intervention designed for the company was based upon the ICE model components and thorough culture and climate assessments and interviews with over 638 individuals representing all levels of the company's hierarchy.

In the foundation stage, the intervention involved; a flexible structure and strategy devoted to innovation supported by full management commitment. In the culture change stage, the ICE Model Dimensions: (1) Leaders as change agents dimension, (2) Shared work values dimension and (3) Motivation dimension were used to create an innovation culture. Interventions were also introduced to Keys to creativity items: (1) organizational encouragement, (2) supervisory encouragement, (3) work group support, (4) freedom, (5) sufficient resources, (6) and challenging work. The significant change to the culture and climate inside the company assessed using established climate to creativity assessment instruments was associated with improved performance measured using Key Performance Indicators (KPIs), successful achievement in international audit and empowered motivated individuals.

Based upon an extensive literature survey and the action research experience, the ICE Model was refined to include two main contexts: (1) an understanding of the national culture (social structure, religion, language, education, political and economic environments), and (2) organizational environment (technological development, economic environment, socio-cultural changes, political and legal environment).

This research provided background information about the national culture in the Middle East and its implications on Organizational Development (OD) interventions and MNCs investments. The research also introduced a new approach for OD interventions; named the 'Change by Values' approach in which spiritual values are utilized as motivators to enhance successful application of culture change interventions. The outcomes of this research are particularly valuable to companies involved in mergers/acquisitions or joint ventures, which are likely to face cultural integration difficulties that might place the new endeavour at risk due to cultural differences. The developed ICE model and guidelines are major contributions to the innovation culture literature presenting innovation as a core value and creating innovation as a continuous competitive edge in a changing businesses environment.

List of Figures

FIGURE 1- THESIS STRUCTURE.....	8
FIGURE 2 ARTICLES WITH 'INNOVATION' IN THEIR TITLE (1970-2009).....	16
FIGURE 3 AMABILE'S THREE CREATIVITY COMPONENTS, SOURCE: (AMABILE, 1998).....	19
FIGURE 4 THREE STEPS TOWARDS INNOVATION. SOURCE: (CUMMINGS&WORLEY, 2009).....	20
FIGURE 5- FOUR TYPES OF INNOVATION, SOURCE (MORRIS, 2006).....	21
FIGURE 6- IDENTIFIED GAP IN LITERATURE.....	33
FIGURE 7- BURN'S FRAMEWORK TO CHANGE, SOURCE: (BURNS, 2004).....	37
FIGURE 8 ORGANIZATIONAL INFLUENCES ON INDIVIDUAL CHANGE- SOURCE (WOODMAN&DEWETT, 2004).....	39
FIGURE 9- A SIMPLE MODEL OF THE INNOVATION PROCESS, SOURCE (TIDD&BESSANT, 2009).....	40
FIGURE 10- PERMANENT INNOVATION METHODOLOGY SHOWING INNOVATION CULTURE AS FINAL STAGE, SOURCE:(MORRIS, 2006).41	
FIGURE 11 - LEVELS OF CULTURE AND THEIR INTERACTIONS FROM (SCHEIN, 2004)FURTHER ADAPTATION BY (BROWN, 1998).....	42
FIGURE 12- SCHEIN'S ICEBERG METAPHOR, SOURCE FROM (SCHEIN, 2009).....	44
FIGURE 13 A MODEL OF THE INFLUENCES OF ORGANIZATIONAL CULTURE AND CLIMATE ON INDIVIDUAL CREATIVITY.....	46
FIGURE 14- CAMERON AND QUINN COMPETING VALUE FRAMEWORK, SOURCE: (CAMERON&QUINN, 2006).....	47
FIGURE 15 STAGE 1- MODEL DEVELOPMENT- CHANGE LEVERS.....	52
FIGURE 16 STAGE 2- MODEL DEVELOPMENT- BUILDING BLOCKS.....	53
FIGURE 17- THE ICE MODEL.....	55
FIGURE 18- LEVELS OF SHARED WORK VALUES DIMENSION.....	63
FIGURE 19 KURT LEWIN'S MODEL – SOURCE: (CUMMINGS&WORLEY, 2009).....	72
FIGURE 20 ACTION RESEARCH CYCLE- SOURCE: (COUGHLAN&COUGHLAN, 2002).....	74
FIGURE 21 ACTION RESEARCH CYCLES- SOURCE:(COUGHLAN&COUGHLAN, 2002).....	76
FIGURE 22 MEASUREMENT OF CHANGE THROUGH A BEFORE-AND-AFTER DESIGN- SOURCE: (KUMAR, 2005).....	78
FIGURE 23 BEFORE-AND-AFTER (PRE-TEST/POST TEST) STUDY DESIGN- SOURCE: (KUMAR, 2005).....	78
FIGURE 24 - APM'S CURRENT CLIMATE CHARACTERISTICS (CONS).....	106
FIGURE 25 APM'S CURRENT CLIMATE CHARACTERISTICS (PROS).....	106
FIGURE 26 - INNOVATION TEAM VOTING ON CCCS CONSIDERED AS INHIBITORS TO CREATIVITY.....	108
FIGURE 27 OCAI ANALYSIS- GROUP 1 AVERAGE.....	119
FIGURE 28 OCAI ANALYSIS- GROUP 2 AVERAGE.....	119
FIGURE 29 OCAI ANALYSIS- GROUP 3 AVERAGE.....	120
FIGURE 30 OCAI ANALYSIS- TOTAL AVERAGE OF THE THREE GROUPS.....	120
FIGURE 31: APM- ORGANIZATION AS COMPARED TO KEYS DATABASE.....	132
FIGURE 32 SAHAB SITE AS COMPARED TO THE OVERALL ORGANIZATION.....	133
FIGURE 33 BUHAIRA SITE AS COMPARED TO THE OVERALL ORGANIZATION.....	134

<i>FIGURE 34 AMMAN SITE AS COMPARED TO THE OVERALL ORGANIZATION</i>	135
<i>FIGURE 35: INNOVATION TEAM AS COMPARED TO THE OVERALL ORGANIZATION</i>	136
<i>FIGURE 36 FACTORS SUPPORTING CREATIVITY IN KEYS-ENGLISH ANALYSIS</i>	138
<i>FIGURE 37 FACTORS INHIBITING CREATIVITY IN KEYS-ENGLISH ANALYSIS</i>	139
<i>FIGURE 38 BREAKDOWN OF ‘MANAGEMENT’ ELEMENT INHIBITING FACTOR IN KEYS-ENGLISH ANALYSIS</i>	139
<i>FIGURE 39 SINGLE MOST IMPORTANT SUGGESTION TO IMPROVE CREATIVITY IN KEYS-ENGLISH ANALYSIS</i>	140
<i>FIGURE 40- FINANCE PROFILE/KEYS-ARABIC ANALYSIS</i>	143
<i>FIGURE 41 ENGINEERING PROFILE/KEYS-ARABIC ANALYSIS</i>	143
<i>FIGURE 42 SALES PROFILE/KEYS-ARABIC ANALYSIS</i>	144
<i>FIGURE 43 STORES PROFILE/KEYS-ARABIC ANALYSIS</i>	144
<i>FIGURE 44 QUALITY PROFILE/KEYS-ARABIC ANALYSIS</i>	145
<i>FIGURE 45 PERSONNEL PROFILE/KEYS-ARABIC ANALYSIS</i>	145
<i>FIGURE 46 SPECIAL PROJECTS PROFILE/KEYS-ARABIC ANALYSIS</i>	146
<i>FIGURE 47 PRODUCTION/SALALEM PROFILE/KEYS-ARABIC ANALYSIS</i>	146
<i>FIGURE 48 PRODUCTION/ BUHAIRA PROFILE/KEYS-ARABIC ANALYSIS</i>	147
<i>FIGURE 49 CONSOLIDATION OF QU INTERVENTIONS</i>	190
<i>FIGURE 50- KEYS TO CREATIVITY ASSESSMENT BEFORE INTRODUCING THE INTERVENTION</i>	193
<i>FIGURE 51- KEYS TO CREATIVITY ASSESSMENT AFTER INTRODUCING THE INTERVENTION</i>	194
<i>FIGURE 52- COMPARISON OF KEYS TO CREATIVITY ANALYSIS BEFORE AND AFTER THE INTERVENTION IN THE QU</i>	194
<i>FIGURE 53- OCAI PROFILE OF QU DIRECTOR</i>	196
<i>FIGURE 54- OCAI PROFILE FOR QU DEPUTY</i>	196
<i>FIGURE 55- THE CULTURAL AND ECONOMIC CONTEXTS OF INTERNATIONAL OD PRACTICES-</i>	205
<i>FIGURE 56 – DETERMINANTS OF CULTURE, SOURCE (HILL, 2009)</i>	206
<i>FIGURE 57- THE ICE MODEL- A REFINED VIEW</i>	212
<i>FIGURE 58- GUIDELINES FOR APPLYING THE ICE MODEL IN ORGANIZATIONS</i>	216

List of Tables

TABLE 1 OD AND CHANGE MANAGEMENT: DIFFERENCES AND SIMILARITIES, BASED ON (CUMMINGS&WORLEY, 2009).....	14
TABLE 2 CLASSIFICATION OF ORGANIZATIONAL INNOVATION PERSPECTIVES, BASED ON (LAM, 2005)	16
TABLE 3 ATTRIBUTES OF 'STATUS QUO CULTURE' VERSUS 'INNOVATION CULTURE' - SOURCE: (MORRIS, 2006).....	26
TABLE 4 TEN FACTORS WHICH STIMULATE INNOVATION- SOURCE: (EKVALL, 1996)	29
TABLE 5: A SELECTION OF BELIEFS/VALUES COMMONLY FOUND IN COMMERCIAL ORGANIZATIONS – SOURCE: (BROWN, 1998).....	43
TABLE 6- GAGLIARDI'S TYPES OF STABILITY & CHANGE. ADAPTED FROM (GAGLIARDI, 1986), ALSO PRESENTED IN (HATCH, 2004)...	45
TABLE 7- SUMMARY OF CAMERON AND QUINN HINTS FOR CULTURE CHANGE TO EMPHASIZE CLAN&ADHOCRACY QUADRANTS	48
TABLE 8 MODELS DISCUSSION AND LEARNING POINTS	51
TABLE 9 CONTRASTING IMPLICATIONS OF POSITIVISM AND SOCIAL CONSTRUCTIONISM,	77
TABLE 10 SIX SOURCES OF DATA COLLECTION AND THEIR STRENGTHS AND WEAKNESSES- SOURCE: (YIN, 2009)	80
TABLE 11 – CLIMATE ASSESSMENT INSTRUMENTS. ADAPTED FROM (MATHISEN&EINARSEN, 2004).....	84
TABLE 12- QUALIFICATIONS OF QUALITY UNIT EMPLOYEES	93
TABLE 13- INNOVATION TEAM MEMBERS	100
TABLE 14 - APM'S CURRENT POSITIVE AND NEGATIVE CLIMATE CHARACTERISTICS (CCCs)	105
TABLE 15 INNOVATION TEAM VOTING ON CCCs CONSIDERED AS INHIBITORS TO CREATIVITY	108
TABLE 16 APM CURRENT CLIMATE CHARACTERISTICS (CONS), DEFINITIONS, METHODS OF IMPROVEMENT AND PLAN OF ACTION....	113
TABLE 17-APM CURRENT CLIMATE CHARACTERISTICS (PROS) PLAN OF ACTION	114
TABLE 18- APM PLAN OF ACTION TO ELIMINATE NEGATIVE CCCs INHIBITING CREATIVITY AND SUSTAIN POSITIVE CCCs.....	115
TABLE 19 KEYS ENVIRONMENT SCALES- SOURCE : (AMABILE ET AL., 1996)	125
TABLE 20– INTERVIEWS DETAILS OF KEYS QUESTIONNAIRES CONDUCTED AT APM	127
TABLE 21- KEYS- ENGLISH (DISTRIBUTION BY DEPARTMENT)	129
TABLE 22- RESPONSE RATES FOR KEYS-ENGLISH BY SITE	130
TABLE 23 TOTAL RETURN RATE FOR KEYS-ENGLISH	130
TABLE 24 STANDARD SCORES INTERPRETATION OF KEYS ANALYSIS, SOURCE: (AMABILE. 1996).....	130
TABLE 25 EXAMPLE OF EXCEL SHEET FOR KEYS- ARABIC ANALYSIS.....	141
TABLE 26 EXAMPLE OF KEYS SCALE ANALYSIS	142
TABLE 27 AREAS OF CONCERN IN COLOUR ACCORDING TO KEYS ANALYSIS.....	149
TABLE 28 INTEGRATION OF COMMENTS AND SUGGESTIONS IN KEYS QUESTIONNAIRES AND BRAINSTORMING SESSIONS	151
TABLE 29 CLIMATE TO CREATIVITY INTERVENTIONS	162
TABLE 30 KPIS TRAINING DETAILS.....	170
TABLE 31 A SAMPLE OF KPIS DESIGN FOR THE QC DEPARTMENT.....	172
TABLE 32 DETAILS OF THE LEADERSHIP TRAINING PROVIDED TO THE QUALITY TEAM MEMBERS	176
TABLE 33 PRACTICAL RECOMMENDATIONS ON ADOPTING QU VALUES	179

<i>TABLE 34 ETHICAL PRINCIPLES IN ISLAM WHICH ARE LIKELY TO INFLUENCE BUSINESS PRACTICES.</i>	180
<i>TABLE 35 QU GOALS</i>	181
<i>TABLE 36 INTERVENTION DETAILS TO DEVELOP TEAM WORK IN THE QU</i>	183
<i>TABLE 37 TEAM ATTRIBUTES EXERCISE PRESENTED TO THE QU</i>	184
<i>TABLE 38 QU RESOURCES ANALYSIS SHEET</i>	185
<i>TABLE 39 QU INTERVENTIONS FOLLOW UP SHEET</i>	189
<i>TABLE 40 COMPARISON OF KEYS TO CREATIVITY ANALYSIS BEFORE AND AFTER THE INTERVENTION IN THE QU</i>	195
<i>TABLE 41 IMPLICATIONS OF MIDDLE EAST NATIONAL ON OD APPLICATIONS AND MNCs</i>	224
<i>TABLE 42 ORGANIZATIONAL STAGES AND CHANGE MECHANISM, SOURCE: (SCHEIN, 2004)</i>	251

TABLE OF CONTENTS

1. INTRODUCTION	2
1.1 BACKGROUND	2
1.2 RESEARCH AIMS AND OBJECTIVES	4
1.3 RESEARCH APPROACH	5
1.4 THESIS STRUCTURE	5
2. LITERATURE REVIEW	10
2.1 INTRODUCTION	10
2.2 CHANGE MANAGEMENT	10
2.3 ORGANIZATIONAL DEVELOPMENT	13
2.4 INNOVATION	15
2.4.1 <i>Innovation Versus Creativity</i>	17
2.4.2 <i>Innovation Steps</i>	20
2.4.3 <i>Innovation Types</i>	20
2.5 CULTURE	23
2.6 CULTURE OF INNOVATION	25
2.7 BARRIERS TO IMPLEMENTING A CULTURE OF INNOVATION	27
2.8 CLIMATE TO CREATIVITY	28
2.9 CULTURE IN MERGERS AND ACQUISITIONS	30
2.10 HIGHLIGHTS FROM THE LITERATURE	31
2.11 IDENTIFIED GAP IN LITERATURE	32
2.12 RESEARCH QUESTIONS	34
2.13 SUMMARY	34
3. MODEL DEVELOPMENT	36
3.1 INTRODUCTION	36
3.2 CHANGE MANAGEMENT MODELS	36
3.2.1 <i>Burns Framework for Change</i>	36
3.2.2 <i>Woodman and Dewett Model for Individual Change</i>	39
3.3 INNOVATION MODELS	40
3.3.1 <i>Managing Innovation Model</i>	40
3.3.2 <i>Permanent Innovation Model</i>	41

3.4	CULTURE MODELS	42
3.4.1	<i>Schein’s Levels of Culture</i>	42
3.4.2	<i>Gagliardi’s Model for Stability and Change Types</i>	44
3.4.3	<i>Tesluk et al Model of the Influences of Organizational Culture and Climate</i>	45
3.4.4	<i>Cameron and Quinn Competing Value Framework</i>	47
3.5	DISCUSSION OF THE INNOVATION AND CULTURE MODELS	49
3.6	MODEL DEVELOPMENT: THE INNOVATION CULTURE ENHANCING MODEL (THE ICE MODEL)	52
3.6.1	<i>Stage One: Change Levers</i>	52
3.6.2	<i>Stage Two: Model’s Building Blocks</i>	53
3.6.3	<i>Stage Three: Establishing Relationships</i>	54
3.7	THE ICE MODEL -COMPONENT ONE: FOUNDATION	56
3.7.1	<i>Organizational Structure</i>	56
3.7.2	<i>Strategy</i>	57
3.7.3	<i>Management Commitment</i>	57
3.8	THE ICE MODEL- COMPONENT TWO: INNOVATION CULTURE INTERVENTIONS	58
3.8.1	<i>Leaders as Change Agents</i>	58
3.8.2	<i>Shared Work Values</i>	61
3.8.3	<i>Motivation</i>	64
3.9	THE ICE MODEL- COMPONENT THREE: CLIMATE TO CREATIVITY INTERVENTIONS	66
3.9.1	<i>Organizational Encouragement</i>	66
3.9.2	<i>Supervisory Encouragement</i>	66
3.9.3	<i>Work Group Support</i>	66
3.9.4	<i>Sufficient Resources</i>	66
3.9.5	<i>Challenging Work</i>	66
3.9.6	<i>Freedom</i>	66
3.10	THE ICE MODEL- COMPONENT FOUR: OUTCOMES	66
3.10.1	<i>Improved Performance</i>	66
3.10.2	<i>Enhanced Creativity and Innovation</i>	68
3.11	SUMMARY	68
4.	RESEARCH METHODOLOGY	70
4.1	INTRODUCTION	70
4.2	RESEARCH OBJECTIVES AND QUESTIONS	70
4.3	MODELS OF PLANNED CHANGE	71
4.3.1	<i>Kurt Lewin Model</i>	71

4.3.2	<i>Kotter's Eight Steps Model</i>	73
4.3.3	<i>The Action Research Model</i>	74
4.4	CHOICE OF THE RESEARCH STRATEGY	76
4.5	PHILOSOPHICAL POSITION	76
4.6	RESEARCH DESIGN	77
4.6.1	<i>Classification of Research Designs</i>	77
4.6.2	<i>Case Study Research</i>	79
4.6.3	<i>Sector and Case Study Selection</i>	79
4.7	DATA COLLECTION	80
4.8	ASSESSMENT INSTRUMENTS	82
4.8.1	<i>Climate to Creativity Assessment Instruments</i>	83
4.8.2	<i>KEYS to Creativity Assessment Instrument</i>	85
4.8.3	<i>Organizational Culture Assessment Instruments</i>	86
4.9	SUMMARY	87
5.	THE COMPANY: THE ARAB PHARMACEUTICAL MANUFACTURING (APM)	89
5.1	INTRODUCTION	89
5.2	JORDAN'S PHARMACEUTICAL INDUSTRY	89
5.3	THE 'ARAB PHARMACEUTICAL MANUFACTURING' (APM)	89
5.3.1	<i>APM Operating Sites</i>	90
5.3.2	<i>Organization Chart</i>	91
5.3.3	<i>Production and Quality</i>	91
5.3.4	<i>Marketing and sales</i>	92
5.4	ACCESS TO APM AND CONFIDENTIALITY AGREEMENT	92
5.5	THE QUALITY UNIT	93
5.5.1	<i>QU Departments</i>	94
5.6	THE ACQUISITION	95
5.7	HIKMA PHARMACEUTICALS	96
5.8	SUMMARY	97
6.	PRE-CHANGE INTERVENTION ASSESSMENT	99
6.1	INTRODUCTION	99
6.2	FORMING THE INNOVATION TEAM	100
6.3	UNDERSTANDING THE COMPANY'S CONTEXT	105
6.3.1	<i>Current Climate Characteristics (CCCs)</i>	105

6.3.2	<i>APM Structure</i>	116
6.3.3	<i>Strategy</i>	116
6.3.4	<i>HR and PMS Practices</i>	116
6.3.5	<i>Discussion and Recommendations</i>	117
6.4	ASSESSMENT OF APM'S ORGANIZATIONAL CULTURE	118
6.4.1	<i>Organizational Culture Assessment Instrument (OCAI)</i>	118
6.4.2	<i>OCAI Individual and Average Analyses</i>	118
6.4.3	<i>Itemised Average Analysis</i>	121
6.4.4	<i>Conclusions From The OCAI Analysis</i>	123
6.5	CLIMATE TO CREATIVITY ASSESSMENT	124
6.5.1	<i>Management of Keys to Creativity Assessment</i>	126
6.5.2	<i>Employees Interviews</i>	127
6.5.2	<i>Keys-English Analysis</i>	129
6.5.3	<i>Discussion of Keys- English results</i>	137
6.5.4	<i>Results of Statement Questions</i>	138
6.5.5	<i>Keys-Arabic Analysis</i>	140
6.5.6	<i>Discussion of Keys-Arabic Results</i>	148
6.5.7	<i>Results of Brainstorming Sessions</i>	150
6.5.8	<i>Visits to Company's Sites</i>	152
6.6	SUMMARY	153
7.	CHANGE INTERVENTION DESIGN	155
7.1	INTRODUCTION	155
7.2	ESTABLISHING THE NEED FOR CHANGE	155
7.3	CRITERIA AND BASIS OF THE CHANGE INTERVENTION DESIGN	155
7.4	THE CHANGE INTERVENTION DESIGN	157
7.5	THE ICE MODEL- COMPONENT ONE: FOUNDATION STAGE	158
7.5.1	<i>Flexible Structure</i>	158
7.5.2	<i>Strategy and Performance Measurement System</i>	158
7.5.3	<i>Management Commitment</i>	159
7.6	THE ICE MODEL- COMPONENT TWO: INNOVATION CULTURE INTERVENTIONS	159
7.6.1	<i>Leaders as Change Agents</i>	159
7.6.2	<i>Shared Work Values</i>	160
7.6.3	<i>Motivation: Intrinsic and Extrinsic Motivation Schemes</i>	161
7.7	THE ICE MODEL- COMPONENT THREE: CLIMATE TO CREATIVITY INTERVENTIONS	161

7.8	CHANGES SUGGESTED FROM THE INTERVIEWS AND BRAINSTORMING SESSIONS	163
7.8.1	<i>HR Practices</i>	163
7.8.2	<i>Training</i>	164
7.8.3	<i>Social activities</i>	164
7.9	SUMMARY	165
8.	CHANGE INTERVENTION IMPLEMENTATION	167
8.1	INTRODUCTION	167
8.2	THE CHANGE INTERVENTION LAUNCH	167
8.3	COMPONENT ONE: FOUNDATION STAGE INTERVENTIONS	168
8.3.1	<i>Flexible Structure</i>	168
8.3.2	<i>Strategy</i>	169
8.3.3	<i>PMS and KPI's Design</i>	169
8.3.4	<i>Management Commitment</i>	171
8.4	COMPONENT TWO: INNOVATION CULTURE INTERVENTIONS	173
8.4.1	<i>Introduction</i>	173
8.4.2	<i>Interventions of Leaders as Change Agents Dimension</i>	173
8.4.3	<i>Interventions of Shared Work Values Dimension</i>	178
8.4.4	<i>Interventions of Motivation Dimension</i>	180
8.5	COMPONENT THREE: CLIMATE TO CREATIVITY INTERVENTIONS	181
8.5.1	<i>Organizational Encouragement</i>	181
8.5.2	<i>Supervisory Encouragement</i>	181
8.5.3	<i>Work Group Support</i>	182
8.5.4	<i>Sufficient Resources</i>	184
8.5.5	<i>Challenging work</i>	185
8.5.6	<i>Freedom</i>	185
8.6	OTHER INTERVENTIONS IN THE QU	186
8.6.1	<i>QU Structure and Flow Charts</i>	186
8.6.2	<i>Social Activities</i>	186
8.6.3	<i>Creative Thinking Training</i>	186
8.7	CONSOLIDATION OF QU INTERVENTIONS	189
8.8	OTHER INTERVENTIONS ON THE CORPORATE LEVEL	191
8.9	REFLECTIONS ON THE INTERVENTION IMPLEMENTATION	192
8.10	POST- CHANGE ASSESSMENT (COMPONENT FOUR: THE OUTCOME)	193
8.10.1	<i>Introduction</i>	193

8.10.2	<i>Keys to Creativity Assessment Post Change Intervention in the QU</i>	193
8.10.3	<i>Comparison of Keys to Creativity Assessment Before and After Introducing the Intervention</i>	194
8.10.4	<i>Comments On the Outcome</i>	195
8.10.5	<i>KPIs Assessment</i>	195
8.10.6	<i>OCAI Assessment</i>	196
8.10.7	<i>Influence of the Intervention on Quality Unit Performance</i>	197
8.10.8	<i>The QU Passes an International Audit Following the Intervention</i>	197
8.10.9	<i>The New Ideas Scheme</i>	197
8.11	SUMMARY	198
9.	MODEL REFINEMENT AND GUIDELINES	200
9.1	INTRODUCTION	200
9.2	RATIONALE FOR MODEL REFINEMENT	200
9.3	NATIONAL CULTURE	202
9.3.2	<i>Determinants of Culture</i>	206
9.4	THE ORGANIZATION AND ITS ENVIRONMENT	209
9.4.1	<i>Technological Developments</i>	209
9.4.2	<i>Economic Environment</i>	209
9.4.3	<i>Socio-Cultural Changes</i>	209
9.4.4	<i>Political and Legal Developments</i>	210
9.5	THE ICE MODEL: A REFINED VIEW	211
9.5.2	<i>The ICE Model: Pre-entry Context 1: National culture</i>	213
9.5.3	<i>The ICE Model: Pre-entry Context 2: The Organization and its Environment</i>	213
9.5.4	<i>Feedback Arrow</i>	214
9.5.5	<i>Physical Environment</i>	214
9.6	GUIDELINES FOR APPLYING THE ICE MODEL IN ORGANIZATIONS	215
9.7	SUMMARY	215
10.	THE NATIONAL CULTURE OF THE MIDDLE EAST AND ITS IMPLICATIONS	218
10.1	INTRODUCTION	218
10.2	CULTURE IN THE MIDDLE EAST	218
10.3	DETERMINANTS OF CULTURE IN THE MIDDLE EAST	218
10.3.1	<i>Social Structure</i>	218
10.3.2	<i>Religion</i>	219
10.3.3	<i>Language</i>	220

10.3.4	<i>Education</i> -----	220
10.3.5	<i>Political and Economic Systems</i> -----	220
10.4	IMPLICATIONS FOR OD APPLICATIONS AND MNCs-----	222
10.5	SUMMARY-----	225
11.	DISCUSSION -----	227
11.1	INTRODUCTION-----	227
11.2	IMPLICATIONS OF THE CHANGE: PLANNED OR EMERGENT?-----	228
11.3	THE INNOVATION CULTURE: IS IT SUFFICIENT FOR IMPROVED PERFORMANCE?-----	229
11.4	SCHEIN’S CULTURE MODEL-----	231
11.5	INSIGHTS INTO ACTION RESEARCH METHODOLOGY-----	231
11.6	CASE STUDIES: SINGLE OR MULTIPLE?-----	235
11.7	ASSESSMENT OF THE ASSESSMENT INSTRUMENTS-----	235
11.7.1	<i>Keys to Creativity Assessment Instrument</i> -----	235
11.7.2	<i>OCAI Culture Assessment Instrument</i> -----	236
11.8	RESISTANCE TO CHANGE-----	237
11.9	A VIEW FROM INSIDE: A CASE OF MERGER AND ACQUISITION-----	239
11.10	IMPLICATIONS OF SPIRITUALITY, ETHICS AND BUSINESS-----	240
11.11	OD, A VIEW OUTSIDE THE BOX: INTRODUCING ‘CHANGE BY VALUES’ APPROACH-----	242
11.11.1	<i>‘Change by Values’ Approach</i> -----	243
11.12	LIMITATIONS-----	244
11.13	SUMMARY-----	244
12.	CONCLUSIONS AND FUTURE RESEARCH -----	246
12.1	INTRODUCTION-----	246
12.2	RESEARCH CONTRIBUTIONS-----	246
12.3	CONCLUSIONS AND RECOMMENDATIONS-----	247
12.3.1	<i>Innovation Culture is Essential for Continuous Innovation</i> -----	247
12.3.2	<i>National Culture and Organizational Environment</i> -----	247
12.3.3	<i>Action Research Methodology is Valuable for OD Interventions</i> -----	248
12.3.4	<i>Assessment Instruments</i> -----	248
12.3.5	<i>Resistance to Change is Inevitable</i> -----	249
12.3.6	<i>Culture is a Determinant of Success or Failure in Mergers/Acquisitions</i> -----	249
12.3.7	<i>OD and Multinational Companies</i> -----	249
12.4	FUTURE RESEARCH-----	249

12.4.1	<i>'Change by Values' Approach</i>	249
12.4.2	<i>Utilizing Spiritual Beliefs for Better Creativity and Performance</i>	250
12.4.3	<i>The ICE Model</i>	250
12.4.4	<i>A Guide for OD and MNCs</i>	250
12.4.5	<i>Culture Change and Organizational Growth</i>	250
REFERENCES		252
APPENDICES		262
BIBLIOGRAPHY		297

CHAPTER 1

INTRODUCTION

1. Introduction

1.1 Background

The business world has become increasingly complex. Companies are turning to innovation as one of the few durable sources of competitive advantage (Morris, 2006). Although many studies provided insights into what innovation is, its impact on markets and new product introduction, few studies looked into innovation drivers in companies. As companies face everlasting changes, attaining the capabilities of an embedded innovation culture in their systems, procedures and values is likely to sustain competitiveness and continuous development.

Competition has made innovation itself inadequate, because “only having ideas and bringing them into market does not necessarily assure a successful future. What you need instead is ‘*Permanent Innovation*’, the process of innovating regularly, constantly, and continuously, by developing an organizational culture that embraces innovation as a core value, practices innovation as a core methodology, and produces innovation as a consistent output” (Morris, 2006). It has become apparent to managers that the development of a culture of innovation is “of utmost importance if a business is to become universally proactive, entrepreneurial and remain successful” (Steele&Murray, 2004).

Culture was found to be a major determinant of driving innovation in organizations (Tellis *et al.*, 2009). In fact, four out of six managers interviewed by (Tidd&Bessant, 2009) responded to the question, “where do you see the top three challenges in managing innovation?”, by reporting: “building, creating, and sustaining culture in which innovation can flourish” as one of their main top challenges.

Culture is believed to be a main threat for change management failures. Despite promises to introduce real changes in organizations of the 1980s and the 1990s, 75% of change management programs such as Re-engineering, Total Quality Management (TQM), Strategic Planning and Downsizing efforts have failed in many cases due to unsuccessfully developing or changing the individual behaviours of their employees according to (Cameron&Quinn, 2006). They presented evidence from a research on 1245 organizations across Europe, that the

most named cause for change initiative disappointment was “a neglect of the organization’s culture”.

Likewise, organizations need to address the values and beliefs of their employees for the change to have any long term effect (Mitroff&Denton, 1999). Mitroff and Denton proposed that “all the conventional techniques in the world cannot produce fundamental change. Today’s organizations are spiritually impoverished, and only when companies find ways to integrate personal beliefs with organizations values will meaningful change occur”. Supporting this line of thought, (Morris, 2006) recommended that managing innovation is not only managing the process of innovation, but also, “managing the beliefs which inform people about behaviours that are important and acceptable in their cultural values influencing how members react to phenomena having to do with power, conflict, ambiguity, time, and change”.

Literature on Innovation culture provided key cultural assumptions related to innovation (Schneider *et al.*, 1994); a plan for change to assist companies through embedding a radical innovation culture (McLaughlin *et al.*, 2008), an empirically-based comprehensive instrument for measuring an organization’s innovation culture (Dobni, 2008), and key issues relating to innovation, diffusion and the associated management of change (Steele&Murray, 2004).

Innovation culture works best in a climate or environment that is supportive to individual’s creativity. Critical to this are “freedom of the employees to think and act according to their own ideas rather than following strict management plans, the encouragement of risk taking, the non-critical acceptance of any failures that result, access to a diverse range of stimuli and ideas, and the recognition of success” (Cummings, 1998). In fact, it was this very environment which hindered Xerox scientists who invented personal computers from exploiting their ideas into final products due to failures of their managers to support the new inventions. Realizing the importance of culture, Carl-Henrik Svanberg, CEO of Ericsson, has said that “*culture always defeats strategy*”. In addition, Lou Gerstner, former president of IBM, concluded that “*I came to see, in my time at IBM, that culture isn’t just one aspect of the game, it is the game*” (both quotations as cited in (Alvesson&Sveningsson, 2008).

On the other hand, the increasing emphasis on the cultural sides of organizational change is stimulated by the continuing wave of mega-mergers, acquisitions, and spin offs. These major

restructurings make it more important than ever before to fundamentally change the ways in which companies are run and leaders do their jobs (Nadler *et al.*, 2001).

Despite the importance of culture on organizational innovation capabilities, less attention has been devoted to creating it in organizations as a distinctive feature of continuous and permanent innovation. What hardly received attention is developing models to support managers and change practitioners into the successful introduction of culture change programs or Organization Development (OD) interventions.

(Warner Burke *et al.*, 2009) considered OD as “a process of fundamental change in an organization’s culture”. Thus, norms, values, and assumptions help determine behaviour and effectiveness in organizations. Being able to diagnose, understand, and change organization culture is increasingly important in the development of organizations. However, despite the prominent place of OD practices in the business world and in scholarly efforts in the United States and beyond, it has failed to satisfy the applicability of its practice in other cultures (Ali, 2005).

This research attempted to support organizations in building their innovation capabilities by focusing on maintaining a culture that is flexible in adapting to changes in the market and providing a supportive climate which enhances creative ideas development. It also provided insights into expanding OD interventions beyond its US and European mainland to include the variations of cultural differences in other countries which might influence the implementation of successful OD interventions. In specific, this research provides valuable advice for MNCs investing in the Middle East area by providing implications of Middle East culture on new ventures.

1.2 Research aims and Objectives

This research lies broadly within the change management discipline and uses OD as a framework of organizational interventions. The aim is to provide better understanding into change management approaches and use them to enhance creativity and maintain the readiness to continuous innovation ability. The model was developed based on literature and field work analysis. It presents factors and relationships for introducing climate and cultural changes with the view of developing creativity and innovation culture.

The approach used in this research attempted to combine cultural changes in the form of training and psychological support; changes to the organizational and departmental structures and organizational behaviours; and focused attention on reducing inevitable resistance to change.

The research objectives are as follows:

1. To help organizations build innovation culture and climate supportive of creativity for continuous innovation capabilities, and
2. To facilitate culture change OD interventions introduced to organizations outside the USA and Europe and specifically in the Middle East area.

1.3 Research Approach

The research approaches achieving its objectives and attempts answering the research questions by using OD practices into an action research methodology in a single case study in Jordan. In-depth interviews and interventions guided by the model and guidelines developed throughout this research were used and monitored in real time over a two-year period in a large pharmaceutical company in Jordan. Keys to Creativity Assessment, Organizational Culture Assessment Instruments and other assessment methods were used to follow the *before- and- after* research design chosen for this research.

The model was refined to include other factors which were found to be important influencing the culture change intervention. These were the (1) national culture, and the (2) organization and its environment. As the company participating in this research is situated in the Middle East area, implications for OD practitioners and MNCs of the Middle East national culture were provided to support the successful implementation of future interventions.

The research introduced ‘*Change by Values*’ approach as a new paradigm for future research in OD practice.

1.4 Thesis Structure

This thesis contains twelve chapters:

Chapter one introduces an overview of the research, its aims and objectives, research approach and thesis structure.

Chapter two provides a literature survey in the following main areas; change management; Organizational Development, innovation, culture and climate, cultures in mergers and acquisitions and innovation culture. It also defines the gap justifying the importance of conducting this research and introduces research questions.

Chapter three presents models identified in literature for change management, innovation, culture and the stages of developing a model for this research and details of its components.

Chapter four explains the research methodology chosen to undertake this research to attempt achieving its aims and filling the gap in literature. It also presents research design, data collection and the choice of assessment methods.

Chapter five introduces general information about Jordan's pharmaceutical industry, the pharmaceutical organization chosen to undertake this research, its operations, markets and development stages. It also presents information about its acquisition which took place during the research period, and finally presents details of the Quality Unit which participated in the intervention.

Chapter six assesses the culture and climate of the organization before introducing the changes designed using the research model. It provides an understanding of the company's context and results of the interviews conducted with the employees.

Chapter seven presents the interventions designed based on the model's components and the data collected from chapter 6.

Chapter eight explains the implementation of the change intervention designed in chapter 7 in practical form and the day to day challenges involved in applying it. The chapter is concluded with a post-change intervention assessment showing the positive impact of the change intervention on the company.

Chapter nine introduces the model refinement process based upon the experience gained from applying it in the company and guidelines for applying the model in organizations.

Chapter ten provides background of the national culture in the Middle East and its implications for change agent practitioners and MNC investors.

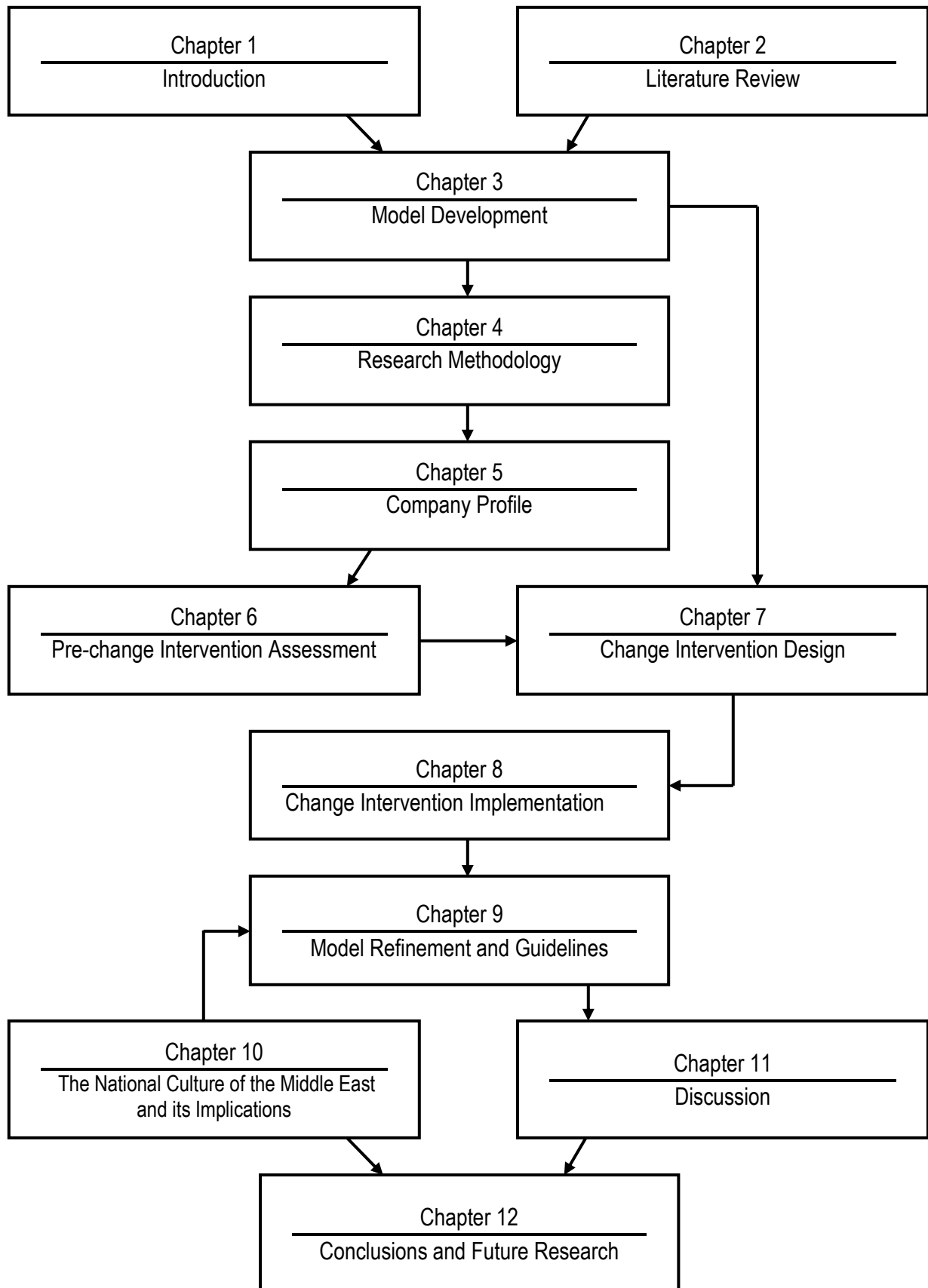
Chapter eleven provides a discussion of the main themes in the research and justifying achieving research aims and limitations. It also presents a newly developed approach suggested for OD interventions named as '*Change by Values*' approach.

Chapter twelve presents research contributions, conclusions and suggestions for future research.

The research has a full list of references, appendices used throughout the thesis, and a list of useful and recommended bibliography.

Figure 1 below illustrates the thesis structure.

Figure 1- Thesis Structure



CHAPTER 2

LITERATURE REVIEW

2. Literature Review

“If we understand culture better, we will better understand ourselves-better, understand the forces acting within that define who we are, that reflect the groups with which we identify and to which we want to belong”(Schein, 2004).

2.1 Introduction

The literature review is based on the research aims and objectives and will cover the following subjects:

- Change management
- Organizational Development
- Innovation; innovation versus creativity, innovation steps, and innovation types
- Culture as a major determinant of successful innovation; levels of culture, innovation culture
- Barriers to innovation culture
- Climate to creativity, and
- Cultures in mergers and acquisitions

The literature review chapter will also introduce the gap identified in literature for establishing an innovation culture in organizations and this research’s attempt to fill this gap providing the research questions and introducing the developed model in chapter 3.

2.2 Change Management

The pace of global, economic, and technological development makes change an inevitable feature of organizational life (Andriopoulos&Dawson, 2009). ‘Organizational change’ and ‘innovation’ have become management “buzz-words” in the past two decades (King&Anderson, 2002). The concepts of change, creativity and innovation “have never been more topical, especially given the commercial context of fierce business competition, shorter product life cycles and more demanding customers. Increasingly, long-term commercial success is based on an ability to manage change, to nurture creativity and to promote innovation”(Andriopoulos&Dawson, 2009).

The change and innovation research has been carried out by psychologists (King&Anderson, 2002), management scientists and organizational sociologists (Graetz *et al.*, 2006); (Henry&Mayle, 2002); (Senior, 2002); (Paton&McCalman, 2001); (Weick&Quinn, 1999);

organization behaviour specialists (Mowday&Sutton, 1993), in addition to other scholars (Clarke, 1994).

Recent research in organizational science concentrated on change and innovation. Many studies have been carried out on change processes on the individual and groups levels (Poole&Van de Ven, Andrew H., 2004). The thorough literature, though remarkable and inspiring, lacks cohesiveness and integration. In their handbook, (Poole&Van de Ven, Andrew H., 2004) claimed “the integration of social scientific knowledge about change and innovation within and across different levels of organizations and across a range of disciplines”. This claim stands on firm grounds as will be shown later during the discussion of their model in chapter 3.

Appreciation of the theory and practice of the management of change is essential to organizational efficiency and accomplishment (Arnold *et al.*, 2005). However, distinguishing between theories of change versus theories of changing is essential. The centre of attention of theories of change is on how organizations do change and on aspects which lead to their change; whilst the focal point of theories of changing is on how change is carried out and administered in organizations (Bennis, 1966).

Two main approaches have been identified for organizational change: the *Planned Approach*, and the *Emergent Approach*. According to (Arnold *et al.*, 2005), the *Planned Approach* which was developed by Kurt Lewin in the 1940s and forms the core of OD, “views organizational change as essentially a process of moving from one fixed state to another through a series of predictable and pre-planned steps. On the other hand, the *Emergent Approach*, which came to the fore in the 1980s, starts from the alternative assumption that change is a continuous, open-ended and unpredictable process of aligning and realigning an organization to its changing environment”. Furthermore, (Weick&Quinn, 1999) demonstrated the tempo of change recognized as “the characteristic rate, rhythm, or pattern of work or activity”. They identified two types of change “*Episodic change*” versus “*continuous change*”. *Episodic change* is envisioned to be “infrequent, discontinues, and intentional” whilst continuous change is considered to be “ongoing, evolving and cumulative”. The distinction between Arnold *et al.*’s ‘*Planned and Emergent*’ change, Weick and Quinn’s ‘*Episodic and continuous*’ change, may also be linked with, ‘*first order*’ or ‘*continuous*’ versus ‘*second order*’ or ‘*discontinuous*’ change by (Meyer *et al.*, 1993), ‘*incremental*’ versus ‘*radical change*’ by

(Tushman&Romanelli, 1985), and ‘*competence enhancing*’ versus ‘*competence-destroying*’ change by (Abernathy&Clark, 1985).

Episodic (or *Radical*, *Emergent*, etc.) change is usually conceived of from a macro or large-scale analysis, whilst *continuous* (or *Incremental*, *Planned*, etc.) change is better recognized in a micro level or confined analysis. However, (Poole&Van de Ven, Andrew H., 2004) suggested that this distinction is “not necessarily clear-cut” because some theories fall somewhere in between the two types. These two types will be referred to in this research as ‘*Planned*’ versus ‘*Emergent*’.

Advocates of *Emergent* change blame supporters of *Planned* change for its inability to integrate the transformational changes of the 21st century and its disregard of conflicts and politics in organizations in turbulent environments (Arnold *et al.*, 2005). On the other hand, opponents of *Emergent* change (Burns, 2004), offered significant indications that organizations do not face the same level of environmental instability, and that environmental restrictions can possibly be changed. *Planned* change, on the other hand, might only be suitable for certain circumstances as such.

Despite promises to introduce real changes in organizations, 75% of change management programs have failed in many cases due to “a neglect of the organization’s culture” (Cameron&Quinn, 2006). Organizational change programs are likely to be at risk if changes in individual behaviours do not receive congruent level of attention. Furthermore, as (Woodman&Dewett, 2004) pointed out that “it is not really possible to change organizations in any truly meaningful sense unless organizational participants perform their jobs differently, change their thinking or attitudes in ways that support the needed changes”. In a similar vein, (Porras&Robertson, 1992) stated that “change in the individual organizational member’s behaviour is at the core of organizational change and, therefore, any successful change will persist over the long term only if, in response to changes in organizational characteristics, members alter their on-the-job behaviour in appropriate ways”. Similarly, (Schabracq, 2007) believed that “cultural change implies that the involved personnel in the change process, change their assumptions and goals, and behave accordingly”. Furthermore, (Woodman&Dewett, 2004) suggested that “behaviours and characteristics of employees, are going to become change targets even when they are not highly changeable and may require deeper and more time-consuming efforts”.

Culture change involves providing supportive organizational environment to enhance the changing process, such as motivation, incentives, leadership styles, etc. These factors form parts of the organizational climate which enhance or hinder the changing process. According to (Andriopoulos&Dawson, 2009), *change*, no matter how well managed, is not by itself enough. Business success also “rests on making the right changes, on choosing the right ideas and implementing innovations that will make a difference. This creative element is critical in turning right ideas into innovations that can extend the competitive position of an organization within existing markets and create new markets”.

The ability to manage change while considering the individuals concerned in the change process is achieved using OD interventions presented next.

2.3 Organizational Development

Organizational Development (OD) is defined as “an effort (1) planned, (2) organization-wide, and (3) managed from the top to (4) increase organizational effectiveness and health, through (5) planned interventions in the organization’s processes using behavioural-science knowledge”(Beckard, 1969). Using similar phrasing, (Porras&Robertson, 1992) defined OD as “a set of behavioural science-based theories, values, strategies, and techniques aimed at the planned change of the organizational work setting for the purpose of enhancing individual development and improving organizational performance, through the alteration of organizational members’ on-the-job behaviour”. On the other hand, a recent definition provided by (Cummings&Worley, 2009) incorporated the previous and other definitions into a comprehensive one which will be adopted for this research as:

“Organization Development is a system- wide application and transfer of behavioural science knowledge to the planned development, improvement, and reinforcement of the strategies, structures, and processes that lead to organization effectiveness”.

Though not much difference between the definitions of 1969 through to 2009, scholars highlighted four shared themes in their OD definitions, these are: (1) *planned*, (2) *lies on behavioural science*, (3) *organizational wide* and (4) *aims to increase organizational effectiveness and performance*.

OD is often mistakenly used as synonymous with change management, organizational change, management consulting, technological innovation, or operations management. A thorough distinction defining OD from these disciplines is provided by (Cummings&Worley, 2009) as:

- *First*, OD applies to changes in the strategy, structure, and/or processes of an entire system, such as an organization, a single plant of a multi-plant firm, a department, work or individual role or job.
- *Second*, OD is based on the application and transfer of behavioural science, knowledge and practice. OD is distinguished by its intent to transfer behavioural science knowledge and skills so that the system is more capable of carrying out planned change in the Future.
- *Third*, OD is concerned with managing planned change, but not in the formal sense typically associated with management consulting or project management, which tends to comprise programmatic and expert-driven approaches to change. Rather, OD is more an adaptive process for planning and implementing change than a blueprint for how things should be done.
- *Fourth*, OD involves the design, implementation, and the subsequent reinforcement of change. It moves beyond the initial efforts to implement a change program to a longer-term concern for appropriately institutionalizing new activities within the organization.
- *Finally*, OD is oriented to improving organizational effectiveness.

Furthermore, Table 1 below shows a clear distinction between OD and change management.

Distinction	OD	Change Management
Planned change	Both address the effective implementation of planned change. Both are concerned with the sequence of activities, processes, and leadership issues that produce organization improvements.	
Underlying value orientation	Supports values of human potential, participation, and development in addition to performance and competitive advantage.	Focuses more narrowly on values of cost, quality, and schedule.
Distinguished feature	Manages change in the future. OD helps organization members go beyond surface changes to transform the underlying assumptions and values governing their behaviours.	Does not necessarily require the transfer of these skills. All OD involves change management, but change management may not involve OD.

Table 1 OD and Change Management: differences and similarities, based on (Cummings&Worley, 2009)

Based on Table 1 above, it is concluded that due to OD’s distinguishing feature of supporting values of human potential, it is highly likely that it is an appropriate approach for this research.

This research attempts to introduce innovation culture in organizations which means a change that needs to be respectful of the individual’s values affected by the change, and that this

change is transferred deep enough to become an underlying assumption. This is essential if organizations are willing to achieve a continuous and permanent ability to innovate.

The following section explains more about innovation, its steps and types and how to continuously become an innovative organization.

2.4 Innovation

As organizations moved into a new era, emphasis has been great on innovation rather than acting in response to demands (King&Anderson, 2002). Innovation has been perceived as “an important partner to change”(Poole&Van de Ven, Andrew H., 2004), and as a “distinct area within organizational change research”(King&Anderson, 2002).

In organizational terms, all innovation is change, but not all change is innovation (West&Farr, 1990). According to West and Farr, Innovation is “the intentional introduction and application within a role, group or organization, of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, organization or wider society”.

Innovation is not simply developing new ideas, but rather is “the generation, acceptance and implementation of new ideas, processes, products or services” (West&Altink, 1996), or “the successful creation, development and introduction of new products, processes or services” (Udwadia, 1990). On the other hand, (Morris, 2006) described innovation as “a process, and when it goes well, it’s also the results of the process”, but he emphasized that innovation is “much more than just ideas, inventions, improvements, or reverse-engineered copies of someone else’s original concepts. No, innovation is something deeper that comes about as the result of the very dynamic state in which creative professionals thrive”. Furthermore, (Tidd&Bessant, 2009) suggested that if the essentials of the business are weak, then “all the innovation in the world may not be sufficient to save it”.

Innovation received increased attention from scholars, researchers and academics. This is reflected in the increased number of published articles including the word ‘innovation’ in their title. Since 1970s, the trend in the ‘interest in innovation’ has considerably increased; specifically the first ten years of the 21st century (see Figure 2 below). This involves the wider aspects which studies into innovation cover and the variations of interests and faculty.

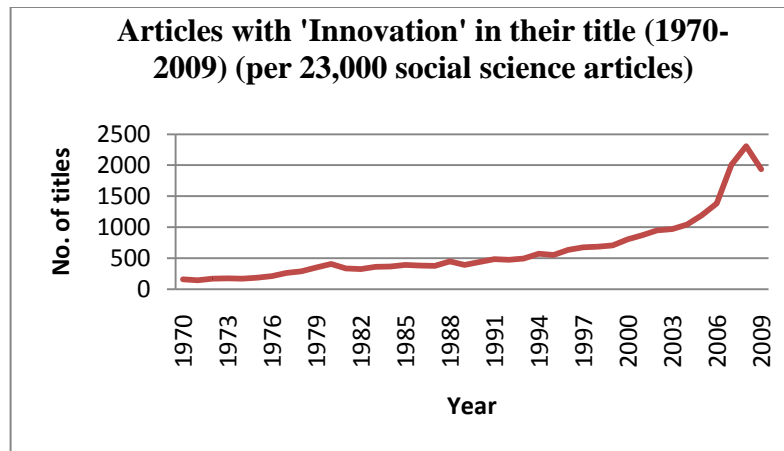


Figure 2 Articles with 'Innovation' in their title (1970-2009)

Source: ISI Web of Knowledge, Social science Citation Index, cited with permission in Feb 2010

The relationship between organizations and innovation is complex, dynamic and multilevel. The term ‘organizational innovation’ refers to “the creation or adoption of an idea or behaviour new to the organization” (Lam, 2005). The existing literature on organizational innovation is indeed very diverse and not well integrated into a coherent theoretical framework; hence it is subject to different interpretations within the different strands of literature (Lam, 2005). Lam classified the literature into three different streams, each with a different focus and a set of different questions which it addresses. A summary of Lam’s classification is shown in Table 2 below:

Organization Innovation Perspective	Focus	Main research aim
The relationship between organizational structural forms and innovativeness	Focuses on the link between structural forms and the tendency of an organization to innovation.	The aim is to identify the structural characteristics of an innovative organization or to determine the effects of organizational structural variables on product and process innovation.
Innovation as a process of organizational structural learning and knowledge creation	Focuses on the micro level process of how organizations develop new ideas for problem solving. It emphasizes the cognitive foundations of organizational innovation which is seen to relate to the learning and organizational knowledge creation process.	This camp of research provides a micro-lens for understanding the capacity of organizations to create and exploit new knowledge necessary for innovative activities.
Organizational capacity for change and adaptation	Focuses on understanding whether organizations can overcome inertia and adapt in the face of radical environmental shifts and technological changes.	In this context, innovation is considered as a capacity to respond to changes in the external environment, and to influence and shape it.

Table 2 Classification of Organizational Innovation Perspectives, based on (Lam, 2005)

Lam attempted to understand the interaction between organization and innovation from the three different but interdependent perspectives. She suggested that “although innovation scholars have long recognized the importance of the organizational dimension of innovation, many innovation studies continue to be dominated by an economic approach that allows little room for the analysis of creative change and innovation within the organization itself”. She accepted the idea that existing research on the relationship between organizations and innovation is highly focused on technological market driven outcomes and considers organizations as facilitators of innovation and not innovation themselves.

This is rather important consideration as it is a clear identification of the need for research into innovation built into organizations which allow stability in ever changing environments. More research is needed into viewing innovation as an inward organizational capability which lies deep into organizational practices, behaviour norms and everyday systems.

Innovation can be studied at three levels of analysis: the individual, the group, or the organization (King&Anderson, 2002), furthermore, (West&Farr, 1990) added “socio-cultural” as a fourth level. Although these levels introduce suitable methods in categorising the literature on innovation, they indicate misleading boundaries between the three levels (King&Anderson, 2002). In fact, (Staw, 1984) considered that one of the important inputs of innovation research to the organizational behaviour was the opportunity to integrate the three levels of analysis.

2.4.1 Innovation Versus Creativity

‘Creativity’ is commonly used as a synonym of ‘innovation’. Although the two terms are greatly connected to each other, they refer to two different but related concepts. For many researchers; (Wilson&Stokes, 2005); (Martins&Terblanche, 2003); (Andriopoulos, 2001), creativity is the generation of new ideas. It is also defined as “forming something from nothing, whilst, innovation shapes that something into products and/or services” (Kuhn, 1985). In other words, creativity can be seen as the “ideation part of innovation” whilst innovation as “surrounding the proposal and application of the new idea”, creativity is also an “individual cognitive process in which events occur within the person”, whilst innovation implies “an interaction between those who innovate and those who are affected by the innovation process”(West&Farr, 1990). Furthermore, (Andriopoulos&Dawson, 2009) viewed creativity as “the thinking process that drives employees to generate new and useful ideas”,

and Innovation as the “translation of new ideas into commercial products, processes and services”. Adding the commercial aspect, (Morris, 2006) argued that “good ideas themselves are not innovations; instead, they become innovations when they have economic impact, when they add value. This happens only when they mean something to a customer, which means that it isn’t innovation until a customer thinks so”. Realizing this aspect, Thomas Edison -who is mostly well known for his light bulb invention and registration of over 1000 patents- appreciated that the real challenge in innovation was not invention, i.e. coming up with good ideas, but making those inventions work technically and commercially (Tidd&Bessant, 2009). Tidd and Bessant identified that “one of the problems in managing innovation is the variation in what people understand by the term. In its broadest sense the term comes from the Latin *innovare* meaning ‘to make something new’. According to (Damanpour, 1987), establishing self-directed work groups for the first time in an organization is not creative as it is widely used in many other factories, but it would be innovative as it is new to the unit of implementation. In line with this distinction, (West&Farr, 1990) argued that “the distinguishing features of innovation are generally held to be that it needs not involve absolute novelty- it may be the introduction of something familiar from one context into another context where it is unfamiliar”.

This research adopts the definition provided by (Morris, 2006) as:

Creativity is the attribute or capability to see or do things in a new or different way, and the expressive ability to conceive of and make new and different ideas and things”(Morris, 2006).

Morris also provided three distinctions between creativity and innovation:

- (1) While an idea can be an expression of creativity, in order to be considered as an innovation it must have economic value,
- (2) Creativity is inherently a behavioural or cognitive process whose output are ideas, while innovation is inherently an economic process whose outputs are products and services,
- (3) Creativity can be expressed or accomplished by individuals or groups, by organizations and even entire cultures, and it can happen consciously or spontaneously and unexpectedly. Innovation, however, and particularly in large companies, is almost always a process involving groups of people working together with specific intention.

Creativity has three components suggested by (Amabile, 1998), (See Figure 3 below):

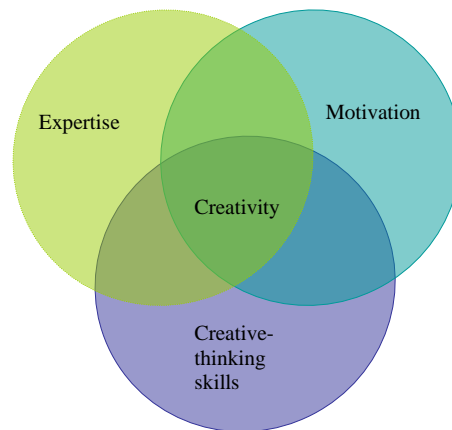


Figure 3 Amabile's three creativity components, Source: (Amabile, 1998)

1. '*Creativity-thinking skills*' component determines how flexibly and imaginatively people approach problems, how people approach problems and solutions-their capacity to put existing ideas together in new combinations.
2. '*Expertise*' component encompasses everything that a person knows and can do in the broad domain of his or her work, and
3. '*Motivation*' in its two types: '*extrinsic*' and '*intrinsic*'. '*Intrinsic*' is passion and interest-a person's internal desire to do something, '*Extrinsic*' motivation comes from outside a person, the most common extrinsic motivator managers use is money.

The following section presents innovation steps.

2.4.2 Innovation Steps

Many studies analyzed creativity as one step which precedes the innovation process. (Cummings, 1998) suggested that “without creativity, innovation cannot take place”. He developed a three innovation steps process as follows: (1) idea generation, (2) the successful development of that idea into a useable concept, and (3) the successful application of that concept.

Figure 4 below shows the three steps towards innovation.

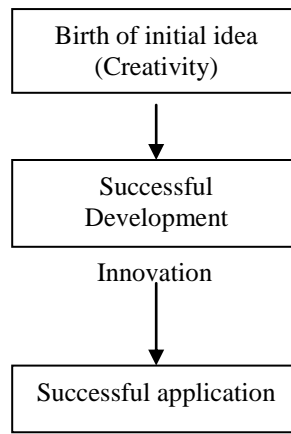


Figure 4 Three steps towards innovation - Source: (Cummings, 1998)

Although the above three steps seem to be sequential, in reality, they are repetitive and usually proceed simultaneously (Ahmed, 1998). In application, innovation steps are “messy, properly disorderly and rich in ambiguity, also rich in joy, discovery, pleasurable interactions, intense arguments, and insights” (Morris, 2006). Morris added a step towards ‘Permanent Innovation’ which included innovation culture as will be presented in chapter 3. These three steps and Morris’s ‘Permanent Innovation’ step will be used during identifying the research gap at the end of this chapter.

2.4.3 Innovation Types

Innovation is divided mainly into two types (West&Farr, 1990):

- (1) *Technical Innovation*, which is related to the implementation of an idea for a new product or a new service, or the introduction of new elements in an organization’s production or service operations, and

(2) *Administrative Innovation*, which occurs in social systems of an organization, like the implementation of a new way to recruit personnel, allocate resources and structure tasks, authority and rewards. It comprises innovations in organizational structure and in the management of people.

However, (Damanpour, 1987) added a third type called *Ancillary Innovation*. In contrast to the previous two innovation types which are more closely under the control of the organization's management, *Ancillary Innovations* according to Damanpour are "organization-environment boundary innovations". Examples include "career development programs, tutorial services, and adult continuing education programs".

On the other hand, (Morris, 2006) presented different classification of innovation types that compose what he named as '*Permanent Innovation*'; (1) Incremental, (2) breakthrough products and technologies, (3) new business models, and (4) new ventures as shown in Figure 5 and described below (description from source):

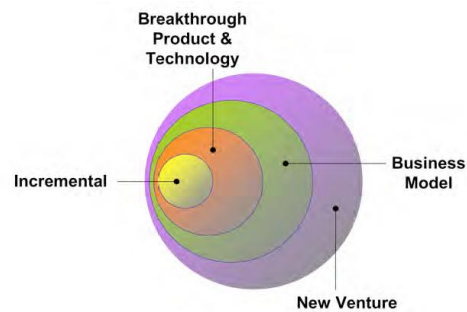


Figure 5- Four types of Innovation, Source (Morris, 2006)

- (1) *Incremental Innovation*: incremental innovations are also sometimes called continuous innovations. They're generally modifications to existing products and services that improve functionality, or reduce cost. For example, Toyota incremental innovations in the assembly line reduced the changeover time from one model to another that initially required two to three hours, to less than an hour, and then to fifteen minutes, and then down to merely three minutes, giving Toyota an enormous productivity advantage over its competitors.
- (2) *Breakthrough Product and Technology Innovation*: these are significant or radical departures from whatever is already available in the market. They're sometimes referred to as 'discontinues innovations'. For example, between 1980 and 1990, Chrysler earned

about \$30 billion on minivan sales. The design team at Ford developed the idea but moved to Chrysler because their idea was rejected. The minivan was a breakthrough technology because none were on the road at the time as buyers had to choose between a station wagon and a cargo van.

- (3) *Business Model Innovation*: this type has evolved during the last few decades as a critical source of competitive differentiation by figuring out how to deliver products and services in innovative ways that created superior experience for their customers. The key here is not new technology, but rather new experiences delivered by new forms of organization. And while they all certainly employ technology in service to their new models, it's not technology per se that defines the critical innovations, but rather the way a company relates to customers and finding new needs and new ways to serve them in the framework of new business models. This might be the most difficult of the four types of innovations because it requires extraordinary insight. But the results can be revolutionary. Examples, Fedex, Visa, Dell, and Southwest Airlines.
- (4) *New Venture Innovation*: this type seeks to enhance the prospects for the future by enlarging a company's scope of operations into markets that are so different from its current markets that they must be addressed by entirely new entities, new ventures. Examples are mergers/acquisitions, spin-offs, subsidiaries.

Whether innovation is *technical*, *administrative* or *ancillary*, whether it is *incremental*, *breakthrough*, *new business model* or *new venture*, we have one major determinant in the success of any of these innovation types. It is the organizational culture which can play as the driving force behind risking any of these innovation types.

It is the culture which acts as an organization's 'internal decision maker' deciding whether organizations lead markets and produce '*the newly invented personal computers*' or move behind the scenes and turn into names of the past. It is when managers have the courage to accept doing things in a different way and accept the change. It is "this strange moment when an innovator stands before the bureaucracy with a drawing or a model of the idea in hand, and tries to show why this idea will change the world. It's a culture clash of two quite different brains, the moment of truth when creative courage comes face to face with corporate fear, when the promise of hope confronts the rationale of conservatism. What happens? At this

moment of truth, is innovation launched forth to soar onward, or does it become corporate road kill?"(Morris, 2006).

As culture is crucial to innovation, the following section describes culture, climate and the innovation culture, a culture which enables a supportive environment for creative minds.

2.5 Culture

Interest in organizational culture is not new. Studies on organizational culture had been conducted since the 1940s but they were sparse and scattered until the 'corporate-culture boom' of the early 1980s. During the last decade the interest in organizational culture from both academics and practitioners continued to be relatively high (Alvesson, 2002). For example see (Taylor, 2009); (Alvesson&Sveningsson, 2008); (Schabracq, 2007); (Riad, 2006); (Sherwood, 2002); (Cooper *et al.*, 2001); (Ogbonna&Harris, 2000).

As a concept, culture had a long history. It was introduced by anthropologists referring the term to the traditions and rituals developed by societies over their history (Schein, 2004). During the past decades, culture received substantial academic dispute generating advances in definitions and approaches to culture (Brown, 1998). This wealth of literature (Cameron&Quinn, 2006); (Martin, 2002); (Hofstede, 2001); (Ashkanasy *et al.*, 2000); (Schultz, 1994) and debate are considered as good indications of the importance of culture as a concept, but at the same time they create difficulties for both the scholar and the practitioner if definitions are "fuzzy" and usages are "inconsistent" (Brown, 1998).

(Ashkanasy *et al.*, 2000) argued that "the history of organizational culture research is the history of how a field -dominated by scholars steeped in psychology and sociology- has learned from cultural anthropology. This learning has included adding bits of anthropological thinking-topics, variables, ways of doing research, ways of thinking –to organizational scholarship as well as welcoming new comers with strong anthropological orientations to organizational studies".

The topic of organizational culture is "becoming a very important one to companies and the number of culture change interventions has grown accordingly. Organization culture is also the focus of growing research and OD application and has spawned a number of best-selling management books" (Cummings&Worley, 2009).

There are numerous ways of defining culture. Indeed, one of the early organizational culture definitions was provided by Jacques (1951), as cited in (Cooper *et al.*, 2001) as:

“The customary or traditional ways of doing things, which are shared to a greater or lesser extent by all members of the organization and which new members must learn and at least partially accept in order to be accepted into the service of the firm”.

Furthermore, (Van Muijen *et al.*, 1999) defined culture as:

“A set of core values, behavioural norms, artefacts and behavioural patterns which govern the way people in an organization interact with each other and invest their energy in their jobs and in the organization at large”.

On the other hand, (Schein, 2004) who is considered by many researchers as father of organizational culture research provided the following definition for culture which is adopted for this research:

“A pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems”.

Culture’s definition is highly dependent on the underpinning philosophical perspective. This is not only emphasized in the theoretical stage but also in practice as (Brown, 1998) argued: “how we choose to define culture has considerable implications for how we attempt to examine and study it”.

Culture is viewed as a *variable* or as a *root metaphor*. Researchers who view culture as a *variable* “draw upon a more traditional, objectivist, and functionalist view of social reality, [...], in contrast, researchers who see culture as a *root metaphor*, approach organizations as if they were culture and draw upon anthropology in developing radically new theories or paradigms”(Alvesson, 2002). According to researchers who viewed culture as a *metaphor*, culture is not considered an “objective tangible or measurable aspect of an organization”, but rather “an intellectual device which helps us to comprehend organizations in terms of a specific vocabulary such as norms, beliefs, values, symbols, and so forth (Morgan, 1997).

On the other hand, (Schabracq, 2007) stated that “culture can be studied from the perspective of the *functions* it performs, as well as from the perspective of how it is *structured*”. He integrated both approaches into a “single, innovative model” called the RACE model, RACE being an acronym for Reason for being there, Adaptation, Coordination and Everyday reality.

This research adopts the view that culture is a *variable* subject to being assessed and changed.

2.6 Culture of Innovation

There has been a great deal of interest among academics and practitioners in the concept of creativity and innovation in organizations and in particular, the effects of an innovation culture on organizational performance (Pharaon&Burns, 2010); (Cable, 2010); (Dobni, 2008); (McLaughlin *et al.*, 2008); (Mitchell, 2007); (Angel, 2006); (Zairi&Al-Mashari, 2005); (Steele&Murray, 2004); (Teutsch, 1999); and (Schneider *et al.*, 1996). Literature provided a very strong link respecting the relationship between innovativeness and culture. For example, it has been found that levels of innovativeness in an organization are associated with cultures that emphasize learning development, and participative decision making (Hurley&Hult, 1998). Supporting this line of thought, (Tushman&O'Reilly, 1997) believed that successful organizations have the ability to absorb innovation into the organizational culture and management processes.

Innovation culture works best in a climate or environment that is supportive to individual creativity. (Cummings, 1998) claimed that critical to this are “freedom of the employees to think and act according to their own ideas rather than following strict management plans, the encouragement of risk taking, the non-critical acceptance of any failures that result, access to a diverse range of stimuli and ideas, and the recognition of success”. According to (Kotter, 2001), “it is possible to create a culture that facilitates change, rather than act as an anchor” and explained that they performed a number of studies which showed that it is possible to have a culture that “helps you to adapt, that doesn’t just hold you back”.

(Morris, 2006) believed that innovation might occur anywhere, but it is ‘*permanent innovation*’ that occurs only in a special setting or atmosphere. He calls this atmosphere, “a culture in which innovation is intentionally supported, thoughtfully nurtured, measured, and funded. In addition, (Locke&Kirkpatrick, 1995) explained that a culture supporting innovation “engages behaviours that would value creativity, risk taking, freedom, and teamwork, be value seeking and solutions oriented, communicative, instil trust and respect, and be quick on the uptake in making decisions. One would expect these behaviours to be desirable and normal, and ones that should be embedded in the corporate fabric”.

Cargill Incorporated, a grain elevator and one of the world’s largest privately owned companies, headquartered just outside of Minneapolis with 90 different businesses around the

globe, was able to build a “powerful innovation culture” which was worth “the long-term investment in its workforce”. “*We want to raise the potential for employees to come up with creative ideas and solutions; it’s not just a way to get the most out of them. It’s about creating an environment where people are engaged, where they want to come to work and do more*” said Cargill CEO as in (Center for Creative Leadership, 2006).

Despite its impact on innovation, organizations tend to prefer a ‘usual way’ of doing things; they tend to give up trying something new, even though the market is telling them that the old way isn’t good enough anymore (Morris, 2006). Morris suggested that “if they fail to adapt, companies are thrown away when standardization has triumphed totally over innovation, then it may just be too late”. In Table 3 below, Morris provided a set of 16 attributes of ‘*Status Quo Culture*’ versus ‘*Innovation culture*’, and challenged managers and organizational leaders to test the presence of these attributes in their organizations.

No.	Status Quo Culture	Innovation Culture
1.	Predictability	Un-Predictability
2.	Seek stability	Seek novelty
3.	Focus on core competence	Focus on edge competence
4.	High success rate	High failure rate
5.	Reinforce the organizational hierarchy	Reinforce organizational networks
6.	Fear the hierarchy	Focus on creative tension
7.	Avoid surprises	Embrace surprises
8.	Focus on inside knowledge	Combine inside and outside knowledge
9.	Easy to live with	Hard to live with
10.	Corporate politics	Moving the cheese
11.	Efficiency through standardization	Efficiency through innovation
12.	Extend the status quo	Abandon the status quo
13.	Avoid change	Embrace change
14.	Measure stability	Measure innovation
15.	Look for data to confirm existing management models	Look for data to contradict existing management models
16.	Look for certainty	Embrace ambiguity

Table 3 Attributes of ‘Status Quo Culture’ versus ‘Innovation culture’- Source: (Morris, 2006)

As Table 3 above shows, moving from a ‘*status quo culture*’ to an ‘*innovation culture*’ requires specific managerial practices and entrepreneurship which are manifested by organizational leaders and change champions throughout the organization. However, the change does not seem to be a straight forward task, it involves many barriers which are highlighted in the following section.

2.7 Barriers to Implementing a Culture of Innovation

With the obvious benefits to organizations in investing the efforts to move from what Morris described in the previous section as a ‘status quo culture’ to an ‘innovation culture’, one might wonder why companies do not invest in this crucial aspect of the innovation process.

(Pitta, 2009) suggested that the apparent benefits of other potentials such as creating successful new products might seem overwhelmingly compelling, in addition to the benefits in terms of customer satisfaction, public relations and areas outside of marketing would be abundant. Hence, this might explain why company-wide efforts [such as creating innovation culture] seem to be complex and difficult to implement. Pitta recommended that companies who want “to increase organization-wide innovation, need to communicate the need, organize the effort, reward the results, communicate the successes, and honour the contributors in a meaningful way”. On the other hand, (Morris, 2006) believed that “the obvious challenge is to understand the critical factors that enable innovation, as well as to identify and remove the obstacles to innovation. The goal is to create the conditions in which abundant and natural creativity and innovativeness come forth to be expressed and harnessed”.

These barriers to implementing a culture of innovation are understood and appreciated, however, the risk of being thrown away of business if the organization is unable to continuously innovate, outweighs the efforts spent to implement it for future success.

As mentioned previously, creating a culture of innovation is nurtured in a supportive climate which encourages employees to express their views and accepts their mistakes by taking the risk to try new ideas. The following section explains in more details what climate to creativity is and factors that can stimulate it in organizations.

2.8 Climate to Creativity

The work environment is a major factor in enhancing or inhibiting creativity. Indeed, more than half a century ago, Kurt Lewin as cited in (Ashkanasy *et al.*, 2000) developed climate research by joining together field theory and the quantitative study of attitudes within organizations. ‘*Field theory*’ was the name that Lewin and his colleagues provided to characterize any social process as part of a bigger situation or field. It is not certain how the ‘climate’ studies would have developed had it not been for Lewin’s death in 1947 (ibid). (Tesluk *et al.*, 1997) noted that organizational culture and climate are promising areas for understanding creativity in work settings and have called for additional research integrating the two constructs as “there have been a small number of studies bringing these two important constructs together to explore how they function jointly to shape and guide individual creativity in organizations”. Innovation culture and climate to creativity are also named as ‘*culture of pride, climate of success*’ which are present in organizations that are innovative compared with less innovative ones (Kanter, 1983).

Climate dimensions were studied by few researchers, for example (Schneider *et al.*, 1996) and (Ekvall, 1996). Dr Goran Ekvall devoted many years of his research studying organizational factors that influence creativity. He suggested that “climate affects organizational and psychological processes such as communication, problem solving, decision making, conflict handling, learning and motivation, and this exerts influence on the efficiency and productivity of the organization, on its ability to innovate, and on the job satisfaction and the well-being that its members can enjoy”(Ekvall, 1996).

The ten climate factors suggested by Ekvall are believed to influence organizational innovation (see Table 4 below). These factors were tested in Swedish and German organizations and showed that *organizational structure* and *leadership style* have substantial impact on the way organizations conceive of these factors.

No.	Factor	Description
1.	Challenge	The emotional involvement of the members of the organization in its operations and goals.
2.	Freedom	The independence in behaviour exerted by the people in the organization. In this climate, people make contacts and give and receive information, discuss problems and alternatives, plan and take initiatives of different kinds and make decisions.
3.	Idea support	The ways new ideas are treated. In supportive climate, ideas and suggestions are received in an attentive and supportive way by bosses and workmates.

4	Trust/Openness	The emotional safety in relationships. Where there is a strong level of trust, everyone in the organization dares to put forward ideas and opinions.
5.	Dynamism/Liveliness	The eventfulness of life in the organization. In the highly dynamic situation, new things are happening all the time and alternations between ways of thinking about and handling issues often occur.
6.	Playfulness/Humour	The spontaneity and ease that is displayed. A relaxed atmosphere with jokes and laughter characterises the organization which is high in this dimension.
7.	Debates	The occurrence of encounters and clashes between viewpoints, ideas and differing experiences and knowledge. In the debating organization, many voices are heard and people are keen on putting forward their ideas.
8.	Conflicts	The presence of personal and emotional tensions in the organization. When the level of conflict is high, groups and single individuals dislike each other and the climate can be characterised by 'warfare'
9.	Risk Taking	The tolerance of uncertainty in the organization. In the risk-taking case, decisions, and actions are prompt and rapid, arising opportunities are taken and concrete experimentation is preferred to detailed investigation and analysis.
10.	Idea time	The amount of time people can use (and do use) for elaborating new ideas. In the high idea-time situation, possibilities exist to discuss and test impulses and fresh suggestions are not planned or included in the task assignment and people tend to sue these possibilities.

Table 4 Ten factors which stimulate innovation- Source: (Ekvall, 1996)

On the other hand, (Amabile *et al.*, 1996) presented six components of climate to creativity defined as follows:

1. Organizational Encouragement: Fair, constructive judgment of ideas; reward and recognition for creative work; mechanisms for developing new ideas; an active flow of ideas; and a shared vision.
2. Supervisory Encouragement: A supervisor, who serves as a good work model, sets goals appropriately, supports the work group, values individual contributions, and shows confidence in the work group.
3. Work Group Support: A diversely skilled work group, in which people communicate well, are open to new ideas, constructively challenge each other's work, trust and help each other, and feel committed to the work they are doing.
4. Sufficient Resources: Access to appropriate resources, including funds, materials, facilities, and information.
5. Challenging Work: A sense of having to work hard on challenging tasks and important projects.
6. Freedom: Deciding what work to do or how to do it; a sense of control over one's work.

Amabile's climate to creativity components and Ekvall's ten factors which stimulate innovation overlap. Factors of challenging work, freedom, idea time, resources, and encouragement have similar definitions in both sources.

This research will use Amabile's creativity components to build the model as they are established in literature and are inclusive of Ekvall's factors.

2.9 Culture in Mergers and Acquisitions

Cultural incompatibility is being widely reported as a cause of poor merger performance (Cartwright&Cooper, 1993). When organizations that have developed their cultures over a long period of time attempt an acquisition, the issue of culture differences always come onto the surface, surprisingly, little attention is given to this extremely important factor of organizational performance. This is despite the fact that "the failure of such an enterprise is often attributed after cultural mismatches" (Schein, 2009). According to (Cartwright&Cooper, 1993), "it is unlikely to involve any in-depth culture audit to identify any significant differences or similarities between the core values, beliefs, attitudes, and managerial styles of the targeted company" leading to a high failure rate of the new enterprise.

The outcome of a merger/acquisition leads to one of three possible cultural patterns; *separation*, *domination* or *blending* (Schein, 1996). According to Schein, in *separation*, the two companies will retain their old cultures with little if any assimilation trials between the two. If *domination* was the case, then one of the two companies will take over the other, whilst, in *blending*, the benefits of each of the two cultures are brought to the surface and adopted by the two. Each culture in the new organization is -from the point of view of its members- the "correct way to perceive, feel about, and act on daily events. Each culture may have opinions and biases about *the other*, but by definition our own culture is always the one that is *right*" (Schein, 2009).

In mergers/acquisitions, this is mostly the case leading to clashes between the people of the new venture. Flexibility and adaptability are important features of culture of innovation as it allows for adopting new ways of doing the business. If the new venture is established in an entirely new culture, i.e. in another country or part of the world, the obstacles are rather heightened. This is supported by (Schein, 2009) who explained that "how organizations manage their external survival and internal integration issues is very much correlated with

broader assumptions that come into play, especially when organizations become global and need to work with partners and subsidiaries in other countries”.

2.10 Highlights from the Literature

The literature presented in this chapter suggests that culture is highly important for successful and continuous innovation capability. It indicates that “the relationship between innovation-supportive culture and innovation may be more complex than the linear representation assumed in the current literature” (Withers & Drnevich, 2008). The literature also supports that culture affects the extent to which creative solutions are encouraged, supported, and implemented. A culture supportive of creativity encourages innovative ways of representing problems and finding solutions, regards creativity as both desirable and normal, and favours innovators as models to be emulated (Lock & Kirkpatrick, 1995).

Changing cultures which inhibit creativity is complex and is not likely to happen over a short period of time. OD interventions as described in this chapter are designed to support and facilitate the change process. However, this requires building a creative climate which involves “systematic development of organizational structures, communication policies and procedures, reward and recognition systems, training policy, accounting and measurement systems and deployment of strategy” (Tidd & Bessant, 2009) to overcome barriers and expected resistance to change. In cases of mergers and acquisitions, overcoming cultural variations is essential for a successful future of the new venture.

This chapter presented areas of the literature that are key in appreciating the need for conducting this research. The following section identifies the gap found in literature and justifies the aims and objectives of this research.

2.11 Identified Gap in Literature

As we have seen from the previous sections, researchers have extensively written on innovation, its types, steps and climate supportive of creativity. They also devoted much of their faculty on culture and its importance to organizational performance. However, despite appreciating its importance, minimal attention has been devoted to providing organization and OD practitioners with models to establish innovation culture as a major determinant for continuous successful innovation capability.

Innovation steps – as presented in section 2.4.2 on page 20- are (1) ideation, (2) successful implementation, (3) innovation, and Morris's fourth step (4) permanent innovation.

It has been highlighted throughout the literature survey in this chapter that culture of innovation literature has not sufficiently contributed in supporting organizations in establishing this highly important determinant of continues innovation capability.

Figure 6 below shows the identified gap in literature in dotted line which this research will attempt to cover. Innovation steps are shown with the time element; however, it is still appreciated that the sequence of these steps might not in reality follow a straight line but rather a loop of iterative steps.

This gap is identified to attempt equipping organizations with the ability to become flexible enough in responding to changes in the market and sustain competitiveness.

The following section presents the research questions of this research.

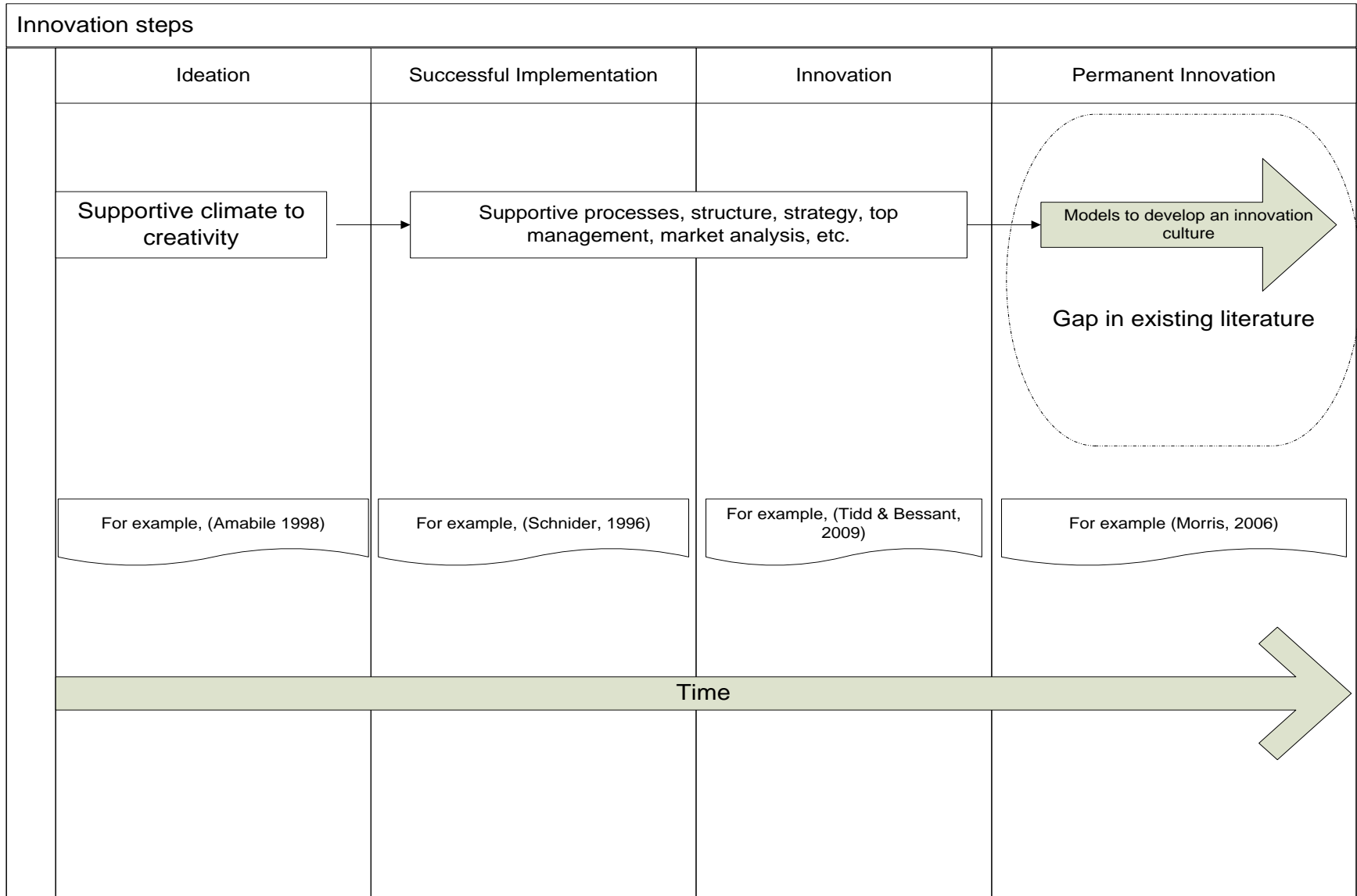


Figure 6- Identified gap in literature

2.12 Research Questions

Based on the literature survey and the gap identified in literature, this research attempts to answer the following research questions:

1. How can an innovation culture be introduced and established inside an organization?
2. What variables are important in achieving and sustaining cultural change in an organization?
3. Can spiritual beliefs be utilized as motivators for better performance and enhanced creativity?
4. What are the implications of the national culture of the Middle East on OD interventions and new ventures?

The research will commence in its attempt to answer these questions by developing the model presented in the following chapter.

2.13 Summary

This chapter reviewed the literature found to be relevant to its aims and objectives. The review covered published books, journal articles, archived materials and internet WebPages. Despite its importance, developing models to create innovation culture in organizations received minimal attention from researchers. Chapter 3 will look into these models and introduce a model for creating innovation culture in organizations.

CHAPTER 3

MODEL DEVELOPMENT

3. Model Development

3.1 Introduction

This chapter introduces the models found in literature related to fulfilling the research's aims and objectives. It presents change management models, innovation and creativity models, culture models and innovation culture models. It builds upon these models and the gap identified in the previous chapter to create a model to establish innovation culture in organizations. *The Innovation Culture Enhancing Model* is presented with its building blocks and four stages: Foundation, interventions to culture, interventions to climate and outcome.

3.2 Change Management Models

As presented in the literature review, there are two dominant approaches to introduce changes in organizations; the *Radical* (or *Emergent*) and *Incremental* (or *Planned*).

(Arnold *et al.*, 2005) defined *Emergent* approach to change as “a bottom-up and open-ended approach that views organizations as constantly having to adjust to changing environmental circumstances”, and defined *Planned* approach to change as “a generic term for approaches to change that have predetermined goals and a distinct starting and finishing point”.

Introducing cultural changes in organizations is inevitably an incremental or planned process as individuals' cultures do not simply change overnight. However, because the culture change we are due to create is an innovation culture, sufficient understanding of *Emergent* approaches to change is necessary due to the need for flexibility to adapt to radical changes in the market.

This section presents two change management models; Burns general framework for change, (Burns, 2004) and Woodman and Dewett model for individual change.

3.2.1 Burns Framework for Change

(Burns, 2004) introduced a framework for change which is represented on a change quantum (See Figure 7) below. The horizontal axis represents the pace of change and the nature of the transformation from slow to rapid. The vertical axis covers the scale of the change from small to large transformation in a stable to turbulent environment.

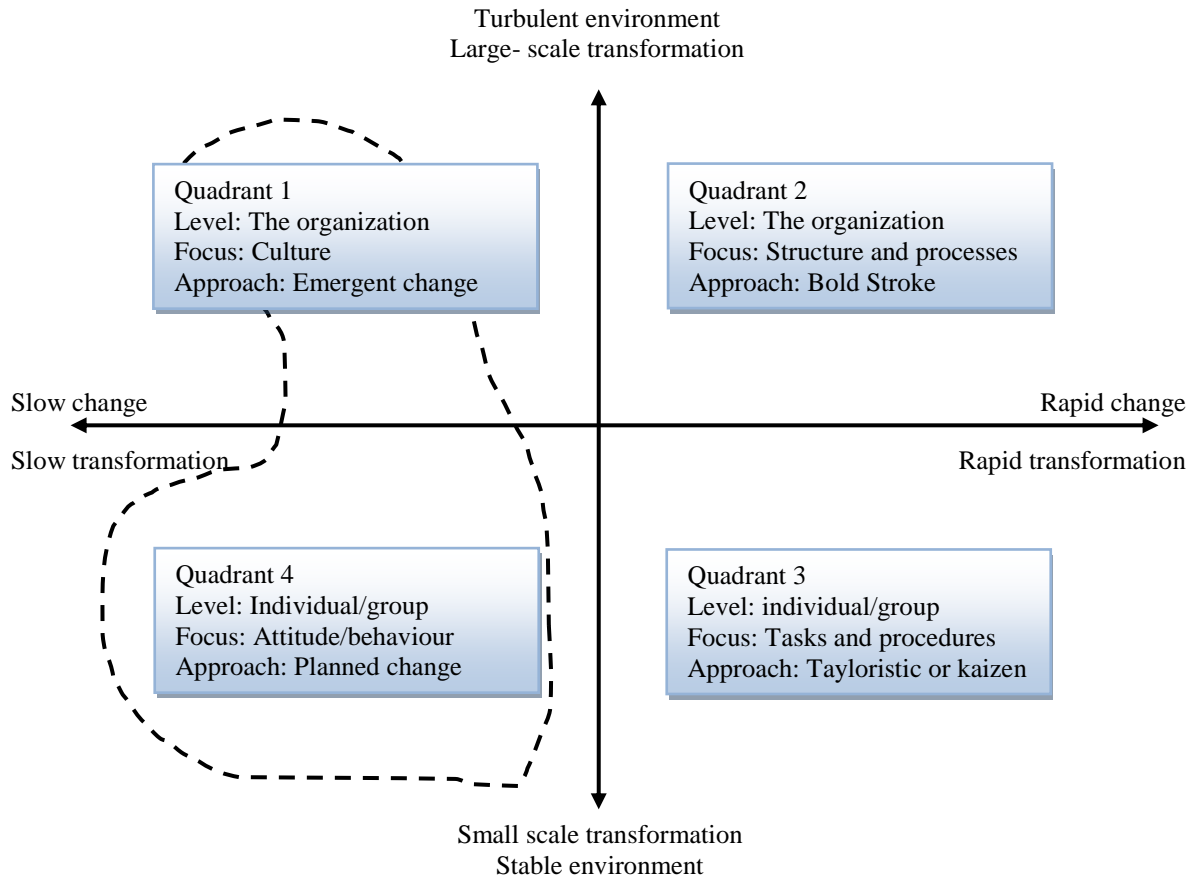


Figure 7- Burns's framework to change- Source: (Burns, 2004)

Quadrants 1 and 4 represent situations where the main focus is on cultural and attitudinal/behavioural change. According to Burns, these situations are best approached by “a relatively slow, participative approach, rather than a rapid and directive or coercive one”. In these situations, and for small-scale initiatives “whose main objective is performance improvement through behavioural change at the individual level, the *planned* approach is likely to be more appropriate”. Whilst, for large-scale initiatives whose main purpose is culture change at the organizational level, Burns argued that the *emergent* approach which stresses the collaborative and political dimensions of change is likely to be more appropriate.

Moving to the second half of Figure 7, the focus is on situations where the change is in structures, processes, tasks and procedures. Quadrant 2 is relevant to situations where the primary focus is on rapid major changes in structures and processes at the level of the entire organization. According to Burns, the ‘*Bold Stroke*’ approach in quadrant 2 refers to “major

strategic or economic initiatives, e.g. restructuring an organization which can have a clear and rapid impact on an organization's performance, but rarely lead to any long-term change in habits or cultures". In Quadrant 3, the situation is different as its focus is on technical change and on a small scale having few implications for behaviours or attitudes. It takes place at the individual/group level by directors in a bureaucratic organization, or by bringing specialist teams together in a more collaborative approach such as kaizen initiatives.

Burn's framework is useful in many ways: *first*, it provides a valuable advice for change practitioners and organizational leaders to focus their attention on the most suitable approach for the needed change. And *second*, it offers an insight into the levels of analysis in which the change is taking place. This is important as when we speak about change, we need to classify whether the change is directed to individuals or to the entire organization because it involves many issues such as the resources to be allocated, the time scale and the cost.

Although Burn's framework for change provided these benefits, it is difficult in real world situations to draw solid lines between the quadrants in Figure 7 due to unpredicted and continuously changing business environment. The uni-directional framework though comprehensive, lacks the level of sophistication needed for today's complex situations. It is likely that a change in an organization will inevitably be a hybrid of the four quadrants if we included the time dimension.

As this research is concerned with introducing changes to behaviours/attitudes at the individual and group levels which will almost certainly introduce changes in culture at the organizational level, the model developed for this research is likely to use *Planned* approach. However, although it is *planned*, it is difficult to exclude the *Emergent* approach as our aim is to develop a culture supportive of innovation which accepts and is flexible enough to adjust to changes in the environment to maintain competitiveness. This understating is represented in Figure 7 with a dotted curved line exclusively including quadrant 4 and touching upon quadrant 1. The integrated approach is used to develop the model and interventions explained in this chapter and chapter 7, further refined in chapter 9.

3.2.2 Woodman and Dewett Model for Individual Change

(Woodman&Dewett, 2004) provided a model which identified and explained the role of the organization in creating individual change. It specified four factors for introducing changes to individuals, these are: (1) socialization, (2) training, (3) managerial behaviour, and (4) management change programs. Change in the individual has three dimensions; (1)changeability, (2) depth and (3) time. The expected change covers the individual's behaviour, cognition, affection and conation (See Figure 8 below).

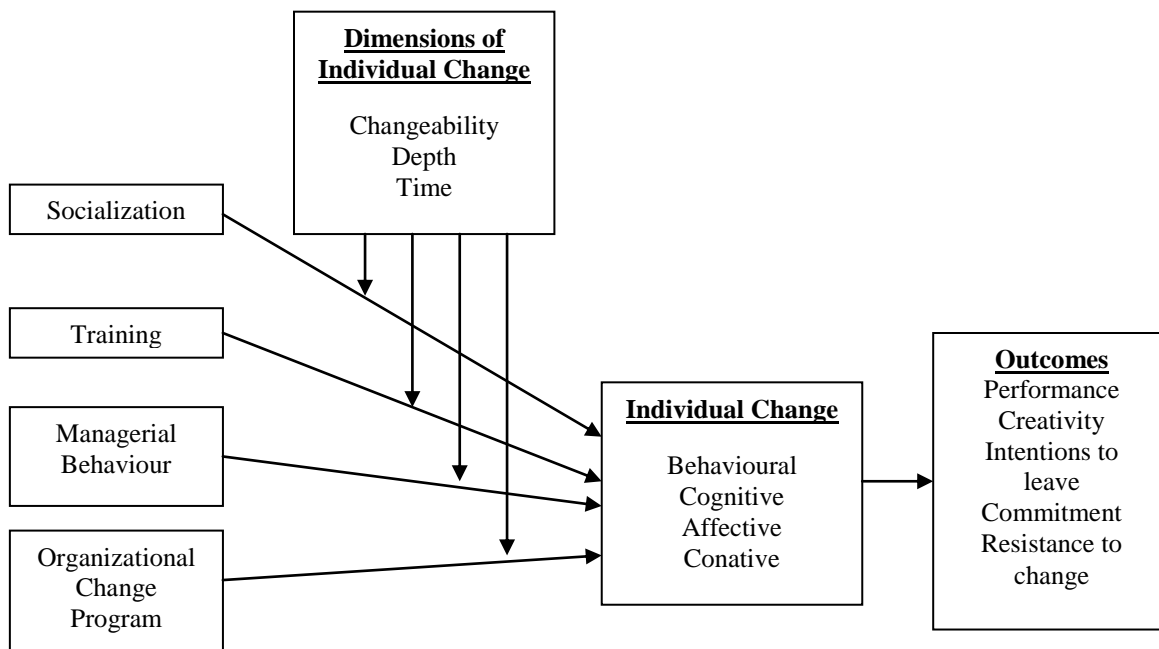


Figure 8 Organizational influences on individual change- Source: (Woodman&Dewett, 2004)

This model is the only model found in literature which explains the changes that organizations need to introduce to their individuals. Although comprehensive in its essence in covering change dimensions, it has fallen short in few aspects. *First*, no explanation is given on how the intended changes are introduced. *Second*, apparent linkages are not clear between the input and the outcomes on the right hand side of the model including; performance, creativity, intentions to leave, commitment and resistance to change. *Third*, the study has not introduced

whether or not the model was tested in organizations and what modifications could have been made accordingly. The following section introduces innovation models.

3.3 Innovation Models

This section introduces innovation and creativity models. First, a simple model to managing the innovation process is introduced, followed by creativity and permanent innovation models.

3.3.1 Managing Innovation Model

(Tidd&Bessant, 2009) introduced a model to help organizations in managing the innovation process. Their model shown in Figure 9 involves four steps (Description from source):

- *Searching*: scanning the environment (internal and external) for, and processing relevant signals about, threats and opportunities for change.
- *Selecting*: deciding (on the basis of a strategic view of how the enterprise can best develop) which of these signals to respond to.
- *Implementing*: translating the potential in the trigger idea into something new and launching it in an internal or external market. Making this happen is not a single event but needs attention to acquiring the knowledge resources to enable the innovation, executing the project under conditions of uncertainty, both of which require extensive problem solving, and launching the innovation into relevant internal or external markets.
- *Capturing value from the innovation*: both in terms of sustaining adoption and diffusion and also in learning from progressing through this cycle so that the organization can build its knowledge base and improve the ways in which the process is managed.

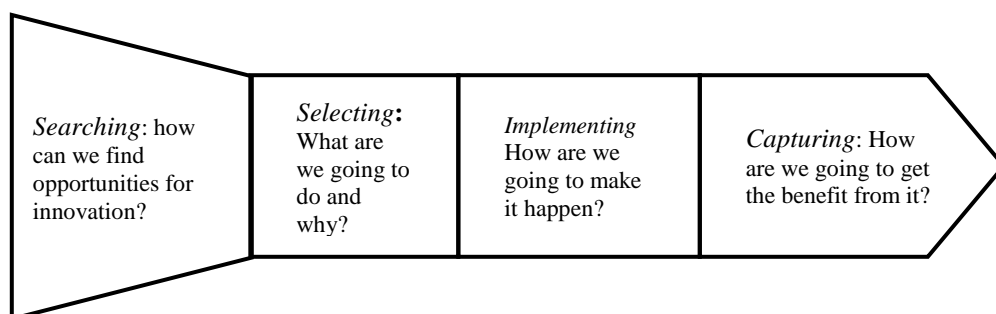


Figure 9- A simple model of the innovation process, Source (Tidd&Bessant, 2009)

3.3.2 Permanent Innovation Model

Permanent innovation model was introduced by (Morris, 2006) in which he proposed “a methodology for permanent innovation”. The five stages of permanent innovation methodology are (See Figure 10 below):

- Creating or finding great ideas.
- Targeting, or choosing those worth developing further.
- Innovation development, transforming great ideas into great innovations.
- Applying great innovations to develop markets and create great businesses.
- Normalizing the innovation culture as permanent innovation.

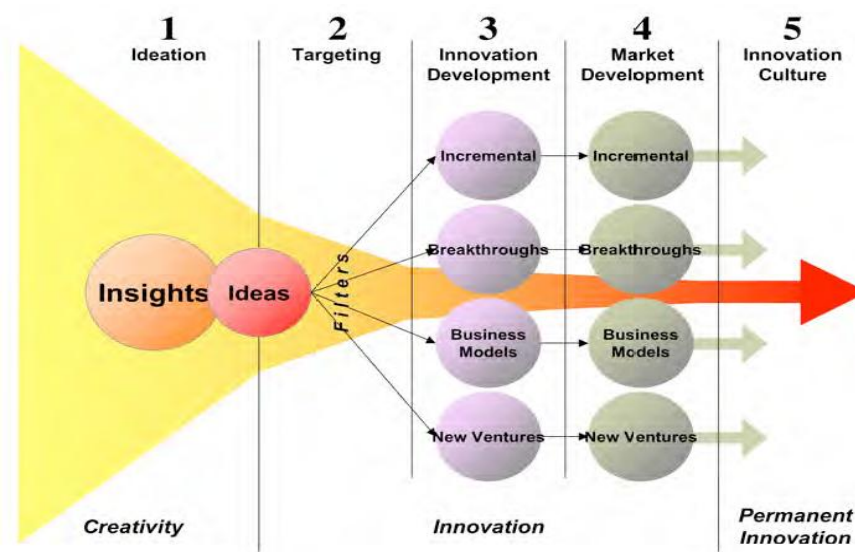


Figure 10- Permanent innovation methodology showing innovation culture as final stage- Source: (Morris, 2006)

Morris’s consideration of innovation culture as a major characteristic of the permanent innovation stage is highly important. It means that in order for innovation to be embedded into the organization, it requires the right cultural reform. Hence, innovation is not an occasional aim for the organization, but rather a continuous and permanent one.

Although the permanent innovation methodology presented in Figure 10 above is in itself creative and adding value to the literature, it does not provide how organizations can actually proceed in achieving this stage.

The following section introduces culture models.

3.4 Culture Models

This section introduces culture models. It presents Schein's levels of culture model, Gagliardi's model for stability and change types, Tesluk, *et al* model of the influences of organizational culture and climate on individual creativity, and Cameron and Quinn Competing Value Framework.

3.4.1 Schein's Levels of Culture

Named as father of organizational culture, Edger Schein authored a number of books and many articles in the field. His highly cited reference, (Schein, 2004), formed major developments in shaping our view of organizational culture. He provided a model which displayed what he named as levels of culture (See Figure 11 below).

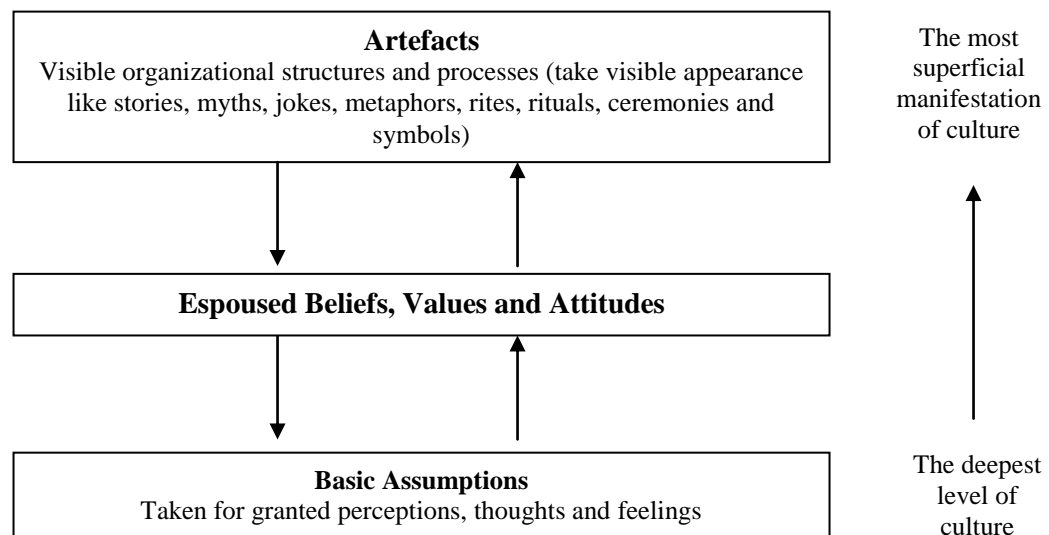


Figure 11 - Levels of culture and their interactions from (Schein, 2004), further adaptation by(Brown, 1998)

By 'level', Schein referred to "the degree to which the cultural phenomenon is visible to the observer" and stated that the uncertainty which culture definitions have is due to "the lack of making a distinction between the levels at which culture manifests itself". Levels move from the observable, clearly noticed by the eye to a deep level of inherently values and mutually accepted assumptions. The three levels are explained as follows:

1. *Artefacts* (Description from source): artefacts are all the phenomena that one sees, hears, and feels when one encounters a new group with an unfamiliar culture. They include the

visible products of the group, such as the architecture of its physical environment; its language; its technology and products; its artistic creation; its style, as embodied in clothing, manners of address, emotional displays, and myths and stories told about the organization; its published list of values; its observable rituals and ceremonies, [in addition], organizational processes by which such behaviour is made routine; and structural elements such as charters; formal descriptions of how the organization works; organization charts; and so on.

2. *Espoused beliefs and values*: (Brown, 1998) provided a detailed description of Schein’s second level of culture. Brown referred to Schein’s *values* as being “intimately connected with moral and ethical codes, and determine what people think ought to be done. *Beliefs*, on the other hand, concern what people think is and is not true”. Table 5 below shows a selection of beliefs/values commonly found in commercial organizations.

Belief/Value	Definition
Adaptability	To be able to change in response to new stimuli
Autonomy	To be able to work independently
Co-operation	To be able to work well with others
Creativity	To be able to generate new ideas and develop innovative approaches
Equality	Everyone has equal rights and opportunities
Honesty	To be open, candid and ethical in work activities
Rationality	To be analytical and logical

Table 5: A selection of beliefs/values commonly found in commercial organizations- Source: (Brown, 1998)

3. *Basic Assumptions*: according to (Brown, 1998), “basic assumption is taken-for- granted solution to an identifiable problem, which refers to the implicit, deeply rooted assumptions people share, and which guide their perceptions, feelings and emotions about things.” According to Brown, they also differ from ordinary beliefs in three ways. First, beliefs are held consciously and are relatively easy to detect whereas basic assumptions are held unconsciously and are very difficult to surface. Second, beliefs are confrontable, debatable and therefore easier to modify than basic assumptions, which are by definition neither confrontable nor debatable. Third, beliefs are simple cognitions compared with basic assumptions, which involve not just beliefs but interpretations of those beliefs plus values and emotions.

According to Schein, a group’s ‘climate’ is considered as an artefact of the deeper cultural level. It is considered as observable in the practices and policies of the organization, whereas

culture works at deeper levels. “It exists as cognitive schema which govern behaviour and actions to given environmental stimuli”(Ahmed, 1998).

(Schein, 2009) presented a metaphor (See Figure 12) for culture and climate representation. He suggested that a climate is what you see from the top of the iceberg, however, culture is deeply embedded into organizational systems and procedures.

The model developed in this chapter borrowed Schein’s iceberg metaphor as it was unintentionally the abbreviation of the **Innovation Culture Enhancing Model** (The ICE model) presented later in this chapter. Although the abbreviation was unintentional, it is still related to what Schein’s metaphor is about, as innovation culture is embedded in the organization likewise the bottom of the iceberg dipped down in the unseen deep waters.

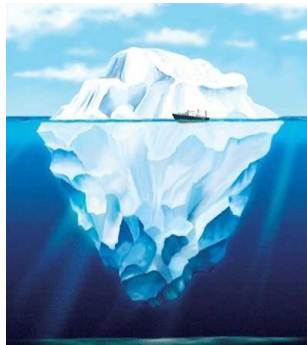


Figure 12- Schein’s Iceberg metaphor, Source from (Schein, 2009)

3.4.2 Gagliardi’s Model for Stability and Change Types

(Gagliardi, 1986) built upon Schein’s three culture levels model artefacts, values and assumptions. However, he related the “primary strategy of an organization as the maintenance of its cultural identity in terms of prevailing values”. His assumption of the interaction between stability and change resulted in three possible outcomes: (1) *Apparent change*, (2) *Incremental change*, and (3) *revolutionary change* (see Table 6 below).

No.	Change Type	Description
1.	Apparent change	Occurs within culture, but without changing it in any fundamental way. This is what happens when strategies align with existing organizational assumptions and values. Implementation of these strategies may produce change at the level of artefacts.
2.	Incremental change	Gagliardi considered incremental change as the only type of change which reaches the deep level of values and assumptions.
3.	Revolutionary change	A strategy incompatible with major assumptions and values is forced into the organization by someone from outside the organization who wipes out previous symbols and establish new ones.

*Table 6- Gagliardi's three types of stability and change.
Adapted from (Gagliardi, 1986), further presented in (Hatch, 2004)*

If the intended changes are targeting the organizational deepest levels, then according to Gagliardi, incremental change is recommended.

3.4.3 Tesluk *et al* Model of the Influences of Organizational Culture and Climate

The model developed by (Tesluk *et al.*, 1997) (See Figure 13 below) is possibly the only model found in literature with specific focus on organizational culture and climate factors which influence individual creativity. The authors believed that individual creativity is influenced by organizational culture in two ways:

- *First*, individuals come to understand the values, expected behaviours, and social knowledge through various forms of socialization, such as direct interactions with co-workers and supervisors, through activities enacted by management and formal and informal socialization processes, norms become established that are learned by and shared amongst employees about appropriate behaviour and how things in the organization should operate. Norms serve as important sense-making devices that can guide and shape behaviour.
- *Second*, the basic assumptions, beliefs, and values of the organization's culture become enacted in established forms of activity and behaviours and are reflected in its structures, policies, and procedures. Certain types of structures, policies, and practices can directly impact creativity in the workplace, such as resources support to pursue the development of new ideas.

Tesluk *et al.*, recognized that other factors exist in organizations which influence individual creativity and are essential for effective organizational innovation (i.e., for testing, implementing, and assessing creative new ideas), however, they concentrated their study on organizational culture and climate believing in the high impact of these two factors on individual creativity.

Although, the model claimed to integrate the concepts of organizational culture and climate, it followed a procedural sequence and seemed to be of provisional nature due to the need for supporting field research.

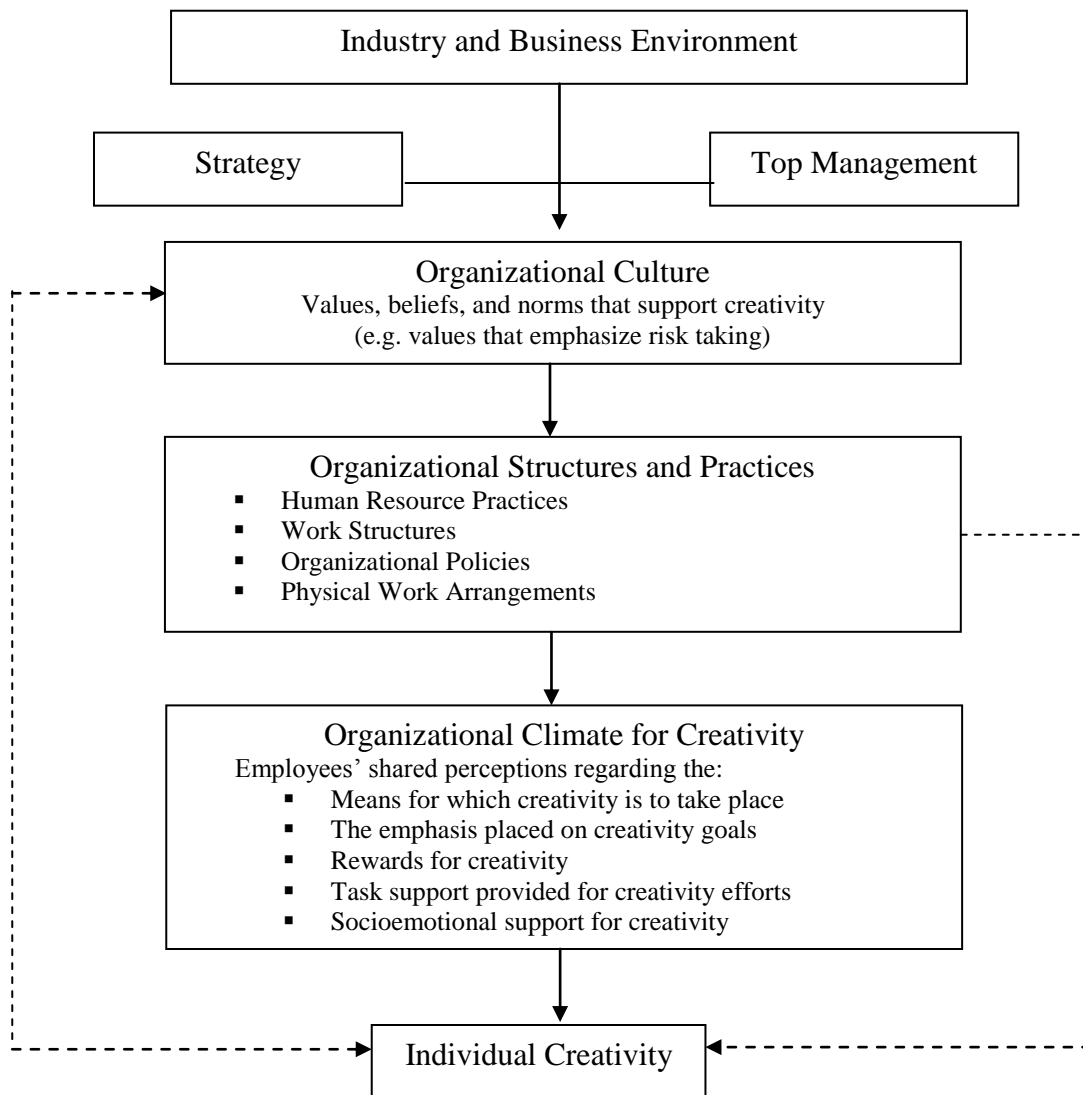


Figure 13 A model of the influences of organizational culture and climate on individual creativity-
Source (Tesluk *et al.*, 1997)

3.4.4 Cameron and Quinn Competing Value Framework

Competing Value Framework is claimed to integrate and organize most of the organizational culture dimensions proposed in literature to diagnose and facilitate change in organizational culture. It is “a framework that was empirically derived, has been found to have both face and empirical validity, and helps integrate many of the dimensions proposed by various authors”(Cameron&Quinn, 2006).

The Competing Value Framework classified organizations into ‘four clusters of criteria’ representing ‘opposite or competing assumptions’. Each continuum highlighted a core value that is opposite from the value on the other end of the continuum- flexibility versus stability, internal versus external. This is drawn into four quadrants as shown in Figure 14 below.

Each quadrant in Figure 14 was labelled using its most distinguished features- Clan, Adhocracy, Market and Hierarchy.

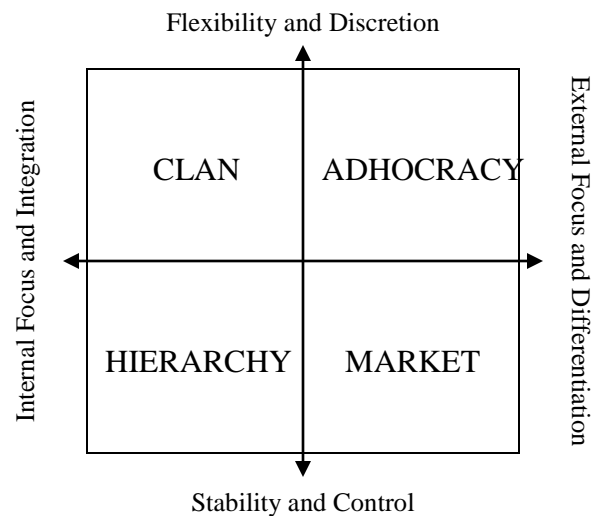


Figure 14- Cameron and Quinn Competing Value Framework, Source: (Cameron&Quinn, 2006)

In the Clan culture, the organization focuses on internal maintenance with flexibility, concern for people and sensitivity to customers, oriented towards *Collaboration*. In the Adhocracy culture, an organization focuses on external positioning with a high degree of flexibility and individuality oriented towards *Creativity*. In the Hierarchy culture, an organization focuses on internal maintenance with a need for stability and control oriented towards *Controlling*. In the

Market culture, an organization focuses on external positioning with a need for stability and control oriented towards *Competing*.

The Organizational Culture Assessment Instrument (OCAI) was based upon the Competing Value Framework. The OCAI helps in identifying current organizational culture and preferred culture in the future. According to Cameron and Quinn, organizations are encouraged to emphasize the CLAN and ADHOCRACY quadrants in order to support creativity and innovation. They produced hints to support organizations in initiating culture change in each of the 4 quadrants. A summary and integration of their recommendations for emphasizing the Clan and Adhocracy quadrants is shown in Table 7.

No.	To emphasize Clan culture organizations are recommended to	To emphasize Adhocracy culture organizations are recommended to
1.	Establish evaluation systems to assess leadership practices to all senior managers	Encourage more focus on managing the future
2.	Design career development program that emphasizes inter-unit mobility	Critical analysis of current vision statement to include emotional direction and creative initiative
3.	Establish employee teams to work on making changes	Employ a planning process the stretches current assumptions
4.	Involve employees in all phases of strategic planning	Move from a hierarchical to a flexible structure
5.	Team building exercises and involvement, teamwork across functions	Review transformational and transitional leadership
6.	Be sure there is an effective succession plan in place	Encourage, measure, and reward innovative behaviour at all levels of the system
7.	Implement benefit programs and incentive schemes	Introduce organizational learning
8.	Training needs and provide training programs	Creative thinking training
9.	Empowerment by eliminating layer of supervision	Explore the use of new technology especially IT
10.	Increase the effectiveness of employee suggestion system	Develop visible rewards that recognize the creativity and innovation of employees, teams and units.

Table 7- A summary and consolidation of Cameron and Quinn hints for culture change to emphasize Clan and Adhocracy quadrants to support creativity and innovation

The OCAI will be used to assess organizational culture in this thesis, however, it has been criticized in literature, in addition, difficulties were faced during using its questionnaire as will be presented in chapter 12.

The following section will discuss the models presented so far in this chapter.

3.5 Discussion of the Innovation and Culture Models

The models presented in previous sections provided insights into innovation and culture. The accumulative experience gained from these models and frameworks is valuable in understanding the concepts underpinning the two constructs. However, due to the changing environments which surround organizations in the 21st century, traditional approaches towards developing innovation no longer sustain competitiveness. It has become essential that organizations gain the capability to continuously innovate and maintain innovation overtime. This ability to continuously innovate or ‘*permanent innovation*’ as Lengden Morris named it (See section 3.3.2 on page 41), calls for many distinctive determinants of the successful exploitation of new creative ideas into innovative products and services.

The models presented so far provided factors which need to be considered while building a model to establish innovation culture in organizations. Based on the learning points from these models which are likely to influence establishing an innovation culture in organizations, the model designed in this chapter needs to fulfil the following:

- The innovation culture model introduces a *planned* change for individual/group attitudes and behaviours and *emergent* change if the change is dedicated to organizational culture (*Burn’s framework of change*).
- Innovation culture model uses incremental change as it is the only change type that reaches the deep level of values (*Gagliardi’s model for stability and change types*).
- The innovation culture model uses socialization, training, managerial behaviour and change programs in order to be successful (*Woodman and Dewett Model for individual change*).
- The innovation culture model is reinforced by a climate supportive of creativity (*Amabile’s climate to creativity model presented in the previous chapter*).
- The innovation culture model can influence the first and second levels of culture (i.e. artefacts and values) as basic assumptions are not subject to change (*Schein’s Levels of culture*).
- Innovation culture model satisfies the searching, selecting, implementing, and capturing steps (*Tidd and Bessant managing innovation model*).

- Innovation culture model application needs to gain management support, be part of the strategy, be manifested in structures and practices (*Tesluk et al model of the influences of organizational culture and climate on individual creativity*).
- Innovation culture model encourages the requirements of emphasizing the Clan and Adhocracy cultures as these cultures support flexibility and discretion (*Cameron and Quinn Competing Value Framework*).

Table 8 below summarizes the models discussed above, provides the identified variables and learning points influencing innovation culture model. It shows that the learning points can be considered as guidance grounds for building the model described in the following section.

CHAPTER 3

No.	Model	Identified variables	Learning points influencing innovation culture change
1.	Burn's framework of change	<ol style="list-style-type: none"> 1. Slow-rapid change 2. Slow-rapid transformation 3. Small-large scale 4. Stable-turbulent environment 	<ol style="list-style-type: none"> 1. Change in individual/group attitudes and behaviours require planned change 2. Change in organizational culture require emergent change
2.	Woodman and Dewett Model for individual change	<ol style="list-style-type: none"> 1. Changeability 2. Depth 3. Time 	Provided changing tools: (socialization, training, managerial behaviour, change programs)
3.	Tidd and Bessant Managing Innovation Model	<ol style="list-style-type: none"> 1. Searching 2. Selecting 3. Implementing 4. Capturing 	Managing innovation is a comprehensive process
4.	Morris Permanent Innovation Model	<ol style="list-style-type: none"> 1. Ideation 2. Targeting 3. Innovation development 4. Market development 5. Innovation culture 	Innovation culture a requirement of permanent innovation
6.	Amabile's climate to creativity model	Climate to creativity components: <ol style="list-style-type: none"> 1. Organizational Encouragement 2. Supervisory Encouragement 3. Work Group Support 4. Sufficient Resources 5. Challenging Work 6. Freedom 	Innovation culture needs a proper climate to be successful
5.	Schein's Levels of culture	<ol style="list-style-type: none"> 1. Artefacts 2. Values 3. Basic assumptions 	Culture has levels, Culture change is not an easy task Culture is deeply held, climate is manifestation of cultural deep values
6.	Gagliardi's model for stability and change types	Culture change has to be incremental as incremental change is the only type that reaches the deep level of values and assumptions	Provided change types: Apparent, incremental, revolutionary
7.	Tesluk <i>et al</i> model of the influences of organizational culture and climate on individual creativity	Individual creativity is produces by a collection of these factors: <ol style="list-style-type: none"> 1. Industry and business environment 2. Top management 3. Strategy 4. Organizational culture 5. Organizational structures and practices 6. Organizational climate for creativity 	Studying the environment is important Getting top management support Identify strategy Study organizational structures and practices Climate to creativity
8.	Cameron and Quinn Competing Value Framework	Organizational culture move on a continuum of : <ol style="list-style-type: none"> 1. Flexibility and discretion to stability and control 2. Internal focus and integration to external focus and differentiation 	Four types of cultures: Clan, Adhocracy, Market and Hierarchy Clan and Adhocracy cultures support creativity and innovation

Table 8 Models discussion and learning points

3.6 Model Development: The Innovation Culture Enhancing Model (The ICE Model)

Building a model for this research passed through various stages. In stage 1, a representation of the change levers is created. In stage 2, the model's building blocks are established, and in stage 3, relationships between the model's building blocks are created.

3.6.1 Stage One: Change Levers

The model is based on the assumptions that if:

- We provide proper and supportive climate to creativity for employees, and in conjunction
- Implemented an innovation culture change interventions, then

The expected outcome would be successful adaptation to change and continuous ability to innovate (*permanent innovation*).

We are looking to build some form of organizational culture and organizational climate which are open to changes from outside the company and flexible enough to absorb the creative capabilities of the individuals and successfully exploit them into innovative outcome. This ability is continuous over time.

Both the innovation culture and climate supportive to creativity will support the organization and its individuals to attain this capability. They will both establish a flexible and dynamic organization capable from the inside to implement the right changes at the right time (See Figure 15 below).

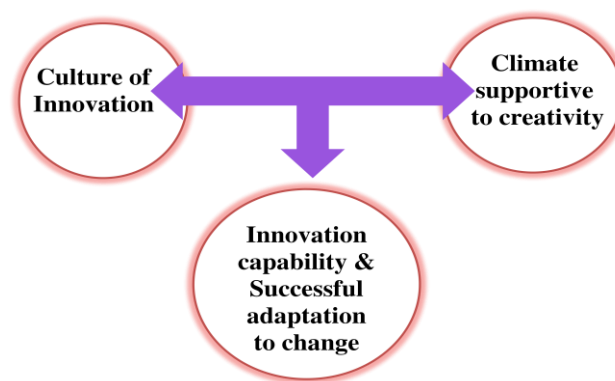


Figure 15 Stage 1- Model Development- Change Levers

3.6.2 Stage Two: Model's Building Blocks

Based upon the learning outcomes from the models presented in the previous section, stage 2 represents the model's building blocks shown in Figure 16 below. We know by now that the change will take place as planned and incremental. This is taken into consideration during the change intervention design in chapter 7.

It can be identified from the learning outcomes that the building blocks of the innovation culture change include:

1. Structure and strategy
2. Top management (or management commitment)
3. Leaders
4. Values
5. Climate to creativity
6. Motivation

Although not explicitly mentioned in the literature models, motivation forms a major building block in the change program as motivating the individuals is likely to minimize resistance to change and empower them to accept the culture change.



Figure 16 -Stage 2: Model development- Building Blocks

3.6.3 Stage Three: Establishing Relationships

In order to build relationships between the model's building blocks, we need to revisit Figure 6 on page 33 where the gap in literature is identified. In Figure 6, innovation steps provided the need for a climate supportive of creativity and supporting structures and systems. Maintaining continuous innovation capability requires a culture of innovation.

Upon arriving at this point, the literature is negligent on how to create innovation culture which is what we plan to achieve in this chapter. Hence, the model built for this research consists of three components:

- **Component one: *Foundation***: serves to provide foundational grounds for the change in the company's
 - Organizational structure
 - Strategy
 - Top Management Commitment
- **Component two: *Innovation Culture Interventions***
 - Shared Work Values dimension
 - Leaders as change champions dimension
 - Motivation dimension
- **Component three: *Climate to Creativity Interventions***
 - Organizational encouragement
 - Supervisory encouragement
 - Work group support
 - Sufficient resources
 - Challenging work
 - Freedom
- **Component four: *Outcomes***
 - Improved performance
 - Enhanced creativity and innovation

The **Innovation Culture Enhancing Model** or (The ICE Model) is shown in Figure 17 below.

A detailed discussion of the ICE Model components will be presented in the following sections.

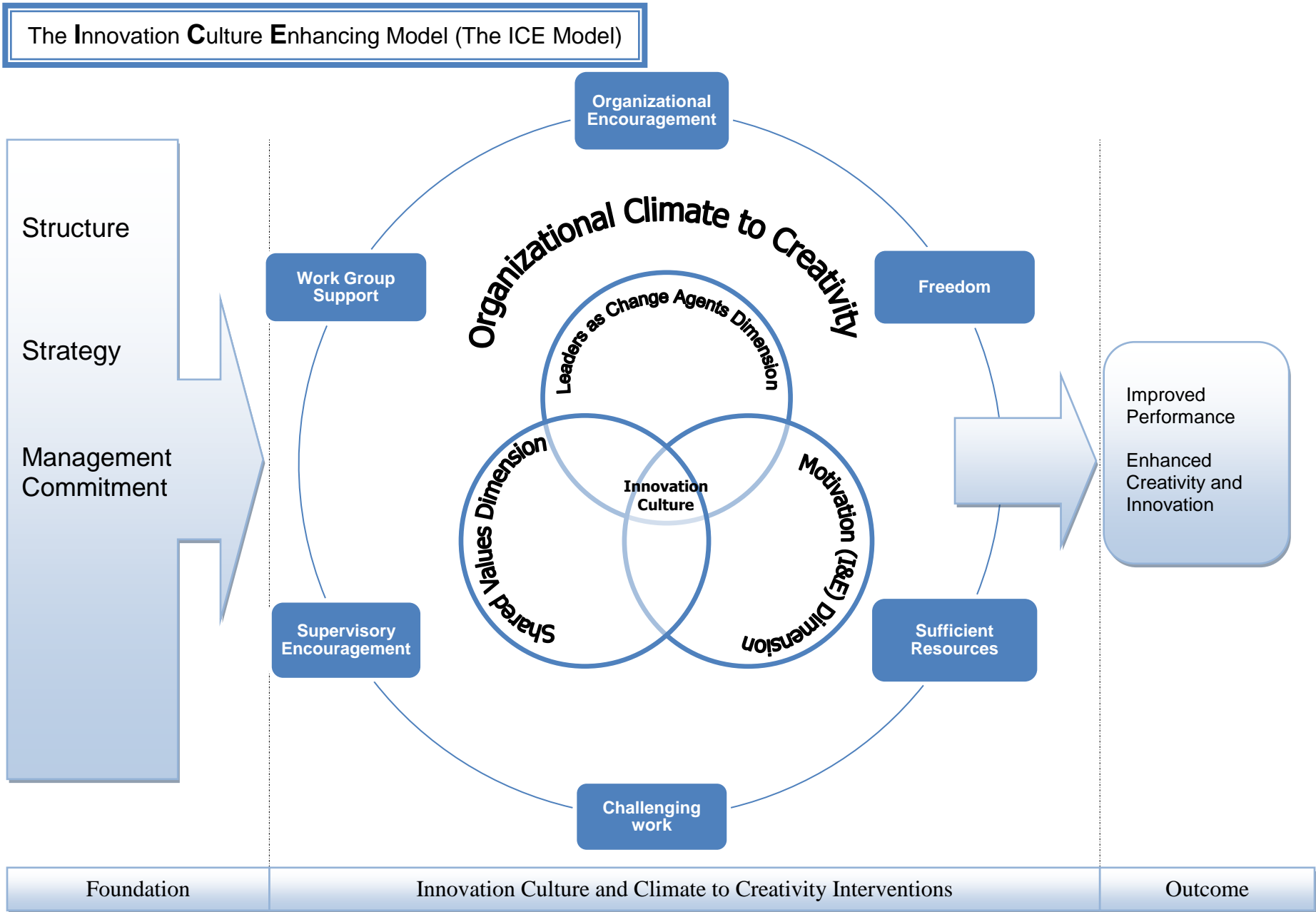


Figure 17- The ICE Model

3.7 The ICE Model -Component One: Foundation

This section presents organizational structure, strategy, and management commitment.

3.7.1 Organizational Structure

According to (Lam, 2005), several studies have shown how certain organizational structures facilitate the creation of new products and processes, especially in relation to fast changing environments. However, only some of the studies deal specifically with the question of how structure is related to innovation. Lam suggested that (Burns&Stalker, 1961) found that firms could be grouped into one of the two main organizational structures types: *The Mechanistic Organization, and the Organic organization*. The former is more rigid and hierarchical, suited to stable conditions; and the latter, a more fluid set of arrangements, adapting to conditions of rapid change and innovation.

(Mintzberg, 1978) identified five archetypes, each with different innovative potential: simple structure, machine bureaucracy, professional bureaucracy, divisionalized form, and adhocracy. He proposed that “bureaucratic structures work well in stable environments but they are not innovative and cannot cope with novelty or change. Adhocracies, by contrast, are highly organic and flexible forms of organizations capable of radical innovation in a volatile environment”.

Certain organizational types or attributes are more likely to yield superior innovative performance in a given environment because they are more suited to reduce transaction costs and cope with alleged capital market failures (Lam, 2005). On the other hand, (Daft, 2001) characterized the ‘*symptoms of structural deficiency*’ when organizational structure is out of alignment with organization needs as follows:

- Decision making is delayed or lacking in quality: decision makers may be overloaded because the hierarchy funnels too many problems and decisions to them.
- The organization does not respond innovatively to a changing environment: one reason for lack of innovation is that departments are not coordinated horizontally. The identification of customer needs by the marketing department and the identification of technological developments in the research department must be coordinated. Organization structure also has to specify departmental responsibilities that include environmental scanning and innovation.

- Too much conflict is evident: organization structure should allow conflicting departmental goals to combine into a single set of goals for the entire organization.

According to (Clarke, 1994), “the old Organization structures have been turned on their heads, sweeping away layers of management, cutting back sprawling HQs. Vertical, functional structures no longer work. They were great for stable environments but are hopeless for situations of dynamic change”.

Daft also identified that coordination, flexibility, learning, and innovation are highly associated with horizontal or flat structures. He emphasized that “a flat flexible structure is likely to enhance creativity, the functional structure promotes in-depth skill development of employees; however, its weakness lies within its slow response to environmental changes that require coordination across departments”.

From the above discussion, we conclude that in order to enhance creativity and innovation in the organization, we need to build a flatter structure in the organization.

3.7.2 Strategy

Strategy in the ICE model means adopting creativity and innovation as strategic options for the organization. This adoption is not only written in words, mission statements and mottos, but rather is executed as real choice for the future. This implies that the management is prepared for risk taking and the costs associated with it, that the management is prepared for idea time support (refer to chapter 2), and to reward both success and failure. (Morris, 2006) advised organizations that “you can’t talk about strategy without talking about innovation, and consequently innovation must have a central focus in your company’s strategy. And at the same time, you can’t talk about innovation without talking about strategy, because innovation must certainly be targeted toward strategic priorities. Thus, the two are inseparable and interdependent”.

3.7.3 Management Commitment

Gaining management commitment is essential in culture change programs. Top management support is vital as “without active senior management involvement, innovation simply cannot happen” (Morris, 2006). They are the top leaders and will influence other individuals’ acceptance of the change in the company. (Schein, 2004) suggested that culture change is a “major intervention in the organization’s life and therefore must only be undertaken with the full understanding and consent of the leaders of the organization”.

3.8 The ICE Model- Component Two: Innovation Culture Interventions

As for the culture change dimensions, this research proposes that a real culture change is possible and achievable with three main dimensions: leaders as change agents, shared work values, and motivation. Each of these dimensions is discussed below.

3.8.1 Leaders as Change Agents

Leaders are major players in any successful culture change program. The meaning of this dimension has two folds; *first*, leaders are the core holders of the culture change, they realize the need for change, they are role models, they communicate values and norms explicitly and implicitly in organizational daily activities, structure and reward systems. *Second*, leadership is encouraged and communicated throughout the organization at all levels. This is because leaders who play the change agent role are needed in each section, division and working group. They hold the culture change in every meeting, report, activity and informal communication. Top leaders are the culture change champions; they work relentlessly to establish more pioneering change agents throughout their organization.

(Thies&Wagner, 1998) provided an insightful experience which they have learned over two decades explaining that if the goal is “to create the real changes that will result in fundamental culture change, there is no substitute for the active engagement of the CEO and the executive team. It is simply not enough for the top leaders to ‘sign off’ on a program and then go through the motions while subordinates are left to carry the load. To the contrary, it is up to the top leaders to collectively assume the role of ‘chief architect’ of the change process”.

On the other hand, (Kotter, 1996) believed that “Only through leadership can one truly develop and nurture culture that is adaptive to change”. Kotter suggested that leaders who build highly innovative and satisfying organizational cultures do the following:

1. Articulate those cultures to followers,
2. Exhibit a sense of vision and purpose,
3. Align others around the vision and empower others to take a greater responsibility of achieving the vision, and
4. Foster a culture of creative change and growth rather than one which maintains the status quo.

Kotter claimed that these steps are important for any change to happen in organizations, however, in a recent publication (Kotter, 2001), he emphasized the

corporate culture in a wider context. He suggested that in order to be more adaptive to the 21st century competitive environment, companies need two elements; *first* “that the management group deeply, honestly, sincerely values the various players in the corporate drama and not just themselves, and they care about their customers and stakeholders. As a result they look *outward* not *inward*. This single characteristic is enormously important in producing flexible and adaptive cultures. *The Second* is a core characteristic of healthy cultures is that initiative and leadership are truly valued and encouraged at every level in the organization. Not just at the top, but at the middle and even lower levels too”.

Supporting this view, (Morris, 2006) suggested that “leaders define and create organizational culture in which innovation blossoms, ensuring that the right set of tools helps everyone organize their thoughts and their actions to support and enhance innovation. Thus, innovation begins at the top of every organization, and without the right leadership, companies just don’t innovate”. He further emphasized that “when management’s behaviour is anti-innovation, whether intentionally or not, then there’s little hope for struggling innovators-to-be who may be trapped in the ranks. But when managers are enthusiastically pro-innovation, innovativeness can be unleashed”.

Furthermore, roles of the executive team were defined by (Thies&Wagner, 1998) as follows:

1. *Chief architect of the new approach*: this requires the executive team to provide active leadership in three important ways: through defining the new operating environment; engaging the company’s top leadership in the process; and developing a strategy for making the desired changes a reality.
2. *Systems integrator during implementation*: the systems integrator role involves choosing the key levers for change, selecting the appropriate interventions, providing the necessary resources, and monitoring progress.

Leaders who are able to achieve the above roles and establish culture change possess special qualities. There is evidence that individual leadership style is an important determinant of innovation (Dess&Picken, 2000). In particular, transformational leadership has been shown to support and promote innovation which ensures the long-term survival of an organization (Ancona & Caldwell, 1987) as cited in (Sarros *et al.*, 2008). The need for leaders to become transformational leaders –not transactional

leaders- is apparent due to the changes in the market place and workforce over the past two decades (Bass, 1999). According to Bass, transactional leadership refers to the “exchange relationship between leader and follower to meet their own self-interests”, whilst transformational leadership refers to “the leader moving the follower beyond immediate self-interests through idealized influence (Charisma), inspiration, intellectual stimulation, or individualized consideration. It elevates the follower’s level of maturity and ideals as well as concerns for achievement, self actualization, and well-being of others”. Burns as in (Masood *et al*, 2006) described transformational leadership as “a process in which leaders and followers raise one another to higher levels of morality and motivation”. Furthermore, (Sarros *et al.*, 2008) referred transformational leadership to “behaviours of leaders who motivate followers to perform and identify with organizational goals and interests and who have the capacity to motivate employees beyond expected levels of work performance”.

On the other hand, (Krishnan, 2001) described that “superior performance is possible only through stimulating and motivating followers to higher levels of performance through transformational leadership. Superior performance is possible only by transforming followers’ values, attitudes, and motives from a lower to a higher place of arousal and maturity”. He further emphasized that “transformational leaders throw themselves into a dynamic relationship with followers who will feel elevated by it and become more active themselves, thereby creating new cadres of leaders”.

Several studies reported that transformational leadership is associated with followers’ creativity and innovation; see for example (Jung&Avilio, 1999). (Gumusluoglu&Ilsev, 2009) found out that “employees’ intrinsic motivation and perceptions of the work environment, specifically perceptions of support for innovation and empowerment, are the mechanisms underlying the effects of transformational leadership on creativity”. Participative rather than other types of leadership has been associated with cultures of innovation and high-performing companies (Ogbonna&Harris, 2000).

From the above discussion, we can conclude that if the aim is to establish an innovation culture, transformational leaders who use participative style are needed because “culture change needs enormous energy and commitment to achieve outcomes”(Sarros *et al.*, 2008). This leadership style is also needed to facilitate empowering employees for better performance and creative thinking. Hence, leadership training and development are introduced as part of empowering leadership capabilities throughout the organization.

Transformational leaders as discussed above focus their culture change around values; they share these values and introduce them across the organization.

Shared values are the second dimension of culture change intervention in the ICE model discussed in the following section.

3.8.2 Shared Work Values

Definitions

Values form the bedrock of a culture. They provide the context within which norms are established and justified (Hill, 2009). Organizational culture is a collection of values, beliefs, and norms shared by its members and reflected in organizational practices and goals (Hofstede, 2001). Values serve as the backbone of cultures that foster process innovation, thereby enabling or hindering performance improvement (Khazanchi *et al.*, 2007).

(Stackman *et al.*, 2000) provided a distinction between values, attitudes and behaviours:

“Values are neither attitudes nor behaviours. Instead, they are the building blocks of the behaviour of and the choices made by individuals. Attitudes, on the other hand, are cognitive and affective orientations toward specific objects and situations. Behaviour is the manifestation of a person’s fundamental values and corresponding attitudes”.

They defined two key issues to be important in understanding the values-attitudes-behaviours relationship:

- (1) *Observability*: Values underlie and affect attitudes, which in turn underlie and affect behaviour. In other words, attitudes result from the application of values to concrete objects or situations, *and*
- (2) *Applicability*: Values are conceived of as global, transcending all situations, whereas attitudes apply to specific objects, persons, institutions and situations.

Work values

Work values as a concept implies the existence of particular sets of values that govern employee work behaviour, in all of its forms (Stackman *et al.*, 2000). Work values are defined as “an individual’s needs and priorities and consequent personal dispositions and orientations to work roles that have the perceived capacity to satisfy those needs and priorities” (Pine&Innis, 1987). Shared values are common deep values held by

organizational members. These values are shared in the workplace and can stem from organizational code of conduct, founders heritage or spiritual beliefs.

Shared work values

When a number of particular values concerning behaviours and the way things are done in the organization are shared by key actors operating in powerful and important units and positions, a system of shared work values is said to exist (Chatman , 1991). Shared work values is often discussed in connection with *values congruence* throughout the entire organization, if this is not the case, it becomes difficult to speak about an organization's culture, hence, its values (Stackman *et al.*, 2000). (Kalliath *et al.*, 1999) referred to values congruence as “the extent to which there is an agreement or consensus about organizational values amongst organizational members”. Congruence enables a more cohesive culture, setting consistent and common expectations for behaviour.

Shared work values are often associated with strong cultures. An organization is said to have a strong culture if there is a high degree of consistency among its members in terms of their shared beliefs, structures, values, and norms (Khazanchi *et al.*, 2007).

As individuals are the focus of culture change programs introduced in organizations, this ICE model dimension proposes that shared work values have three levels in the way they manifest into individual's attitudes and behaviours (see Figure 18 below).

First level: Individual's values which he/she holds as personal values

Second level: Individual's values shared with colleagues, and

Third level: Individual values towards the organization.

Culture change is directed towards the second and third levels; i.e. individual's values with colleagues and individual's values towards the organization. The first level is utilized as a motivational factor towards adopting the culture change as will be discussed in the following section. Individual's values are built in the individual upon childhood; they might very well be originated from spiritual beliefs. Understanding and utilizing individual's values will facilitate the organizational role (or leader's role as change agents) to initiate and establish long-term change which is adopted by all individuals in the organization.

What we aim to accomplish here is high level of congruence between the three levels of shared values. If this is achieved, then the organizational culture which includes

(values, attitudes and behaviours) becomes flexible and dynamic. This is the innovation culture we want to build. In this case, the organization becomes capable of adopting Morris's attributes of 'innovation culture' rather than the 'status quo culture' described in Table 3 on page 26.

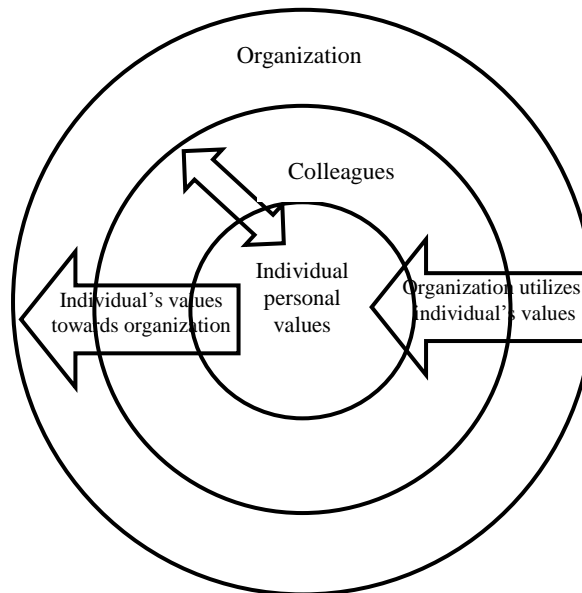


Figure 18- Levels of shared work values dimension

The following section presents the third dimension of the ICE Model.

3.8.3 Motivation

Literature on motivation is wide and substantial. A motive is a person's reason for doing something (Arnold *et al.*, 2005). Motivating employees enhances sense of belonging to the company; it has a significant influence on the performance of employees. Most companies use extrinsic motivating factors like rewards and promotions. These extrinsic factors are effective, but are likely to have better effect if joined with intrinsic motivators. Employees are motivated when they find their work meaningful and challengeable, when their objectives are clear within those of the company and when they feel valued and secure.

As presented in section 3.4 previously, one of Amabile's components of creativity is motivation. She emphasized that managers are able to introduce changes to all three components of creativity, but found that '*Expertise*' and '*Creative-thinking skills*' are "more difficult and time consuming to influence than motivation". She distinguished motivation as it "determines what people will actually do" while '*Expertise*' and '*Creativity thinking skills*' are "individual's raw materials-his or her natural resources". Amabile's work showed that "intrinsic motivation can be increased considerably by even subtle changes in an organization's environment, this component- intrinsic motivation- is the one that can be most immediately influenced by the work environment". However, the other two components should not be neglected but "when it comes to pulling levers, the managers should know that those that affect intrinsic motivation will yield more immediate results" (Amabile, 1998).

Individuals will most likely be creative if they become motivated by the interest, fulfilment, and challenge of the work itself- and not by outer forces. However, (Pitta, 2009) disagreed as he believed that "certificates, plaques, or engraved rewards of little monetary value may just collect dust and have little motivational power".

Motivation has been linked with creativity and innovation. (Milliman *et al.*, 2003) suggested that a strong sense of community and organizational values is related to employee satisfaction and motivation. Hawley as cited in (Milliman *et al.*, 2003) indicated that "employees who feel their organization offers them a strong sense of connection and genuine sense of purpose also tend to be more creative and innovative in their work".

The *Motivation* dimension in the ICE model is presented in line with the above discussion and supports the argument by (Kraimer, 1997) who explained that organizations "which create an environment that is responsive to their employees'

sense of purpose and values will have people who are more motivated in their work and are more likely to have a productive and satisfied workforce”. On the other hand, (Daniel, 2010) believed that “organizations rich in spirituality will have a special environment which will foster team members’ creativity”. Motivating employees to better performance and enhanced creativity is emphasized by bringing “spirituality into the workplace which could create a different organizational culture in which the employee would be more satisfied and would have an improved performance (Garcia-Zamor, 2003). He further emphasized that “in a more humanistic environment, employees are more creative and have higher morale”.

According to (Ali, 2005), “performance evaluation generally serves four objectives measuring organisational progress in meeting goals, enabling senior managers to know what has been done, providing feedback to and developing subordinates, and allocating rewards. Employees are expected to have an moral duty to monitor their performance. These intrinsic aspects, however, are more likely to transform into action in an environment of the reciprocal trust and understanding of religious principles”.

The following section introduces the third component of the ICE Model.

3.9 The ICE Model- Component Three: Climate to Creativity Interventions

As previously discussed in chapter 2, climate dimensions are adapted from Amabile's climate to creativity components which are defined as follows:

3.9.1 Organizational Encouragement

Fair, constructive judgment of ideas; reward and recognition for creative work; mechanisms for developing new ideas; an active flow of ideas; and a shared vision.

3.9.2 Supervisory Encouragement

A supervisor, who serves as a good work model, sets goals appropriately, supports the work group, values individual contributions, and shows confidence in the work group.

3.9.3 Work Group Support

A diversely skilled work group in which people communicate well, are open to new ideas, constructively challenge each other's work, trust and help each other, and feel committed to the work they are doing.

3.9.4 Sufficient Resources

Access to appropriate resources, including funds, materials, facilities, and information.

3.9.5 Challenging Work

A sense of having to work hard on challenging tasks and important projects.

3.9.6 Freedom

Deciding what work to do or how to do it; a sense of control over one's work.

In this component, interventions will be introduced to each one of these items in the organization.

3.10 The ICE Model- Component Four: Outcomes

Two major outcomes are proposed as a result of applying the ICE model; improved performance, and enhanced creativity and innovation.

3.10.1 Improved Performance

Researchers supported the impact of organizational culture on performance. (Bettinger, 1989) suggested that "of the key factors that contribute to sustained high performance, none is more important than a strong positive corporate culture". Supporting this argument, (Altman, 2001) suggested that "culture is a causal variable in the growth and

development of an organization and, more specifically, is a determinant of labour's productivity essential to the predictive power of economic theory in competitive markets". He also suggested that culture can also affect the level of per capita output.

(Gordon&DiTomaso, 1992) examined the link between strong corporate cultures and corporate performance for 11 US insurance companies through survey data. Their results indicated that "a strong culture regardless of content is associated with better performance". On the other hand, (Pfeffer, 2003) emphasized the "statistical and substantive impact of culture on quality, productivity and profitability".

Measuring performance can take various forms. It depends on the level of analysis, type of business, and whether it is financial or other forms of indicators.

Improved performance is measured compared to initial departmental/ organizational performance assessed before the intervention. Organizations use various methods to measure performance although one of the most popular ones is using Key Performance Indicators (KPIs) developed using Balanced Scorecard. The Balanced Scorecard (BSC) developed by Kaplan and Norton (Kaplan&Norton, 2001) is a tool that is widely used in industry. It is "a management system which focuses on the efforts throughout the organization toward achieving strategic objectives and gives feedback on current and targeted future performance". The BSC converts an organization's vision and strategy into a comprehensive set of performance and action measures that provides the basis for a strategic measurement and management system. The BSC replaced the traditional means of measuring results that has been through financial reporting using an accounting model developed centuries ago. According to Kaplan and Norton, "the accounting model does not incorporate the valuation of a company's intangible and intellectual assets, such as high-quality products and services, motivated and skilled employees, responsive and robust internal processes, and satisfied and loyal customers. Yet these assets are more critical to the long term future of the organization than traditional physical and tangible assets". The BSC is currently implemented in thousands of organizations around the world translating vision and strategy into a conclusive set of performance and action measures in four areas - *financial performance, customers, internal business processes, and learning and growth*.

The BSC and KPIs are adopted in this research for developing organizational strategy and measuring its performance.

3.10.2 Enhanced Creativity and Innovation

Enhanced creativity and innovation is not meant to be a specific measurable term. This is because assessing the outcome of an innovation culture change program using the number of new creative ideas or the number of new products and services- although indicative and important- is not in itself sufficient. Using Keys to creativity assessment instrument after applying the intervention program would indicate whether the climate to creativity has actually improved. This in itself is a strong measurable indication that the intervention was a positive one and should inevitably lead to new creative ideas that are transformed into innovative products and services. However, other organizational variables are likely to influence this outcome such as structure, financial resources and strategic choices. Therefore, this ICE model outcome is an indicative prospect and not a measurable one as such.

3.11 Summary

This chapter presented the models in literature which are found to be related to establishing innovation culture in organizations. It has used the learning points from these models to establish the building blocks of the ICE Model.

The ICE Model's four components described in this chapter are: in the foundational stage (structure, strategy, management commitment), in the innovation culture intervention stage (leaders as change agents dimension, shared work values dimension, motivation dimension), in the climate to creativity intervention stage (the 6 items proposed in the Keys to creativity assessment).

These stages are expected to lead to an improved performance and enhanced creativity as an outcome of applying the ICE Model.

The following chapter will present details of the research methodology used to exploit and test the theoretical ideas proposed in this chapter.

CHAPTER 4

RESEARCH METHODOLOGY

4. Research Methodology

The knowledge of the world is only to be acquired in the world, and not in a closet (Lord Chesterfield's letter to His Son, 4th October 1746).

4.1 Introduction

As was concluded in the previous chapter, planned change seems to be the most appropriate approach for culture and climate change. This chapter reviews the research objectives and questions, presents models of planned change, the choice of action research as research strategy, philosophical position, data collection method, and assessment instruments to be used.

4.2 Research Objectives and Questions

Recalling from chapter 2, this research will serve to achieve the following objectives:

1. To help organizations build innovation culture and climate supportive of creativity for continuous innovation capabilities, and
2. To facilitate culture change OD interventions introduced to organizations outside the USA and Europe and specifically in the Middle East area.

The research attempts to answer the following research questions:

1. How can an innovation culture be introduced and established inside an organization?
2. What variables are important in achieving and sustaining cultural change in an organization?
3. Can spiritual beliefs be utilized as motivators for better performance and enhanced creativity?
4. What are the implications of the national culture of the Middle East on OD interventions and new ventures?

In order to achieve the research objectives and answer the above questions, this chapter will present the choice of the research methodology in the sections to follow.

4.3 Models of Planned Change

OD is approached by applying planned change to increase organizational effectiveness and the ability to change itself (Cummings&Worley, 2009). Three models of planned change were identified in literature; Lewin's change model, Kotter's eight steps model, and the action research model. These models are presented in this section respectively.

4.3.1 Kurt Lewin Model

Lewin's change model was one of the earliest models in the change management literature. Kurt Lewin (Lewin, 1951) proposed to energise change by 'unfreezing' the status quo, introducing the change to be effected, then 'refreezing' or consolidating the new state. He argued that "organizations exist in a state of equilibrium which is not itself conducive to change. This equilibrium (the status quo) is the result of opposing forces which constantly act upon the organization and its individuals. These are forces for change (*driving forces*) and forces against change (*restraining forces*)". To change this status, forces pushing for change should be increased and forces sustaining the current status should be minimised (Cummings&Worley, 2009). In other words, *driving forces* must outweigh *resisting forces* in any situation if change is to occur (Green&Cameron, 2009). Lewin's change process is viewed in

Figure 19 below and is composed of three steps as follows; description is from (Cummings&Worley, 2009):

1. *Unfreezing*: this step usually involves reducing those forces maintaining the organization's behaviour at its present level. Unfreezing is sometimes accomplished by introducing information that shows discrepancies between behaviours desired by organization members and those behaviours currently exhibited, members can be motivated to engage in change activities.
2. *Moving*: this step shifts the behaviour of the organization, department, or individual to a new level. It involves intervening in the system to develop new behaviours, values, and attitudes through changes in organizational structures and processes.
3. *Refreezing*: this step stabilizes the organization at a new state of equilibrium. It is frequently accomplished through the use of supporting mechanisms that reinforce the new organizational state, such as organizational culture, rewards, and structures.

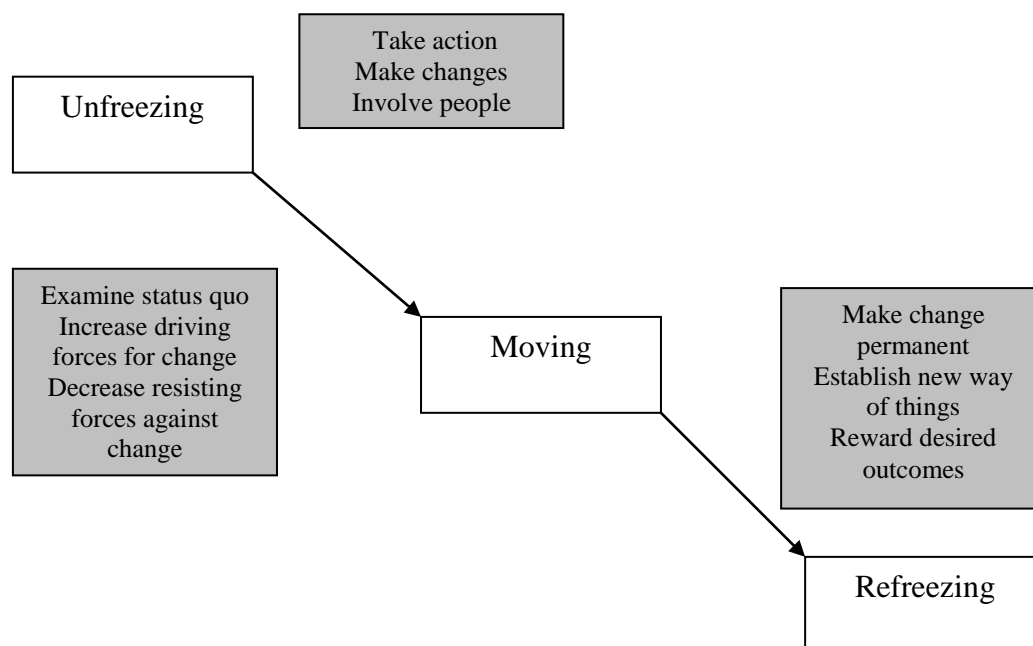


Figure 19 Kurt Lewin's Model, Source (Cummings&Worley, 2009)

According to Cummings and Worley, other models were derived and based on Lewin's model such as for example, the planning model developed by Lippitt, Watson, and Westley which broke down Lewin's model into seven steps: scouting, entry, diagnosis (unfreezing), planning, action (moving), stabilization and evaluation, and termination (Refreezing). Likewise, according to Cummings and Worley, Kotter's eight stage process (described in the next section) can also be drawn upon Lewin's stages.

Lewin's model provided a general understanding of the change process; however, it has fallen short in providing practical insight into introducing the change in organizations. His '*driving*' and '*restraining forces*' might be accepted as illuminating into the process of change, however, pure materialistic physical terminology such as 'forces for and against' need to be dealt with cautiously when working with social systems like human organizations due to the interference of other factors influencing the change and the complex relationships between the so called '*forces*' in today's organizations.

According to (Green&Cameron, 2009), Lewin's model "ignores the fundamental assumption of the organism metaphor that groups of people will change only if there is a felt need to do so. The change process can then turn into an ill-thought-out-plan that

does not tackle resistance and fails to harness the energy of the key players. This is rather like the process of blowing a balloon and forgetting to tie a knot in the end”.

4.3.2 Kotter’s Eight Steps Model

(Kotter, 1996) suggested an eight-step model for major change in organizations; these are (Description from source):

1. Establishing a sense of urgency: examining the market and competitive realities; identifying crises, potential crises or major opportunities.
2. Creating a guiding coalition: putting together a group with the power to lead the change effort; getting the group to work as a team.
3. Developing a vision and strategy: creating a vision to help direct the change effort; developing strategies for achieving that vision.
4. Communicating the change vision: using every vehicle possible to communicate the new vision and strategy; having the guiding coalition as role model for the behaviour expected of employees.
5. Empowering broad-based action: getting rid of obstacles; changing systems or structures that undermine the change vision; encouraging risk taking and non-traditional ideas, activities and actions.
6. Generating short-term wins; visible recognizing and rewarding people who make the wins possible.
7. Consolidating gains and producing more change; using increased credibility to change all systems, structures and policies that don’t fit together and don’t fit the vision; hiring, promoting and developing people who can implement the vision; reinvigorating the process with new projects, themes and change agents.
8. Anchoring new approaches in the culture: creating better performance through customer- and productivity- oriented behaviour, more and better leadership, and more effective management; articulating the connections between new behaviours and organizational success; developing the means to ensure leadership development and succession.

As mentioned in the previous section, Kotter’s model for change in organizations is based upon Lewin’s model of planned change. However, it can rather be claimed that Kotter provided a steps type of approach rather than a theoretical model.

4.3.3 The Action Research Model

Action research is a research paradigm which allows developing knowledge or understanding as part of practice. It allows research to be done in situations where other research methods may be difficult to use. It is useful in cases of involving people in the researched phenomenon while introducing simultaneous change. Action research is typically cyclical. The later cycles are used to test and refine the results of the earlier cycles. In most of its forms it also tends to be qualitative and participative (Dick&Swepson, 1997). Action research is applied increasingly to promote social change and innovation, as demonstrated most clearly in community development and global social change projects (Cummings&Worley, 2009).

According to (Coughlan&Coughlan, 2002), action research is composed of three stages: (See Figure 20 below):

1. Stage1: to understand context and purpose
2. Stage 2: six main steps- to gather, feedback and analyze data and to plan, implement and evaluate action
3. Stage 3: a meta step to monitor

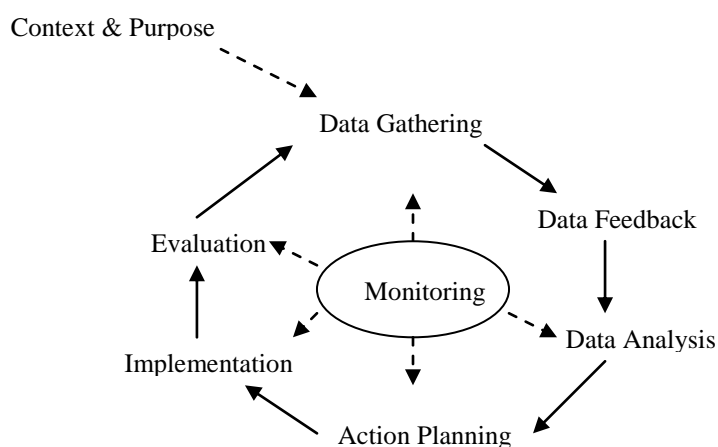


Figure 20 Action research cycle- Source: (Coughlan&Coughlan, 2002)

These stages are explained below (Description from source) (Coughlan&Coughlan, 2002):

Stage1: understanding context and purpose

The pre-step is driven by two questions concerning the rationale for action and for research, ‘What is the rationale for action?’ and ‘what is the rationale for research?’ The action research cycle unfolds in real time and begins with the key members of the

organization developing an understanding of the context of the action project and asking why this action project is worth studying.

Stage2: Main steps

The six main steps relate first to the data and then to the action. These steps are detailed as follows:

1. *Data Gathering*. For the action researcher, data generation comes through active involvement in the day-to-day organizational processes relating to the action research project. Not only are data generated through participation in and observation of teams at work, problems being solved, decisions being made and so on, but also through the interventions which are made to advance the project.
2. *Data feedback*: the action researcher takes the gathered data and feeds it to the client system with a view to making it available for analysis.
3. *Data analysis*: the critical aspect of data analysis in action research is that it is collaborative-both the researcher and members of the client system do it together. This involvement in the analysis is critical.
4. *Action planning*: following from the analysis, further action is planned. In the same vein and for the same reasons as the data-gatherings step, action planning is a joint activity. The action research steering group and the senior management set who does what and an appropriate time schedule.
5. *Implementation*: the client implements the planned action. This involves making the desired changes and following through in the plans in collaboration with relevant key members of the organization.
6. *Evaluation*: evaluation involves reflecting on the outcomes of the action, both intended and unintended, a review of the process in order that the next cycle of planning and action may benefit from the experience of the cycle completed.

Stage 3: Meta-step: Monitoring

Monitoring is a meta-step in that it occurs through all the cycles. Each action research cycle leads to another cycle, and so continuous planning, implementation and evaluation take place over time as illustrated in Figure 21 below.

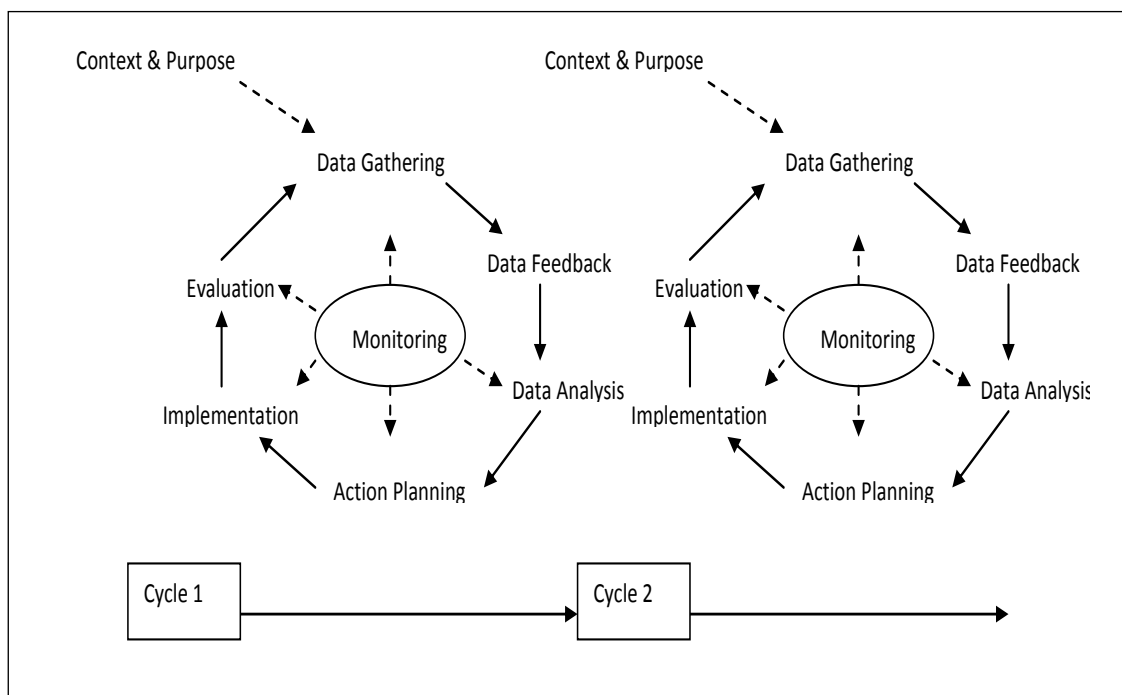


Figure 21 Action research cycles- Source:(Coughlan&Coughlan, 2002)

4.4 Choice of the Research Strategy

The nature of this research suggests the use of action research methodology to investigate the phenomenon under study. This is because organizational climate factors influencing creativity and culture characteristics require close investigation. This will be accomplished via an in-depth inquiry into a single case study in a relatively large pharmaceutical organization in Jordan.

4.5 Philosophical Position

An understanding of philosophical issues is very useful as argued by (Easterby-Smith *et al.*, 2008):

“First, it can help to clarify research designs. This is important as it involves what kind of evidence is required and provides good answers to the basic questions being investigated in the research. Second, knowledge of philosophy can help to recognize which designs will work and which will not. Third, knowledge of philosophy can help identify and even create designs that may be outside past experience. Hence, as arguments and debates central to philosophy, it is important to understand both sides of an argument because research problems often require compromise designs, which draw from more than one tradition”.

According to (Easterby-Smith *et al.*, 2008), two distinct paradigms in the philosophies underlying management research exist, these are *positivism* and *social constructionism*. The key idea of *positivism* is that “the social world exists externally, and that its properties should be measured through objective methods, rather than being inferred

subjectively through sensation, reflection or intuition”. On the other hand, the idea of *social constructionism* focuses on “the ways that people make sense of the world especially through sharing their experiences with others via the medium of language. Focus should be on what people are thinking and feeling and attention should be paid to the ways they communicate with each other”. Table 9 below contrasts the implications of positivism and social constructionism.

	Positivism	Social Constructionism
The Observer	Must be independent	Is part of what is being observed
Human interests	Should be irrelevant	Are the main drivers of science
Explanations	Must demonstrate causality	Aim to increase general understanding of the situation
Research progress through	Hypotheses and deductions	Gathering rich data from which ideas are induced
Concepts	Need to be operationalised so that they can be measured	Should incorporate stakeholder perspectives
Units of analysis	Should be reduced to simplest terms	May include the complexity of ‘whole’ situations
Generalisation through	Statistical probability	Theoretical abstraction
Sampling requires	Large numbers selected randomly	Small numbers of cases chosen for specific reasons

Table 9 Contrasting implications of positivism and social constructionism,
Source:(Easterby-Smith et al., 2008)

Based on the above table, the philosophical position of this research lies broadly within social constructionism as the human interests are relevant and the researcher is part of the change process under close monitoring.

4.6 Research Design

This section presents classification of research designs and case study sector choice.

4.6.1 Classification of Research Designs

(Kumar, 2005) presented a classification of research designs into three groups:

1. *The cross-sectional study design* which is useful to obtain an overall ‘picture’ at the time of the study.
2. *The before-and- after study design* which is most suitable for assessing the impact or efficacy of a program.
3. *The longitudinal study design* which is used to establish the pattern of change in relation to time.

Recalling from the research questions presented earlier in this chapter, it is anticipated that the most appropriate study design is to follow a *before-and-after study design* as this will provide profound insight into the validity of the model developed in this

research and the extent to which the change intervention program to be introduced in the company has been successful. The first and third research designs are not possible due to the time limitations of conducting this research.

The main benefit of the *before-and-after study design* is that it allows for two sets of data collection points, *before* introducing the change to position what can be named as *baseline of the study* (see Figure 22 below), and *after* introducing the change to compare the intervention effectiveness, it uses the same population in two points of time to find out changes in the variables defined for the study (see Figure 23 below).

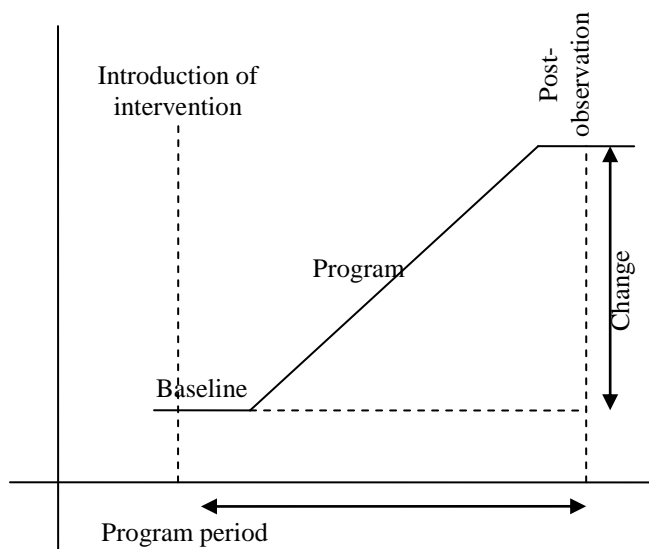


Figure 22 Measurement of change through a before-and-after design- Source: (Kumar, 2005)

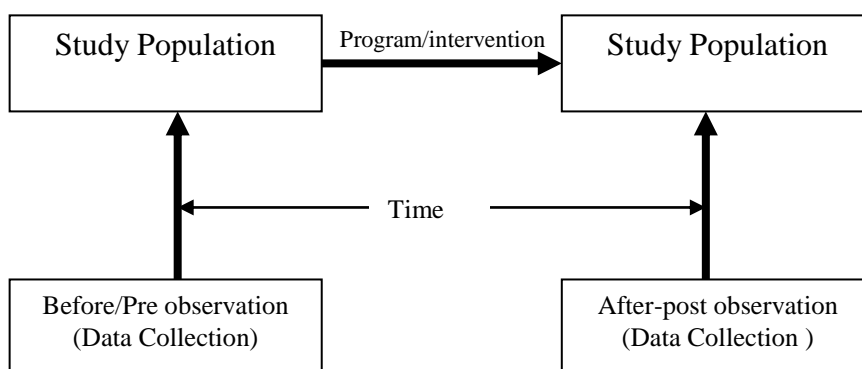


Figure 23 Before-and-after (Pre-test/post test) study design- Source: (Kumar, 2005)

Despite the advantages of this research study design, it incorporates some disadvantages according to (Kumar, 2005). *First*: it involves longer time to complete

due to the two data sets that need to be completed; *second*: parts of the study population may leave or move away; *third*: it cannot be ascertain whether independent or extraneous variables are responsible for producing the change; *fourth*: the two sets of data collection might produce what is known as ‘*reactive effect*’, and *fifth*: the two sets of data collection might produce what is known as ‘*regression effect*’ which means a possible shift in the participants’ approach in the pre and post tests stages. Participants who positioned themselves on the extreme scale measure might feel extremely negative or extremely positive at the pre-test stage, as a result, the simple representation of their position is altered in the post-test. However, despite these points, the before and after design provides a valuable way to evaluate and modify research models and frameworks by refining grounded in practice. These disadvantages are going to be taken into consideration upon applying the research. These disadvantages are going to be taken into consideration upon applying the research.

4.6.2 Case Study Research

Case research has been one of the most influential research methods predominantly, in developing new theory (Voss *et al.*, 2002). It is “particularly good for examining the how and why questions (Yin, 2009). Voss cited three strong points for case study research:

1. The phenomenon can be studied in its natural setting and meaningful, relevant theory generated from the understanding gained through observing actual practice.
2. The case method allows the questions of why, what and how, to be answered with a relatively full understanding of the nature and complexity of the complete phenomenon.
3. The case method lends itself to early, exploratory investigations where the variables are still unknown and the phenomenon not at all understood.

4.6.3 Sector and Case Study Selection

Single cases do have limitations in the “generalisability of the conclusions” (Leonar-Barton, 1990) as cited by (Voss *et al.*, 2002). Although this is the situation in single case study research, the valuable in depth interference within the work settings form constructive experience in developing and verifying research assumptions, frameworks and outcomes.

Jordan was chosen due the familiarity of the researcher with the industry there. Pharmaceutical sector was chosen as it forms an advanced industry which allows for better experience if the research is implemented in other countries. It also brings depth to the research as Pharmaceutical organizations are generally large and complex involving rich fields for organizational behavioural experience.

4.7 Data Collection

(Yin, 2009) suggested six sources of evidence for data collection, Table 10 below compares strengths and weaknesses of these sources.

Source of evidence	Strengths	Weaknesses
1. Documentation	<ul style="list-style-type: none"> ▪ Stable- can be reviewed repeatedly ▪ Unobtrusive- not created as a result of the case study ▪ Exact-contains exact names, references and details of an event ▪ Broad coverage-long span of time, many events and many settings 	<ul style="list-style-type: none"> ▪ Retrievalability- can be low ▪ Biased selectivity. If collection is incomplete ▪ Reporting bias- reflects (unknown) bias of author ▪ Access- may be deliberately blocked
2. Archival records	<ul style="list-style-type: none"> ▪ Same as above for documentation ▪ Precise and quantitative 	<ul style="list-style-type: none"> ▪ Same as above for documentation ▪ Accessibility due to privacy reasons
3. Interviews	<ul style="list-style-type: none"> ▪ Targeted-focuses directly on case study topic ▪ Insightful-provides perceived causal inferences 	<ul style="list-style-type: none"> ▪ Bias due to poorly constructed questions ▪ Response bias ▪ Inaccurate due to poor recall ▪ Reflexivity- interview gives what interviewer wants to hear
4. Direct observations	<ul style="list-style-type: none"> ▪ Reality-covers events in real time ▪ Contextual-covers context of event 	<ul style="list-style-type: none"> ▪ Time consuming ▪ Selectivity-unless broad coverage ▪ Reflexivity-event may proceed differently because it is being observed ▪ Cost-hours needed by human observers
5. Participant observation	<ul style="list-style-type: none"> ▪ Same as above for direct observation ▪ Insightful into interpersonal behaviour and motives 	<ul style="list-style-type: none"> ▪ Same as above for direct observations ▪ Bias due to investigator's manipulation of events
6. Physical artefacts	<ul style="list-style-type: none"> ▪ Insightful into cultural features ▪ Insightful into technical operations 	<ul style="list-style-type: none"> ▪ Selectivity ▪ Availability

Table 10 Six sources of data collection and their strengths and weaknesses, Source: (Yin, 2009)

Interviews and participant observation will mainly be used in this research as data collection methods. This gives “the opportunity for the researcher to probe deeply to uncover new clues, open up new dimensions of a problem and to secure vivid, accurate inclusive accounts that are based on personal experience” (Burgess as cited in (Easterby-Smith *et al.*, 2008). However, bias might be an issue of concern when collecting the data using interviews and participant observation. This might be overcome by increasing the number of interviewed individuals to get as much independent data as possible. Documentation to collect data from company’s filing system will also be used.

The following section will present a discussion of the assessment instruments.

4.8 Assessment Instruments

Although the use of assessment instruments is widely used, (Schein, 2009) refused using assessment methods to measure culture, he suggested that culture surveys cannot measure culture due to the following reasons (Description from source):

- You do not know what to ask, what questions to put on the survey, because you do not know at the outset what issues or dimensions are the important ones in your corporate culture and subcultures in relation to the problem you are trying to solve.
- You will risk measuring only superficial characteristics of the culture because survey instruments cannot get at the deeper tacit assumptions.
- Individual respondents will misinterpret or misunderstand some questions and, therefore, will provide unreliable information.
- You will not be able to perceive the interaction and patterning in the culture and the subcultures.
- It is very inefficient to try to infer shared assumptions from individual responses because of individual differences in how questions are perceived.
- The survey or interview process raises questions for participants and build expectations to which you may not be willing to able to respond.

However, in a previous publication (Schein, 2004), he included the use of assessment instruments in his recommendations for culture change programs.

Following the research design presented in the previous section, assessment is going to be undertaken for organizational culture and climate before and after the change intervention. This is to test whether the model developed in this research is valid in introducing positive change into the company and to modify it following practical experience.

The following sections present assessment instruments which will be used to assess climate and culture.

4.8.1 Climate to Creativity Assessment Instruments

Climate Assessment Instruments assess organizational factors and work environment with relation to creativity and innovation. Apart from the review provided by (Mathisen&Einarsen, 2004), no other reviews of these instruments were found. However, (Tesluk *et al.*, 1997) reviewed organizational literature on climate factors and work environment without attempting to review the instruments. Each of the available climate instruments was tested against the following criteria, (description from source) (Mathisen&Einarsen, 2004):

1. The aim of the instrument must be to assess the quality of the social environment of organizations in relation to innovation or creativity.
2. Information on psychometric characteristics must be available.
3. The instrument must be available for research as well as commercial use.
4. The instrument must have been described in an international journal.

Of the available instruments, only five met all the above four criteria, these are:

1. The Creative Climate Questionnaire (CCQ) (measures work environment related to creativity).
2. KEYS (measures work environment related to creativity).
3. The Siegel Scale of Support for Innovation (SSSI) (measures work environment related to innovation).
4. The Team Climate Inventory (TCI) (measures work environment related to innovation).
5. The Situational Outlook Questionnaire (SOQ) (joined with CCQ).

According to (Mathisen&Einarsen, 2004), the description of the SOQ revealed that it is the English version of the CCQ, so the two instruments were jointly reviewed. The five instruments were tested for psychometric characteristics (norms, factor structure, reliability, validity) and a critique was produced for each. Table 11 below summarises the research outcome by Mathisen and his colleagues.

CHAPTER 4

Instrument	Description	Critique	Recommendation
CCQ (Ekvall, 1996)	<ul style="list-style-type: none"> - Appealing questionnaire - Well arranged structure of 10 relevant factors - Structure promotes an immediate understating of the contents - Makes it useful tool for survey-feedback procedures - Developed based on a comprehensive model 	<ul style="list-style-type: none"> - Measures individual perceptions of the organizational environment - Inconsistencies between the theoretical basis and the actual use of the instrument - Some uncertainty about psychometric quality - Reported studies lack information about sample sizes and statistical analysis 	<ul style="list-style-type: none"> - Interesting instrument - Needs better documentation of its psychometric properties before recommended as a reliable and valid instrument
KEYS (Amabile <i>et al.</i> , 1996)	<ul style="list-style-type: none"> - Measures employees perceptions of their work environment on several levels within the organization - Consists of 78 items and four point response scales - Manual is comprehensive, advice given how to use it - Norms are based on large samples, many organizational settings - Acceptable reliability and validity 	<ul style="list-style-type: none"> - There is room for improvement in the scales - Many items loaded onto more than one factor - Difficult to evaluate the different factors in relation to the underlying theory - More validity studies should be conducted 	<ul style="list-style-type: none"> - A highly useful and promising instrument for creativity
SSSI (Siegel & Laemmmerer, 1978)	Based on five climate dimensions in 149 items	<ul style="list-style-type: none"> - Difficult to draw conclusions about the instrument's value, as only one study of validity has been conducted - Little documentation is reported on the psychometric characteristics - Its development was conducted at schools, use of the instrument in work organizations was not tested 	<ul style="list-style-type: none"> - Categorized as a student school climate instrument than a measure of organizational climate
TC (Anderson & West, 1998)	<p>A 38 item version, easy to administer</p> <p>Available literature exists describing its use in team development</p> <p>The only instrument reviewed explicitly to measure climate within teams</p> <p>Validity studies indicate it as a valid instrument</p>	<p>Empirical data indicate an acceptable factor structure and reliability</p> <p>Reorganization of the response alternatives could improve the instrument</p> <p>There is a need for studies exploring causalities between climate scores, effectiveness, and innovativeness</p> <p>There is need for more research concerning the relative influence of climate scores, compared with other variables in predicting innovation</p>	<ul style="list-style-type: none"> - Highly useful instrument to use on teams within many settings - Well fitted for practical and commercial use - Psychometric quality is acceptable

Table 11 – Climate Assessment Instruments. Adapted from (Mathisen & Einarsen, 2004)

The above review showed that there are reliable, useful and valid instruments to assess environmental factors related to creativity and innovation. These instruments, can be used, “not only to assess the degree to which a work environment promotes creativity and innovation, but also to measure the effects of environmental improvement efforts, hence, help to specify which areas within a group or organization are working well and which ones require improvement”(Mathisen&Einarsen, 2004).

Out of the above instruments, KEYS will be chosen for this research as it assesses work climate for creativity and has acceptable level of validity and reliability in literature.

4.8.2 KEYS to Creativity Assessment Instrument

(Amabile *et al.*, 1996) and her colleagues at the Centre for Creative Leadership (CCL) developed Keys to creativity questionnaire to assess the dimensions below. The 78 questions questionnaire and three itemised questions assess the climate to creativity in an organization. According to Amabile, KEYS assesses six management practices that support the work environment (Description from source):

1. Organizational Encouragement: An organizational culture that encourages creativity through the fair, constructive judgment of ideas; reward and recognition for creative work; mechanisms for developing new ideas; an active flow of ideas; and a shared vision.
2. Supervisory Encouragement: A supervisor who serves as a good work model, sets goals appropriately, supports the work group, values individual contributions, and shows confidence in the work group.
3. Work Group Supports: A diversely skilled work group in which people communicate well, are open to new ideas, constructively challenge each other's work, trust and help each other, and feel committed to the work they are doing.
4. Sufficient Resources: Access to appropriate resources, including funds, materials, facilities, and information.
5. Challenging Work: A sense of having to work hard on challenging tasks and important projects.
6. Freedom: Deciding what work to do or how to do it; a sense of control over one's work.

In addition, KEYS looks at two management practices that inhibit the work environment:

1. Organizational Impediments: An organizational culture that impedes creativity through internal political problems, harsh criticism of new ideas, destructive internal competition, an avoidance of risk, and an overemphasis on the status quo.
2. Unrealistic Workload Pressure: Extreme time pressures, unrealistic expectations for productivity, and distractions from creative work.

KEYS also include data on how productive and creative the work environment is:

Productivity: An efficient, effective and productive organization or unit.

Creativity: Where a great deal of creativity is called for and where people believe they can actually produce creative work.

4.8.3 Organizational Culture Assessment Instruments

Sparrow provided a well documented review of the available instruments to assess organizational culture, these are as follows (refer to page 88) of (Sparrow, 2001):

- Jones and Jones' Organizational Norms Opinionnaire
- Harison Organization Ideology Instrument
- The FOCUS Questionnaire
- The Organizational Culture Profile
- The Organizational Culture Indicator
- The Organizational Climate Questionnaire- Form B
- The Competing Values Framework
- The Business and Organizational Climate Index

While assessing culture and climate seem to overlap in the above instruments, Sparrow suggested that “attempting to measure culture is difficult in standardized instrument, as it requires the researcher or consultant to tap subconscious, but taken-for granted, learned responses”. Whilst the competing values framework developed by Cameron and Quinn is widely used, it has received criticism as will be discussed in chapter 12. However, it will be used in this research to generate an indication of the organizational culture at present and in the future (Cameron&Quinn, 2006).

4.9 Summary

This chapter presented details of the models of planned change, choice of the research strategy, philosophical position of the research, research design, data collection methods and assessment instruments. The action research methodology chosen for this research is expected to provide close investigation of the research inquiry.

The following chapter introduces details about the company chosen to undertake the research.

CHAPTER 5
THE COMPANY:
THE ARAB PHARMACEUTICAL
MANUFACTURING

5. The Company: The Arab Pharmaceutical Manufacturing (APM)

5.1 Introduction

This chapter presents information about Jordan's pharmaceutical industry, the company's production and marketing operations, events of the acquisition and details of the Quality Unit which was chosen to implement the culture change intervention.

5.2 Jordan's Pharmaceutical Industry

Pharmaceutical industry was established in Jordan since the 1960s. Currently, "there are 16 major investments employing 5,200 high calibre employees. The industry accounts for 20% of the manufacturing GDP and has had 17.5% manufacturing growth in 2006. Industry output in 2007 reached \$500million while exports grew by 17% since 2000 (forecast \$450million 2010)" (Jordan Investment Board, 2010).

Pharmaceutical Industry in Jordan produces a wide range of products including prescriptive and over the counter drugs. Specialties include antibiotics, anti-ulcer drugs, hormones, anti aids/cancer treatments, and dosage equipment (patches, injectables).

Pharmaceutical sector has become an export driven industry distributing products to more than 60 countries due to high quality products, excellent reputation and affordable prices. Markets include Europe, the USA and most Middle Eastern countries (The Jordanian Association of Pharmaceutical Manufacturers, 2010). The industry has seen a number of mergers and acquisitions in the past couple of years which opened wide investment opportunities.

5.3 The 'Arab Pharmaceutical Manufacturing' (APM)

The 'Arab Pharmaceutical Manufacturing' (APM) was established in 1962 as the first Jordanian public share holding pharmaceutical company. Situated in Sult, 30 Km north the capital city Amman, the company has passed through major developments since its establishment. One recent radical expansion was APM's merge in October 2004 with the 'Advanced Pharmaceutical Industries' (API) established in 1994 with a paid up capital equivalent to \$12 million. API situated in Sahab-20 Km east of Amman-owned state of the art laboratories and was recognized as a modern pharmaceutical company

with registered products in Europe and the US. The newly formed company –continued to be named as APM- carries its operations in three main sites employing ~1000 personnel. The merger proved to be fruitful for the newly formed company although challenges and difficulties have been experienced on the ground.

APM's principal activity is in the manufacturing, producing, marketing and trading of medical pharmaceuticals, in addition to its compounds and derivatives. The Company also undertakes medical research and development activities, specialising chiefly in the following areas; formulation of dosage forms, analytical development, stability studies, and biological evaluation of finished products.

APM marketing people are committed to increasing the market share of existing products while simultaneously introducing new products both in Jordan and in APM's export markets throughout more than 25 countries worldwide, spanning from South East Asia, the Middle East, Eastern Europe and Africa¹.

5.3.1 APM Operating Sites

APM operations are distributed in the following sites²:

1. Al-Salalem factory: Salalem-Sult

First established in 1962, started production in 1966, produces liquid forms, creams, gels, suppositories, injectibles. It also includes personnel department, stakeholders offices, R&D department, Quality Control and Quality Assurance departments.

2. Herbal products factory: Salalem- Sult

Produces medical herbal products.

3. AL-Buhaira Factory: situated in Buhaira Industrial Estate- Sult

Started production in 1984, produces solid forms (capsules and tablets), dry suspension, fillets. The factory also hosts the general administration building which includes management offices, marketing, finance, GM and DGM offices.

4. Sahab factory: Sahab-King AbdullahII Industrial Estate-Amman.

Originally, the site was for API before the merge. It produces solid forms like capsules, tablets, dry and liquid suspensions. It also includes administrative offices, the R&D departments, Compliance, Quality Control, Production, Engineering, and Maintenance.

¹ APM official website www.apm.com.jo

² APM Financial statement for the year ended December 31 2008, used with permission.

5. APM main head offices are situated in the capital Amman, which includes GM main office, promotion and sales departments.

In addition, APM has scientific offices in 25 countries around the world.

5.3.2 Organization Chart

The organization chart presented in Appendix 1 on page 263 shows the board of Directors on the top of the hierarchy of the company, the General Manager (GM), Deputy General Manager (DGM), with information function on the side and four major functions branching from the DGM function representing Sales, Finance, Quality and Technical Director. APM has a complex organization chart with two thirds of the employees belong to the technical department which is responsible of: Engineering, Buhaira factory, Salalem factory, R&D, Sahab factory, planning and production, special projects factory and Europe registration.

A further analysis of APM's organizational structure will be presented in chapter 6.

5.3.3 Production and Quality

Product development involves four stages: pre-formulation, formulation, stability and analytical methods validation. APM develops its own product formulas as opposed to receiving product files containing product development information. Eighty percent of the products are produced by direct compression, which means that the formulas need to be kept as simple as possible.

For APM, quality is a high priority. The strategy of producing quality pharmaceuticals at reasonable prices required high levels of quality at every step of each operation- in terms of raw materials, machinery, personnel, marketing, promotional materials, as well as the product itself. Quality Control is involved in all stages of production and, therefore, APM set rigorous standards for its manufacturing processes, which resulted in final products that exceeded expectations.

For instance, it was generally accepted by pharmacopoeia standards that a pharmaceutical product such as tablets must not be below 90% of its initial dose. However, APM only considered those over 95% to be acceptable.

Quality control was also responsible for ensuring that quality aspects have been covered throughout the product manufacturing and distribution steps. The quality control department is equipped with computerised analytical instruments supplied from

ISO certified suppliers. This included well-defined standard operating procedures for receiving raw materials, manufacturing the product and testing the finished product.

5.3.4 Marketing and sales

Marketing is an integral function at APM. Dr Rakan Rshaidat, the GM, believed it to be “one of the deciding factors in the future success of the company”³.

The marketing strategy is to concentrate and excel in therapeutic classes. The company was not interested in having small products everywhere or a large number of small products when it was established. Instead, APM aimed to focus on certain therapeutic classes where real marketing efforts are, such as cardiovascular drugs.

The marketing function is performed by an integrated team of sales representatives, medical representatives, sales managers and tender and registration personnel under the direction of the marketing manager. Medical representatives dealt exclusively with sales to doctors, while sales representatives concentrated on sales to pharmacists and pharmacies. Sales continued to rise in the local market at a balanced pace that was believed to reflect the healthy marketing strategy of APM.

APM believes that the local market is a good indicator of potential sales in export markets as it is the testing ground for marketing plans to be used when entering other markets. However, penetration into the traditional export markets is slow due to difficulties in the registration process, specifically in other Arab countries.

Before a pharmaceutical product is sold, a license from the relevant regulatory authority must be obtained. In Jordan, the regulatory authority is the Ministry of Health. Registration in Jordan, while not necessarily easier, proved faster. Product files submitted in Jordan takes on average two to three months to be approved.

5.4 Access to APM and Confidentiality Agreement

Letters were sent out to 5 main Jordanian pharmaceutical companies to participate in the research; two replies were received from APM and another company. Meetings with APM and the other company were held to present the values and benefits of being involved in this research. Whilst the other company declined its participation, APM agreed to go forward subject to confidentiality agreement. The agreement was prepared

³ *Interview-Amman head office 4/2006.*

by Loughborough University and signed by all parties to allow access to APM's premises and its employees. Initial period of one year was agreed.

The following section presents details of the Quality Unit where the culture change was mainly introduced.

5.5 The Quality Unit

The culture intervention of this research was mainly conducted in the Quality Unit (QU) in APM as will be presented in chapters 6 through to 8 of this thesis, it was necessary to provide introductory information about the QU unit in this section to allow sufficient background information for subsequent chapters. The QU has a total of 87 job positions of which 17 positions are vacant. It has 5 departments (refer to Appendix 2 on page 264):

1. Quality Control Department
2. Quality Assurance Department
3. Compliance Department
4. Process Validation Department
5. Utilities Department

Mrs Mai Jairoudi, the QU Director post the acquisition is a qualified professional. She has a long experience of about 20 years in the pharmaceutical industry. Post the acquisition, she was requested to follow up re-establishing and directing the QU. The Qualifications of the QU employees are distributed as in Table 12 below:

No.	Qualification	No. of Employees
1	MSc.Ph.	2
2	MSc	3
3	BSc.ph	3
4	BSc.Eng	9
5	BSc	17
6	Dip.Med	13
7	Dip.Ph	7
8	Dip	6
9	High school	6
10	Others	2
	Total	70
Qualification	No. of employees	% of total employees
University Degrees	34	49%
Diploma	26	37%
Other	10	14%

Table 12- Qualifications of Quality Unit employees

The information provided in Table 12 above shows that nearly half of the QU employees hold university degrees, 37% hold diploma and 14% hold other qualifications. This implies that the QU has large number of qualified personnel. The diversity and professionalism of QU employees will be taken into consideration for the culture change intervention design and implementation.

In the section below, a brief description of each department in the QU is presented.

5.5.1 QU Departments

Quality Assurance

Quality Assurance (QA) ensures that the company's quality policy (communicated in Standard Operating Procedures (SOPs) and quality Manuals (QMs) is fully and thoroughly implemented during production, packaging, warehousing, shipping and other operations. QA performs Line Clearance at the beginning of each batch; Acceptance Sampling in between stages and for the finished product; routine/periodic Good Manufacturing Practice (GMP) rounds.

Quality Control

Quality Control (QC) performs analytical (physical, chemical and microbiological) testing for raw material, in-process and finished products. QC also performs periodic testing for critical utilities such as Water Treatment Unit and HVAC⁴; in addition to environmental monitoring for production facilities. In-Process laboratories are a vital part of the QC Department.

Process Validation

Process Validation (PV) validates pharmaceutical processes related to each product, stage by stage, by: supervising critical steps; performing sampling at critical stages and following up analyses of these samples; writing conclusions regarding validity or invalidity of the process. This is triggered upon introduction of a new process or upon applying certain changes to existing processes. PV also conducts continuous monitoring studies with the aim of building process understanding through compiling historical data.

⁴ HVAC (Heating, Ventilating, and Air Conditioning) refers to technology of automotive environmental comfort.

Utilities Validation

Utilities Validation (UV) validates machines and instruments (through Installation Qualification; Operation Qualification and Performance Qualification), facilities and critical utilities (Water Treatment Unit, HVAC, software packages, ERP system, etc). Keeping all engineering records, catalogues, machinery-related validation reports, historical data related to each resource (maintenance, upgrading, etc.) Utilities Validation Department has a vital role in the early stages of purchasing of new machinery or building/upgrading of facilities and utilities.

Compliance

Compliance assures that the company quality policy is up-to-date with current regulations and in-line with those regulations related to our relevant markets, and conducting audits in different operations departments following up on internal and external audits. Compliance Department plays a vital role in Corrective Action and Preventive Action.

A flow chart of each of these departments was established as part of the QU intervention described in chapter 8, (Flow charts are shown in Appendix 15 on page 293).

The following section presents details of APM's acquisition by Hikma Pharmaceuticals.

5.6 The Acquisition

At the middle of this research's period, Hikma Pharmaceuticals acquired the entirety of the Arab Pharmaceutical Manufacturing company for a cash consideration of JD116.0 million (\$163.6 million) (Hikma Pharmaceuticals, 10 December 2007). The acquisition was the main reason for extending the research period in the company for a further 1 year.

According to Hikma, APM acquisition was expected to achieve the following⁵:

- Enhances Hikma's leadership position in the fast growing Middle East and North Africa (MENA) region, particularly in the key markets of Jordan and Saudi Arabia.
- Brings together high quality and complementary portfolios that can be distributed through the enlarged Hikma network.

⁵ From www.Hikma.com

- Adds an attractive range of in-licensed products, including Takeda's blockbuster diabetes drug, Actos®.
- Significantly enhances Hikma's product development pipeline.
- Strengthens Hikma as a licensing partner of choice in the MENA region, with a combined sales and marketing team of 1000 employees.
- Brings additional high quality manufacturing capacity with broad capabilities.

In the morning of the acquisition, everything was running normal at APM, at about midday, the financial department realised that APM's shares in Jordan's stock market were frozen. As soon as the news spread throughout the company, everyone was gathered in the main lobby waiting for the GM to arrive. His first reply was: "*yes, we sold it*", people in the management building including the researcher realised that they were about to go through a tunnel of uncertainties. The GM held a meeting with APM's managers and directors explaining the process and what to expect next. It was until that moment, no one but the GM and his deputy was aware that the acquisition was taking place. It was kept with absolute secrecy that even speculations were not possible. Being part of the scene, the acquisition was a rather sudden radical change; actually it formed a shock to everyone involved in the company. The action research, the results, the tasks yet to be undertaken as part of this research were all put on a stake with the new management and team. Over the months following the acquisition, the researcher was unable to meet with the new management due to their overloaded responsibilities.

5.7 Hikma Pharmaceuticals

Hikma was founded in 1978 in Amman by the well known businessman Mr Samih Darwazah, Hikma's current Chairman. In the early years, the Company's primary focus was on developing a branded pharmaceuticals business across the MENA region. Then in the early 1990's, Hikma expanded outside the MENA Region by acquiring a generic pharmaceuticals business in the United States and by establishing Injectables pharmaceutical operations in Portugal. Since then, the company has expanded significantly, both organically and through acquisition (Hikma Pharmaceuticals, April 2010).

Hikma Pharmaceuticals has become a fast growing multinational pharmaceutical group focused on developing manufacturing and marketing a broad range of both branded and non-branded generic and in-licensed products. Its operations are conducted

through three businesses: "Branded", "Injectables" and "Generics" based principally in the MENA region, where it is a market leader, the United States and Europe. In 2009, Hikma achieved revenues of \$637 million and profit attributable to shareholders of \$78 million (Hikma Pharmaceuticals, 17 March 2010).

Hikma Pharmaceuticals has been the first in the region to be listed in the London Stock Exchange.

5.8 Summary

This chapter presented details of the pharmaceutical industry in Jordan, access and confidentiality agreement, APM's operations, markets and the QU. It also provided details of the Hikma acquisition.

The following chapter will provide the assessments and interviews conducted at APM.

CHAPTER 6

PRE-CHANGE INTERVENTION ASSESSMENT

6. Pre-Change Intervention Assessment

“So if we can expect several more decades of rapid change, then we are going to have to learn how to make corporate culture something that isn’t a change anchor but instead something that facilitates firms adapting to change”. (Kotter, 2001)

6.1 Introduction

As discussed in chapter 4, this research will follow pre test/post test study design in which data is collected before and after introducing the change intervention, (see Figure 23 on page 78) for more details. In each of the pre test/post test study designs, action research cycles presented in Figure 21 on page 76 are applied.

This chapter will apply research action cycles for the pre-test phase. The three steps comprising action research cycles suggested by (Coughlan&Coughlan, 2002) are repeated below:

- Stage 1: Understanding context and purpose
- Stage 2: Six main steps:
 1. *Data Gathering*
 2. *Data feedback*
 3. *Data analysis*
 4. *Action planning*
 5. *Implementation*
 6. *Evaluation*
- Stage 3: A meta step to monitor

This chapter uses stage 1 and the first 3 steps of stage 2. Steps 4 to 6 of stage 2 and stage 3 will be presented in subsequent chapters.

Understanding company’s context will be presented in section 6.2, sections 6.3 and 6.4 will present data collection, feedback and analysis for organizational culture and climate to creativity assessments.

6.2 Forming the Innovation Team

APM's GM decided to form a team to follow up details of this research. It was named as the 'innovation team' and met on weekly basis for this purpose. Twenty members of APM's directors and managers were chosen by the GM. Innovation team meetings commenced by a power-point presentation explaining research stages and its benefits for APM. Table 13 below presents details of innovation team members, names are not provided for confidentiality reasons.

No.	Title	Notes
1.	APM General Manager (GM)	
2.	Deputy General Manager (DGM)	
3.	Technical Director	
4.	Marketing Planning Manager	Resigned and left the company 6 months after innovation team meetings
5.	QC/QA Director	
6.	Acting Financial Director	
7.	Marketing Director	
8.	Purchasing Manager	
9.	Assistant Personnel Manager	
10.	Marketing advisor	Resigned and left the company
11.	Sales Services Manager	
12.	R&D Deputy Manager	Refused to continue attending post attending 6 months in innovation team meetings
13.	Compliance Manager	
14.	Production Planning Manager	
15.	Liquid& semi-solid section head	
16.	Sahab and injectibles Plant Manager	
17.	Al-Buhaira Plant Manager	
18.	Engineering Manager	Joined the team 6 months after innovation team formation
19.	Internal Auditing Manager	Joined the team, 6 months after innovation team formation
20.	Finance Manager	Joined the team, 6 months after innovation team formation

Table 13- Innovation team members

Innovation team duties were agreed upon with the GM and distributed to related personnel to be committed to attend all meetings. A summary of these duties are as follows:

- Supervise APM's creativity and innovation research and make appropriate decisions.
- Guide the research direction based upon APM's benefits and research requirements.
- Introduce the approved necessary changes to department(s)/section(s).

Innovation team members; Marketing Planning Manager and the Marketing advisor left the team at a later stage due to resigning from APM. R&D Deputy Manager and Sahab and injectibles Plant Manager refused to continue attending the innovation team meetings and described the reasons were due to “the fruitless conflicts and arrogant arguments by innovation team members”. Despite attempts to convince them of the value of attending, they insisted on non attendance. The GM was informed but took no further action.

At a later stage, three new members were added representing the Engineering, Internal Auditing and Finance who were enthusiastic to join the team and believed that their involvement was highly important. The decision on whom to join the team was solely determined by the GM, the three new members lobbied and protested to join, this was an opportunity to understand the tensions in the company before initiating any change program.

Innovation team meetings were initially held on a bi-monthly basis, this was replaced by weekly meetings due to the increased importance of their contents. A total of 15 meetings were held over a 7 months period, in which team members showed high level of commitment which was appreciated as a positive sign of real willingness to introduce changes. The atmosphere and discussions during innovation team meetings were productive, frank and open; however, few meetings included loud conflicts and unconstructive discussions. Controlling these meetings was a challenging task as will be discussed in chapter 12.

Everyone was enthusiastic to attend; though, delayed start was often the case. It was clear from the beginning that managers do not have company meetings apart from innovation team meetings. It was obvious that side conflicts influenced the way members shared their views with others; if a specific view was presented by a member, other members who have conflicts might reject the idea even if they agree with it outside the meeting. Those members were asked about this outside the meetings, answers pointed frankly to personal conflicts with others.

Furthermore, seating was an issue as it was obvious that members seated themselves in two groups each time they attended the meetings at the right and left sides of the venue to avoid close contact with some other members. This had its impact on group workshops and showed that the research intervention was not going to be easily

achieved in this company. However, it has to be mentioned that after around the 10th meeting, this problem was resolved and had little further impact on the research.

Innovation team meetings included power-point presentations, assessment questionnaires and other *side activities* summarized below. Innovation team meetings formed a great opportunity for the researcher and innovation team members to establish trust and consensus view of APM's future, however, it proved challenging to act as a facilitator and a coach for about 18 top managers.

The *side activities* which were conducted for innovation team members are:

1. *Start up games*

At the beginning of each innovation team meeting, a brief exercise was introduced to enhance team work, mediation and coordination. Examples included:

1. Using the left hand for right-handed and vice-versa. This exercise was used as a symbolic action to accept change and that change is difficult.
2. Describing a fruit, concentrating on it, thinking of its taste and imagining eating it. In one occasion, a pineapple was used. The exercise was received with enthusiasm as it managed to relief the minds of the team and start afresh for innovation team training and exercises.
3. Using a large cardboard by drawing a sentence and cutting it off before presenting it to the team who were requested to join the jigsaw together and form a sentence meaning '*We belong to APM and APM belongs to us*' in Arabic. This symbolic exercise aimed to present that each APM's member has a value to the overall company, each member covers a gap without which the overall picture is not complete.

2. *Case Study*

A case study of German and British companies from (Brown, 1998) (page 285) was presented to the innovation team. The case offers a glimpse of two companies with different corporate cultures, based in different countries, which were brought together through a merger. The case was introduced in the form of a play. One group represented Hofberg AG, and the other group represented Standard Holdings plc. Two meetings were held to prepare and rehearse the case. Group leaders read out and summarised what each case was about, then they acted in a role play representing the two companies during the merger and after merge failure. The case study presentation

was concluded with a discussion of the learning points which were suggested by the team and included the following:

- Before the merger, you have to be prepared enough at all levels
- Consider culture differences
- Provide clear guidance before and after the merger
- Strong and flexible management structure
- Improve communication
- Adapt proper management style
- Increase the number of brain storming sessions

The aim of this exercise was to support APM following its merge with API which resulted in cultural differences.

3. *Challenger Experience Video*

A video showing the Challenger mission failure was presented to innovation team members. The DVD produced by the BBC was used with permission from Loughborough University statistics department. It was a great experience according to innovation team members. The challenger mission failure was due to many reasons including mistakes in the decision making processes, overruling the technical decisions by management decisions, being results oriented, etc.

Two separate sessions were held to discuss the learning points from the challenger failed mission and its applicability to APM, the following list was produced:

- Communication problems
- Feedback and follow up systems
- Critical decisions should be allocated satisfactory time, proper set up and analysis
- Human life is important!, it is a priority in Pharmaceutical industry
- Continue in training
- Quality technical decisions must not be over ruled by management
- Lack of satisfactory investigation and analysis
- Risk analysis
- Problem solving issues
- Delays in taking decisions
- Reactive not pro-active
- Situational and inconclusive problem solving

- No referral system to decision makers
- Authorization and delegation
- Distortion of image (reputation), APM has very good marketing image, keep it!
- Work hard to show the Ministry of Health a different image
- Do not consider pressure as a factor for decision making

The above *side activities* were used to initiate a general thinking of the need to change and introduce modifications to the business. The challenger mission DVD in specific was a very fruitful exercise as many of its aspects were found to apply to APM especially the impact of minor quality failures on human life.

The following section introduces understanding the company's context.

6.3 Understanding the Company's Context

This section presents information on APM's climate characteristics and details of developing a plan of action to improve them. It also provides information about APM's structure, strategy, HR&PMS. This foundational information was very important for the researcher and the innovation team members in order to appreciate the need for change and develop better understanding of company's context.

6.3.1 Current Climate Characteristics (CCCs)

It was necessary to commence innovation team meetings with discussions about the current environment so members appreciate the problems they have and establish some form of consensus for the need to change. The word '*environment*' was replaced by '*climate*' following a presentation on the differences between 'culture' and 'climate' as was previously explained in detail in the literature review chapter.

Managers were asked to describe their working climate. This was named as Current Climate Characteristics (CCCs). The CCCs were defined and then divided into positives and negatives, and prioritised in relation to creativity as we will see below.

Definition of CCCs

During brainstorming sessions, innovation team members stated the following positive and negative characteristics to best describe APM's current climate.

CCCs (Cons)	CCCs (Pros)
Gossip	High level of loyalty
Depression	Self-driven despite lack of motivation
Lack of trust	Team- spirit within departments
Lack of clear strategy	In-process of upgrading and changing
Self-centred orientation	High level of expert personnel available
Poor communication	
Poor recognition	
Tribes dominated	
Double standards in decision-making	
Conflict due to merge	
High level of misunderstanding	
Hypocrisy	
Lack of time respect and management	

Table 14 - APM's Current Positive and Negative Climate Characteristics (CCCs)

The characteristics described in Table 14 above were sent to innovation team members to individually vote for their presence in APM (See Appendix 3 on page 265). Fifteen replies were received out of the seventeen questionnaires sent. Figure 24 and Figure 25

below represent innovation team response for CCCs (Cons) and CCCs (Pros) respectively.

Defining APM's CCCs (Pros and Cons) was in part to enable APM's managers appreciate the need for change and form a consensus for the proposed changes.

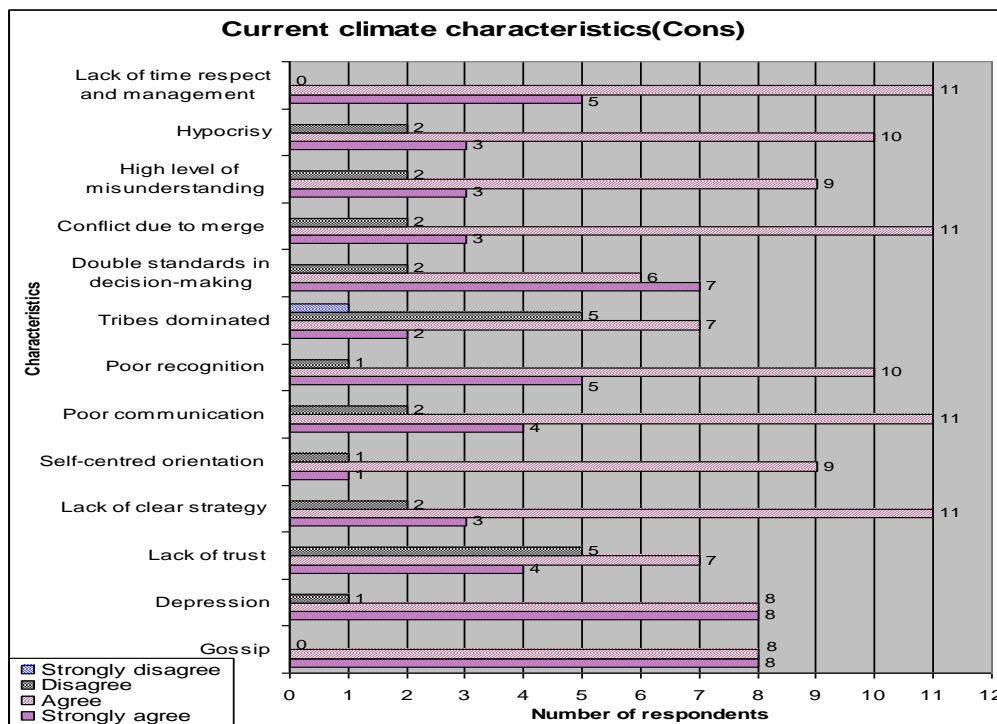


Figure 24 - APM's Current Climate Characteristics (Cons)

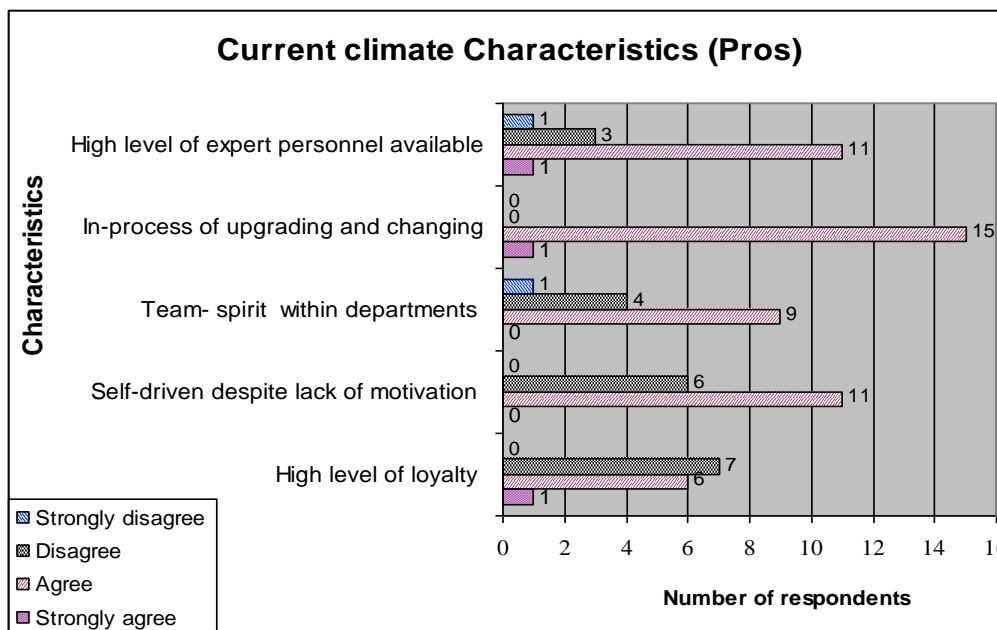


Figure 25 APM's Current Climate Characteristics (Pros)

Figure 24 shows an obvious consensus supporting the assumption that these negative characteristics do exist in APM. The highest approved characteristics were 'gossip' and 'lack of time respect and management'. Apart from 'tribes dominated' characteristic, all other characteristics received the support of 10 managers or more of the 15 returned replies.

This was agreed to be a real challenge facing APM especially 'lack of clear strategy' which was scored by 14 managers. The GM insisted that APM does have a written strategy although it is not cascaded down to his employees. According to the GM, APM is in the process of finalizing its strategy; proper meetings were promised by the GM for this purpose in the near future.

As for the CCCs (Pros) shown in Figure 25 above, managers do agree that APM has 'high level of expert personnel available', 'in-process of upgrading and changing' and 'team spirit within departments', although they have contradictory opinions of the 'self-driven despite lack of motivation' and 'high level of loyalty' characteristics.

Inhibitors to Creativity

Following the above presentation, innovation team members were requested to discuss and vote *with* or *against* each of the CCCs (Cons) if any is considered an inhibitor to creativity. According to innovation team members, inhibitors to creativity were “those characteristics which obstruct individual creativity”. Long discussions of each of the 13 CCCs were concluded by voting on each characteristic whether or not it is considered an inhibitor to creativity. Results of the 15 team members who attended that meeting are shown in Table 15 below.

Giving that this research is looking into climate characteristics that are directly related to creativity; CCCs ‘*Gossip*’, ‘*Tribes dominated*’, ‘*conflict due to merge*’ and ‘*Hypocrisy*’ which received majority votes of ‘No’, were not included in this analysis though their influence on employees were considered during the change intervention design in chapter 7.

Do you consider this CCC as an Inhibitor to Creativity?		
Current Climate Characteristics (cons)	Yes	No
Gossip	6	9
Depression	15	0
Lack of trust	12	3
Lack of clear strategy	14	1
Self-centred orientation	12	3
Poor communication	11	4

Poor recognition	15	0
Tribes dominated	0	15
Double standards in decision-making	13	2
Conflict due to merge	0	15
High level of misunderstanding	15	0
Hypocrisy	1	14
Lack of time respect and management	15	0

Table 15 Innovation team voting on CCCs considered as inhibitors to creativity

The remaining 9 CCCs shown in Figure 26 below illustrate obvious consensus on the presence of these negative characteristics in APM. It is noticeable that all 15 Innovation team members voted 'yes' for 4 CCCs; 'Lack of time respect and management', 'high level of misunderstanding', 'poor recognition' and 'depression'. All other CCCs received majority votes as inhibitors to creativity. It is important to note that at this stage, no measures were used to define whether any CCC is or is not an inhibitor to creativity. The choice was merely based upon what innovation team members suggested. The reason for this is because this analysis was only used to lay the foundation for the research and to get the team going and establish some form of consensus that the current company's climate is in need of intervention.

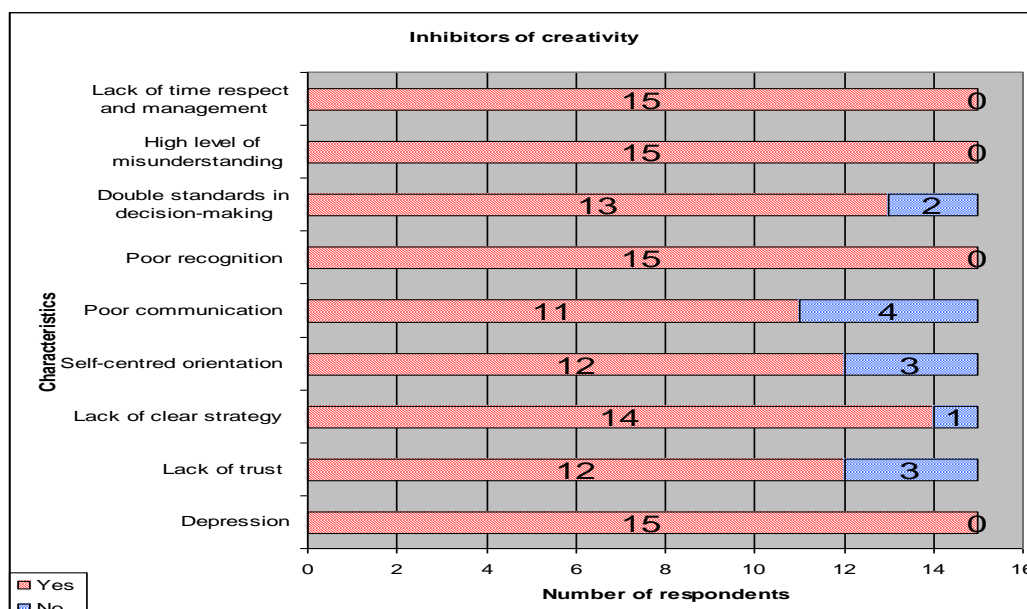


Figure 26 - Innovation team voting on CCCs considered as inhibitors to creativity

Reasons, methods of improvement and plans of action

Innovation team members were randomly distributed into three groups, each group was requested to vote for a chair, and to choose a secretary. The task was to define, state reasons, methods of improvement and plan of action for each CCCs (Cons). An example of the workshop sheet provided for each group is shown in Appendix 4 on page 266. Group chairs presented the outcome of their discussions using a power-point presentation which was word-processed by the researcher simultaneously during group presentations.

Due to the extensive discussions, it was only possible to discuss one characteristic per group per session. Discussions of the 9 CCCs were completed over 8 week's period. The outcome of all the CCCs is shown in Table 16 below. Each group worked to define the characteristic in question, state reasons for its presence in APM, suggest methods of improvement on both the individuals' behalves and on the top management behalf. Then they were requested to put together a plan of action so APM can rectify the presence of the negative characteristics.

This exercise was described by innovation team members to be "rather helpful to APM managers as it pin pointed the areas of improvement so the company can go ahead with developing its climate to better support creativity".

APM Current Climate Characteristics (cons)

No.	Characteristic	Definition	Reasons	Methods of improvement		Plan of action
				On top Mngt Behalf	On individuals behalves	
1.	Lack of trust	Low confidence and belief in others to perform actions/duties expected of them at all levels	Breaking promises Misunderstanding Gossips and rumours No transparency and clarity Double standards in decision making Lack of competency Delay in decision making	Walk the talk Define clear strategy and procedures Be clear and sharp in decision making Improve communication level with staff Teams training Training on communication Training on work issues Implement strategy and procedures Put clear rules, procedures and systems (limit exceptions) Get better exposure Encourage team spirit Take proper decisions at proper time	Keep promises and inform management about obstacles of delay Clarify- confirm Believe in facts and figures Be clear Work in teams training Training on communication Training on work issues Implement strategy and procedures	Establish clear strategy, systems and rules Training at all levels to enhance communication skills Building teams Delegation and empowerment Commitment enhancement to decisions Enhance transparency atmosphere Enhance human social relations More involvement of the top management in work activities
2.	Double standards in decision making	Making different decisions in similar situations	No clear HR system (incentives, etc.) Effect of personal relations in evaluating employees Lack of trust or blind trust	Adopting clear HR system Establishing rules and procedures		Adopting proper HR system Training on problem solving and decision making Enhancing trust via transparency and social activities
3.	Depression	Negative feeling which leads to a low activity	Poor recognition Double standards in decision making	Creating & implementing a clear system of salary increments, incentive	Transparency Confrontation Straightforwardness	Treat depression after proper diagnosis through consultation of the

			<p>Delay in decision making</p> <p>Lack of motivation (psychological & financial)</p> <p>Salary scale</p> <p>No consultation regarding issues related to the concerned parties</p> <p>Employee turnover</p>	<p>scheme which should motivate distinguished employees.</p> <p>Management should be decisive, sharp and clear.</p>	<p>Positive thinking</p>	<p>concerned parties and take immediate actions.</p> <p>A clear system of salary scale, motivation, incentives to be implemented ASAP (which matches the market average)</p> <p>A clear HR system should be created and implemented</p>
4.	Poor recognition	Perception by the employees of under estimation	<p>Life at work is busy</p> <p>An annual appraisal review</p> <p>Undermine others abilities</p> <p>Manager distance himself/herself from employees and does not review details</p> <p>Lack of trust</p> <p>Self centred managers</p> <p>Personal conflict manager</p> <p>No empowerment by managers to reward, promote and motivate</p>	<p>Be more people oriented</p> <p>Adopting clear and payment incentive system (HR)</p> <p>Enforcing proper management supervision</p> <p>Delegation with appreciation</p> <p>Implement and feedback system</p> <p>Talk about excellent employees in public</p>	<p>Transparency</p> <p>Get himself busy with work satisfaction</p> <p>Improve good communication</p> <p>Develop experience</p> <p>Except recognition on outstanding efforts</p>	<p>Implement a fair and comprehensive HR system</p> <p>Training of managers in leadership and motivate skills</p> <p>Improve relationships through events and work meetings</p>
5.	Self-Centred orientation	Focusing on self benefits (interests) and neglecting others	<p>Insufficient self-confidence</p> <p>Lack of recognition (ignorance)</p> <p>Raising up at home</p> <p>Lack of social</p>	<p>Training and team building</p> <p>Support to individuals enhance self-confidence</p> <p>Learning (Knowledge)</p> <p>Counselling and coaching</p>	<p>Training and team working</p> <p>Openness</p> <p>Sharing</p> <p>Gaining knowledge (learning)</p>	<p>Training on team building</p> <p>Enhancing openness</p> <p>Establishing HR system for recognition and support</p> <p>Enhancing Unity (well-established HR system)</p>

			relationships and teamwork Lack of feeling secure Lack of knowledge and experience			Improving the level of knowledge and experience Coaching and counselling
6.	Lack of clear strategy	Definition was postponed due to confusion in defining what participants referred to when expressing the word 'strategy'	No clear vision Lack of communication Weak planning	Setting clear strategy Communicate with related personnel	Commitment to implement strategy	Creation of clear vision and objectives Communication of the vision with related personnel Setting ways and means to achieve the objectives Motivate employees to achieve the strategy Continue monitoring of achievements versus targets
7.	High level of misunderstanding	Misinterpretation of what others say or do	Lack of trust Poor communication Jumping to conclusions Lack of clarity Poor systems (written procedures and standards)	Clear vision, objectives, and strategy Training on communication skills Commitment to promises	Clarify and confirm Training Commitment Ignore rumours and gossips Work in teams Avoid jumping to conclusions	Communicate vision, objectives and strategy to all levels 'Communication skills' training Enhance social activities Establish clear systems e.g. HR
8.	Poor communication	Failure of delivering the right message to its destination on time	Weak communication skills Three sites distanced apart Poor communication system Some responsibilities are not assigned to defined parties No clear system for	Training on communication skills Develop communication system Consolidate the three sites Clarify responsibilities	Self development Follow up effectively Better cooperation	Increase training budget Create HR system Adopt internal communication system More social meetings More coordination meetings

			reporting channels Conflict Confidentiality and trust			
9.	Lack of time (respect and management)	Wasting time without adding value	Irresponsibility (carelessness) Poor accountability Poor prioritisation Absence of deadlines Poor planning	Assigning clear responsibilities Training programs (time Mngt) Follow up and accountability Proper auditing and feedback systems Proper planning Motivation	Being responsible and respect deadlines Proper planning	Training on time management Clear job description Motivation, appraisal and evaluation systems. Proper planning

Table 16 APM Current Climate Characteristics (Cons), definitions, reasons, methods of improvement and plan of action

Positive Current Climate Characteristics

Innovation team members were then requested to define and produce a plan of action for the positive CCCs, separate sessions were held to discuss their impact and how to sustain them. As a result of these sessions, a sub plan of action for each characteristic was developed as shown in Table 17 below.

No.	Characteristic	Definition	Plan of action
1.	High level of Loyalty	A high sense of belonging	Adopt a comprehensive HR system Incentive schemes for all Improved health care system, Housing, child education Decentralisation
2.	Self-Driven despite lack of motivation	Intrinsic motivation without external motivating factors	Incentive scheme Recognition by announcement Training and development
3.	Team-spirit within dept.	Carry on duties in a harmonised atmosphere through sharing and unity	Keep on an open door policy Create individual and group incentive scheme that will promote team work Training team leaders on team building and management
4.	In-process of upgrading and changing	Development of existing resources	Initiate specific development plan(s) with time frame- Responsibly of: Authorisation and decentralisation Periodic monitoring and evaluation of results/outputs

Table 17-APM Current Climate Characteristics (Pros) Plan of action

Developing a Plan of Action

In subsequent innovation team meetings, the methods of improvement and plans of action discussed in the previous stages for the CCCs (pros and cons) were consolidated. Each group was provided with methods of improvement and plans of actions for 3 characteristics. The task was to consolidate their plans of action into one plan of action. A sample of the working sheet for this exercise is shown in Appendix 5 on page 268. The outcome of the three groups was 3 plans of action. This was presented using a power-point presentation showing the three consolidated plans of action. Then, an open discussion with all innovation team members integrated the plan of action of the positive CCCs and the three plans of action of the negative CCCs into one single plan by consolidating overlapping. This was a very fruitful exercise as commented by APM managers. Simple guidelines for establishing a plan of action was presented to support innovation team members to accomplish this task. The final consolidated plan of action by innovation team members is shown in Table 18 below.

No.	Plan of Action	Details
1.	Establish vision and strategy	<ul style="list-style-type: none"> ▪ Communicate with all employees
2.	Build, approve and implement comprehensive HR system	<ul style="list-style-type: none"> Final job description for all dept. Appraisal and evaluation (Recognition by announcement) Individual and group incentive scheme to enhance teamwork Salary scale review Career path development Training and development (Training team leaders on team building and management) Improved health care system, Housing, child education
3.	Innovation team training:	<ul style="list-style-type: none"> ▪ Team building ▪ Communication skills ▪ Time management ▪ Leadership skills ▪ Computer skills ▪ Language skills
4.	Social activities	<ul style="list-style-type: none"> ▪ Celebrate annual party ▪ Social meeting for innovation team every three months
5.	Decentralisation and Empowerment of key personnel	<ul style="list-style-type: none"> ▪ Approve recommendations of decentralisation ▪ Authorisation limits (recruitment, budget, resignation) to speed up job
6.	Communication of vision with related personnel	
7.	Periodic monitoring and evaluation of the past six items on the plan of action	

Table 18- APM Plan of action to eliminate negative CCCs inhibiting creativity and sustain positive CCCs

The above responsibilities were assigned to specific personnel and departments with time deadlines. The GM and DGM assured the team that these deadlines are real. Accomplishing the assigned responsibilities was promised by all team members. Details of the assigned personnel are not shown in this thesis but were sent to the team members and were kept for internal use only. Apart from points 2 and 5 which were not accomplished during the research period, the other points received attention at various points although not sufficient progress was made.

As mentioned at the beginning of this section, these exercises aimed to generate a general consensus on the need of change and the areas that are under concern and to familiarise researcher with personnel, processes, and a general understanding of *'how things are done at APM'*. Furthermore, the plan of action consolidated at this stage was a valuable foundational input into designing the ICE model interventions as will be detailed in chapter 7.

The following sections, present details of APM's current structure strategy, HR and PMS.

6.3.2 APM Structure

APM's structure (Appendix 1 on page 263) shows a functional structure. The technical department employs about 70% of the employees; the technical director has 5 managers reporting to her, during an interview⁶, she suggested that "the current structure prohibits flexibility and causes difficulty to be on top of everything". On the other hand, the GM agreed that his company's structure needs "major surgery". The technical director supervises the following managers:

- Plants maintenance manager
- Salalem plant manager
- Sahab plant manager
- Buhaira plant manager
- Planning manager
- R&D manager
- Registration affairs manager

It was agreed with the technical director to share her office for a week to monitor the way she manages her duties holding these responsibilities. She visits sites, studies files, makes about 20 important calls every day, monitors progress, solves problems, etc. It was obvious that her duties were beyond any individual's capacity. The need to introduce changes to this function were inevitable.

In addition, the current structure is not flexible enough to support creativity or smooth flow of information and materials.

6.3.3 Strategy

APM has unwritten strategy. During interviews with the GM and his deputy, they both agreed that APM needs to have a communicated written strategy down the line of management. Formulation of clear strategy was important to clarify targets for employees and have proper appraisal system for achieving targets.

6.3.4 HR and PMS Practices

Currently APM has a personnel department led by the acting personnel department manager and is responsible for managing employees' lists, recruitment, vacations and sick leaves, security, medical insurance, transportation and service workers.

⁶ Interview was conducted September 2006.

Recruiting new personnel seemed to be of an issue as it has to be approved by the GM himself even for simple positions.

There is no training department to follow up the needs for employees' development. Also appraisal systems are not standardized in the company. Performance is decided according to the manager's decision of the direct employees at random. This was an obvious complain at all company levels attended the interviews to be presented later in subsequent chapters.

6.3.5 Discussion and Recommendations

Aims of the 'understanding company's context' stage were to understand the context and purpose and to draw a clear profile of the current climate and culture in APM. The focus was on climate factors that are inhibitors to creativity. APM's innovation team defined the CCCs, stated reasons, methods of improvement and formed a plan of action which was due to take place during the year 2007.

APM is viewed differently in the eyes of its managers and those of its employees. Frustration of unjust payments and the lack of Human Resources System took the lead in any discussion with any employee. APM was going through real challenges. Innovation team members who are themselves managers of all departments admitted that APM's vision and strategy were obscured. Developing APM's vision and strategy was decided to be on top of the list of APM's action plan.

Innovation team and GM were assured that interference will not take place into any innovation team member opinions or suggestions. All questionnaire results and data collection methods were kept safe and confidentiality was assured.

The following two sections present assessing APM's culture and climate.

6.4 Assessment of APM's Organizational Culture

This section provides details of using the OCAI instrument to assess APM's organizational culture.

6.4.1 Organizational Culture Assessment Instrument (OCAI)

The OCAI questionnaire is based on the Competing Value Framework described earlier in chapters 2 and 3.

A power- point presentation was used to explain the competing value framework and the benefits of using the OCAI analysis for the company. The OCAI questionnaire was distributed to innovation team members joined by an independent Arabic translation for added support. Help was provided during a separate session for team members who needed the translation. The questionnaires were analyzed using Excel sheets and Individual OCAI graphs were generated for each innovation team member. It was obvious that many innovation team members expressed their preferred organizational culture to be in the 'Clan' and 'Adhocracy' quadrants.

This preference will be integrated with the outcome from Keys to creativity discussed in the following section in order to reach an overall change intervention program for this company.

6.4.2 OCAI Individual and Average Analyses

It was not possible to produce an average of all innovation team responses due to the large variations of their answers. Therefore, the results of the OCAI questionnaires were grouped into three groups as follows:

- Group1 (7 responses) viewed APM's current emphasis on 'The Hierarchy' and 'The Market'. They anticipated a preferred APM culture emphasis on 'The Clan' and 'The Adhocracy', (See Figure 27).
- Group2 or the '*static group*' (3 responses) viewed current and preferred cultures to be more or less the same. From their responses, they seemed not welcoming any proposed changes and preferred the status quo, (See Figure 28).
- Group3 (3 responses) viewed APM's culture emphasising 'The Market' and preferred a future culture emphasising 'The Clan', 'The Adhocracy' and 'The Hierarchy', in addition to reducing the emphasis on 'The Market', (See Figure 29).

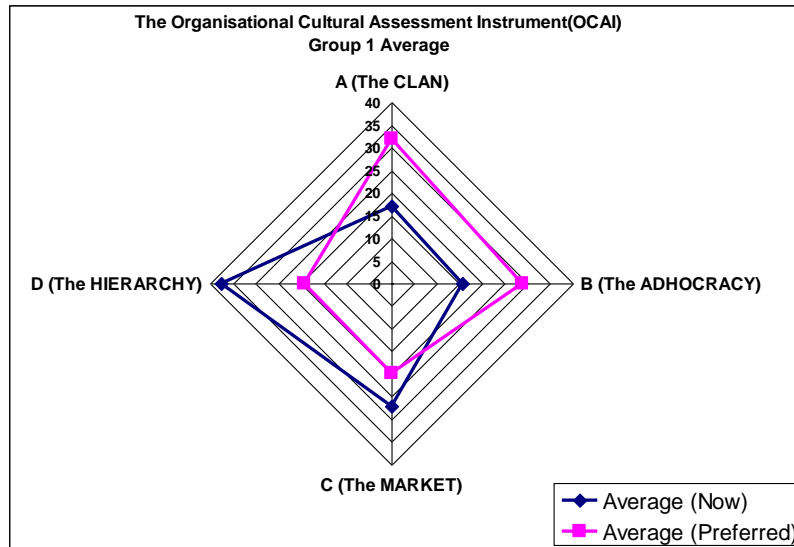


Figure 27 OCAI analysis- Group 1 Average

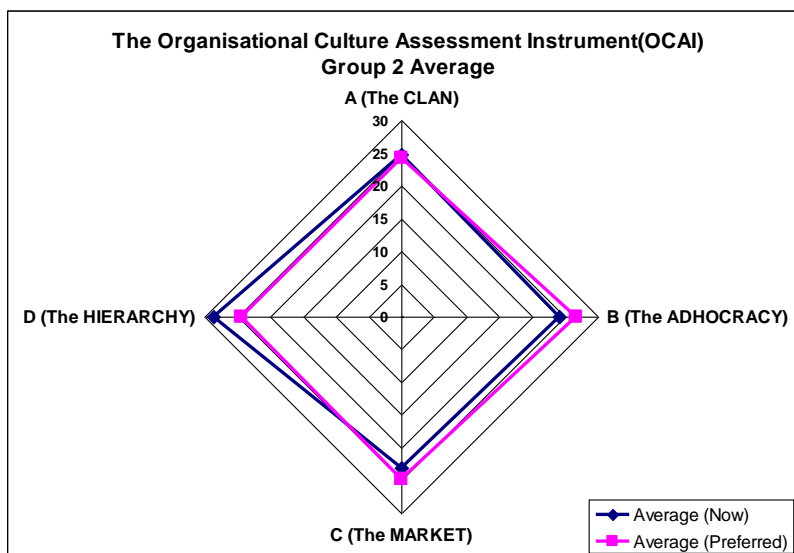


Figure 28 OCAI analysis- Group 2 Average

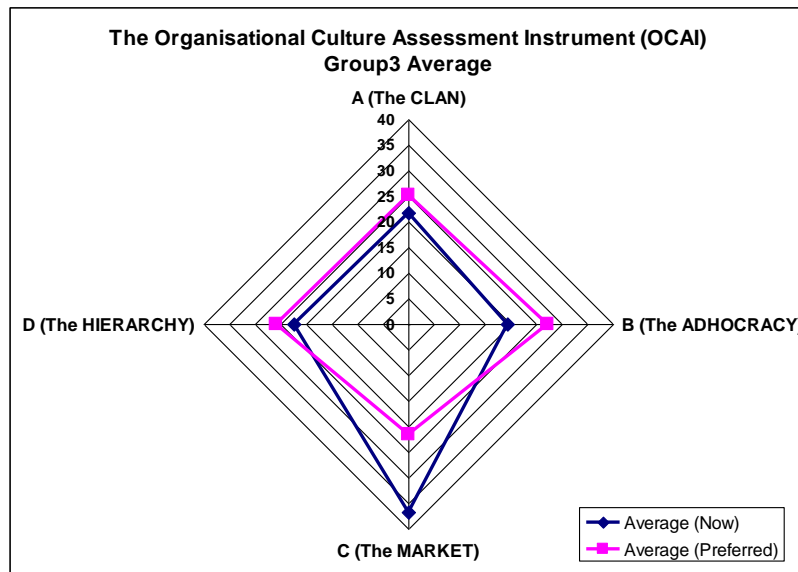


Figure 29 OCAI analysis- Group 3 Average

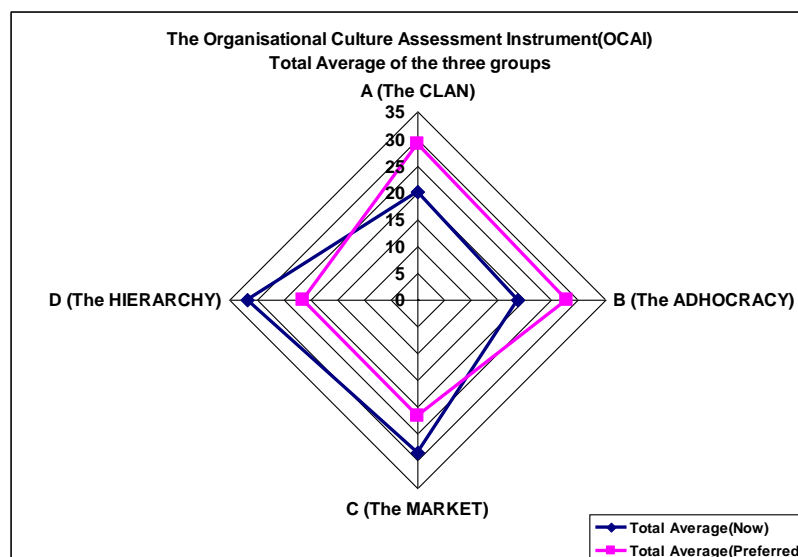


Figure 30 OCAI analysis- Total average of the three Groups

Despite the above variations, the overall average of the innovation team responses showed a tendency towards emphasising ‘The Clan’ and ‘The Adhocracy’ in the future and reducing the emphasis on ‘The Market’ and ‘The Hierarchy’.

The individual OCAI profiles (see Appendix 6 on page 270) were provided to each innovation team member. There was a general consensus that the profiles showed their true representation of current and future profiles for APM. One member of group2 mentioned that she thought the ‘Preferred’ is ‘what she *expects* to happen not what she *wishes for*, i.e., she expected no change. The DGM requested a validation

method of this questionnaire as he was not convinced that his response fallen within group2.

It is worthwhile to mention here that the two leaders of the company were represented within two different groups. The GM response was considered in group1 emphasising a noticeable preference of moving the company towards ‘The Clan’ and ‘The Adhocracy’ cultures, however, his deputy response fallen within group2 preferring a static future position, i.e. no changes to be made on the current culture. This was one of the first signs of conflict in the top leadership of this company. It was clear at a later stage that this analysis reflected reality as it was obvious that the GM wanted to introduce changes, however, the DGM preferred to *keep the usual way of doing things*. The two managers were pulling the organization in two different directions.

On the other hand, there were obvious differences in opinions among the innovation team on the future of APM. To facilitate reaching a consensus on the preferred future culture, the OCAI average analysis was carried as follows: (1) each innovation team member was requested to be seated according to his/her individual response for each OCAI quadrant. For example, team members emphasising future *Market* quadrant were seated to the right, others who had less emphasis were seated to the left. (2) an explanation of each quadrant was clarified using a flip chart. (3) a discussion was held on ‘What it means’ and ‘What it does not mean’ to decrease/ or increase each quadrant (see Appendix 7 on page 275). The Clan and Adhocracy quadrants received a consensus on increasing the emphasis on both of them, however, the Market and Hierarchy quadrants received exhaustive discussions and arguments.

As the Market quadrant emphasis received only 7 points difference between the ‘Preferred’ and ‘Now’, it was considered to remain the same with fine tuning towards decreasing the emphasis. This is because the OCAI considered any difference with an amount of less than 10 points between the ‘Preferred’ and ‘Now’ to be insignificant. The Hierarchy quadrant received an average emphasis to be decrease.

6.4.3 Itemised Average Analysis

Extensive discussions were carried out to reach a consensus on the current and future organizational cultures using itemised analysis (see Appendix 8 on page 279).

The OCAI is composed of six items as follows:

1. Dominant Characteristics
2. Organizational Leadership
3. Management of Employees
4. Organizational Glue
5. Strategic Emphasis
6. Criteria for Success

The responses were analysed and averaged according to each item. *Dominant Characteristics* showed current tendency towards ‘The Hierarchy’ and a preferred emphasis towards the other three items.

Organizational Leadership emphasized ‘The Market’ and preferred future emphasis towards the other three items. This seems to be a true outcome as APM’s leaders declare to be market driven. The future emphasis towards ‘The Hierarchy’ can be explained by the respondents’ aspiration for APM’s leaders to respect the value of structure in the company.

Management of Employees showed the respondents need to be managed as a ‘Clan’ company, emphasising ‘Adhocracy’ and ‘Hierarchy’, which means according to (Cameron&Quinn, 2006) the importance of introducing HR in the company, increase creativity levels and respect rules and procedures.

Organizational Glue: This item was very interesting showing the desire of future emphasis on ‘The Clan’ and ‘The Adhocracy’. The glue that holds the organization together showed -according to the average- desired emphasis towards the concerns of APM’s people and their creativity and risk taking skills.

Strategic Emphasis: a very noticeable outcome in this item is the mirror image of future emphasis on ‘The Adhocracy’ and the least emphasis on ‘The Hierarchy’, the other two items represented minimal change. This should be taken into consideration while producing APM’s strategy.

Criteria for Success: responses here showed clearly that APM’s success is very much tied to its people. Less emphasis on ‘The Hierarchy’ and ‘The Market’ is requested and more on ‘The Adhocracy’.

6.4.4 Conclusions From The OCAI Analysis

APM's innovation team members emphasized the 'Internal' rather than the 'External'. They viewed APM as an organization respecting its rules and procedures, fulfilling its market needs but at the same time they would like to see more emphasis on its people, their development, training and creativity skills.

Drawing individual OCAI analysis response was important as producing an average of the OCAI results was not found to be a true representation of the whole group. This is one of the problems of the OCAI analysis which will be highlighted in more detail in chapter 12.

The following section presents Keys to creativity climate assessment instrument.

6.5 Climate to Creativity Assessment

This section presents Keys to creativity assessment conducted at APM before introducing the change intervention.

Recalling from the literature survey presented in chapter 2, Keys to creativity questionnaire assesses climate to creativity in a workplace environment using ten scales:

1. Freedom
2. Challenging work
3. Sufficient resources
4. Supervisory Encouragement
5. Work Group Support
6. Organizational Encouragement
7. Lack of Organizational Impediments
8. Lack of Work Load Pressure
9. Creativity
10. Productivity

Keys instrument assesses work environment using individual's perspectives filling the questionnaire. The instrument (See Table 19 below) contains 78 questions, 66 describe the work environment. The remaining 12 questions are included to "gauge the respondents' assessments of two work performance criteria: creativity (6 items) and productivity (6 items) of the work being carried out in their units. All items on KEYS are written as simple descriptive statements of the work environment (Amabile *et al.*, 1996).

To avoid favouritism, the items followed either negative or positive wording. The scale is a four-point scale to avoid a midpoint in order to force respondents away from a neutral default option. The four options are: 'Always', 'Often', 'Sometimes', and 'Never'. The instrument has a further 3 statement questions requesting to choose a factor from a list as follows:

1. 'What is the Single most important factor *supporting* creativity and innovation in your current work environment?'
2. 'What is the Single most important factor *inhibiting* creativity and innovation in your current work environment?'

3. ‘What is the single most important *suggestion* that you have for improving the climate for creativity and innovation in your daily work environment?’

Table 19 below presents the 10 scales with the number of items specified for each scale, it also provides description and a sample item of each scale.

Scale Name	Number of items	Description	Sample item
<i>Stimulant Scales</i>			
Organizational Encouragement	15	An organizational culture that encourages creativity through the fair, constructive judgment of ideas, reward and recognition for creative work, mechanisms for developing new ideas, and shared vision of what the organization is trying to do	People are encouraged to solve problems creatively in this organization
Supervisory Encouragement	11	A supervisor, who serves as a good work model, sets goals appropriately, supports the work group, values individual contributions and shows confidence in the work group	My supervisor serves as a good work model
Work Group supports	8	A diversely skilled work group in which people communicate well, are open to new ideas, constructively challenge each other’s work, trust and help each other and feel committed to the work they are doing	There are free and open communications within my work group
Freedom	4	Freedom in deciding what work to do or how to do it; a sense of control over one’s work	I have the freedom to decide how I am going to carry out my projects
Sufficient Resources	6	Access to appropriate resources, including funds, materials facilities and information	Generally, I can get the resources I need for my work
Challenging work	5	A sense of having to work hard on challenging tasks and important projects	I feel challenged by the work I am currently doing
<i>Obstacle Scales</i>			
Organizational impediments	12	An organizational culture that impedes creativity through internal political problems, harsh criticism of new ideas, destructive internal competition, an avoidance of risk, and an overemphasis on the status quo	There are many political problems in this organization
Work-Load Pressure	5	Extreme time pressures, unrealistic expectations for productivity, and distractions from creative work	I have too much work to do in too little time
<i>Criterion Scales</i>			
Creativity	6	A creative organization or unit, where a great deal of creativity is called for and where people believe they actually produce creative work	My area of this organization is innovative
Productivity	6	An efficient, effective and productive organization or unit	My area of this organization is effective

Table 19 Keys Environment Scales- Source (Amabile et al., 1996)

6.5.1 Management of Keys to Creativity Assessment

The Centre for Creativity and Leadership (CCL) in the US was contacted for supplying 100 copies of this survey after estimating the number of people in APM who are able to fill the questionnaire in English. A list of APM personnel was obtained despite the frustration of APM's personnel manager who -although being a member of the innovation team-, declares his rejection to cooperate in this research. The 78 questions in the Keys instrument were translated into Arabic and verified by an independent translator. The three statement questions (in the Arabic version only) were not distributed to the participants to simplify the data collection and analysis complexity due to the large number of participants. Managing Keys data collection was achieved in two levels:

1. Participants who were capable of filling the instrument in English were provided with copies of the questionnaire in English, their responses will be referred to in this research as *Keys-English*.
2. Participants who were capable of using an Arabic version of the Keys instrument were provided with copies of the questionnaire in the Arabic translated version and will be referred to in this research as *Keys-Arabic*.

Keys-Arabic used an introduction explaining the project aims and assured confidentiality, unlike Keys-English, participants' names were not requested. This was to increase the level of confidence and enable for high level of true reflection of reality. Few employees even refused to add their age or departments so "they cannot be traced down for their opinions".

The instrument was distributed to innovation team members first; all members were provided with an Arabic version for extra support. Thorough explanation and help were provided during the sessions dedicated for this analysis.

Following innovation team keys sessions, APM individuals were divided into groups with the help of departments' managers and directors. Meetings were held with each departmental manager/director for this purpose. The following criteria were used in setting up the groups to be interviewed for Keys questionnaires:

- Departments and hierarchy within each department
- Geographical sites
- Work limitations and production schedules

Table 20 below shows the outcome of the extensive meetings with APM managers to produce a final list of interviewees⁷ according to the criteria above.

No.	Department name	Number of interviewed employees	Meeting venue	Liaison
1.	Finance (1 group)	18	Meeting room in Admin Offices –Buhaira	Finance
2.	Purchasing (1 group)	4	Meeting room in Admin Offices –Buhaira	Purchasing
3.	Engineering (3 groups) Salalem and Sahab	41	Meeting room in Admin Offices –Buhaira Meeting room-Sahab	Engineering
4.	Sales and Marketing (3 groups) Buhaira and Amman	63	Meeting room in Admin Offices –Buhaira Meeting room- Amman	Sales
5.	Stores (3 groups) Buhaira and Sahab	30	Meeting room in Admin Offices –Buhaira Meeting room-Sahab	Secretary
6.	Quality (4 groups) Salalem, Buhaira and Sahab	73	Meeting room-Salalem Meeting room-Sahab Meeting room -Buhaira	Quality-Salalem
7.	Personnel (2 groups) Salalem	22	Meeting room-Salalem	Personnel
8.	R&D (1group)	19	Meeting room Buhaira Site	Secretary
9.	Production Planning (1 group)	4	Meeting room- Buhaira Site	Production planning
10	Special Projects (1 group)	14	Meeting room-Salalem	Special projects
11	Production- Salalem (2 groups)	73	Meeting room-Salalem	Production-Salalem
12	Production-Buhaira (4 groups)	250	Cafeteria –Buhaira	Production Buhaira
13	Others (Admin+ tea boys+ cleaners +hourly employees, etc.)	27	All sites	GM secretary
Total number of interviewed groups= 31				
Total number of interviewed employees in groups of (4-60 persons) = 638				

Table 20– Interviews details of Keys Questionnaires conducted at APM

All Keys-English and Keys-Arabic were kept in safe place and in proper envelopes for analysis.

6.5.2 Employees Interviews

All company's sites were covered by the interviews. Meetings were held with all hierarchical levels covering cleaners, tea boys, workers, supervisors, section heads, plant managers, managers and top managers.

⁷ APM employees according to the above table were interviewed in groups of (4-60 persons).

Each interview was divided into two parts; (1) an introduction to the project and explanation of the Keys to creativity questionnaire (both Arabic and English), followed by (2) a *brainstorming session* of climate to creativity in APM, whether it is supporting or inhibiting creativity. Every day consisted of meetings with 2-3 groups, ranging from 4-60 employees according to their divisions and departments. Meetings were conducted in group forms and not as one-to-one interviews. This was completed over a one month period according to Table 20 above.

Special leadership abilities were necessary to coordinate and control the interviews as they were the first meetings of their kind in this company (refer to chapter 12 for action researcher list of abilities). The interviews required experience and proper managerial skills to deal and control the discussions and follow interviews schedules. Difficulty was experienced in listening to interviewees, recording their suggestions and allowing freedom of speech to all participants especially when interviewing large number of participants. Differences in educational backgrounds formed real challenges to control a range of high level of professional discussions followed by simple workers requesting explanations of minor and detailed items. Interviews were held in the main meeting rooms in Buhaira site, Salalem site, Sahab site, Amman site and the cafeteria in Buhaira main production site. Participants were divided into two sets for each group, those who are able to use the English copy, and others who requested using the Arabic version. In most interviews, participants finished filling the questionnaires during the interview; this was not the case in one or two occasions due to restrictions of production schedules. They were requested to send in their filled questionnaires at a later stage in sealed envelopes.

During the brainstorming part of each interview, participants were allowed free speech; their managers were interviewed at other times. All ideas describing APM's climate to creativity were written using flip chart sheets in front of participants, sheets were positioned on meeting room walls. Then, all brainstormed ideas were sorted and outlined under specific headlines. Each headline was written on a separate flip chart sheet, and then participants were requested to suggest recommendations for the elimination of the climate problems if it was an inhibitor to creativity or emphasising it if it was supportive to creativity. Ninety percent of the discussions were focused on the presence of inhibitors to creativity. Minutes of meetings were

recorded for each interview by one of the participants; all were gathered and outlined as will be shown in section 6.5.8.

6.5.2 Keys-English Analysis

A total of 91 Keys-English were distributed to APM Personnel, only 83 were returned with a return rate of 91.2%, 2 were returned empty and 1 was invalid (See Table 21 below).

No.	Site	Department	No. of Keys-English sent out	Total Keys-English returned	Notes
1.	Sahab	R&D	18	17	Empty
2.	Sahab	QC+ QA+ Validation	8	7	
3.	Sahab	Purchasing	3	3	
4.	Buhaira	Financial	7	7	
5.	Buhaira	Sales	4	3	Invalid
6.	Buhaira	Production planning	2	2	
7.	Buhaira	Engineering	3	3	
8.	Buhaira	Production	1	1	
9.	Buhaira	Purchasing	3	3	
10	Buhaira	QC	1	1	
11	Amman	Admin	1	0	Empty
12	Amman	Marketing	5	5	
13	Amman	Registration	4	4	
14	Amman	Sales	16	12	
15	Innovation team		17	17	
		Total	91	83	

Table 21- Keys- English (Distribution by department)

Keys-English were allocated a subgroup code according to the site in which participants belong to as follows:

(01) Sahab site, (02) Buhaira site, (03) Amman office, and (04) Innovation team.

All answers of Keys-English questionnaires were copied into Arabic versions to retain a standby copy for validating keys-Arabic analysis method while the original Keys-English copies are at the CCL for analysis.

Sending Keys-English to the CCL included a lengthy preparation procedure which included writing participants' names on separate sheets with their subgroups coding, filling subgroups coding into each individual questionnaire, darkening some of the participants answers to be clearly read by the scanner, and filling the processing request form then finally sealing all questionnaires and mailing them to the US.

Table 22 and Table 23 below show the response rate by site and total return rate respectively.

No.	Subgroup Name	Subgroup Code	Keys-English Distributed	Keys-English Returned	Return rate %	Notes
1.	Sahab Site:	01	27	26	96%	1 returned empty
2.	Buhaira Site	02	21	19	90.4%	1 invalid
3.	Amman Site	03	26	21	80.7%	1 returned empty
4.	Innovation team	04	17	17	100%	

Table 22- Response rates for Keys-English by site

Total Keys-English Distributed	91
Total Keys-English returned	83
Total Return Rate	91.2%
Notes	2 returned empty, 1 returned invalid

Table 23 Total return rate for Keys-English

The CCL provided an extensive report detailing APM's profile compared with Keys database. The results were provided in 5 separate reports. One described the overall profile for the company, and separate 4 reports for each of the subgroup code explained above.

The profile in each report showed each of the 10 Keys items against a standard score provided by Keys database. The standard score scale values are between 20 and 80. Two-thirds of the organizations in Keys database fall between 40 and 60. For every scale, a higher score is generally associated with higher creativity. 'Obstacles to creativity' were reversed so that for all scales including obstacles, a higher score is generally associated with higher levels of creativity.

According to (Amabile *et al.*, 1996), interpretations of standard scores are shown in Table 24 below.

Relative performance	Standard score
Very high	75+
Above high level	61-74
High	56-60
Mid range	45-55
Low	40-44
Very low	30-

Table 24 Standard scores interpretation of Keys analysis- Source: (Amabile *et al.*, 1996)

Scanned insertions from the Keys report are presented on the following 5 consecutive pages describing:

- APM: the Organization as compared to Keys database
- Sahab site as compared to APM profile
- Buhaira site as compared to APM profile
- Amman site as compared to APM profile
- Innovation team as compared to APM profile

This will be followed by a discussion for each result.

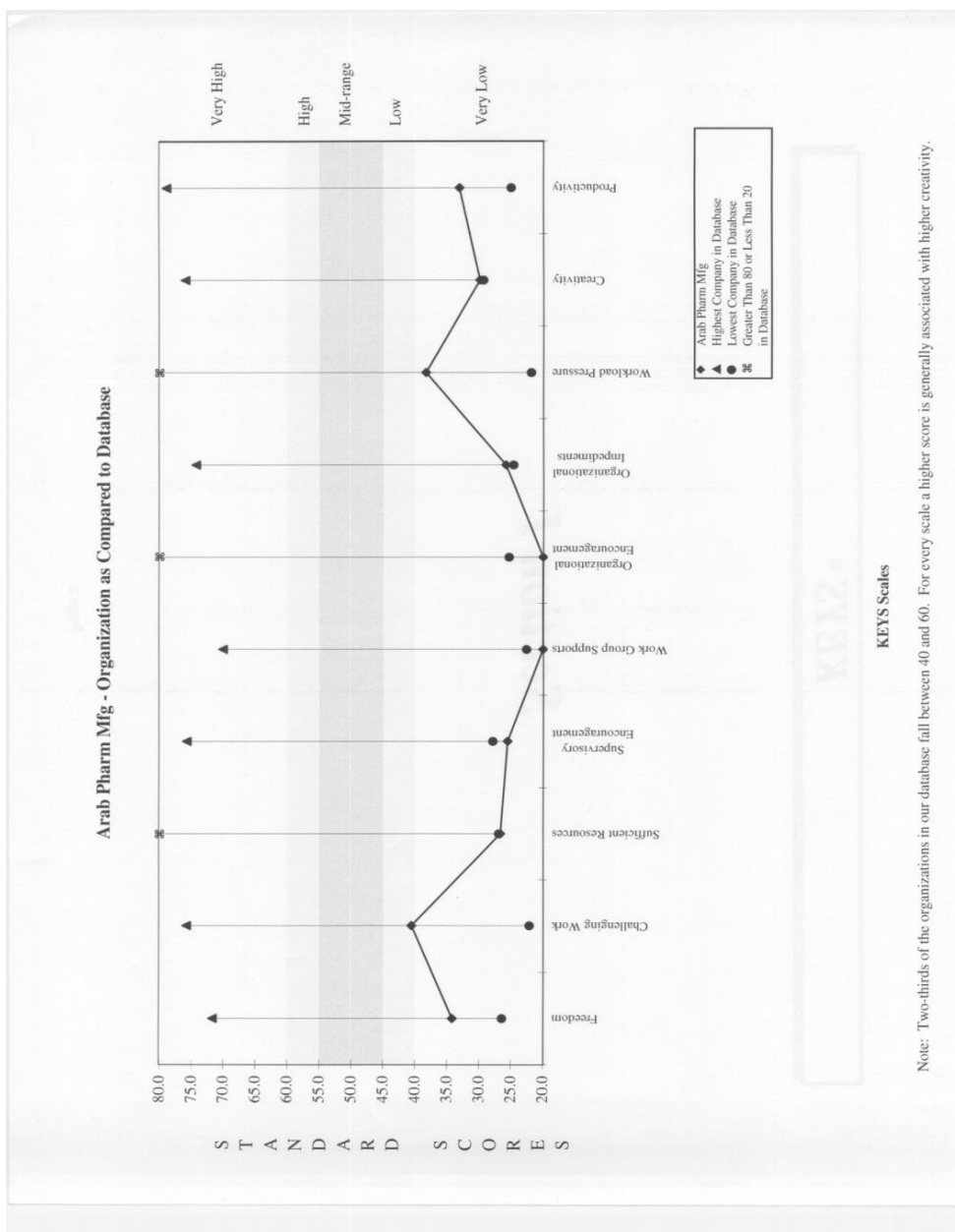


Figure 31: APM- Organization as compared to Keys database

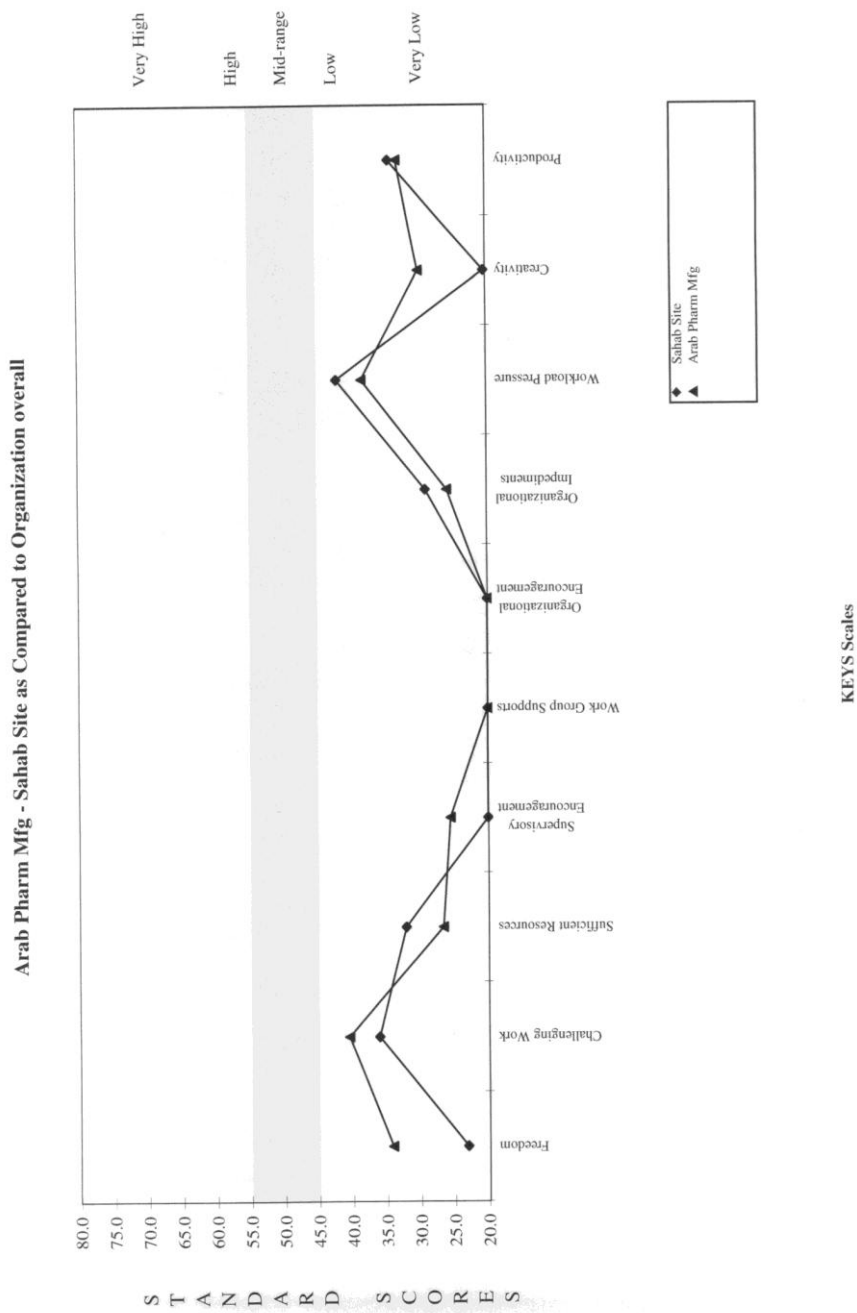
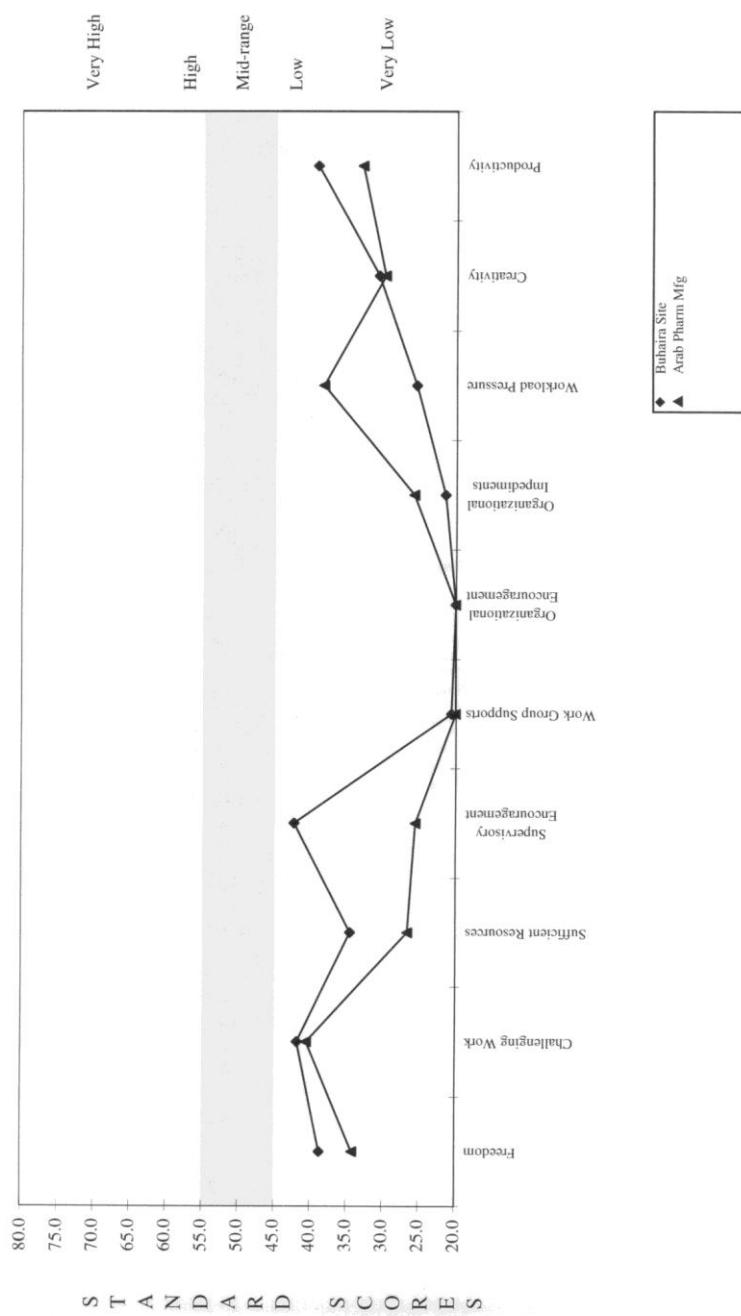


Figure 32 Sahab Site as compared to the overall organization

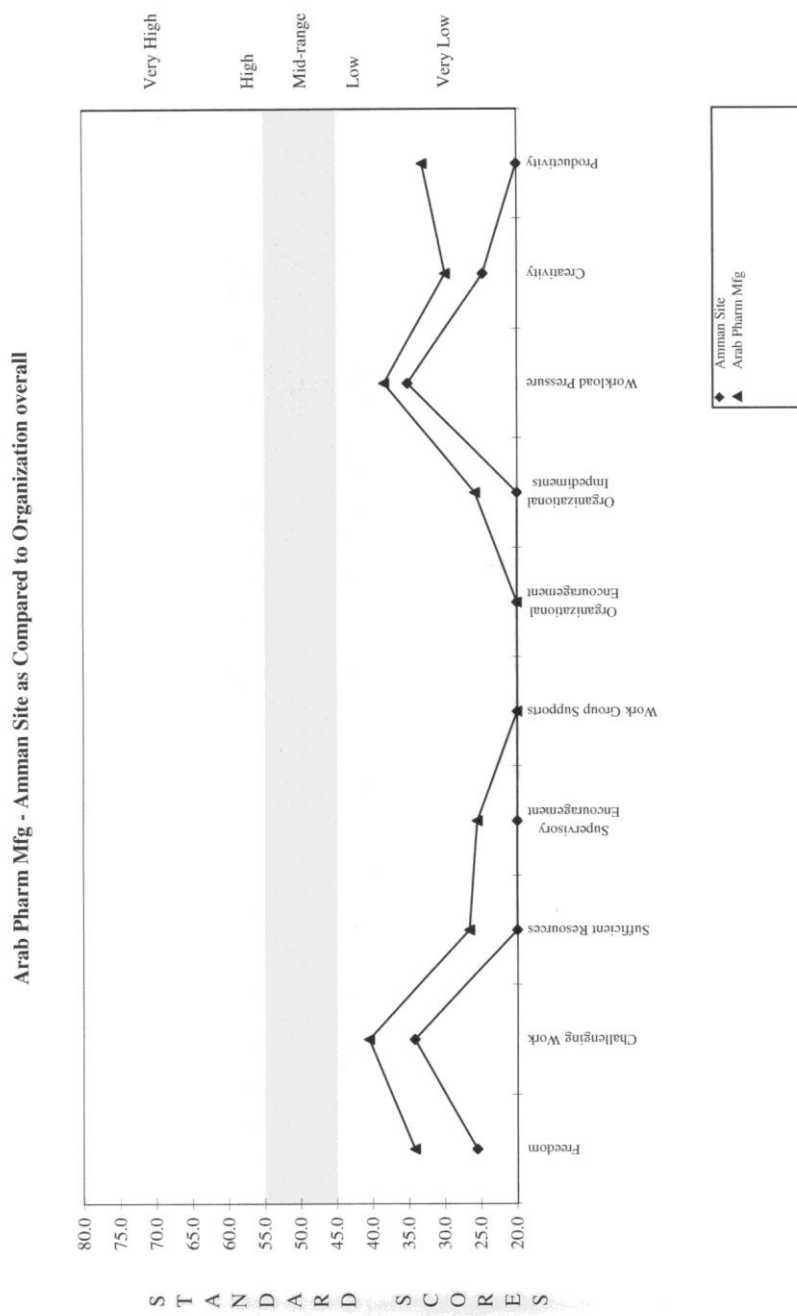
Arab Pharm Mfg - Buhaira Site as Compared to Organization overall



KEYS Scales

Note: Two-thirds of the organizations in our database fall between 40 and 60. For every scale a higher score is generally associated with higher creativity.

Figure 33 Buhaira Site as compared to the overall organization



KEYS Scales

Note: Two-thirds of the organizations in our database fall between 40 and 60. For every scale a higher score is generally associated with higher creativity.

Figure 34 Amman Site as compared to the overall organization

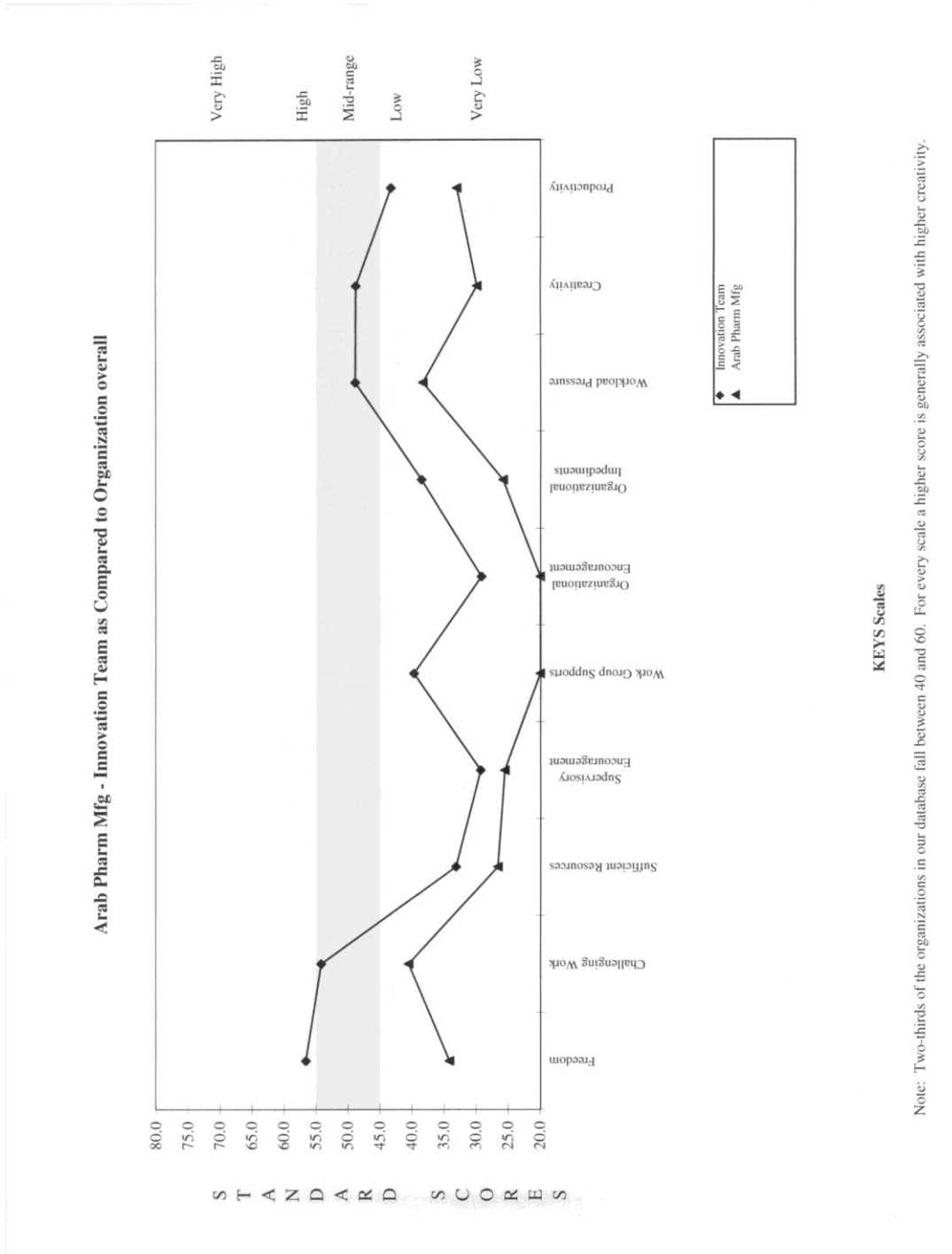


Figure 35: Innovation team as compared to the overall organization

6.5.3 Discussion of Keys- English results

APM: the Organization as compared to Keys database (Figure 31)

It is obvious from APM's scores on Keys scales that the organization is falling within a 'Low' or 'Very Low' scale in all Keys 10 scale items. None of the 10 scale items scored high enough to reach the mid-range of Keys database.

Although it was anticipated that this company has considerable issues related to its climate to creativity, the report outcome was rather an alarming sign of immediate need for change. Two items 'Work-group supports' and 'Organizational Encouragement' failed to reach the minimum Keys scale and scored even lower. The two important criteria scales 'Creativity' and 'Productivity' crossed the lowest points in Keys database.

Sahab site as compared to APM profile , (Figure 32) on page 133 and
Buhaira site as compared to APM profile, (Figure 33) on page 134 and
Amman site as compared to APM profile (Figure 34) on page 135

The three profiles for the subgroups above showed considerable low and very low scores for all 10 scale items. Sahab site scored less or equal to 20- the lowest mark in the Keys scores- in 'Supervisory Encouragement', 'Work-Group support', 'Organizational encouragement' and 'Creativity'. Buhaira site scored the same in two; 'Work-Group support' and 'Organizational encouragement'. Amman site was not any better scoring less or equal to 20 in 5 scale items, 'Sufficient Resources', 'Supervisory Encouragement', 'Work-Group support', 'Organizational encouragement' and 'Lack of Organizational Impediments'. All other scores are either Low or Very low in the three sites.

Innovation team as compared to APM profile

It is noticeable that the innovation team profile (see Figure 35 on page 136) was different from the other subgroups and from the overall profile for APM. It scored 'High' on 'Freedom', 'Mid-range' on 'Challenging work', 'Lack of Work-Load pressure' and 'Creativity'. Other items scored either Low or Very Low. Scoring 'High' in 'Freedom' item can be understood due to all innovation team members being managers and have the relatively freedom in taking decisions related to their work. It is of interest to enquire how they viewed the organization to be creative whilst all other sites scored 'Creativity' item as Low or Very Low. Contradicting

views exist between the managers and those lower in the hierarchy with regards to how creativity is perceived in this company. Innovation team also perceives ‘Challenging work’ and the ‘Lack of work-load pressure’ to be ‘Mid-Range’, in contrary to all others Keys respondents in the company.

This leads to a conclusion that more communication and team building are needed in this company in order to bring the views of its top management and other levels in the hierarchy to a consensus of how they all perceive creativity and other items measured by Keys.

6.5.4 Results of Statement Questions

Keys instrument also contained three statement questions. The results obtained from the CCL keys-English analysis provided the following percentages:

1. What is the single most important factor supporting creativity and innovation in your current work environment?’

The single most important factor supporting creativity which scored the highest percentage was ‘NONE’ (18%), followed by ‘MYSELF’ (16%).

It seems that employees in APM find it hard to find factors supporting creativity. These results are shown below (Figure 36).

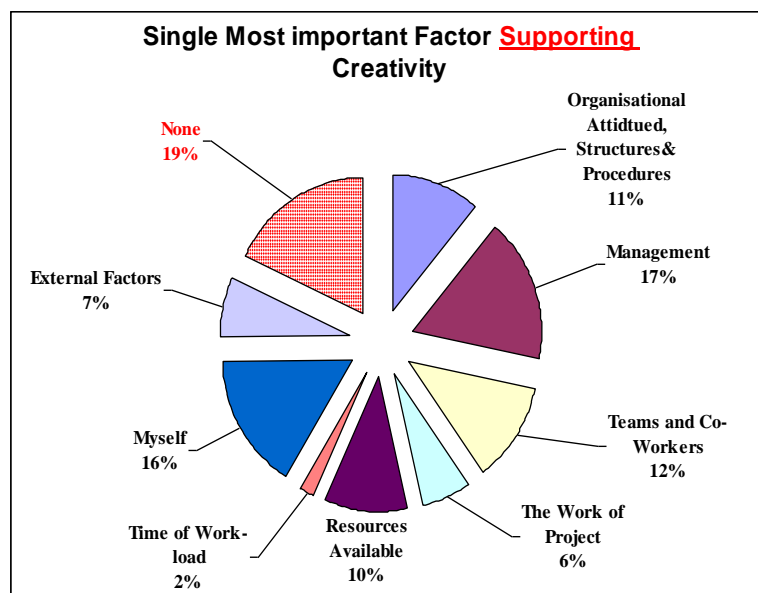


Figure 36 Factors supporting creativity in Keys-English analysis

2. ‘What is the single most important factor *inhibiting* creativity and innovation in your current work environment?’(Figure 37)

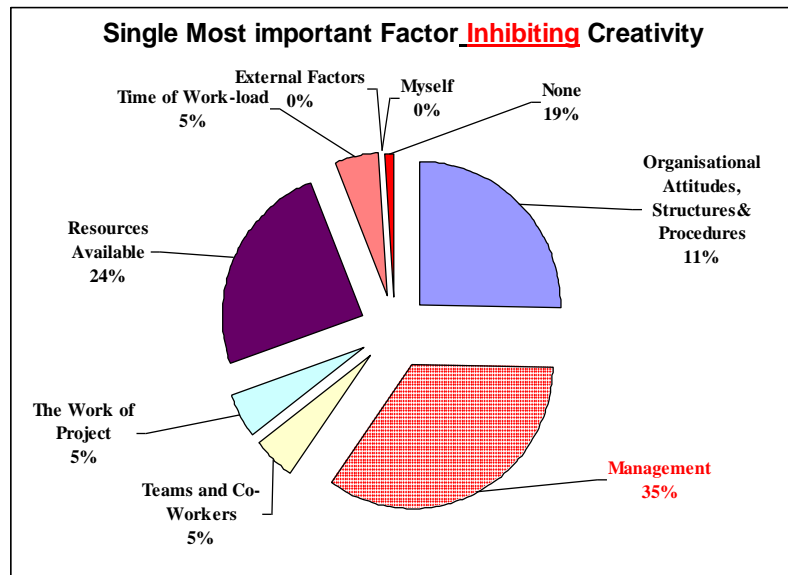


Figure 37 Factors inhibiting creativity in Keys-English analysis

As the highest percentage was scored by ‘Management’, it was further broken down into its elements to clarify areas in the company that are subject to change (Figure 38) below. It can be noticed that ‘lack of clear vision for the organization by upper management scored the highest receiving 49% of the cause why ‘Management’ is an inhibiting factor. This clarifies that a clear communicated vision throughout the company is a crucial factor influencing creativity.

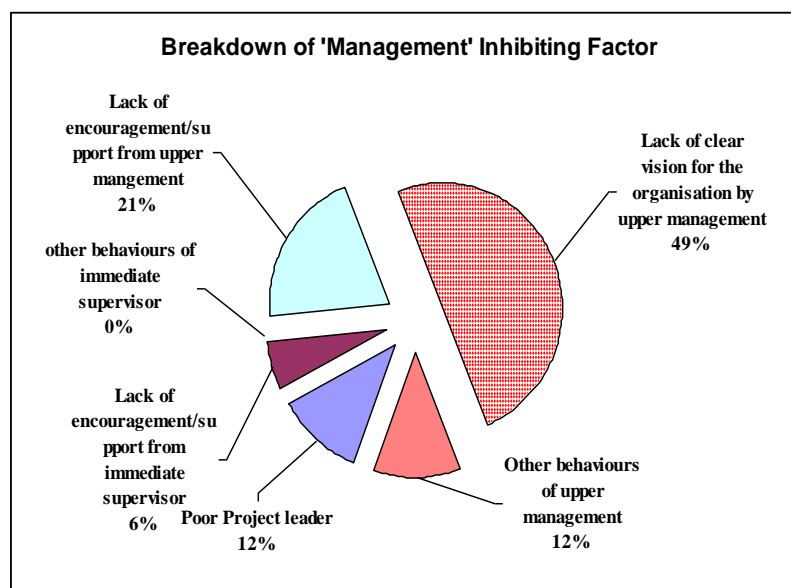


Figure 38 Breakdown of 'Management' element inhibiting factor in Keys-English analysis

3. 'What is the single most important *suggestion* that you have for improving the climate for creativity and innovation in your daily work environment?' (Figure 39)
The highest score was again directed to the management suggesting that changes are needed in order to support the climate to creativity in this company.

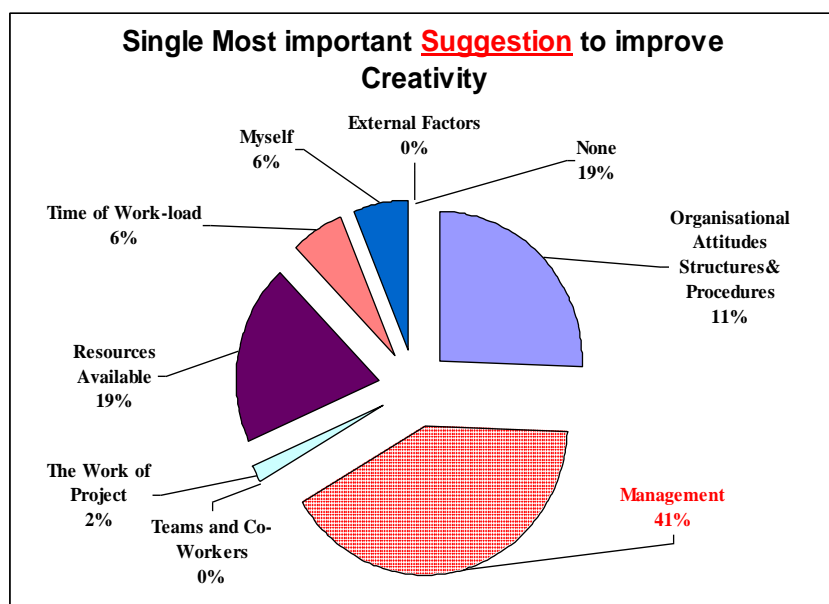


Figure 39 Single most important suggestion to improve creativity in Keys-English analysis

6.5.5 Keys-Arabic Analysis

As mentioned earlier, all Keys-English questionnaires were copied into the Arabic version to retain copies for analysis validation purposes. The analysis method provided below was used for the retained Keys-English in order to validate it with the results provided by CCL. Once the method was validated and proved high accuracy in the calculated values, it was used to produce profiles for Keys-Arabic as will be shown later in this chapter.

Upon receiving Keys-English reports, the CCL was contacted to provide clarification on how the analysis was undertaken. The CCL reply explained in brief how to perform the analysis; however, high experience in Excel software was necessary.

The CCL clarified that the weights of the 4 choices in the 78 questions are as follows:

1= Never

2= Sometimes

3= Often

4=Always

These number values were used to prepare excel sheets for each of the subgroups (Sahab site, Buhaira site, Amman site, and Innovation team). The following example illustrates the analysis of Keys instrument.

First: each employee filling the questionnaire was allocated an alphabetical letter in the excel sheets, for example: A, B, C, AB, AC, ..etc. Weights of the participant's 4 choices were entered into excel sheets for each copy of the questionnaires (See an example in Table 25 below). Empty choices were dealt with as missing data. The median for each of the 78 questions was calculated and filled in empty cells accordingly. To make sure of the accurate filling of empty cells, they were calculated using excel function; 'COUNTBLANK'. Empty cells were filled with median until the 'COUNTBLANK' function produced zero result. Missing data was filled from left to right and from top to bottom.

Keys questions	A (employee1)	B (employee 2)	C	AB	CE
1	1 (Never)	2	3			
2	3 (Often)	2	4			
3	4 (Always)	4	4	..			
4	2 (sometimes)	3	2				
...							
78							

Table 25 Example of excel sheet for Keys- Arabic analysis

Second: means were calculated for each Keys item. All Keys scale items correspond to specific questions as provided in the Keys manual, for example, to calculate the mean for 'Freedom', means of questions: 1, 12, 23 and 44 were calculated. Same procedure was repeated for the 10 scale items using the corresponding questions from the Keys manual.

Third: The z-Score was calculated using the mean of the sample on a scale minus the mean of the Keys database on that scale divided by the standard deviation of the mean of Keys database on that scale, see (Ensor *et al.*, 2006) for more illustration on this point. The standard score (*t*-score) was then calculated by multiplying the *z*-

score by 10 then adding 50. An example of this calculation is shown in Table 26 below.

	Sales dept. Mean	Keys Mean	Keys SD	Z Score	t-Score
Freedom	2.39	2.94	0.18	-3.07	19.31
Challenging Work	2.41	2.99	0.22	-2.65	23.45
Sufficient Resources	2.10	2.92	0.22	-3.73	12.73
Supervisory Encouragement	2.26	3.02	0.17	-4.48	5.24
Work Group Support	2.53	3.12	0.17	-3.50	15.00
Organizational encouragement	1.70	2.62	0.23	-4.01	9.86
Lack of Organizational Impediments	2.91	2.79	0.24	0.49	54.93
Lack of Workload Pressure	2.65	2.42	0.18	1.28	62.78
Creativity	2.13	2.7	0.22	-2.58	24.24
Productivity	2.16	2.94	0.24	-3.26	17.43

Table 26 Example of Keys scale analysis

The analysis method described above was carried out for 555 Keys-Arabic questionnaires and drawn using excel software.

On subsequent pages, the results of keys-Arabic analysis are shown for the following departments:

- Finance
- Engineering
- Sales
- Stores
- Quality
- Personnel
- Special Project
- Production-Salalem and
- Production-Buhaira.

In each profile, bullet points are coloured according to the relative performance. Drawings are shown for 8 Keys scale items as items 'Lack of Organizational impediments' and 'Lack of workload pressure' are reversed, which means that the analysis above tests the opposite of these two items.

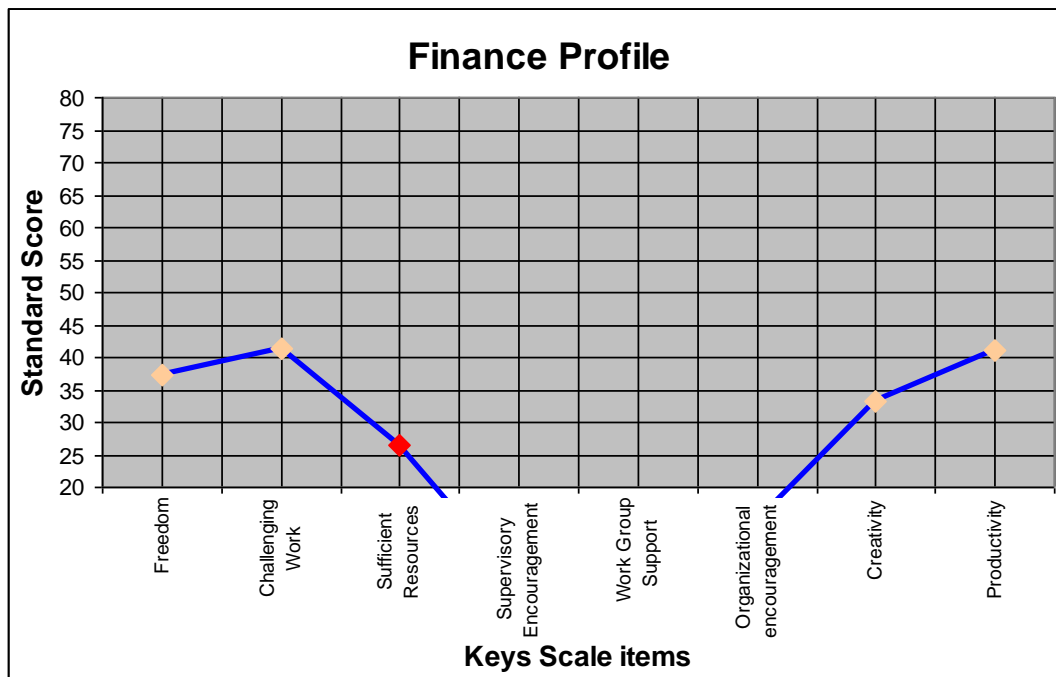


Figure 40- Finance profile/Keys-Arabic Analysis

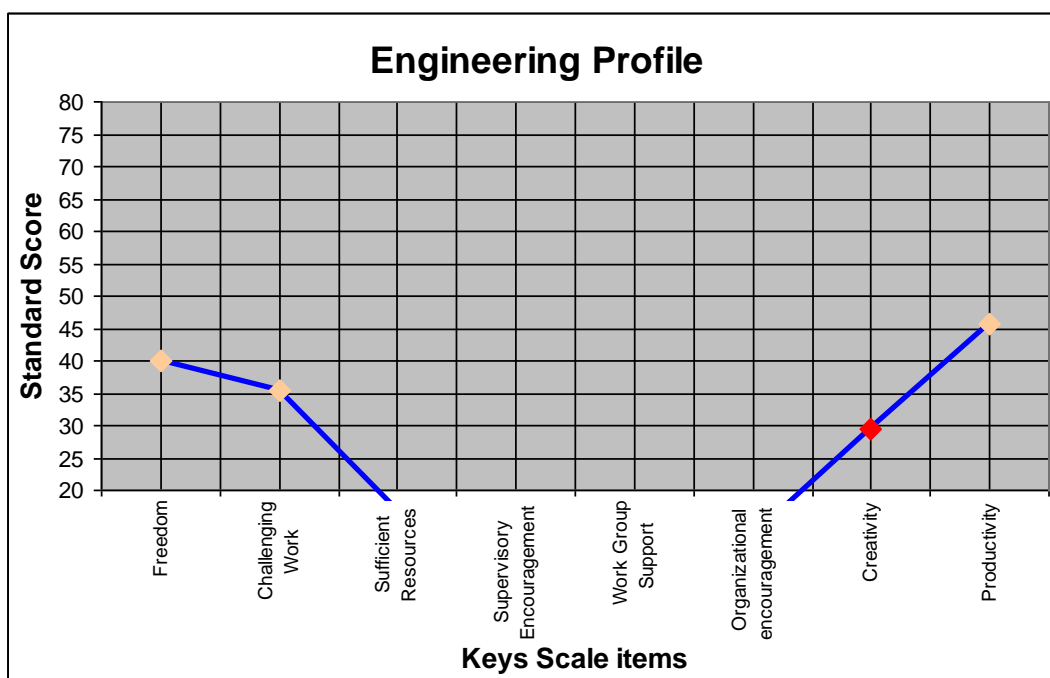


Figure 41 Engineering profile/Keys-Arabic Analysis

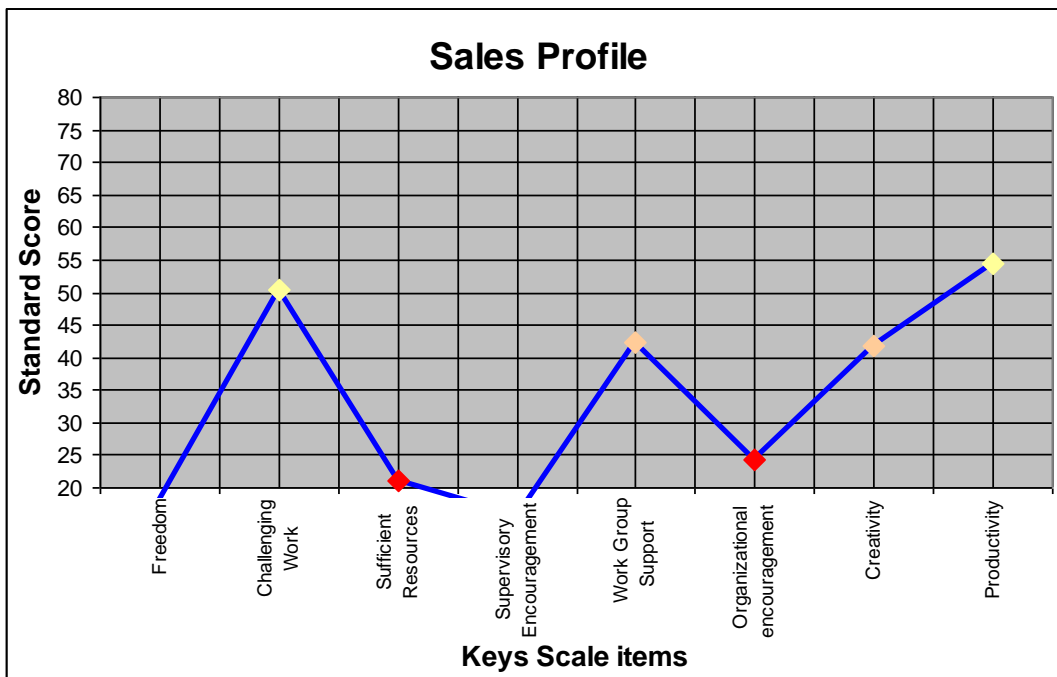


Figure 42 Sales profile/Keys-Arabic Analysis

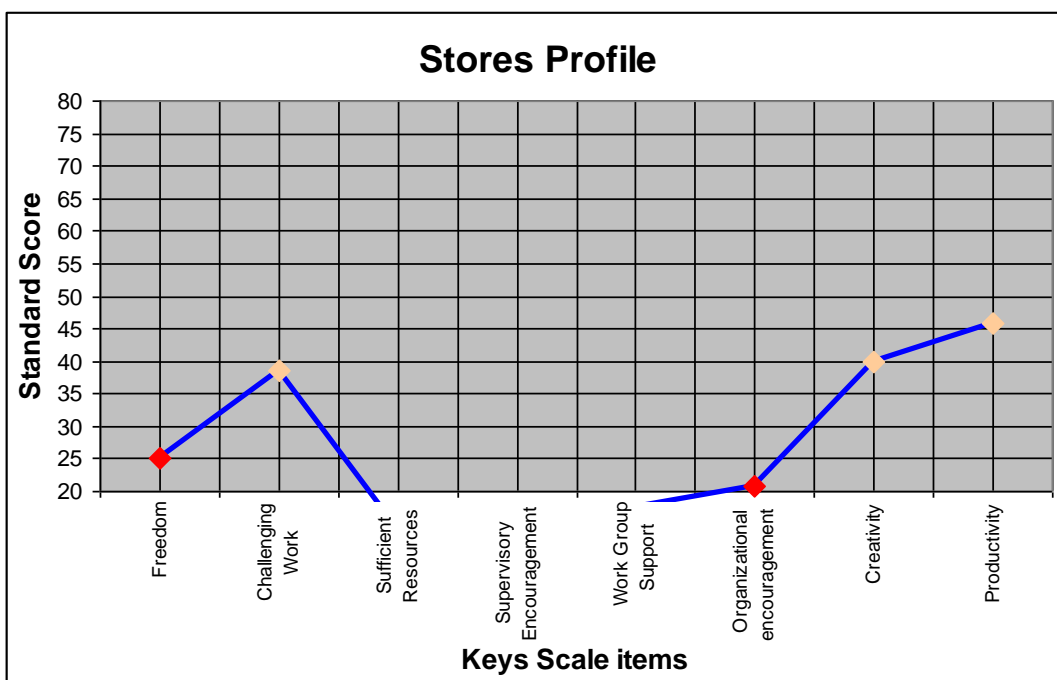


Figure 43 Stores profile/Keys-Arabic Analysis

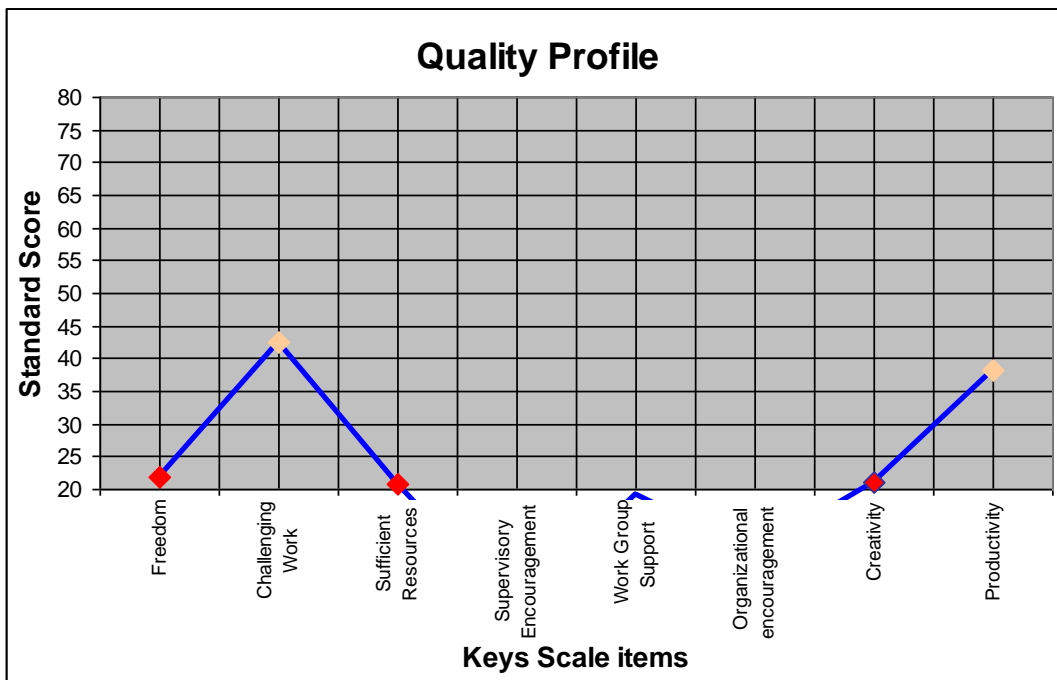


Figure 44 Quality profile/Keys-Arabic Analysis

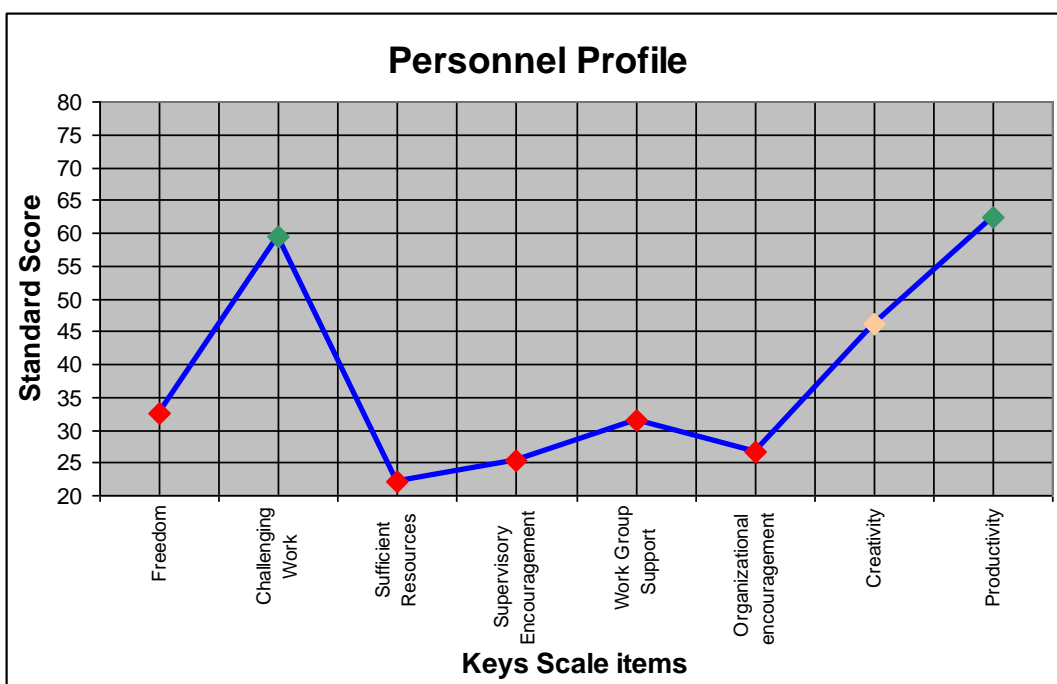


Figure 45 Personnel profile/Keys-Arabic Analysis

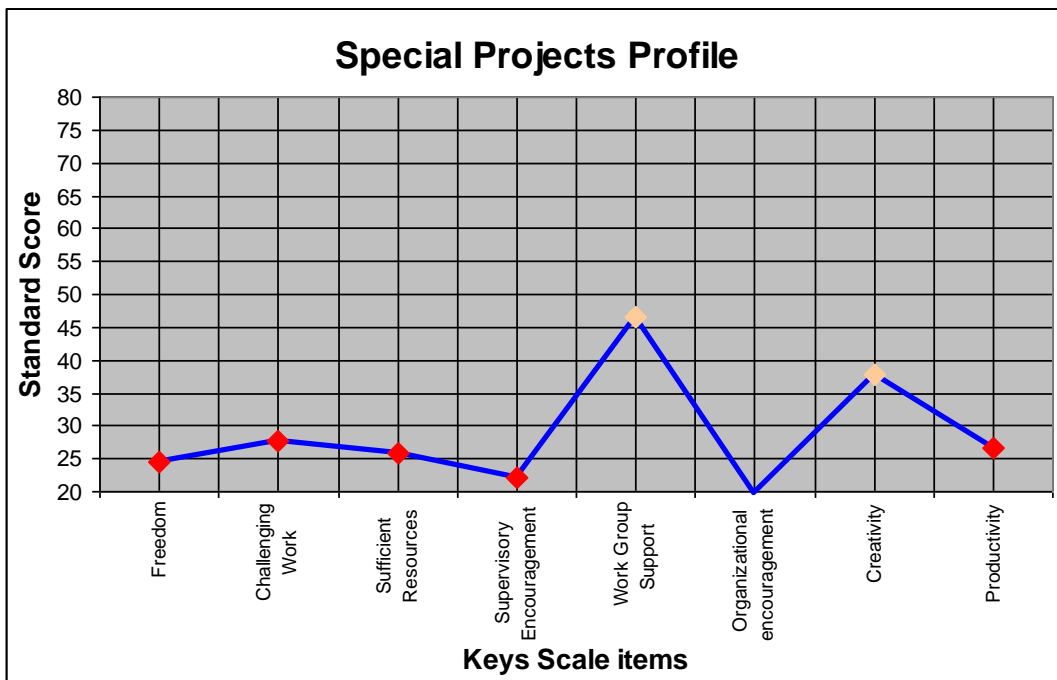


Figure 46 Special projects profile/Keys-Arabic Analysis

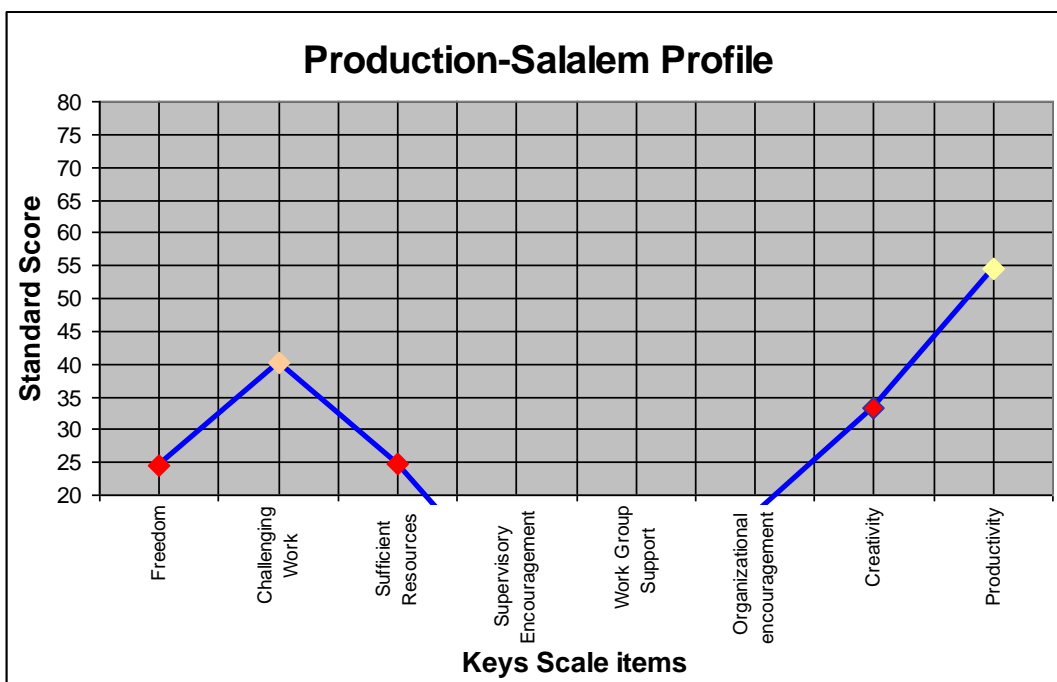


Figure 47 Production/Salalem profile/Keys-Arabic Analysis

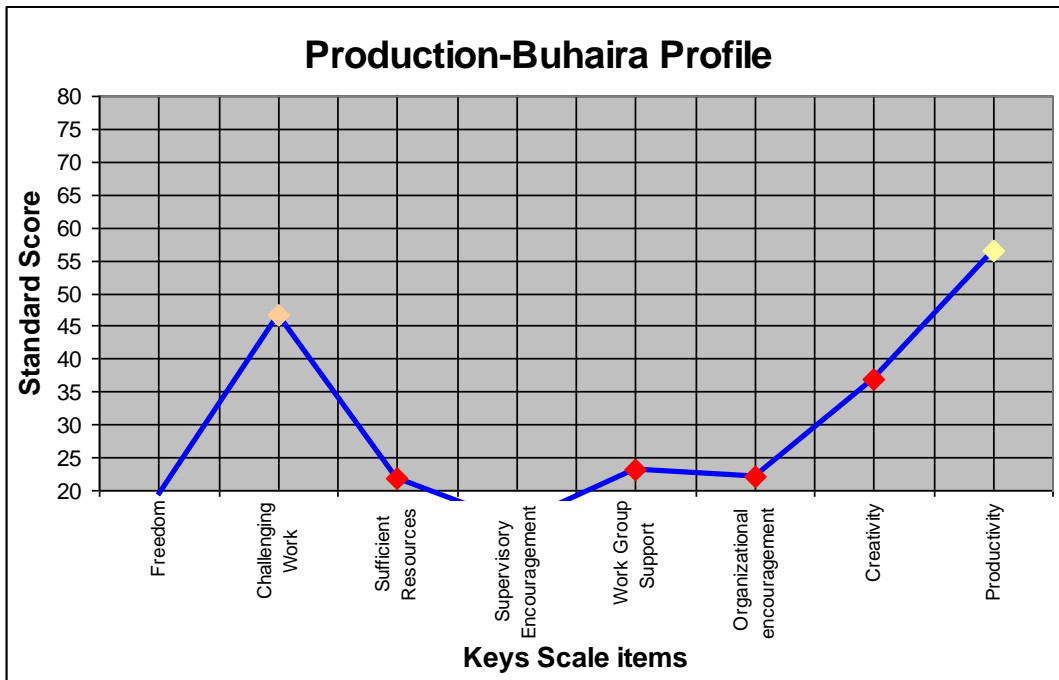


Figure 48 Production/ Buhaira profile/Keys-Arabic Analysis

6.5.6 Discussion of Keys-Arabic Results

Diagrams in Figure 40 through to Figure 48 showed Keys items scale profile for APM departments. A range of colours was used to mark Keys items results:

- Red for very low
- Orange for low
- Yellow for midrange
- Green for high

It is obvious from these diagrams that there are many areas of urgent need for intervention. Table 27 below shows a representation of these areas on the corporate level and on departmental levels, reference is made for this table to Figure 31 on page 132 through to Figure 35 on page 136, and Figure 40 on page 143 through to Figure 48 on page 147.

APM, as shown in Table 27, scored Very low (shown in red) in 5 Keys items and Low (shown in Orange) in the 3 other Keys items.

Personnel, Sales and Production departments scored High and Mid range respectively in 'Challenging work' and 'Productivity'. Apart from this; all other items scored Low or Very Low. Sites profiles showed low and very low scales on most of the items as well.

Green areas showing high levels were only scored by innovation team's 'Freedom' item, Personnel department's 'Freedom' and 'Productivity' items.

The analysis undertaken using Keys assessment proves the crucial need for change in this company. As Table 27 below shows, cells represented in red and orange form a priority in the corresponding departments.

➤ APM Profile on the corporate level

Keys Item	Freedom	Challenging work	Sufficient Resources	Supervisory Encourag.	WorkGroup Support	Org. Encourag	Creativity	Productivity
APM								

➤ Sites Profiles

Keys Item Dept.	Freedom	Challenging work	Sufficient Resources	Supervisory Encourag.	WorkGroup Support	Org. Encourag	Creativity	Productivity
Sahab								
Buhaira								
Amman								
Innov.team								

➤ Departments Profiles

Keys Item Dept.	Freedom	Challenging work	Sufficient Resources	Supervisory Encourag.	WorkGroup Support	Org. Encourag	Creativity	Productivity
Finance								
Engineering								
Sales								
Stores								
Quality								
Personnel								
Special Proj								
Product.Sal								
Product.Buh								

Colours Key	High	Mid-Range	Low	Very Low

Table 27 – Areas of concern in colour according to Keys Analysis

6.5.7 Results of Brainstorming Sessions

This section resumes the analysis of keys analysis questionnaires presented in the previous sections by summarising employees' comments and suggestions provided on both the questionnaires and brainstorming sessions of the second part of groups' interviews.

As mentioned earlier, Keys interviews were composed of two parts; the first part was to fill the keys questionnaire and include in writing any suggestions or comments on the questionnaire's final blank sheet. The second part was brainstorming sessions to provide insight discussions and recommendations for eliminating inhibitors to creativity -if they do exist- in APM.

Suggestions for improving current APM climate to become supportive to creativity were documented for each of the 31 group interviews presented in Table 20 on page 127. A total of 321 questionnaires were returned with comments and suggestions of the total 638 (Keys-English and Arabic) interviewed employees.

The response of more than half of the interviewed employees commenting in writing is rather a high response. This showed that APM employees were keen to see some form of change happening.

It was a long process to read through the 321 questionnaires, recording the comments, and integrating them under similar headings as part of theme content analysis. This was also done for the notes of the 31 group's minutes of meeting collected from the brainstorming sessions. Comments and suggestions were only recorded if they received more than 10 related supporting suggestions (See Appendix 16 on page 296) for an example of one of these sessions.

The integration of comments and suggestions from both methods is presented in Table 28 below.

No.	Inhibitor to creativity at APM	Recommendations
1.	<u>Salaries and Incentive</u> 1. No annual raise 2. No incentives based on performance 3. No employee of the month	1. Clear qualitative and quantitative salary and incentive system 2. Performance and appraisal system 3. Inflation rate reflected in salary 4. Job description review
2.	<u>Culture and attitude</u> 1. No recognition 2. No trust 3. Underestimation 4. Denial 5. No respect of time or people 6. “Dealing with people as slaves” 7. Problems with fulfilling promises 8. Politics and lobbying	1. Managerial training for top management 2. Accept having weaknesses 3. Explain and convince top management with the value of APM’s personnel 4. Attempt changing culture
3.	<u>Services</u> 1. Working space is not healthy 2. Medical insurance is not appropriate 3. Medical doctor is not competent 4. Heavy weights lifted by employees 5. Possibility of harm odours and chemicals	1. Better value for people 2. upgrade medical insurance 3. Provide lifting equipment 4. Follow cGMP
4.	<u>Organizational Behaviour</u> 1. Employ low-value workers, professionals leaving with no replacement 2. Rigid system 3. Centralisation 4. No direct communication between the top management and employees 5. Not pro-active but re-active company 6. No planning	1. Flexible systems 2. Decentralisation 3. Better communication system with all employees 4. Focusing on high value work 5. Proper plans, visions and strategy 6. “Let us see the GM, we don’t know how he looks like”
5.	<u>Training</u> 1. No investment in people 2. No implementation of training 3. No retention plan for good employees	1. Scheduled training programs for employees according to their needs 2. Exit interviews 3. Periodic questionnaires to measure employees level of satisfaction
6.	<u>Decision Making and communication</u> 1. Slow and delayed decisions 2. No communication between departments 3. No team spirits or no teams at all	1. Better decision making processes 2. Better communication systems 3. Form teams

Table 28–Integration of comments and suggestions in keys questionnaires and brainstorming sessions

Reader of these comments and suggestions might question, how then this company is up and running and is competing in the market, this question was asked during

informal discussions, many of the answers were that APM employees have long term relationship with the company, they serve with all honesty and loyalty. One lady suggested that this company is running because it is “under the eyes of GOD who cares about those poor people not to lose their jobs”.

It can be understood from Table 28 that the outcome of these brainstorming sessions served to support the recommendations for proper HR, better communication, clear goals, fair pay system and motivation. The inevitable need for change received consensus from the majority if not all personnel in APM

6.5.8 Visits to Company’s Sites

Many visits were organised throughout the foundational stage. For example, the stores area in Buhaira site was visited and many items related to the physical and social environments were recorded. During a visit to the production areas, meetings with employees working on the site clarified production processes of drugs in different forms- suspension, injections, tablets, capsules, suppositories, cytotoxics, etc. It was clear that physical environment in many areas need major improvements.

6.6 Summary

This chapter presented an understanding and diagnosis of APM's (1) climate, using information collected from innovation team meetings and building a plan of action accordingly, (2) culture using OCAI assessment, and (3) climate to creativity using keys to creativity assessment instruments.

Using this information is highly beneficial to draw the baseline in order to follow the research method presented in chapter 4.

'Understanding company's context' stage provided a thorough insight into how APM operates and the needs for future development. The extensive data collected in this chapter will be used in designing the culture and climate interventions for APM described in the following chapter.

CHAPTER 7

CHANGE INTERVENTION DESIGN

7. Change Intervention Design

7.1 Introduction

This chapter introduces establishing the need for change, criteria for intervention design, the change intervention design and proposed interventions.

7.2 Establishing the Need for Change

Is there a need for change in your company? This question was asked in one of the innovation team meetings following the OCAI and the keys to creativity assessments. Assessment results for OCAI and Keys were presented in a long innovation team meeting which revealed real challenges facing APM if it was to remain a leading figure in pharmaceutical industry in the market.

At the end of the extensive discussions, APM managers emphasized the need for change especially in the following areas:

- Directing more attention to employees, their pay, training and wellbeing
- Allowing freedom of new ideas schemes and encouraging creativity
- Minimizing hierarchy and encouraging transparency
- Establishing teamwork
- Minimizing conflict and non-productive arguments

The foundational stage and assessments described in the previous chapter were fruitful as the need for a comprehensive change program was appreciated by the managers although this was received with suspicion by few of them.

7.3 Criteria and Basis of the Change Intervention Design

According to (Cummings&Worley, 2009), '*Interventions*' refer to a "set of sequenced planned actions or events intended to help an organization increase its effectiveness". Three major criteria defining an effective intervention were introduced by (Cummings&Worley, 2009):

1. The extent to which it fits the needs of the organization;
2. The degree to which it is based on causal knowledge of intended outcomes; and
3. The extent to which it transfers change management competence to organization members.

The OD intervention designed for APM was based on extensive diagnostic stage described in the previous chapter in which approximately every member of the company was involved, hence, satisfying criterion number one above.

To satisfy criterion number two, the OD interventions were built upon a thorough literature based model using two main change levers: innovation culture and climate to creativity. The expected outcome would be improved performance and enhanced creativity. However, causal relationship is not applicable here. The ICE model suggests that the outcome is directly related to applying the recommended changes; however, the impact of other factors can hardly be excluded.

It is intended that the purpose of the extensive training which will be part of the intervention is to build the knowledge base of a continuous change within APM. This will satisfy criterion three above. In fact this criterion is very important as was discussed in chapter 2 as it forms an important distinction between ‘*change management*’ where a change legitimately can be imposed on people –and OD– where the intent of the change process is to build capacity for change and increase effectiveness (Cummings&Worley, 2009).

Hence, the change intervention design in this chapter is presented in the form of ‘*proposed interventions*’ and is based upon the following:

1. *Theory*: The ICE model developed in chapter 3, offering theoretical foundation originated from literature, and
2. *Practice*: interviews and assessments presented in chapter 6 as follows:
 - The OCAI and Keys to creativity assessments.
 - Innovation team meetings and approved plan of action (refer to Table 18 on page 115) providing managerial support on the company’s top level, creating high level of involvement and establishing an atmosphere of change throughout the company.
 - Semi-structured interviews with 638 APM employees (refer to Table 28 on page 151) which provided practical input and real insights to the proposed changes. In addition, company visits and observations.

Furthermore, the intervention design follows the guidelines presented for OD practitioners and change agents to be presented in chapter 9.

7.4 The Change Intervention Design

Details of the change intervention design are as follows:

First: Theory: Refer to the ICE Model (Figure 17 on page 55)

- Foundation stage covers:
 - Company's Structure
 - Strategy and Performance Measurement Systems
 - Management Commitment
- Change interventions stage covers:
 - Innovation culture
 - Leaders as change agents dimension
 - Shared work values dimension
 - Motivation (intrinsic and extrinsic) dimension
 - Climate to Creativity
 - Organizational encouragement
 - Supervisory encouragement
 - Work group support
 - Sufficient Resources
 - Challenging work
 - Freedom

Second: Practice: OCAI and Keys assessment and data collected from innovation team, consolidated plan of action, brainstorming sessions, and other interviews which established the need for interventions in:

- HR Practices
- Training
- Social activities

Proposed interventions on these dimensions are presented in the following sections.

7.5 The ICE Model- Component One: Foundation Stage

In this stage, flexible structure, strategy & PMS and management commitment interventions are presented.

7.5.1 Flexible Structure

APM follows a functional hierarchical structure in which activities are grouped together by common functions from bottom to top (Refer to Appendix 1 on page 263) for current APM organizational structure.

Proposed Interventions

To allow for better climate for creativity, it is proposed that APM introduces the following:

1. Follow a flattened structure.
2. Form efficient coordination and communication channels between departments.
3. Enhance horizontal and vertical linkages.

This is expected to improve the overall performance of the organization due to solving bottlenecks and flow problems. It will also facilitate moving creative ideas up in the hierarchy and celebrating individual achievements.

7.5.2 Strategy and Performance Measurement System

A proper PMS supports the company in tracking its performance and monitoring its progress. As presented in chapter 3, a widely used tool is the BSC which is especially helpful for companies that are trying to communicate and implement new strategies. The challenge for implementing a strategy is how to align business units and all employees to focus on achieving their goals. The BSC serves as a:

1. Performance Measurement Tool
2. Communication tool across the organization
3. Monitor of business performance
4. Cascading tool of vision and strategy to lower levels
5. Linkage between incentives and performance

Proposed Interventions

It is proposed to:

1. Establish vision and strategy and communicate it to employees

2. Establish a shared understanding of and commitment to APM strategic choices amongst APM's executive management.
3. Organise and coordinate BSC (awareness, design of Key Performance Indicators (KPI's), and implementation).
4. Establish KPIs for all departments.
5. Establish SMART goals and targets—*Specific, Measurable, Aligned* to the organization's mission, *Reachable* but still a stretch *and Time-bound*.
6. Support managers in establishing individual targets for their staff.

7.5.3 Management Commitment

Commitment from all managerial staff throughout APM is essential for applying the proposed changes. The full support from GM and his deputy is important for the application of successful changes in the company.

7.6 The ICE Model- Component Two: Innovation Culture Interventions

This section presents interventions for the culture change dimensions; leaders as change agents dimension, shared work values dimension, and motivation dimension.

7.6.1 Leaders as Change Agents

Leaders are at the heart change programs. It is the leader responsibility to disseminate the change to lower levels of the organization by becoming a champion of the change. Authoritative messages remain on paper until leaders take the step forward to change. The relationship between a leader and followers is based upon shared values that are promoted and supported by everyday behaviours, systems and procedures. Actions speak louder than words. It is highly important that APM leaders create a high level of trust and respect. Leaders invest this trust and respect to motivate employees toward high performance and a sense of direction in achieving organizational vision.

Proposed intervention

1. Organize training programs in the following skills:
 - Leadership skills
 - Team building

- Time management
- Effective communication skills
- Motivating others
- Coaching
- Developing and training subordinates

Leaders will facilitate the adoption of the newly formed organizational values and culture.

7.6.2 Shared Work Values

Individuals perform better when they are in a system of shared work values. They become the glue which holds the organization together. Individuals will share a set of values with their colleagues and towards their organization.

Proposed intervention

The following is proposed for APM for this dimension:

- Organize workshops to prepare shared work values manual.
- Construct APM's 'Code of Conduct and Ethics' (CCE) document. The CCE clarifies APM's expectations of its employees conduct. The CCE will be a formal fundamental statement of what the organization stands for and legitimizes value choices for employees.
- It is extremely important that APM's management execute the CCE themselves in their statements and actions.
- Distribute and communicate APM's (CCE) to all employees.
- Use wall displays to reinforce messages like: 'Be Productive', 'Use your time efficiently', etc.
- Set up a suggestion box for receiving feedback from employees on the CCE document, all suggestions will be integrated and presented to the top management of a final approval of the document.

The CCE and shared work values documents will then be printed out in a booklet form and added to the company's website. APM's managerial staff are expected to monitor the application of the CCE contents. At a later stage, adherence to the CCE will be joined with the appraisal and corrective measures system in APM.

7.6.3 Motivation: Intrinsic and Extrinsic Motivation Schemes

It is highly important to form an appropriate and cohesive culture that can offer employees a focus of identification, sense of belonging and loyalty.

Motivation suffered a lot in APM in the past; employees expressed their agony of the unfair promotion procedures, the lack of rewarding systems and poor recognition of their creativity and performance. In this regards, the following is proposed:

Proposed intervention

1. Review appraisal system and apply modifications necessary for better motivation.
2. Compile career path development and succession planning procedures.
3. Launch an '*Employee of the month*' scheme judged by a committee formed for this purpose.
4. Encourage managers to send '*letters of thanks*' to distinguished performers.
5. Encourage managers to delegate tasks to their subordinates.

7.7 The ICE Model- Component Three: Climate to Creativity Interventions

The six climate dimensions in the Keys to creativity analysis are shown in Table 29 below with the proposed interventions and details to be introduced.

CHAPTER 7

No.	Change Intervention	Definition	Method	Interventions
1.	Organizational Encouragement	The organization rewards and recognizes creative work	Incentives based on creative input	Develop mechanisms for developing new ideas and active flow of ideas
2.	Supervisory Encouragement	My supervisor clearly sets overall goals for me - My supervisor communicates well with our work group - My supervisor is open to new ideas	Training workshops on communication and clear goals settings for each department	- Organize training workshops in communication and setting clear objectives
3.	Work group Support	My Co-workers and I make a good team	Workshops and training	Organize team building workshops
4.	Sufficient Resources	The material, information and budget are available for me to do my work	Process and information Flow Chart for each department	- Prepare Process and information flow charts for each department - Conduct a survey of departments needs of material and information
5.	Challenging Work	The tasks in my work call out the best in me	Job Description analysis	- Study Job Description Files - Get the help from each department manager to introduce challenging levels into individual tasks
6.	Freedom	A sense of control over my work	Meetings with the relative departments	Agree with Directors

Table 29–Climate to creativity interventions

7.8 Changes Suggested From the Interviews and Brainstorming Sessions

This section presents the changes suggested following the extensive interviews and brainstorming sessions conducted in the previous chapter. These are HR practices, training needs and social activities.

7.8.1 HR Practices

The need for an HR department was apparent in all discussions and interviews organized for APM in the diagnosis stage. It might be argued that many organizations do not actually have a dedicated HR function and yet are successful and competing well with highly motivated employees. This is not the case for APM. It is clear that a dedicated effort is required to appreciate the needs of employees in terms of structured training, grading and salary structure, appraisal methods based on performance, clear job description files, etc.

Establishing an HR function in APM is highly important for the successful implementation of the change interventions suggested in this chapter. It is important for the employees to be motivated and accept the changes as part of their daily life. If they are frustrated about main issues in their pay or appraisal, it will be difficult to request them to introduce new ideas and be creative or have a high performance level.

The abandonment of establishing an HR department in the past at APM has been involved the following:

1. Accountability is of major concern; employees have general job description files and are not clear of what they are held responsible of.
2. Employees within the same grade receive salaries of wide variations; grading system is not applicable to everyone and is not a common practice. This caused de-motivation.
3. Job descriptions require major review as they are not a true replica of reality.
4. Recruitment procedures need updating; vacant positions are not directly filled due to lengthy and hierarchical approval procedures. Exit interviews are not organised.
5. APM does not have employee handbook providing useful information about the company and other employee information. New employees discover

company's procedures and systems by the help of previous employees who wrap the information they provide with their past experiences and culture.

6. Evaluation and Appraisal are not implemented on corporate level, nor are performed on timely basis. Evaluation is not linked to appraisal or incentives.
7. Training is not performed according to company/employee needs or career path development policies. Few training courses are run annually according to the choice of each Director/Manager.
8. Succession planning and career path development are not implemented. Employees are not aware of the future of their jobs which caused insecurity and low performance especially for young and enthusiastic employees.

Proposed Intervention

A detailed and comprehensive HR proposal is prepared for APM and is presented in Appendix 9 on page 282. The proposal provides a detailed introduction about HR functions, full description for each of the proposed HR functions and a proposed HR organizational chart.

7.8.2 Training

Based on the interviews and other data collection (archives and reports), it is recommended that APM employees attend the following training:

- Soft Skills Training
- Time Management: Self-Management for Improving Performance
- Communication Skills
- Decision Making & Problem Solving: Managing Problems and Decisions
- Training Needs Assessment
- Coaching, Counseling and Consultation
- English Language training

7.8.3 Social activities

It is recommended that social activities are integrated into programs and schedules, recommended activities include days out and parties, annual gathering, newsletters, etc.

7.9 Summary

This chapter presented detailed interventions needed for APM. It built the changes upon the ICE model components and data collected from interviews and assessment conducted in the previous chapter. The proposed interventions are expected to develop APM's capabilities and provide better working climate for improved performance and enhanced creativity.

The following chapter presents details of implementing the proposed interventions suggested in this chapter and provides an assessment post implementing the changes.

CHAPTER 8

CHANGE INTERVENTION IMPLEMENTATION

8. Change Intervention Implementation

8.1 Introduction

This chapter is descriptive in its nature. It presents the changes that have been introduced to APM as a result of the interventions designed in the previous chapter. The change intervention launch is presented first, followed by the interventions.

8.2 The Change Intervention Launch

The change intervention proposal described in the previous chapter was presented in a special meeting with the GM to discuss the proposed changes and get the approval before presenting them to innovation team members. The intervention proposal was then presented in a meeting to innovation team members who welcomed the launch and promised their support, although, few opposed and refused being involved describing the current company's status to be just right. Following this meeting, researcher travelled back to the UK for second year research submission. Upon returning back to Jordan, major changes were about to happen in APM.

Hikma -as previously described in chapter 5- acquired APM and a series of changes in the company was behind putting this research on hold for 4-5 months.

Dr Rakan Rshaidat APM's GM before the acquisition was contacted for possible support to introduce the research to Mr Rida Al-Ghoul, new APM's GM post the acquisition. Following a lengthy presentation detailing the benefits of the research to the company, Mr Al-Ghoul explained his target oriented strategy and that "APM will become a star in its performance among all other Hikma subsidiaries"⁸. Towards the end of the meeting, Mr Al-Ghoul promised his full support and approval⁹. Interventions were approved to be carried out on the corporate level, however, to introduce culture and climate interventions in the Quality Unit (QU) only. He requested from Mrs Mai Jairoudi, the new QU director to facilitate the intervention changes. The choice for the QU was because it is one of the most critical units in APM and has high potential for improvement. If the outcome was successful, similar interventions might be considered in other departments; however, this will most likely

⁸ Interview 3/2008

⁹ Mr Al-Ghoul mentioned that he will act as a role model for the culture change and that he will start by prohibiting smoking in the management building acting himself as the first person to do so.

be outside the scope of this research due to time limits, however, support was offered if needed in the future.

Details of the interventions are described in the following sections.

8.3 Component One: Foundation Stage Interventions

This section presents foundation stage interventions in structure, strategy, PMS&KPIs and management commitment.

8.3.1 Flexible Structure

Interventions were introduced to increase autonomy level and reduce span of control. Flexibility is twinned with creativity as was previously highlighted in the literature review chapter. To fulfil this intervention, APM structure was thoroughly reviewed with APM managers. Microsoft visio software was purchased for this purpose; extensive time was spent in the training to use the software.

The process of updating APM's structure was a lengthy, difficult and complex task. Many people were involved, APM's GM, MENA director, all directors and managers and first line supervisors. This also involved the company's three sites, and regional offices in different countries such as Algeria, Saudi, UAE, Sudan, etc.

Decisions were mainly made by the GM after receiving input from directors and managers. The researcher acted as the main coordinator of this process. In specific, providing advice and support on how to introduce changes to facilitate information and material flows, minimize the span of control, and provide a flattened structure wherever possible to enable simplified process for creative ideas and innovation throughout the company. In addition, contacts to regional managers of APM's offices outside Jordan were organized. This was a non- easy task and involved difficulties sometimes with various Arabic dialects especially with North Africa offices.

The process of modifying the structure was covered over a 6 months period. Changes made to the structure were a combination of acquisition requirements and due to change intervention proposals for a flattened structure. APM structure before and after the intervention are shown in Appendix 1 on page 263 and Appendix 10 on page 286 respectively. In the new structure, the following changes were introduced:

1. The technical director function was removed. Plant managers and the planning manager were connected with the new (MENA) operations director, the R&D to the new GM, and registration affairs combined with the Tender function.
2. Quality Director: in the previous structure, this function was divided based on function, i.e. (Quality Assurance and Quality control). In the new structure, the division was based on site with a general responsibility of all sites to the new QU Director in Buhaira site.
3. Marketing Director: this function was replaced with Sales Director responsible of regional sales managers. The marketing function was moved to Hikma headquarters in Amman.
4. Financial Director: this function was demoted to a financial controller with all major financial functions moved to Hikma headquarters.
5. New functions were established: logistics and supply chain managers and were supervised by MENA operations director directly.

Compiling APM's structure was a major task for the researcher which involved many activities and preparations; however, it was a rich experience into the impact of structure on creativity. This was accomplished by the flexibility of transferring new ideas suggested by QU members during the application of the new ideas scheme to be explained later in this chapter.

8.3.2 Strategy

A new strategy was developed for APM over a 2 months period with continuous meetings for this purpose. The strategy document is confidential; however, it included facilitating innovation as a strategic choice for APM.

8.3.3 PMS and KPI's Design

Performance measurement system was introduced by organizing a Balanced Scorecard training conducted for APM managers. The researcher was involved as the main coordinator of this training. Meetings were organized to finalize training details using teleconference and in person with the consultant who travelled from Lebanon to Jordan for this purpose. The consultant was chosen upon receiving training proposals from various training providers in and outside Jordan. This consultant was chosen as he is a well known experienced professional in BSC and management consulting.

The 4 days training included 6 modules as follows:

- Module 1: Introduction to BSC and its implementation worldwide
- Module 2: The use of BSC as a strategy formulation tool
- Module 3: The use of BSC as a strategy formulation tool- extended
- Module 4: The use of BSC as a communication tool
- Module 5: The use of BSC as a measurement tool
- Module 6: The use of BSC as a changing tool

During the 4 days training, many examples were given. Workshops were organised to support the learning process. The main workshop involved the use of QU database and to design KPIs for its departments. The training was very fruitful and provided a deep insight into the BSC and its uses and benefits for the company. All participants received certificates during the closing session. Photographs of the participants were taken and shown on display.

Key Performance Indicators (KPIs)

Following the BSC training, a specialised KPIs training was provided to the QU by the researcher which explained over two sessions the details shown in Table 30 below:

Item	Details
KPIs definition	KPIs are performance measures through which good performance can be guaranteed in practical form using practical measures
Lead indicators:	Develop future performance Example: Performance of ongoing training course Benefit: Allow amendments on performance during the action
Lag indicators:	Analyze Past performance Example: Last year's profits Benefits: Objective and easy to achieve
Good KPIs characters	<ul style="list-style-type: none"> ▪ Specific ▪ Connected ▪ Reliable ▪ Available ▪ Simple

Table 30–KPIs training details

Based on this training, KPI's were designed by the QU Director and other managers for QU departments: QC, QA, Validation and Compliance. It was difficult to provide KPIs for the Utilities department as it was undergoing major changes in the personnel involved.

A sample of the designed KPIs is shown in Table 31 below for the QC department. The process of designing KPIs largely benefited from the performance measurement systems training presented earlier in this section.

KPIs design was very important as it was undertaken before the change intervention implementation and was monitored on a monthly basis during and after the change intervention implementation. Results showed considerable development in performance after the intervention as will be shown later in this chapter.

8.3.4 Management Commitment

APM top management was committed to support the change process. In addition, the QU director and her staff were supportive and provided valuable suggestions to improvement. This was highly important for the successful implementation of the interventions.

The following section introduces the second stage of the ICE model interventions.

CHAPTER 8

Quantitative Indicators	Target	PM
Cost effectiveness	<ul style="list-style-type: none"> ○ Reduce testing for 20 QC items covering in-process , finished, stability, raw material and US products ○ Reduce testing for 50% of GC analysis (if approved) ○ Reduce plants and QA/QC work and time for cleaning validation of 50% of products ○ Decrease photocopying cost by 30 % 	<ul style="list-style-type: none"> ○ % decrease. ○ Number of reports generated ○ Number of products implementing cleaning validation system.
Quantity of work	<ul style="list-style-type: none"> ○ Meet Hikma shipping targets following efficient QC and QA functions. ○ Meet submission plans for ANDAs, tech transfer, and supplements/variations for 19 validation batches. 	<ul style="list-style-type: none"> ○ Number of batches released ○ Number of batches
Quality of work	<ul style="list-style-type: none"> ○ Reduce Analytical errors by 20 % in QC ○ Upgrade all QU systems ○ checklist in addition to 7 other standard review checklists ○ Facilitate preparations for major supplements ○ Reduce rework and variances by modifying the % tailing permitted based on trended data. 	<ul style="list-style-type: none"> ○ Number of Analytical variances and OOSs ○ Number of SOPs modified ○ Number of review and follow up checklists ○ Prepared checklist for needed documents ○ Number of products
Meeting schedules	<ul style="list-style-type: none"> ○ Meet all targeted timelines mentioned in goal achievements and Quantity 	<ul style="list-style-type: none"> ○ 90 % achievements
Qualitative Indicators	Target	PM
Customer satisfaction	<ul style="list-style-type: none"> ○ Meet Hikma shipping & submission plans ○ MRB meeting is held monthly to discuss and solve technical issues ○ Provide technical support whenever needed 	<ul style="list-style-type: none"> ○ Meet times for release and submission plans ○ MRB memos, SOPs update ○ Meetings and follow up on inspection plans and findings
Internal system improvements	<ul style="list-style-type: none"> ○ Continuous upgrade of system to be in line with regulatory requirements ○ Upgrade Cleaning validation system by establishing “Cleaning Validation Internal Guidance” ○ Upgrade instruments by introducing new HPLCs systems, new stability chambers and new CAPA software. ○ QA/QC within department restructuring and rotation 	<ul style="list-style-type: none"> ○ Amend systems to be in line with guidelines and regulations ○ Number of new systems ○ Number of rotations done

Table 31- A sample of KPIs design for the QC department.

8.4 Component Two: Innovation Culture Interventions

This section introduces innovation culture interventions. It is important to note that many of these interventions were applied simultaneously.

8.4.1 Introduction

As mentioned earlier, the culture change interventions were implemented in the QU. The Quality Team (QT) was formed and included 18 members chosen by the QU director and represented first line personnel and other employees. QU director suggested that “the choice included QU personnel who supported and were pioneers of the change, in addition to those who opposed and resisted it”. QT members were requested to pass the gained experience to their subordinates. Members were distributed as follows: 7 from the Quality control (QC) department, 6 from the quality Assurance (QA) department, 1 from the compliance department, 1 from the utilities department, and 2 from the process validation (refer to section 5.5.1 on page 94 and to the QU organizational chart in Appendix 2 on page 264). The disproportional distribution was due to the large number of employees in the QC and QA departments.

The intervention with the QU was covered over a 10 months period in which meetings, tours and visits, presentations and training were provided to support the culture change program as explained below.

8.4.2 Interventions of Leaders as Change Agents Dimension

The aim of this intervention was two folds; *first*, to increase the number of individuals at the QU who adopt the change and are willing to propose it to others, and *second*, to build participative leadership capabilities of the QT members to facilitate the transformation stage of the QU . This was accomplished by introducing leadership training provided for the QT by the researcher which was based upon (Beekun, 2008) and covered the topics described in Table 32 on page 176. This resource was chosen as it presented practical rather than theoretical experience and was prepared for similar contexts. The leadership training was composed of (1) three modules, (2) a workshop and (3) assessment questionnaire conducted before and after the training as described in the following subsection.

1. *Modules of Leadership training*

The modules as described in Table 32 below presented definition of leadership, leaders characteristics, the role of leader as a coach and delegator, and leadership styles (directive, participative and delegative).

CHAPTER 8

Module one	
Defining Leadership	Leadership is defined as “a dynamic relationship based on mutual influence and common purpose between leaders and collaborators in which both are moved to higher levels of motivation and moral development as they affect real, intended change” ¹⁰
Leader Characteristics	<ul style="list-style-type: none"> ▪ The ability to mobilise human, informational and material resources to get things done ▪ Honesty ▪ Competence ▪ Being forward- looking ▪ Strength of character ▪ Humility and self-understanding ▪ The willingness to seek consultation ▪ Responsibility for others, the group, organization or society.
Module Two	
The role of coaching	To help members improve their capabilities and performance on a day-to-day basis as well as over the long term.
The Leader as coach and delegator	Coaching is the process of guiding and encouraging team members to achieve superior performance results
Creating the proper climate for coaching:	<ul style="list-style-type: none"> ▪ Never use words or actions that imply a threat ▪ Establish a positive coach-volunteer relationship ▪ Coaching must be free from distractions ▪ Timing influences coaching sessions ▪ During coaching, the leader must suspend judgment and avoid any type of evaluation
A coach develops four critical skills	<ul style="list-style-type: none"> ▪ Observational ▪ Analytical ▪ Interviewing ▪ Feedback
What is delegation?	Delegation is the process by which a leader assigns to his/her followers the right to act and to make decisions in certain areas.
Why are leaders reluctant to delegate?	<ul style="list-style-type: none"> ▪ No one else is qualified to handle this responsibility except me ▪ I am a perfectionist, it must be done right ▪ I want the rewards, and do not want to share it with anybody else ▪ I do not want to look like I am getting soft ▪ By the time I finish explaining what needs to be done, I could have done it myself ▪ If I delegate too much, the organization may not need me anymore ▪ I do not like losing control ▪ When I delegate, I will be responsible if something goes wrong ▪ Once I delegate, my superior will sidestep me if he needs any information about the delegated task

¹⁰ From (Rost, 1993)

CHAPTER 8

Delegation checklist	<ul style="list-style-type: none"> ▪ Select the appropriate individual ▪ Select a delegate with whom you have a reciprocal trusting relationship ▪ Delegate both the pleasant and the unpleasant, the easy and the challenging ▪ Delegate ahead ▪ Delegate in chunks ▪ Delegate precisely ▪ Delegate, do not give up ▪ Give credit
Module three	
Leadership types	
1. Directive	<p>This style is used when leaders tell their employees what they want done and how they want it accomplished, without getting the advice of their followers. Leader makes decisions without reference to anyone else</p> <p>High degree of dependency on the leader</p> <p>Can create de-motivation and alienation of staff</p> <p>May be valuable in some types of business where decisions need to be made quickly and decisively</p>
2. Participative	<p>This style involves the leader including one or more employees in the decision-making process (determining what to do and how to do it). However, the leader maintains the final decision-making authority. Using this style is not a sign of weakness; rather, it is a sign of strength which your employees will respect. This is normally used when you have part of the information, and your employees have other parts. Note that a leader is not expected to know everything. This is why you employ <i>knowledgeable</i> and <i>skilful</i> employees. Using this style is of mutual benefit:</p> <ul style="list-style-type: none"> ▪ It allows employees to become part of the team and allows you to make better decisions. ▪ Encourages decision making from different perspectives ▪ Leadership may be emphasized throughout the organization ▪ May help motivation and involvement ▪ Workers feel ownership of the firm and its ideas ▪ Improves the sharing of ideas and experiences within the business ▪ Can delay decision making
3. Delegative	<p>In this style, the leader allows the employees to make the decisions. However, the leader is still responsible for the decisions that are made. This is used when employees are able to analyze the situation and determine what needs to be done and how to do it. Its benefits include:</p> <ul style="list-style-type: none"> ▪ Can be very useful in businesses where creative ideas are important ▪ Can be highly motivational, as people have control over their working life ▪ Can make coordination and decision making time-consuming and lacking in overall direction ▪ Relies on good team work ▪ Relies on good interpersonal relations
When to use each style?	<ul style="list-style-type: none"> ▪ Good leaders utilize all three styles depending upon the situation. ▪ Use a <i>directive style</i> if a group member lacks knowledge about a certain procedure. ▪ Use a <i>participative style</i> with group members who understand the objectives and their role in the task. ▪ Use a <i>delegative style</i> if the group member knows more than you do about the task. <p>Participative style is highly associated with enhancing creativity and innovation</p>

Table 32- Details of the leadership training provided to the Quality Team members

2. *Scenarios*

QT members were divided into two groups to discuss two scenarios and defend them in a general discussion. The scenarios explain the same story of a manager and an employee who worked well during an audit but had a minor mistake, the two managers acted in two different ways with the employee, one manager focused on the minor mistake and neglected the hard work in passing the audit. The second manager considered passing the audit as a record for the employee and future promotion and asked for correcting the minor error for the future.

Following the discussion, QT members explained the importance of understanding a coach role in empowering subordinates.

3. *Workshops*

Towards the end of the two weeks leadership training sessions, QT members were distributed into three groups working on tasks as follows:

- Group1: How to be a leader rather than a manager?
- Group2: How to apply delegation and coaching?
- Group3: How to use suitable leadership styles in different situations?

Discussion sessions were held to present group presentations which enhanced the understanding of the concepts and their applications.

4. *Self-Assessment Questionnaire*

The self-assessment questionnaire (See Appendix 11 on page 287) conducted to QT members before and after the training showed developed capabilities in leadership understanding and capabilities.

The following section presents shared values as the second dimension in culture interventions.

8.4.3 Interventions of Shared Work Values Dimension

This section introduces how the change program was executed by developing ‘my values card’ which was created following the sessions dedicated for developing this dimension.

Discussion sessions were organized to draw the values that QT members appreciate for establishing creativity and innovation in the QU. As discussed in chapter 3, this dimension implies the level of sharing values between organizational members. QT members were requested to generate these values on three levels: the individual’s level, colleagues’ level and organizational level.

Four sessions were dedicated to discuss and produce a list of values that QT members agree to be highly important for the QU to support creativity and innovation among them.

These values are as follows (See Appendix 12 on page 289 for workshop sheet plans):

- *My personal Values*
 - Initiative (introduce new ideas) be creative
 - Integrity (produce the same level during my supervisor absence)
 - Accuracy (precision in everything)
 - Truthfulness (tell the truth in all situations)
 - Perfectionist (introduce the best I can)
- *My Values with my colleagues*
 - Mutual Respect (appreciate them as I like to be appreciated)
 - Cooperation (provide assistance whenever possible)
 - Trust (my colleagues are trustworthy)
 - Effective Communication (my colleagues and I communicate well)
 - Humbleness (modest in all what I act)
 - Transparency (clear in all what I say)
- *My values towards my company*
 - Good Performance (I introduce the best I can)
 - Sense of Belonging (my company is like my home)
 - Loyalty (I value being here)
 - Sacrifice (if my tasks require extra effort, I will be prepared)
 - Discipline (I abide by the rules)
 - Respect laws and regulations

These values were produced in a coloured card form and distributed to all QU members to be displayed in their working desks and workshops. This card formed an internal convention bonding the members together as an invisible signed agreement.

During discussions to establish these values, QU members were asked to discuss in groups how to adopt these values, QT members produced the list shown in Table 33. QT agrees to:

No.	Idea
1.	Do not be selfish
2.	Give others the chance to give opinions
3.	Respect and trust are essential between team members
4.	Be ambitious
5.	Give to others and do not expect a return
6.	Always be active and supportive member, we are surely different fingers, but we are one hand
7.	Work among team spirit
8.	Accept other people's opinions
9.	Get the help from Allah before and after performing your tasks
10.	"A Muslim is for his/her fellow brother/sister as one body, if an organ is in pain, all of the body will fall ill with pain and fever" a saying of Prophet Muhammad
11.	The success of a team depends on mutual exchange of information and experience between its members
12.	It is not possible to work as a team without a clear aim that is specific and announced
13.	Start to implement working plan on yourself before asking others to implement it
14.	Feedback and follow up are very important in team building, they increase respect, trust and responsibility

Table 33- Practical recommendations on adopting QU values

On the other hand, attempts were made to establish a Code of Conduct document, however, post the acquisition, this function was transferred to the main head office in Amman. It was produced later and a copy was sent to the researcher after leaving the company.

The following section introduces the motivation dimension.

8.4.4 Interventions of Motivation Dimension

Interventions of the motivation dimension followed spiritual values approach for high performance and creativity. According to (Rice, 1999), ethical principles in Islam¹¹ support high performance and creativity. She developed a list of ethical principles and their relevant business practices (see Table 34 below).

No.	Ethical principle	Relevant business practices
1.	“That they may reflect” (Quran 7:176)	Think and create new ways of doing things.
2.	“God likes that when someone does anything, it must be done perfectly well”. Saying of Prophet Muhammad.	Excellence and quality of work
3.	“...Say, ‘O my Lord! Increase me in knowledge’”. (Qur’an 20:114). “The acquisition of knowledge is a duty incumbent on every Muslim, male or female”. Saying of prophet Muhammad.	Importance of knowledge-seeking, research and development, scientific activity, training programs, executive training, and technology transfer.
4.	“He who cheats is not one of us”. Saying of prophet Muhammad.	Whoever knows of a defect in something is obliged to disclose it
5.	“Work for your worldly life as if you were going to live forever, but work for the life to come as if you were going to die tomorrow”. Saying of Prophet Muhammad.	Increase your effective work.
6.	“For God ever watches over you” Quran(4:1) “For God is well acquainted with all that you do” Quran (59:18).	Introduce better performance without supervision.

Table 34- Ethical principles in Islam which are likely to influence business practices. Adapted from (Rice, 1999) with further additions, included references as cited in (Rice, 1999)

QT members had the initiative to start discussing better performance based upon spiritual beliefs. The values presented in the above table were not introduced in a table form with a request to follow them. But rather were initiated through discussions of how QT members and QU individuals can introduce better achievements and high level of creativity. Generally speaking, QU members come from the country-side with relatively conservative culture. The method used above might not necessarily have the same effect in other situations.

The following section introduces climate to creativity interventions.

¹¹ This spiritual belief was used because all of QU employees follow it. If the same approach was to be used in different settings variations might apply.

8.5 Component Three: Climate to Creativity Interventions

This section provides the change interventions introduced for climate to creativity dimensions.

8.5.1 Organizational Encouragement

QU rewards and recognizes its employees by implementing mechanisms for developing new ideas and active flow of ideas. As the QU is connected to the whole organization in its appraisal system and rewards mechanisms, this was linked to the HR department which was not established yet. However, the QU director supported the distinguished employees and promoted them in job positions and in financial returns.

8.5.2 Supervisory Encouragement

This climate to creativity item is defined by Keys to include the following: *My supervisor clearly sets overall goals for me, my supervisor communicates well with our work group, my supervisor is open to new ideas.*

In order to implement interventions for this item, it was agreed with the GM to send selected members of the QT -mainly those who are responsible of managing subordinates- to soft skills training provided by a consultancy company. The training was very fruitful and enhanced their capabilities in communication skills and few other skills offered in the training.

To set up clear goals, a special meeting was organized to clarify the QU goals. The sheet in Table 35 below was produced and distributed to QT members.

Quality Unit Vision, Mission and Goals	
Vision	Our vision is to build up a unique quality system in APM to transform the quality of life within APM society (employees – environment – products).
Mission	Our mission is to build quality within APM departments by establishing a Quality Unit that is capable of qualifying, testing, monitoring and controlling of APM products, facilities and infrastructure.
Goals	<ol style="list-style-type: none"> 1) To establish the following departments: <ol style="list-style-type: none"> a. Utilities Validation b. Process Validation c. Compliance 2) To re-structure and develop the following departments: <ol style="list-style-type: none"> a. Quality Control b. Quality Assurance 3) To locate the need for major improvement projects through a risk assessment approach, in the following areas: <ol style="list-style-type: none"> a. Utilities [water treatment, HVAC, compressed air] b. Facilities [plants, laboratories] 4) To commence an employee-development scheme within the Unit. 5) To ensure that quality and compliance of operations at APM meets the stakeholders expectations. 6) To establish a quality system that drives these operations.

Table 35 – QU goals

This sheet was distributed and explained to QU personnel in order to clarify what goals they are working to achieve.

8.5.3 Work Group Support

According to Keys to creativity, work group support definition implies the need to develop team work. It was important to develop team work in the QU to build supportive climate to creativity. To achieve this purpose, 9 meetings were organised to provide training in various ways. Table 36 below presents a breakdown of the meetings and what was accomplished in each of these meetings. The material presented in power-point presentations was prepared from various printed and electronic sources.

CHAPTER 8

Meeting number	Meeting format	Aims	Concepts explained	Accompanying activities/ Notes
1.	Power-point presentation	Enhance understanding of concepts	<ul style="list-style-type: none"> ▪ Team building stages: forming, storming, norming, performing ▪ Effective teams 	Twinning: each QT member is twinned with another one randomly by choosing anonymous ticket. Twinned members to visit each other at work, get to know mutual responsibilities and offer one new idea of developing work. A prize is offered for winners.
2.	Video	Expose to sample serious failures	BBC video of Nasa failed Challenger mission was shown	Translation into Arabic and an overall summary was provided at the end of the video, lessons learned and recorded.
3.	Power-point presentation	Enhance understanding of concepts	<ul style="list-style-type: none"> ▪ Team attributes (19 in total) ▪ An effective team member ▪ Signs of team trouble and failure ▪ Teams versus groups 	General discussion and feedback. Follow up of twinning prize activities.
4.	Discussion and workshop	Develop better communication between members	<ul style="list-style-type: none"> ▪ Discussion of the challenger mission video: why did it go wrong? Team problems, communication problems, quality is crucial for human safety either in space or on earth 	QT members were divided into three groups, each group was given the task to discuss, define and develop three methods of applying 5-6 team attributes.
5.	Workshop	Produce a plan of action	<ul style="list-style-type: none"> ▪ Develop a plan of action for the team attributes application method developed in the previous meeting 	Follow up twinning activities, who is the winner to best communicate with team members?
6.	Tour in QU	Understand QU work progress communication channels with QU individuals	<ul style="list-style-type: none"> ▪ Meet with other members of the QU 	Detailed meeting with three QU members and listen to their concerns about their work in the unit.
7.	Workshop	Produce final plan of action to introduce team attributes in the QU	<ul style="list-style-type: none"> ▪ Consolidate plan of actions from the three groups working on the team attribute exercise 	Each group's plan of action for 5-6 team attributes was presented by one of the group's members, suggested plan of actions were consolidated into one plan of action. Best Twinning exercise winner was announced. The winner was remarkably voted for by the QT members who spent much of her effort even outside working hours to communicate with her colleagues.

Table 36- Intervention details to develop team work in the QU

The team training above was enhanced by team attributes exercise in which QT members were distributed into 4 groups, each group was allocated the task of listing important team attributes (See Appendix 13 on page 290 for detailed sheets). Then they were requested to define each one of these attributes, listing three methods of application in the QU, and a plan of action to implement them. The final team attributes and suggestions for implementation are shown in Table 37 below.

Group number	Team attributes	Suggested actions for implementation
1.	Respect Good communication Distribution of tasks Enthusiasm Dedication	Greeting each other when meeting Training courses in communication skills Establishing quality circles Form email group for all members Provide group members with mobile phones
2.	Co-operation Positive contribution Working for a common goal Limit argumentation	Training in group cooperation Transferring knowledge gained from seminars to new employees Solving technical problems related to colleagues Prepare timelines Display goals in notice boards Effective communication
3.	Motivation helps creativity Flexibility and adaptability Work organization Discipline	Training courses in creativity Appraisal and performance measures Constructive discussion Assign meetings coordinator Feeling responsible and distribution of tasks
4.	Set an objective Assign tasks with good communication Organized in sharing information One speaks others listen	Company and department goals must be written as a protocol Target is organised in a schedule form Clear plans to achieve clear targets Strictly follow up the plan Quality manual Clear job description and responsibility Evaluation criteria daily work report Weekly meeting to discuss work problems

Table 37- Team attributes exercise presented to the QU

8.5.4 Sufficient Resources

This Keys to creativity item requires that sufficient resources are available for employees as part of providing the right climate for them to become creative.

A special meeting was organized with one of long serving employees at Hikma who is quality controller and internal auditor aiming at designing a resource analysis sheet to assist in finding the needs of the QU resources. The sheet is shown in Table 38 below.

Quality Unit Resources Analysis Sheet 10/8/2008				
Department: _____				
Number of employees: _____				
Resources needed in the department to accomplish given tasks are as follows:				
Instruments (eg. HPLC,)	Materials (Solvents, chemical agents, ...)	IT Support (Computers, ...)	Personnel (No. and qualification of vacant positions)	Other resources (Glassware, ...)

Table 38 –QU Resources analysis sheet

This sheet was filled by QU five departments with all the instruments, etc. needed, then the QU director promised to get the resources needed during the next budget meeting.

8.5.5 Challenging work

With the help of the QU director, the Job description of selected QU individuals were studied and assigned challenging jobs. Revised Job description files were submitted to the researcher to be studied with the QU director. This task was linked to the HR department and required the authority of amending job titles for few employees. Four employees were specifically assigned challenging work as they showed high capabilities. Upon meeting them in a special meeting, they expressed their enthusiasm to create new ways of developing their work. One specific pharmacist among them introduced highly thoughtful recommendations which were appreciated and introduced for further analysis. In addition, many other employees were given tasks to stretch their capabilities.

8.5.6 Freedom

This climate to creativity item was difficult to implement. Freedom in pharmaceutical industry is not subject to individuals, certain Standard Operating Procedures (SOPs) must be followed. This keys item might be more appropriate for other industries.

8.6 Other interventions in the QU

8.6.1 QU Structure and Flow Charts

A new QU structure was established (See Appendix 14 on page 292) and flow charts for all QU departments were prepared (See Appendix 15 on page 293). This was to increase transparency and flow of ideas and materials.

8.6.2 Social Activities

A social committee was formed; the aim was to increase the sense of belonging among employees. A small fund was established from contributions by QU members to finance the activities. Activities included farewell parties for those who left the company, presents for marriage and new born babies.

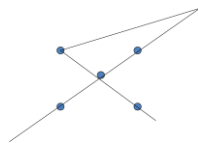
In addition, the social committee produced a newsletter in which information about quality and social news was distributed.

8.6.3 Creative Thinking Training

The quality team received training provided by the researcher in creative thinking as part of the intervention plan to enhance their creativity skills. The training included the following topics:

Stimulating exercises: three exercises were introduced:

1. ***Thinking out of the box exercise:*** this exercise asks the participant to connect a 5 points shape with 3 straight lines without lifting the pen and producing a triangular shape. The purpose is to change the usual boundaries on the thinking process which a person usually puts on himself/herself in solving a problem.



2. ***What can you see exercise?:*** in this exercise, the shape below was shown with a request to view it from various angles to see a tale of a whale, lamp shade, two opposite faces, candle holder, egg holder, etc. The purpose was to emphasize that creative thinking views the world from different perspectives.



3. Similarities exercise: in this exercise, an example of giving similarities between a 'Bucket' and a 'mobile phone' were requested. Their initial response was none, however, when deeply thinking, similarities were found. The purpose of the exercise was to judge an idea after giving it deep thinking and thorough understanding. The outcome showed that for example the 'bucket' and 'mobile phone' were both made to transfer something (either water or information), made of plastic, easy to transport, have different colours, metal can be used in it, have the ability to store, and so on.

Problem solving techniques:

The Six Hats technique developed by De Bono was used. The purpose of this exercise was to think of a problem using different approaches:

1. White hat- information and data
2. Green hat- creativity, alternatives and new ideas
3. Black hat- caution, risks and difficulties
4. Yellow hat- benefits and useable concepts
5. Red hat- feelings and emotions
6. Blue hat- defines the problem, manages the thinking process. Asks the right questions (Chair meetings)

The benefits of this exercise were to improve the quality of decisions as it is to be based upon different points of view. As a team, it is important to respect other's opinion and the way of approaching solutions.

Positive and negative thinking:

The purpose of this exercise was to stimulate the team to think positively about the future. An example of Thomas Edison was provided who took a positive thinking approach when thousands of his trials to invent the light bulb were unsuccessful. The team was advised to undertake NLP training wherever possible as it is known that repeating a word or a sentence of positive sense will influence the brain to think and release the chemicals persuading the body to feel accordingly.

One QT member suggested encouraging his colleagues by a saying of Prophet Muhammad: "*Be optimistic and good shall be found*". A discussion of this saying was undertaken on how the QT members can think positively. The team were requested to have

two weeks in applying this concept in their own lives and at work, and to write their experience on paper. Few of the team responses are as follows (identity not provided for confidentiality reasons):

- *“I used to come to work with a gloomy face, I decided after this training to come looking forward to my do my job, I felt much better”.*
- *“Usually am positive about the future, this time, I wanted to spread this to my colleagues in the office, we managed to be more productive despite our small office”.*
- *“Every time I visit the production site, I get delays in getting back my tested samples, I feel frustrated, next time, I will try to see the positive side of it, can’t promise though”.*
- *“I would like to pass an experience to my colleagues regarding negative thinking; negative thinking is very much initiated by negative energy from everything around us like computers, machines, mobiles, etc. all produce negative energy which is piled up in our bodies and affect the way we think and behave. Australian professionals arrived at a method to minimise negative energy throughout the day! The Australian specialists advised that taking 5-10 min every couple of hours to wash hands and face and move away from electronic instruments can improve the way we think by minimising negative energy and hence negative thinking, this is what we do when we pray”.*

The following section presents a consolidation of QU interventions.

8.7 Consolidation of QU Interventions

QU interventions were consolidated into one sheet to follow up the implementation of the outcome of QT meetings. The action plan follow up sheet (See Table 39 below) was produced and distributed to all members assigning responsibilities for following up the implementation, time-scale and action updates register. In addition, a visio sheet was produced and shown in QU notice boards for details of the overall interventions for the QU (See Figure 49 below).

Consolidated Action Plan Follow up sheet

No.	Action Plan	Responsibility of	Action updates	Frequency
1.	⇒ Team communication ○ Provide group members with mobile phones ○ Form e-mail group for team members	Deputy QU Director	Done Pending	Updated once a month Updated once a month
2.	⇒ Training Topics ○ Quality circles ○ Effective communication ○ Creative thinking ○ Soft skills ○ Group co-operation	Section heads Researcher Researcher Researcher	To write a letter to the GM with this content	Follow up organizing the courses
3.	⇒ Work Procedures ○ Periodic meetings • Prepare agenda and minuets of meetings • Assign meetings coordinator ○ Clear Job description and responsibility ○ Maintain SOPs	All Section Heads		
4.	⇒ Training Related ○ Clear and documented training ○ Skills transformation • Experienced employee to train new employees	All employees All employees		
5.	⇒ Goals Protocol ○ Display goals visually and clearly ○ Scheduled targets	Section Heads		
6.	⇒ Good Working environment ○ Working in team spirit ○ Motivation ○ Feeling responsible ○ Respect ○ Constructive discussion ○ Greeting each other	Separate sheets for this item		
7.	⇒ Performance measures (Key Performance Indicators) ○ Evaluation criteria	Separate sheets for this item		
8.	⇒ Work Tools 1. Plans: Clear targets, Setting timelines 2. Reports : Progress reports , Periodic reports	Section Heads		

Table 39- QU interventions follow up sheet

CHAPTER 8

Action Plan Item	ID	Interventions	Duration	Aug 2008							Sep 2008				Oct 2008				Nov 2008				Dec 2008				Jan 2009			
				20/7	27/7	3/8	10/8	17/8	24/8	31/8	7/9	14/9	21/9	28/9	5/10	12/10	19/10	26/10	2/11	9/11	16/11	23/11	30/11	7/12	14/12	21/12	28/12	4/1	11/1	
1. Training – Team Building	1	Organise extensive teambuilding workshops to QT	4.4w	█																										
	2	Organise refreshing teambuilding exercises and workshops	.2w												█															
	3	Organise refreshing teambuilding exercises and workshops	.2w								█																			
2. Training- Leadership	4	Leadership training exercises and workshops	4.2w								█																			
3. Training- Creative thinking	5	Creative thinking training and workshops	1.6w												█															
4. Training- Effective communication	6	Effective communication training and workshops	1.2w												█															
5. Key Performance Indicators	7	Design KPIs	1.8w	█																										
	8	Implement KPIs	17.8w								█				█				█											
	9	Develop Monthly KPIs report	.2w								█																			
	10	Develop Monthly KPIs report –	.2w												█															
	11	Develop Monthly KPIs report –	.2w																█											
	12	Develop Monthly KPIs report	.2w																█											
6. Update Job Description Files	14	Follow up updating the Job Description Files	4.6w								█																			
	15	Submit Final updated Job Description Files	.2w												█															
	16	Design New Ideas form	.2w	█																										
7. New Ideas Mechanism	17	Distribute the New Ideas form	2.2w	█																										
	18	Follow up collection and processing of the New Ideas form to management	14.2w								█				█				█											
	19	Conduct Resources survey	1w	█																										
8. Sufficient Resources	20	Decide on resources survey result and present to upper management	4.4w	█																										
	21	Supply departments with the approved resources	10.8w								█				█				█											
	22	Periodic meetings (prepare agenda, min of meetings, assign meetings coordinator)	17.4w	█							█				█				█											
9. Work Procedures	23	Maintain SOPs	23.6w	█							█				█				█											
	24	Prepare Periodic and progress reports	23.6w	█							█				█				█											
	25	Develop clear goals for each department	.8w	█																										
10. Clear Goals	26	Approve departments goals	1.2w	█																										
	27	Display goals in the departments	1w	█																										
	28	Follow up goals achievement	19.6w								█				█				█											
11. Process and Information Flow Charts	29	Develop Process and information flow charts for all departments	1.4w	█																										
12. Social events	30	Assign Quality Unit social committee	.2w	█																										
	31	Plan and follow up social events(newsletter, etc)	17.6w								█				█				█											
13. Training related	32	Clear and documented training- Form mini training library	19.6w	█							█				█				█											
14. Monthly Seminars	33	Organise monthly seminars in scientific subjects	17.6w	█							█				█				█											
15. Intrinsic Motivation	34	Employee of the month, thanking letters, etc.	17.6w	█							█				█				█											
16. Keys Questionnaire	35	Conduct Keys Questionnaire for all Quality unit employees	5.2w																█											

Quality Unit
Culture and Climate Intervention
Integrated Plan

Figure 49 Consolidation of QU Interventions

8.8 Other Interventions On the Corporate Level

The proposal which was prepared as part of the change intervention design to establish an HR department was not used by APM. It was difficult to establish an HR department during the research period; however, a contact was made recently by APM to use the proposal and help was provided. It is understood that at the time of writing up this thesis, APM has a fully operational department running its HR functions “which highly benefited from the outcomes of this research”¹².

Although the HR official function was not established during the research period, the researcher was involved for 4 months period during research time in the company to design and update all employees’ job description files and update and draw all detailed departmental and structural diagrams for all sections using the Microsoft visio software. For this intervention, the following was achieved:

- Produced corporate and departmental APM’s structural diagrams.
- Produced an updated list of employees (~ 700 individuals).
- Prepared separate file for each unit and department containing: corporate structure, each departmental functional structure, list of employees and job description files.
- Prepared a large wooden frame of APM’s corporate structure as a personal gift from the researcher for each department.
- A meeting was specially organized by the GM for all APM’s directors and managers to receive their files and wooden frames. Thanks were paid for the researcher’s effort in this regard and a gift was presented as recognition.

The following section presents reflections on the implementation of interventions.

¹² *Miss Maha Qutaishat, HR training manager, 11/2009.*

8.9 Reflections On the Intervention Implementation

First: On the corporate level:

- Creating a flattened structure was extremely important for APM in order to facilitate smooth processing, flow of information and ideas, and reducing span of control.
- Updating job description files and drawing organizational charts for all company's departments and units was rather a huge task which involved long working hours, discussions and meetings with directors, managers and employees of all levels. This major activity was not initially part of the intervention, but rather a requirement agreed with APM.

Second- on the departmental level- the QU

- Implementing the intervention was a lengthy detailed process. It involved preparation in various topics which was not necessarily practiced before. However, this was an in-depth learning experience. It is worthwhile to mention that QU director and QT members played great roles in applying the intervention requirements. This was by playing as roles models, rescheduling of QU work plans, facilitating the meetings, emphasizing the importance of adopting the changes, communicating QT meetings with other employees, etc.

The following section describes the assessments undertaken following the intervention.

8.10 Post- Change Assessment (Component Four: The Outcome)

8.10.1 Introduction

This section presents Keys to creativity assessment conducted in the QU, comparison of the assessment before and after the intervention, and the influence of the intervention on the QU performance.

After Hikma acquisition, it was possible following the intervention to perform Keys to creativity assessment instrument in the QU only. This was due to the changes in the company and to the fact that the actual culture change program was introduced to the QU.

8.10.2 Keys to Creativity Assessment Post Change Intervention in the QU

Recalling from chapter 6, keys to creativity analysis undertaken on the QU before applying the intervention is shown in Figure 50 below.

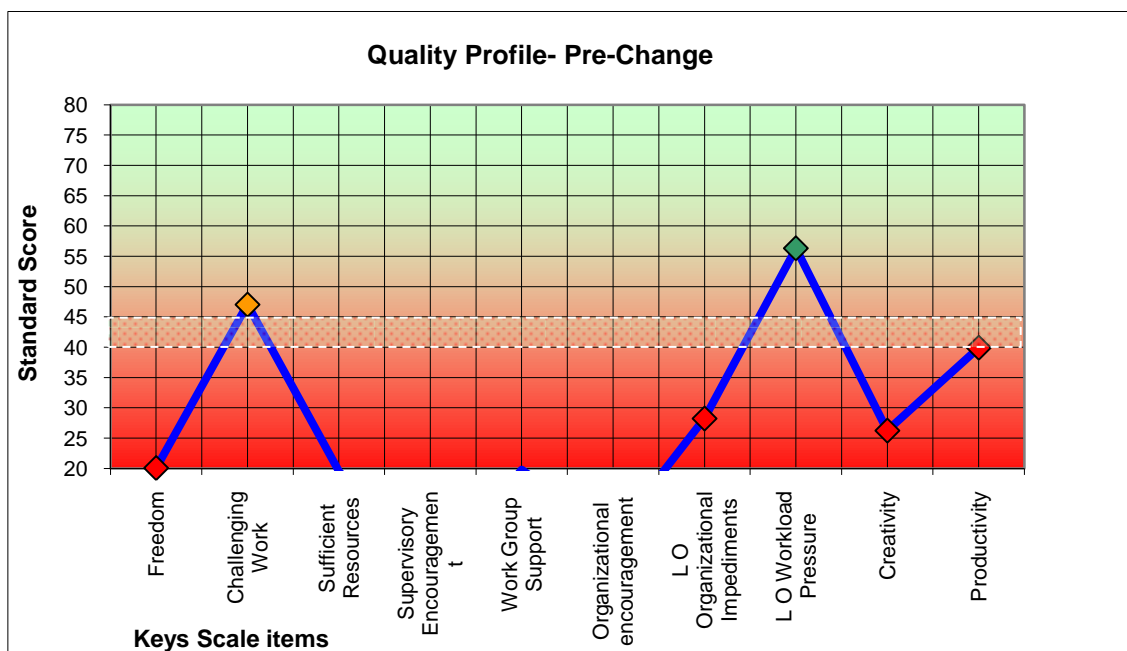


Figure 50- Keys to creativity assessment before introducing the intervention

It is obvious that Keys scales on all items except 'work load pressure' showed very low or low scale.

Post the intervention, Keys to creativity assessment was undertaken at the QU using 80 questionnaires. 63 questionnaires were returned back, with a return rate of 76%. Two were invalid. The questionnaires were analyzed using the same method explained in chapter 6. The outcome of the assessment post the intervention is shown in Figure 51 below.

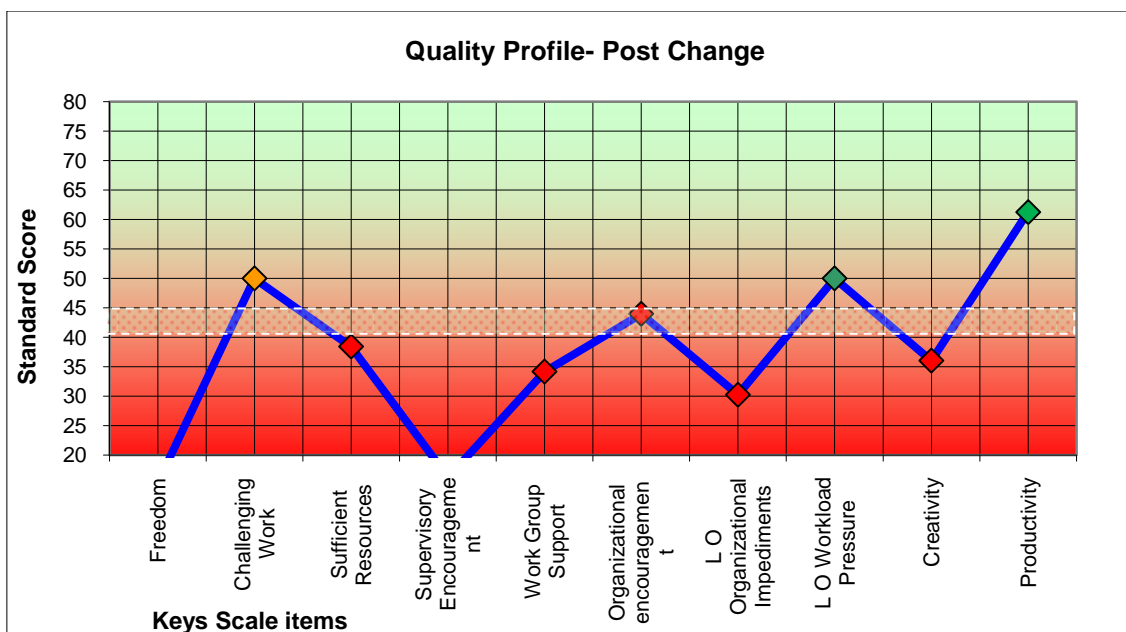


Figure 51- Keys to creativity assessment after introducing the intervention

As can be seen from Figure 51 above, a noticeable improvement is shown in most of the Keys items as explained below.

8.10.3 Comparison of Keys to Creativity Assessment Before and After Introducing the Intervention

Figure 52 below shows a comparison between the keys to creativity assessment before and after the intervention. This comparison is very important. It clearly indicates that a considerable improvement has taken place in most of the keys to creativity items.

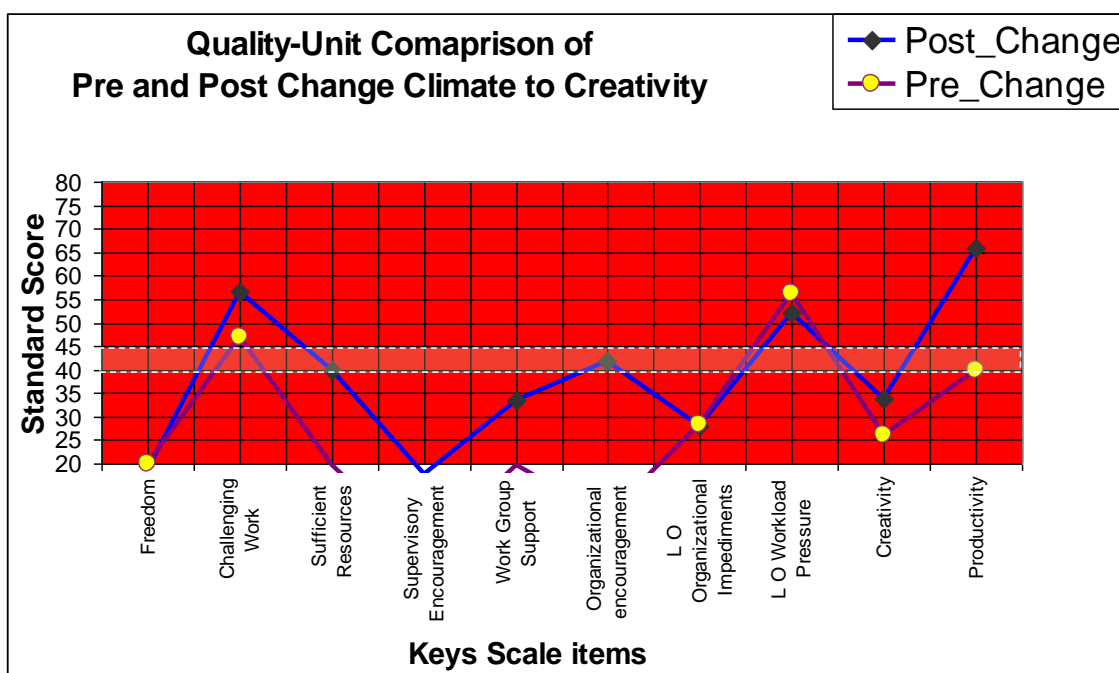


Figure 52- Comparison of Keys to creativity analysis before and after the intervention in the QU

8.10.4 Comments On the Outcome

Table 40 below compares the before and after results of the keys analysis. As can be seen from Figure 52 above and Table 40 below, keys to creativity items: Challenging work, Sufficient resources, Work group support, Organizational encouragement, Lack of work load pressure, creativity and productivity items, all received positive change despite that some of them were still in the low region of Keys scale.

Keys to creativity item	Status of item before intervention	Status of item after intervention	The outcome
Freedom	Very low	Very low	No change
Challenging work	Low	High	Positive change
Sufficient resources	Very low (Not shown on scale)	Low	Positive change
Supervisory encouragement	Very low	Very low	No change
Work group support	Very low	Very low	Slight positive change
Organizational encouragement	Very low (Not shown on scale)	Low	Positive change
Lack of organizational impediments	Very low	Very low	No change
Lack of work load pressure	Mid-range	Mid-range	Slight positive change
Creativity	Very low	Very low	Slight positive change
Productivity	Low	High	Considerable positive change

Table 40- Comparison of Keys to creativity analysis before and after the intervention in the QU

Colours Key	High	Mid-Range	Low	Very Low

This result is highly important. It represents a strong indication that the intervention designed based upon the ICE Model and the practical input from the interviews and assessments has actually introduced real change in the climate to creativity of the QU and likely to introduce improved performance and enhanced creativity as it will be supported by the changes to culture described in this chapter.

8.10.5 KPIs Assessment

KPIs designed at the beginning of the intervention were monitored on a monthly basis. Due to confidentiality reason, it is not possible to present real data or figures in this regard. However, it is possible to report the fact that KPIs in the QU have shown remarkable positive impact following the intervention.

8.10.6 OCAI Assessment

The OCAI assessment was initially conducted by innovation team members. None of the QU members were represented at the time before the acquisition; hence, comparison of the present and future organizational culture profiles is not possible. However, the OCAI assessment was used to get an indication of the views of the QU director and her deputy. Results are shown in Figure 53 and Figure 54 below. The GM was contacted for similar view, however, her returned the questionnaire commenting that it is not possible to position APM in any of the four quadrants. This is highlighted in chapter 12.

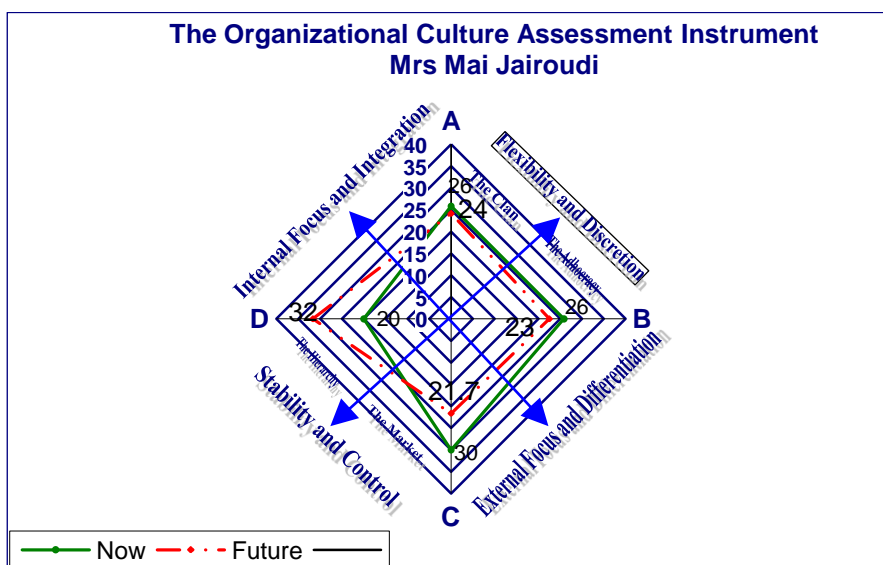


Figure 53- OCAI Profile of QU director

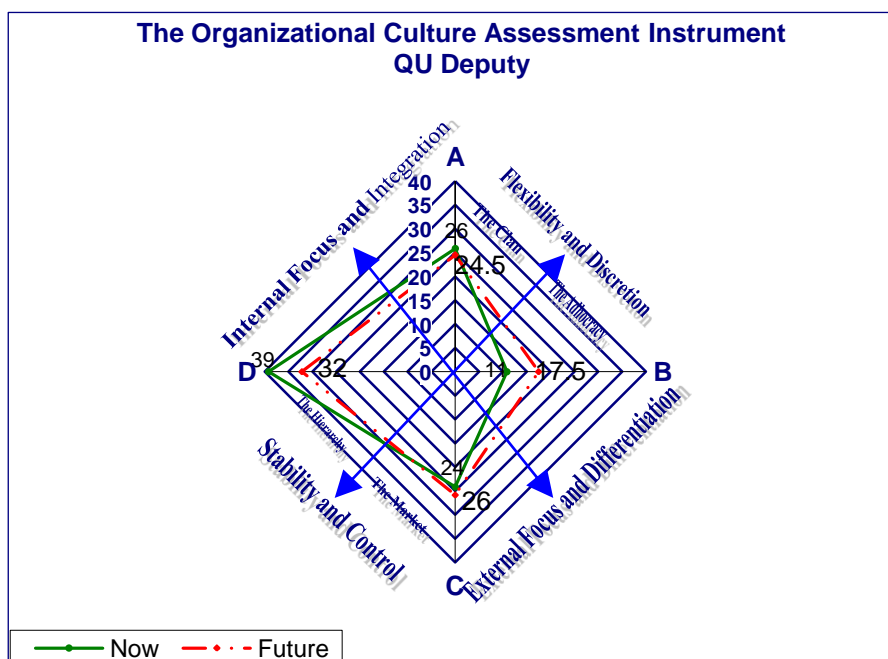


Figure 54- OCAI Profile for QU deputy

8.10.7 Influence of the Intervention on Quality Unit Performance

Upon an interview with the QU and her deputy¹³, the following list was established reviewing the outcome of the intervention:

- Established our vision, mission and goals for the Unit.
- Established KPI's for each department.
- Prepared for a major external audit.
- Efficient and accurate determination of resources needed by each department.
- Efficient preparation of our budget for 2009 (compared to our previous experience).
- Positively changing the social and inter-personal environment.
- Improved communication skills.
- Built continuous-improvement culture by pinpointing our drawbacks and working on improving them.
- Developed and start implementing realistic and clear action plans for climate to creativity.
- Improving the reporting system within the unit.
- Creation of a departmental social activities fund.
- Creation of a social/scientific periodical magazine run by employees within the unit as a voluntary effort outside working hours.

8.10.8 The QU Passes an International Audit Following the Intervention

The QU undertaken an audit by an international assessor, the news of passing the audit was greatly welcomed by APM and QU employees and formed a reward following the extensive tasks during the intervention and conducting audit requirements.

Commenting on the intervention contribution on passing the audit, the QU director said: *“Passing the audit was a major success; we don't think we would have achieved this successful outcome before the intervention. The intervention has largely contributed to our performance, we will continue to implement the changes in the future, I will report the intervention outcome to the MENA director, thank you”*.

8.10.9 The New Ideas Scheme

By establishing the 'new ideas scheme', the QU employees were able to produce 18 new ideas within 3 months period. Each employee was requested to file a new ideas form and process it to his/her manager. The form was distributed to all QU members.

¹³ Interview on 17/12/2008.

8.11 Summary

This chapter presented the interventions implementation designed for APM and the QU. It followed the design presented in chapter 6. Keys assessment after the intervention showed positive changes on the climate to creativity scale. Interviews conducted with the QU personnel confirmed the benefits gained from this experience.

The following chapter introduces the modifications on the ICE model based on the intervention experience.

CHAPTER 9

MODEL REFINEMENT AND GUIDELINES

9. Model Refinement and Guidelines

9.1 Introduction

This chapter justifies the need for model refinement based on the experience gained from applying it in APM. It presents background literature on national culture, determinants of culture and dimensions of organizational environment. It also presents the modified model and guidelines for OD practitioners in applying the ICE model.

9.2 Rationale for Model Refinement

Upon applying the ICE model in APM, two main issues were experienced: *first*: the impact of the national culture on implementing the culture change intervention, specifically spiritual beliefs, *second*: the impact of APM's past historical stages and milestones embedded in employees' memories and perceptions of the future.

These two issues raised the importance of modifying the ICE model for further applications, examples are:

First: The Impact of the national culture on implementing the change intervention was manifested in several aspects, such as:

- *Language*: translating the assessment instruments into the Arabic language which involved independent translation, private sessions to explain terminology and extra time for interpretation.
- *Time perception*: starting meetings on time was taken at ease, arriving on time was not always the case including APM's GM.
- *Verbal communication*: the use of a prefix while calling people's names was important in most cases. A person is more respected if called using the word brother/sister before their names or if he/she is an older person, to call them by father of (followed by the name of their eldest son). This usually brings closeness and helps building relationships between the researcher/practitioner and the employees.
- *Prayers*: respecting prayer times during workshop sessions. Adding extra time to meetings.

- *Ramadan*: Understanding the impact of the fasting month of Ramadan during reduced working hours.
- *Tribal and strata impact* on assigning employees into groups.
- *Female manager*: Employees' acceptance of female managers and researcher as an OD practitioner.
- *Political tensions* as the research was commenced during the Israeli war on Lebanon (summer 2006) which resulted in an overall sense of rejecting theories or solutions coming from the west.

Second: on the other hand, during group discussions, stories were brought from the past, details of success and failure of launched products, the impact of some managers on past successes and other issues highlighting the importance and the need for a pre-step to understand organizational history and position within its environment.

These two main issues are described in the following sections.

9.3 National Culture

The national culture has a wide and comprehensive impact on organizations. (Schein, 2009) for example, clarified that “deeper assumptions of the national culture come to be reflected in the organization through the cultural backgrounds of its founders, leaders, and members”. Scholars have explored or implied that cultural, historical, political, social and economic dimensions of a nation-state influence managerial practices and organizational strategic adaptation (Whitley, 1999). (Lewin&Kim, 2004) argued that “the specific nation-state configuration legitimizes and is reflected in particular managerial practices of business enterprises and public institutions that show the moderating effect of nation-state forms of capitalism on organizational change and innovation”. In addition, they argued that a nation’s culture, values and history affect managerial practices which emerged as important contingency following globalization of business activities.

However, (Hill, 2009) disagreed with this point of view arguing that “nation-states are political creations”. He added that nation-states may contain a single culture or several cultures; “while the French nation can be thought of as the political embodiment of French culture, the nation of Canada has at least three cultures- an Anglo culture, a French-speaking culture, and a Native American culture. At the other end of the scale are cultures that embrace several nations. Several scholars argue that we can speak of an Islamic society or culture that is shared by the citizens of many different nations in the Middle East, Asia and Africa”.

Despite criticisms of Hofstede’s work being based on a static, cross-sectional, single method approach, it remains one of the most valuable inputs into studying cultural dimensions across nations. (Hofstede, 2001) surveyed IBM employees in more than 60 countries collecting information using questionnaires on four cultural dimensions which are:

1. *Individualism versus collectivism*- the extent to which people emphasize personal or group goals.
2. *Power distance*- the extent to which members of a culture accept inequality and whether they perceive much distance between those with power and those with little power.
3. *Uncertainty avoidance*- the extent to which people try to avoid uncertainty and an emphasis on ritual behaviour, rules, and stable employment, and
4. *Masculinity versus femininity*- the degree of gender differentiation in the culture.

Later, Hofstede added a *fifth* dimension called ‘*Long-and short -term orientation*’. *Long term orientation* stands for “the fostering of virtues oriented toward future rewards- in particular, perseverance and thrift”. Its opposite pole, *short term orientation*, stands for the “fostering of virtues related to the past and present- in particular, respect for tradition, preservation of ‘face’ and fulfilling social obligations” (Hofstede&Hofstede, 2005).

Understanding the implications of national culture on organizational change and innovation is highly important. (Lewin&Kim, 2004) argued that “understanding the nation-state’s institutional configuration and managerial practices should provide useful insights in explaining and predicting the effectiveness and efficiency of organizational change in the nation”. (Frank&Cook, 1999) supported this argument as they suggested that innovation in the United States is based on “competitive behaviour and a winner-take-all- philosophy”, while in contrast, Japanese culture avoids competitiveness in favour of mutual evolution. The Japanese culture is an outcome of “a homogenous culture, Confucianism, and its respect for elders over individualism” (Lewin&Kim, 2004).

Understanding national differences and the implications for MNCs was supported by the results of a study (Singhapakdi *et al.*, 1994) which found some surprising significant differences between the values of American and Thai marketers, suggesting that multinational corporations should train their marketing professionals differently in different parts of the world (Rice, 1999).

Cross-cultural literacy term was introduced by (Hill, 2009) as “an understanding of how cultural differences across and within nations can affect the way business is practiced. He suggested that “it is important for foreign businesses to gain an understanding of the culture that prevails in those countries where they do business, and that success requires a foreign enterprise to adapt to the culture of its host country”. Hill further emphasized that: “One of the biggest dangers confronting a company that goes abroad for the first time is the danger of being ill-informed” warning that International businesses that are ill-informed about the practices of another culture “are likely to fail”. Doing business in different cultures requires adaptation to the value systems and norms of that culture. Adaptations include all aspects of business from the time negotiations commencement to hiring staff for the new venture.

McDonalds for example, faced real challenges when first entered the Indian market as its main food element is considered prohibited in a country with the vast majority of its people consider eating beef a grave sin. The following example illustrates the case:

McDonald's India: McDonalds has some 30,000 restaurants in more than 120 countries that collectively serve close to 50 million customers each day. McDonalds started to establish restaurants in India in the late 1990s. However, India offered unique challenges; how can a company whose fortunes are built upon beef enter a country where the consumption of beef is a grave sin? Use pork instead? However, there are some 140 million Muslims in India, and Muslims don't eat pork. This leaves chicken and mutton. McDonald's responded to this cultural food dilemma by creating an Indian version of its Big Mac which is made from mutton and other versions for vegetarians" (Hill, 2009) page 87.

Understanding cultural differences is not only important for companies investing outside their mainland, but also essential for practitioners engaged in OD applications. OD has been developed and mainly applied in American and European settings. This was reflected by the “underlying values and assumptions of these cultural settings, including equality, involvement, and short-term time horizons” (Cummings&Worley, 2009).

Cultural differences can make OD more difficult to implement outside the US and Europe, the action research process must be adapted to fit the cultural context of the hosted organization. This is supported by (Hofstede, 1993) who argued that the “export of Western-mostly American- management practices and theories to poor countries has contributed little to nothing to their development”. He explained that this failure is due to importing management practices in package form rather than modifying them to the cultural infrastructure of the local management practices. On the other hand, very few researchers refused this view and believed that OD can have successful outcome in any culture, as cited in (Camden-Anders&Knott, 2001).

Despite different points of view on this topic, the practice of OD in international settings is expected to expand dramatically. The rapid development of foreign economies and firms, along with the evolution of the global marketplace, are creating organizational needs and opportunities for change (Cummings&Worley, 2009).

Cummings and Worley provided a valuable representation of the *Cultural and Economic Contexts of International OD Practices* for various parts of the world. They suggested two contingencies (1) *cultural context* and (2) *economic development* which “determine whether

change proceeds slowly or quickly; involves few or many members; is directed by hierarchical authority or by consensus; and focuses on business, organizational or human process issues”.

Figure 55 shows the extent to which a country’s culture fits with traditional OD values of direct and honest communication, sharing power, and improving their effectiveness and the degree to which the country is economically developed.

		Culture Fit with OD values	
		Low	High
Level of Economic Development	Moderate	South Pacific South America Middle East	India South Africa
	High	Central America Eastern Europe	United Kingdom Scandinavia USA

Figure 55- The Cultural and Economic Contexts of International OD Practices-
Source: (Cummings&Worley, 2009)

They positioned Central America and Eastern Europe as *High* in the level of economic development and *Low* in culture fit with OD values. South Pacific, South America and the Middle East as *Moderate* in the level of economic development and *Low* in culture fit with OD values. India and South Africa as *Moderate* in the level of economic development and *High* in culture fit with OD values, and the UK, USA and Scandinavia as *High* in both dimensions.

Despite Cumming and Worley’s caution for practitioners of the risk that this description of OD in particular countries might generate a region’s generalisation, their positioning of the Middle East region in the top left quadrant is not too far from reality. The region as will be presented in the following section has its own distinctive culture and values (largely influenced by spiritual beliefs) which play a great role in business life.

Despite the emphasis for OD interventions to be culturally sensitive when applied outside the US and Western societies, very few cultural guides were found to describe the Middle East culture for foreign businesses. Only two guides were found in literature; (Al-Sabt, 2006)

provided general guidance and (Ali, 2009) which provided support for businesses willing to specifically invest in the Saudi Arabian market.

On the other hand, according to The House of Common's Business, Innovation and Skills committee report¹⁴, UK businesses are encouraged to explore new markets especially in Middle Eastern countries. The report "supports the increasing emphasis that UK Trade and Investment (UKTI) is placing on emerging markets, including Abu Dhabi and Saudi Arabia. Neglecting these markets would not be in the long-term interest of British business" (Paragraph 42).

It is expected accordingly, and in light of global business environment, that it is likely to expect an increase in OD interventions in building successful partnerships based on proper and mutual understanding of differences in cultures and managerial behaviours avoiding failures which might increase the burden on UK economy and reduce the number of opportunities of future investments.

The following section describes determinants of culture which will be used to modify the ICE Model and guidelines in section 9.5.

9.3.2 Determinants of Culture

(Hill, 2009) provided six determinants of culture (See Figure 56 Below) as follows: (Description from source):

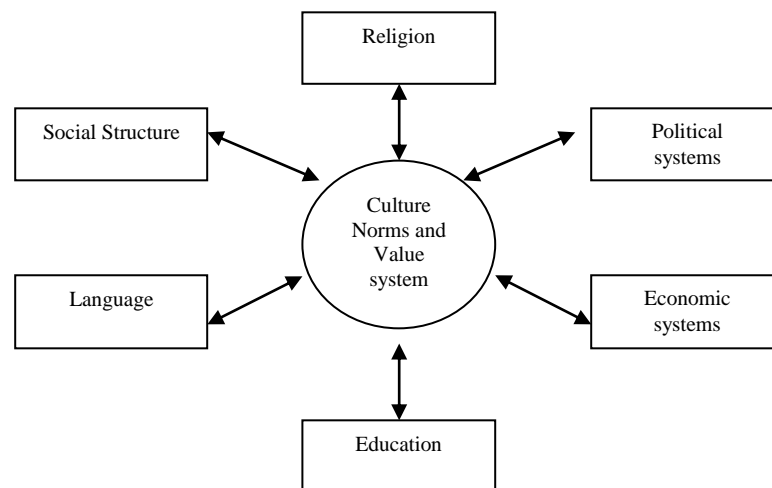


Figure 56 – Determinants of Culture, Source (Hill, 2009)

¹⁴ Third Special Report HC 504 2009/10.

1. Social structure:

Refers to two main dimensions:

- *The first dimension* is the degree to which the basic unit of social organization is the individual, as opposed to the group. In some societies, individual attributes and achievements are viewed as being more important than group membership; in others the reverse is true. [This is largely similar to Hofstede's individual versus collectivism dimension].
- *The second dimension* is the degree to which a society is stratified into classes or castes called social strata. These strata are typically defined on the basis of characteristics such as family background, occupation, and income.

2. Religious and Ethical systems:

Religion may be defined as a system of shared beliefs and rituals that are concerned with the realm of the sacred. Ethical systems refer to a set of moral principles, or values, that are used to guide and shape behaviour.

3. Language:

Language is one of the defining characteristics of a culture and means both spoken and unspoken means of communication. Language shapes the way people perceive the world, it also help defines culture.

4. Education:

Formal education plays a key role in a society. It is the medium through which individuals learn many of the language, conceptual, and mathematical skills that are indispensable in a modern society.

5. Political systems:

Political system is the system of government in a nation. It shapes the country's economic and legal system. Political systems can be assessed according to two dimensions:

- The first is the degree to which they emphasize collectivism as opposed to individualism.
- The second is the degree to which they are democratic or totalitarian.

6. *Economic systems:*

Political ideology and economic systems are connected. In countries where individual goals are given pre-eminence over collective goals, we are more likely to find free market economic systems. In contrast, in countries where collective goals are given pre-eminence, the state may have taken control over many enterprises; markets in such countries are likely to be restricted rather than free.

As mentioned at the beginning of this chapter, two main issues influenced the application of the ICE Model, the national culture, and historical and environmental aspects of the organization itself. The following section describes the main elements of studying the organization and its environment which will be used to modify the ICE model.

9.4 The Organization and Its Environment

(Schabracq, 2007) provided elements for studying the position of the organization in its environment. He suggested that a change agent or OD practitioner must have some understanding and seek information about four main issues to gain a picture of the environment (Description from source):

9.4.1 Technological Developments

Answer the following questions:

- What are the decisive technological innovations in the organization's file of business?
- What are the consequences of these technological innovations for the organization and how can it cope with these consequences?
- What opportunities do these developments generate?
- How is the competition dealing with these innovations?

9.4.2 Economic Environment

The economic environment involves the organization's market, its competition and its suppliers. In many lines of business, competition has become a global affair, making the fight for sufficient market share much more fierce and complex.

Studying the economic environment of the organization implies finding answers to the following questions:

- Is the market in which the organization operates growing, shrinking or stable?
- Are there big changes in the market?
- Can the organization deliver in such a way that it keeps up with the competition?
- What does the competition look like?
- Is the organization reaching the right customer population?
- What is the situation with the suppliers?

9.4.3 Socio-Cultural Changes

Organizations have to cope with the influences of vaguely known powers from all over the world, some of the socio-cultural changes developments include:

- The increase in worldwide transport and telecommunications and the resulting globalization.
- The increasingly multicultural nature of societies and workforce.
- The ageing of the working population in the West and in Japan.
- The increasing control of computers and databanks.
- The shift from manual work to knowledge work.

9.4.4 Political and Legal Developments

The change agent can get some idea of the relevant legal and political developments by answering questions such as the following:

- Have there been changes in the political environment, for example because of recent elections that are of influence to the organization?
- Has legislation changed recently in a way that affects the functioning of the organization?

Based on the information presented in the previous two sections, it was necessary to refine the ICE model as presented in the following section.

9.5 The ICE Model: A Refined View

The Innovation Culture Enhancing Model presented in chapter 3 is refined here to take into consideration the cultural and environmental contexts of the organization. This is to facilitate successful culture change interventions for practitioners, consultants, and managers.

The ICE model (See Figure 57) is refined as follows:

1. *National culture*: Studying the national culture (using its six determinants) and its impact upon designing and applying the intervention (arrows pointing downwards in Figure 57).
2. *The environment*: Studying the environment (using its four components) within which the organization is functioning (arrows pointing downwards in Figure 57).
3. *Feedback arrow*: a two way arrow between the outcome and the intervention dimensions.
4. *Physical environment*: A new item added to the 6 creativity elements named as physical environment.

These added elements are discussed in the following sections.

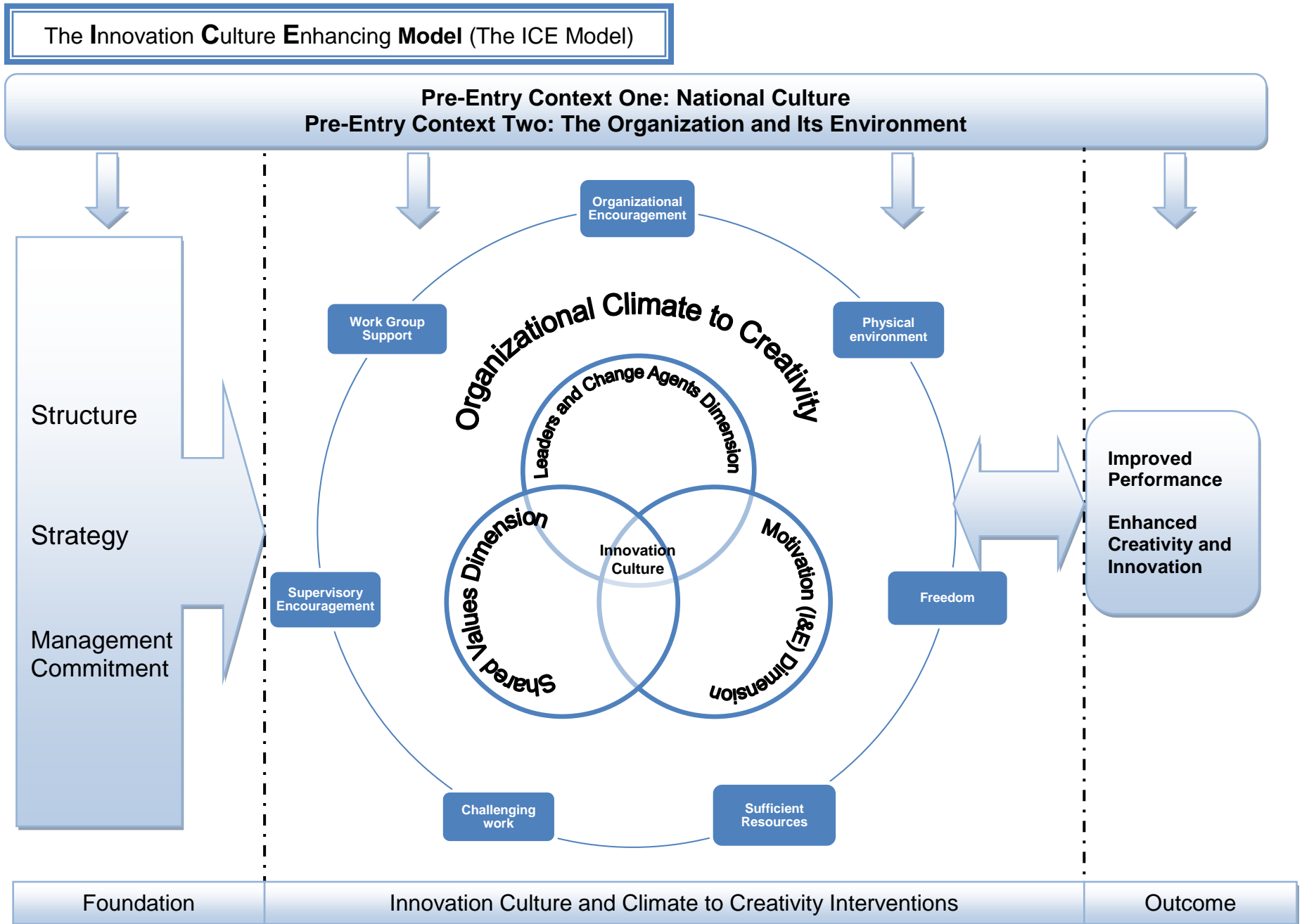


Figure 57- The ICE Model- A Refined View

9.5.2 The ICE Model: Pre-entry Context 1: National culture

Jordan where APM is located has a national culture which is very much similar to the Middle East culture. The implications of the Middle Eastern national culture on applying culture change interventions are presented in detail in chapter 10.

9.5.3 The ICE Model: Pre-entry Context 2: The Organization and its Environment

Upon applying the ICE model at APM, it was apparent that, the information discussed in this section was highly important and relevant to the design and application of the interventions. Following the classification provided by (Schabracq, 2007) in the previous section, details of the environmental implications on APM are as follows:

Technological Developments

APM employs advanced technology to get the drugs to market. Oxytoxic (to treat cancer) drugs for example, are not available in the Jordanian market. In addition, APM added new production systems, IT systems, etc. Technological developments in the pharmaceutical industry are continuous as in any other sector. However, the ability of the organization to follow up these developments is crucial for successful competition. The impact of studying technological developments on innovation culture interventions is manifested by the flexibility of this culture to attract the use of new technology. One example in APM was the use of an old capsule compressing machine which was replaced by a new developed one. This increased efficiency and productivity.

Economic environment

After joining the World Trade Organization (WTO), it was important that companies adjust to the new opportunities which this agreement brought to Jordan and modify their quality and procedures according to the regulations of the new markets. APM invested to export to new markets in Europe and Asia.

On the other hand, as the competition in the pharmaceutical market is a fierce one - whether this was in Jordan or elsewhere- the industry has constant developments due to the continuous changing needs of consumers. Understanding APM's competitive market and the emphasis on meeting demand was important prior to designing and implementing the intervention. This influenced the strategy, structure and performance indicators. Understanding the context of the economic implications for the specific industry to which the company belongs is highly important.

Socio-cultural changes

APM as one of Jordan's leading pharmaceutical companies faced the challenge following the Iraqi war due to the increase in the number of Iraqi migrants. Jordan's population estimated at 5.7 million was increased with an estimated 1 million Iraqi migrants arrived to Jordan over a short period of time. This influenced the sudden demand on many facilities, services and products such as pharmaceuticals. APM as well as other companies increased their local production plans to meet the increased number of consumers. In addition, the number of Arab patients seeking medical treatment in Jordan due to the advanced health care institutions has substantially increased. This also added further pressure on the demand for pharmaceutical products in recent years.

On the other hand, APM employs individuals not only from Jordan but also from other countries which had its influence on the intervention implementation by appreciating differences of other cultures.

Political and legal developments

Jordan has relatively stable monarchy political and well established legal systems. New ventures are approved by related authorities. Foreign investments are encouraged and facilitated.

The following sections introduce the other changes to the ICE Model.

9.5.4 Feedback Arrow

A two way arrow was added to the ICE model between the intervention dimensions and the outcome. This was important due to the need to close the loop between the outcome measured by the assessment instruments described in chapter 6 and the intervention. If the outcome was not satisfactory, more interventions are needed.

9.5.5 Physical Environment

Upon visiting APM's sites, it was apparent that this item is essential as part of the climate to creativity items suggested by Amabile. This is due to satisfying basic needs (possibly related to Maslow's hierarchy of needs) of employees such as temperature, noise, chemical odours, individual space, ergonomic chairs, etc. Examples include workers at the production line using inappropriate chairs during their job to fold medication packaging, they commented: "we will produce new ideas if you change these chairs for us!". Another example was the chemical odours which affected most employees in production lines in Buhaira and Sahab sites. Due to these chemical odours, researcher was unable to continue

visits to these sites. Reasonable physical working environment is essential and are suggested as part of a climate supportive of creativity.

The following section introduces guidelines for OD practitioners in applying the ICE Model.

9.6 Guidelines for Applying the ICE Model in Organizations

Guidelines for OD practitioners, action researchers and change agents are prepared as shown in Figure 58 below. The guidelines are presented according to the ICE Model components. The guidelines followed the same stages of the ICE Model; understanding the pre-entry context, conducting assessments, designing the interventions and implementing them. The monitored outcome leading to satisfactory results is expected to achieve continuous and permanent innovation for the company. These guidelines are provided as a step by step plan for using the ICE Model to develop innovation culture in organizations.

9.7 Summary

This chapter presented a refined view of the ICE Model based on practical experience. The changes included understanding the national culture context and the organizational environment. It also included outcome feedback to the interventions and adding physical environment to Keys to creativity elements.

The following chapter introduces the national culture of the Middle East and its implications for OD practitioners and MNCs. This was a result of the experience in the region and thorough literature survey in OD applications.

CHAPTER 9

Guidelines for Practitioners on the Implementation of the Innovation Culture Enhancing Model (The ICE Model)

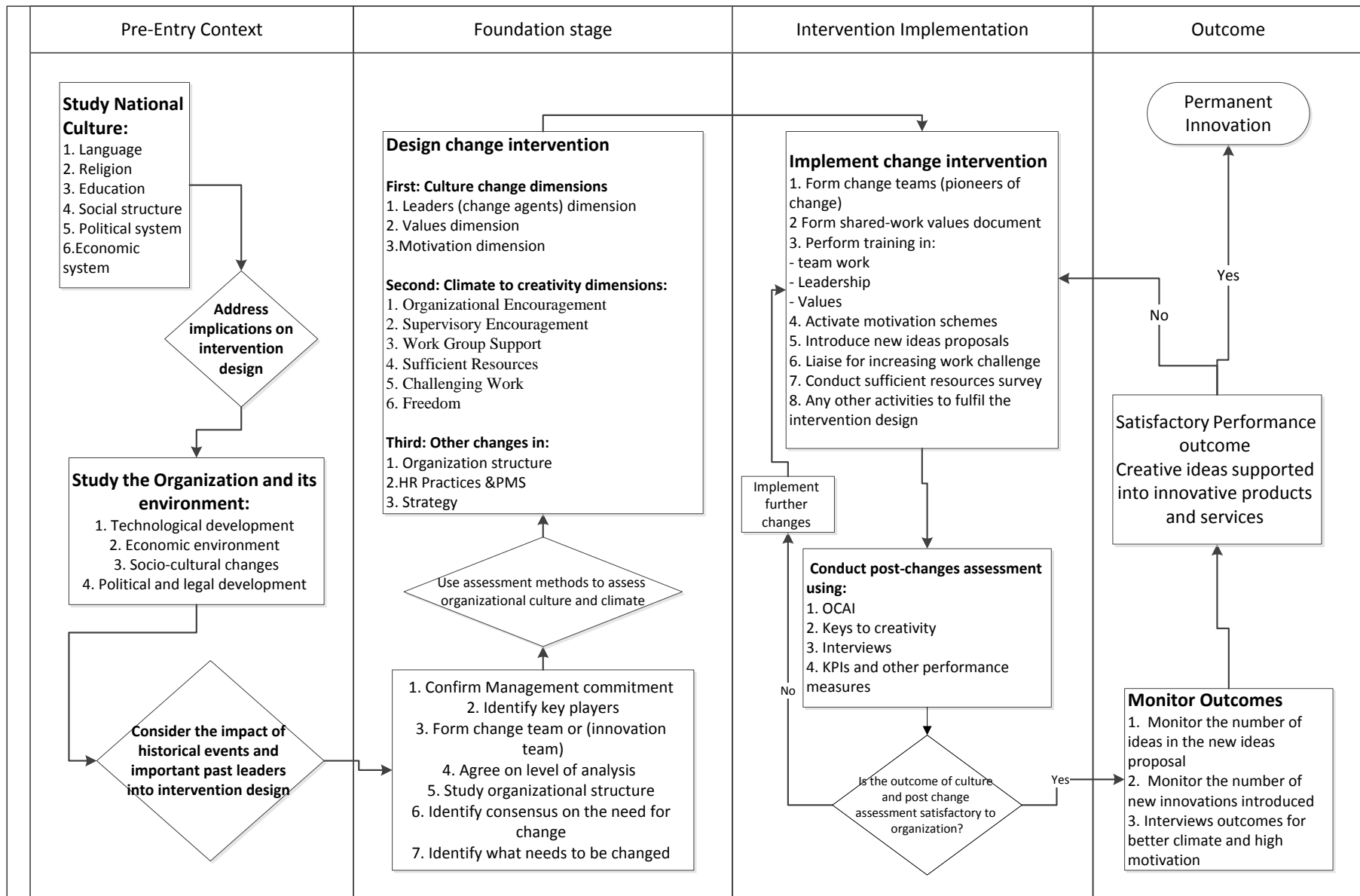


Figure 58- Guidelines for applying the ICE model in organizations

CHAPTER 10

THE NATIONAL CULTURE OF THE MIDDLE EAST AND ITS IMPLICATIONS

10. The National culture of the Middle East and its implications

10.1 Introduction

This chapter presents details of the culture in the Middle East and its implications for OD practitioners and MNCs investing in the region.

10.2 Culture in the Middle East

Situated between Asia, Africa and Europe, the Middle East countries have their own unique identity and culture, but share many fundamental beliefs and traditions. Understanding not only the shared cultural values and attitudes but each country's unique social culture is imperative for any organization wishing to do business in the region (Foss, 2010).

Although the Middle East is a diverse region, it has many in common; religion; language and culture which make highlighting general traits and features for the region valid.

(Kwintessential Ltd, 2010) suggested that "one cannot talk about the Middle East in a cultural sense without mentioning Islam. Islam permeates all levels of society. It provides guidance, values and rules for personal life, community relations and ways of doing business. The majority of the people in the Middle East practise Islam, although Judaism and Christianity are also practised in minority compared to Islam.

(Taylor , 2010) provided an analysis of Geert Hofstede's analysis for the United Arab Emirates and claimed that Hofstede's analysis for the Arab world which included Iraq, Kuwait, Lebanon, Libya, Saudi Arabia, and the United Arab Emirates is "almost identical to other Arab countries". Hofstede concluded as cited in Taylor's analysis that "Muslim faith plays a large role in people's lives in this region".

10.3 Determinants of Culture in the Middle East

10.3.1 Social Structure

According to (Cummings&Worley, 2009), societies of the Middle East "are more likely to follow a caste system that does not allow significant upward mobility of its citizens. They are also highly rule-oriented with laws, rules, regulations, and controls in order to reduce the amount of uncertainty, while inequalities of power and wealth have been allowed to grow within the society". Hofstede *Individualism Dimension* for the Arab World ranked at

38, compared to a world average of 64. This translates into a *Collectivist* society as compared to *Individualist* culture and is manifested in a close long-term commitment to the member 'group', being a family, extended family, or extended relationships. Loyalty in a *collectivist* culture is paramount, and over-rides most other societal rules.

10.3.2 Religion

Islam is the main faith for the people of the Middle East. Islam is an “all-embracing way of life governing the totality of a Muslim’s being”(Lippman, 1995). It is very difficult for a Muslim employee to separate his/her values inside and outside the working environment as it involves almost all daily activities. Relationship with older people of authority is usually wrapped up with respect and higher opinion. Daily activities are generally scheduled around prayer times. A practicing Muslim working in an organization is often referred to for help and coaching to resolve personal problems as often he/she is trusted and listened to. This has various implications for leadership as individuals might respect and be prepared to be led by a person whom they consider to be of better knowledge compared to them.

(Rokhman, 2010) conducted a study on 425 Muslim employees in several organizations in the United Arab Emirates (UAE). Results showed a positive and significant effect of Islamic Work Ethics (IWE) on job satisfaction and commitment. This is supported by (Ali, 2005) who provided an extensive study into IWE:

“Islam attaches utmost importance to all sort of productive work. Not only has the Qur’an elevated productive work to the level of a religious duty, but it mentioned such a work consistently, in more than 50 verses, in conjunction with iman (faith). The relationship between faith and work is similar to that of root and tree, one cannot exist without the other. The Qur’an, for instance, enjoins upon Muslims to resume their work after the congregational worship. Furthermore, it is a human’s duty to work harder and smarter in order to build this world and to utilize its natural resource in the best possible manner. Therefore, the Qur’an is very much against laziness and waste of time by either remaining idle or by engaging oneself in an unproductive activity”.

A deeper appreciation of Islam can be advantageous to executives conducting business with Muslim counties, from Indonesia to Morocco, and from the former Soviet Central Asian republics to South Africa (Rice, 1999). In the Middle East, organizational culture is largely influenced by its individuals’ values which are highly influenced by their beliefs. (Foss, 2010) recommended that “it is a good idea to learn more about what Islamic

practices are adhered to before going and to remember its influence when working alongside your Middle Eastern business colleagues”.

10.3.3 Language

Arabic is the written and spoken language of the inhabitants of the Arab world placed from Morocco to the Gulf. Although the vast spaced area has many dialects, for example: Egyptian, Moroccan, Iraqi, Jordanian, Yamani; the classical Arabic also known as “Quranic Arabic, the language used in the Quran”¹⁵ is widely used as formal and official language. Understanding the local language can be a determining factor of successful international businesses who might have major misunderstandings due to improper translation due to the unfamiliarity of national terms and gestures. On the other hand, communication tends to be relatively indirect and relies heavily on nonverbal cues and figurative forms of speech (Foss, 2010).

10.3.4 Education

The people of the Middle East have high level of education, though illiterate individuals form large numbers of few societies. These countries tend to be high-context cultures with values of high power distance and achievement orientation and of moderate uncertainty avoidance. These settings require change processes that fit local customs and that address business issues (Cummings&Worley, 2009). The Middle East is rich in terms of the percentage of educated young people compared to the rest of the population. This forms a pool of available workers.

10.3.5 Political and Economic Systems

Many countries in the Middle East follow republican political systems, elections are held according to constitutions. Jordan, Saudi Arabia, and Morocco are the only Monarchies in the Middle East. Apart from Iraq and Palestine, political systems in the Middle East are generally stable forming a positive environment for international businesses.

The historical colonial relationships between many countries in the MENA region and European countries was followed by strong economical relationships, for example the recent trade agreements between Italy and Libya estimated at £10 Billions.

The Middle East region is highly dependent on its natural resources and has a relatively small manufacturing base. The region has tremendous strategic and economic importance

¹⁵ *From Wikipedia, the free encyclopaedia, August 2010.*

to the US and European countries. Although there are differences in each country's economy, "much of the region's wealth comes from its vast oil reserves and natural resources. Today, much of the Middle East is thriving with immense opportunities for foreign investment in this lucrative market" (Foss, 2010).

The following section presents implications of the Middle East national culture on OD interventions and MNCs.

10.4 Implications For OD Applications and MNCs

This section presents Middle East culture determinants and their implications for OD practitioners and MNCs. As might be expected, little is written on applying OD in these countries and there are even fewer reports of OD practice in this region (Cummings&Worley, 2009).

The guide presented in Table 41 below forms a valuable input in this regard, however, it should be considered here as a preliminary stage of a wider project suggested for future research presented in chapter 12.

CHAPTER 10

No.	Culture Determinant	Implications for OD practitioners	Implications of MNC
1.	Social Structure	<ul style="list-style-type: none"> ▪ Understand strata differences, impact might be in employees response to workshop grouping. ▪ Understand tribal influence on politics in the company. Individuals might resist change because it is initiated by a person who belongs to different tribe. ▪ Family is a priority in the individual's life. 	<ul style="list-style-type: none"> ▪ Establishing new business can be influenced by regional strata structure. ▪ People are status conscious. It is important to use appropriate titles. ▪ Rules can sometime be bent and things can be done quickly if relationships are strong. ▪ The working week tends to begin on Sunday and end on Thursday; though in some countries it begins on Saturday. Friday is a holy day. Congregational prayers are performed.
2.	Religion	<ul style="list-style-type: none"> ▪ Respect prayer times in planning training session. Muslims pray 5 times a day, each prayer is about 10-15 minutes. 2-3 prayers will fall during day working hours, ▪ Respect Ramadan reduced working hours, do not eat in front of fasteners. ▪ Religious personnel can be facilitators for the change as usually their word is respected if joined with their position in the company. ▪ Respect the presence of women. 	<ul style="list-style-type: none"> ▪ There are two main festivals: one is called Eid AlFitir following the end of the fasting month Ramadan. And one is Eid AlAdha following the annual pilgrimage. The holidays last approximately 3-4 days. Meetings/Businesses are better scheduled well before/after these holidays. ▪ Business dress is modest. Many women wear head scarves or veils, but it is not usually required to foreign women.
3.	Language and communication	<ul style="list-style-type: none"> ▪ Be prepared to translate instruments used in the intervention. ▪ Respect elderly people by using prefix before calling them such as sheikh (scholar, leader), or father of (eldest son name), or Hajji (a person who performed pilgrimage). ▪ Translation can have mistakes at times, double check minor errors. ▪ Avoid shaking hands with opposite sex unless the person greeting you initiates it. ▪ Verbal invitation to workshops/meetings can have greater impact than using postal or electronic format. ▪ Managers can take a phone call and deal with other business during a formal meeting. ▪ Strict adherence to deadlines can be relaxed, meetings can often begin late of the scheduled time. 	<ul style="list-style-type: none"> ▪ Relationships are highly important and can be key in facilitating conducting a business. Trust and friendliness are important in building successful business relationships. ▪ Shaking hands (same sex) is always used and can last long time. Holding hands during a conversation is common. ▪ Someone's word is considered an honour and can be more valuable than written agreements. ▪ Businesses should make sure to bind themselves with what they can actually deliver. ▪ Initial meetings are to build relationships more than to agree on business details. ▪ It might be a good idea to print business cards in English and the reverse side in Arabic.
4.	Education	<ul style="list-style-type: none"> ▪ A company might have variations in the education levels, be prepared to simplify the terms in questionnaires/ assessment 	<ul style="list-style-type: none"> ▪ Percentage of young educated individuals in the Middle East is high compared with Europe.

CHAPTER 10

		<p>instruments to match education differences.</p> <ul style="list-style-type: none"> ▪ Advanced education is a remarkable achievement, scholars and learned men and women are greatly respected. 	<ul style="list-style-type: none"> ▪ Can have large number of highly skilled professionals and a pool of workers.
5.	Political and Economic systems	<ul style="list-style-type: none"> ▪ With regards to OD interventions, a study of the political and economical systems of the specific country you are invited to is essential. This might have implications in certain countries such as Syria. 	<ul style="list-style-type: none"> ▪ Impact of the areas of conflict on new successful ventures. ▪ Influence on the sectors which can invest. ▪ Study economic agreements. ▪ Expected increase in salaries due to economical problems.

Table 41- Implications of Middle East National on OD applications and MNCs

10.5 Summary

Influences of the national culture on organizational and individual perceptions are often ignored in literature despite the impact of dealing with change aspects whether that be introducing new ideas or even adapting to new technological developments.

This chapter presented details about the national culture of the Middle East and its implications for OD practitioners and foreign investments. The suggestions presented are intended to facilitate successful interventions for the future.

The following chapter presents a discussion of the main themes of this research.

CHAPTER 11

DISCUSSION

11. Discussion

11.1 Introduction

The objectives of this research were:

1. To help organizations build innovation culture and climate supportive of creativity for continuous innovation capabilities.
2. To facilitate culture change OD interventions introduced to organizations outside the USA and Europe and specifically in the Middle East area.

The research attempted to answer the following research questions:

1. How can an innovation culture be introduced and established inside an organization?
2. What variable are important in achieving and sustaining cultural change in an organization?
3. Can spiritual beliefs be utilized as motivators for better performance and enhanced creativity?
4. What are the implications of the national culture of the Middle East on OD interventions and new ventures?

Chapters 2 and 3 attempted to answer the first and second questions by identifying the variables that are likely to influence building innovation culture in organizations. The ICE Model built relationships between these variables. To test the model dimensions, it was used to develop interventions to enhance innovation capabilities and improve the performance of APM using an action research methodology. The outcome and results presented in chapter 8 showed considerable improvements assessed using Keys to creativity instrument and other assessment methods.

Spiritual beliefs were used as motivating factors to empower the QU employees to achieve better input in their jobs and create new valuable ideas.

As an outcome of the experience in the Middle East region, chapter 10 introduced background information and implications that are useful for OD interventions and MNCs willing to invest in the region. The ICE Model was modified based on the experience gained from a lengthy 2 years time spent in the company.

From the above, it can be concluded that this research has achieved its aims and objectives and answered its questions. The following sections present discussion of the main themes highlighted throughout this research and its limitations.

11.2 Implications of the Change: Planned or Emergent?

Whether planned or emergent, (Nadler *et al.*, 2001) suggested that “companies are often better off if they avoid labelling their effort as a ‘culture change’. Instead, change efforts integrate culture change into a new business direction or strategic thrust as their central theme”. Planned change is an iterative, cyclical process involving diagnosis, action and evaluation, and further action and evaluation (Arnold *et al.*, 2005). The purpose of planned change according to Arnold is to “improve the effectiveness of the human side of the organization”, and central to it is the “emphasis placed on the collaborative nature of the change effort: the organization, both managers and recipients of change, and the consultant jointly diagnose the organization’s problem and jointly plan and design the specific changes”.

Although supported by many researchers, planned change in OD applications is not spared of criticism. (Wooten&White, 1999) pointed out that “much of the existing OD technology was developed specifically for, and in response to, top-down, autocratic, rigid, rule-based organizations operating in a somewhat predictable and controlled environment”. On the other hand, the planned change was criticized for “its inability to incorporate radical, transformational change” (Dunphy&Stace, 1993), and that “it assumes one type of approach to change is suitable for all organizations, all situations”(Arnold *et al.*, 2005).

Furthermore, supporters of the emergent approach consider the planned change to be too rigid and “ignores the complex and dynamic nature of environmental and change processes, and do not address crucial issues such as the continuous need for employee flexibility and structural adaptation” (Dawson, 1994). (Pettigrew *et al.*, 2001) for example argued that “the planned approach, as exemplified by the OD movement, is too prescriptive and does not pay enough attention to the need to analyze and conceptualize organizational change”. In particular he emphasized the need to understand the context of change, specifically: (1) the interconnectedness of change over time, (2) how the context of change shapes and is shaped by action, and (3) the multi-causal and non-linear nature of change.

It was anticipated upon commencing this research in APM that it will only depend on the planned changes covered by the ICE model, however, many unplanned needs and events occurred which forced modifications to the original plans, for example:

1. The fact that APM does not have an HR department upon which the research heavily relied to secure and administer intrinsic and extrinsic motivation.

2. The extensive and unplanned heavy work load undertaken by the researcher to modify and update job description files and organizational charts for all employees and all departments, sections and subsections in APM.
3. The concealed disagreement between the GM and his deputy the DGM (before the acquisition) on change intervention details during the implementation stage despite approvals from both of them upon the planning stage. This caused delays to many of the change intervention steps and the cancellation of others (for example, a new HR manager).
4. Despite the difficulties faced due to the unforeseen changes above, the major radical change during the research period was without doubt, the acquisition of APM by Hikma Pharmaceuticals. The research was well into its advanced stages when unexpectedly and overnight, the whole scene seemed painted in black and a new adventure was about to begin. Plans were underway to introduce changes to the company, set programs were agreed to provide training for employees, etc. Post the intervention, new personnel were appointed, other personnel were released, strategy was changed, new products were postponed, and most importantly the intervention was put on hold. Four months passed before a meeting with the new GM was possible to discuss commencing the interventions and explaining the benefits to APM. This dramatic change was certainly a proof that the planned change approach needed high level of modifications to adjust to the real world in organizations.

Based on this experience, it seems that a combination of both planned and emergent approaches to change is necessary. A planned change to satisfy the needs of order and mutual understanding between the change agent and the organization, and a provision in the intervention to satisfy the needs of emergent changes.

11.3 The Innovation Culture: Is It Sufficient for Improved Performance?

Although many studies stress the relation between organizational culture and performance, very few studies actually explored this relation (Sparrow, 2001). From an assessment perspective, the topics of organizational culture and organizational effectiveness are inextricably linked (De Witte&van Muijen, 1999).

(Ott, 1989) explained the reasons why effective performance is seen to follow from culture. Organization's culture provides (Description from source):

- Shared patterns of interpretations and perceptions that show employees how to act and think.

- An emotional sense of involvement and commitment to organizational values and moral codes, i.e. what to value and how to feel.
- Defined and maintained boundaries allowing groups to identify and include members in problem solving.
- Learned responses to problems and commonly held understandings for organizing actions.
- Control systems, that in turn prescribe and prohibit certain behaviours.

Culture is presumed to create appropriate states of mind, i.e. the mental, emotional and attitudinal states that precede effective employee performance. Kotter and Heskett (1992) assumed that regardless of the type of culture (which could be unique and suited to purpose), it was the *strength of culture* that was most predictive of performance. To the extent that all managers share relatively consistent values, then performance follows because of increased goal alignment, a stronger sense of motivation and intrinsic reward implicit in the ‘successful’ cultures, and implicit controlling and sanctioning of appropriate behaviour without the need for expensive and stifling bureaucracy and co-ordination structures.

It can be argued that the proposed outcomes after applying the ICE model are traced back to the culture change intervention but can’t exclude the effects of many other variables.

It is inevitable to expect in a complex large organization such as APM, that other factors will interfere in the final result especially the impact of the acquisition. However, supporting evidence from KPIs results and interviews suggesting satisfaction and empowerment due to the change intervention, passing an international audit, in addition to the positive results in the Keys to creativity assessment, all lead to the conclusion that the intervention has significantly contributed to achieve positive results.

This research suggests that it is impossible to measure the outcome of a culture change program using quantitative methods only. The impact is long lasting and the results might require long time to be apparent.

11.4 Schein's Culture Model

Although Schein's culture model presented on page 42 represents a widely accepted and used model, this research found that the linear representation in Schein's model is not suitable for a multifaceted phenomenon such as culture. Although the implication that culture is multi-layered manifested in 'artefacts', 'espoused beliefs and values', and 'underlying assumptions' is a very close representation of how culture actually is, the unidirectional straight line arrows assume linear relationship between culture layers. Therefore, instead of representing culture in a unidirectional list of layers, this research prefers to borrow the conception of a peeled onion presented on page 46-56 of (Connor&Lake, 1994) where values lie at the core, whilst norms and other manifestations of culture lie closer to the periphery. This allows in my view the representation of values as the core source of norms, attitudes and behaviours, and at the same time, characterizes the intimacy of cultural layers to each other.

11.5 Insights into Action Research Methodology

Action research is a two-pronged process. Firstly, it emphasizes that change requires action, and is directed at achieving it. Secondly, it recognizes also that successful action is based on a process of learning that allows those involved to analyze the situation correctly, identify all the possible alternative solutions and choose the one most appropriate to the situation at hand (Arnold *et al.*, 2005).

Undertaking action research implied the use of personal qualities and learning many more during the intervention. A student applying action research methodology acts inside the company as if he/she is an OD practitioner or change agent. The main difference could be the management trust and support to adopt the suggested interventions which might be taken with suspicion to be mere theoretical constructs.

To be able to conduct action research into organizations successfully, (Cummings&Worley, 2009) specified personal skills for OD practitioners and change agents, these are summarized as follows:

- Managing the consulting process: the ability to enter, contract, diagnose, design appropriate interventions, implement those interventions, manage unprogrammed events and evaluate change process.

- Analysis/ diagnosis: the abilities to conduct an inquiry into a system's effectiveness, to see to the root causes of a systems current level of effectiveness, as well as the ability to understand and inquire into one's self.
- Designing/choosing appropriate, relevant interventions: understanding how to select, modify, or design effective interventions that will move the organization from its current state to its desired future state.
- Facilitation and process consultation: the ability to assist an individual or group toward a goal; the ability to conduct an inquiry into individual and group processes such that the client system maintains ownership of the issue, increase its capacity for reflection on the consequences of its behaviours and actions, and develops a sense of increased control and ability.
- Developing client capability: the ability to conduct a change process in such a way that the client is better able to plan and implement a successful change process in the future, using technologies of planned change in a value-based and ethical manner.
- Evaluating organization change: the ability to design and implement a process to evaluate the impact and effects of change intervention, including control of alternative explanations and interpretation of performance outcomes.

With the view of the challenging list of qualities above, it was not possible to fully and successfully manage all situations at APM. Here are few examples of an action researcher experience:

1. The initial and subsequent meetings with Dr Rakan Rshaidat, APM's GM who holds a PhD in Pharmacy required the confidence that the intervention and its model were going to benefit his company. As was explained to me later, that he believed in my ability conducting the intervention before looking into its details. Luckily the intervention proposal was timed coincidentally after a board meeting which decided to enhance APM's innovation capabilities.
2. The initial presentation to all APM's managers and directors raised many questions from few managers who asked about my knowledge of a specific HBR article about innovation. An action researcher must be well prepared before commencing the intervention and facing experienced personnel. Wide knowledge of the intervention at hand is mandatory.
3. It was important to successfully chair and conduct interviews with large number of employees (~700) grouped in numbers ranging from 4-60 over a one month period.

Controlling discussions was challenging. The Interviews involved employees of all educational backgrounds. It was necessary to simplify the terminology used accordingly.

4. Grouping employees was not a straight forward task. During keys to creativity interviews and meetings, employees were grouped according to departments and subdivisions. In many cases, department's managers attended at the same time as other workers. An issue was raised about the level of openness and trust. In many cases, managers were asked to leave the meeting so workers speak openly and freely. At one specific meeting, I was requested to testify God that what was mentioned in the meeting was to be kept confidential and only to be used as anonymous of the group in question. This experience was a unique one as understanding individual cultures and politics proved to be essential for any researcher undertaking action research methodology and having this sort of direct involvement with employees of various backgrounds. At one point I had to share breakfast with mechanics in APM's buses garage surrounded by their equipment and flames released from a broken bus. Although was not familiar to me, it allowed close relationship with employees of the garage who were also involved in the change intervention and recorded their input in the interviews. At another occasion, I met with the tea lady and listened to her view of how to develop APM, she valued listening to her ideas and suggested upon asking her how to improve the climate she works in by saying: "I need the air conditioner to work better", although she hasn't received an air conditioner for the kitchen, she was the one who brought the idea to add '*physical environment*' as an important addition to climate to creativity dimensions suggested by Amabile as presented in chapter 9.
5. Upon visiting APM's sites, employees gathered in circles surrounding me as if I was the saviour who came to relief their problems. Many of the employees attended my office requesting to help them in their personal problems with their managers or to increase their pay, or to appoint a new doctor for the medical clinic. It was very difficult to explain that I have limited ability to solve their problems and that what was possible is to only mention it to the GM or suggest it as a future improvement. Many of them were disappointed and spread the word, "she only came to benefit her research". This was despite the letter introducing me to APM personnel as "an expert from the UK working to improve APM's ability to innovate". Actually many managers broken in laughter when they read this letter as according to them, "APM needs all sorts of

improvements and developments before anyone mentions the word ‘*innovation*’ in loud”.

6. The action research methodology is not free from emotional stress and personal anxiety. Being involved with people all the time, contacting them to attend meetings and submit questionnaires or other related materials, changes at the workplace, moving offices, delays in allocating equipment, travelling from Amman to Sult on a daily basis, travelling to other APM sites in Amman and Sahab, listening to heartbreaking stories from employees who simply open your office door and walk in to be listened to, these and many more add up to form a stressful methodology to undertake research. Despite the difficulty involved, its fruitfulness is when a change due to the intervention brings better achievements to the people and departments involved, when a group member changes to become a successful team worker, when a unit passes an international audit, when an employee praises the change to the level that he applies it to his family life, when employees become motivated to fill a list of 20 new ideas to improve the work place in only one month, etc.

As an action researcher you share the success and failure, you become part of the change and the change becomes part of you.

7. Action research monitors changes over time, assesses before and after the intervention. This is not a straight forward task. Over time, the situation changes, employees who first filled the questionnaires and were involved in the interviews might move jobs, departments might merge with other units, key managers or other personnel with high influence or conflicts might resign, or other modifications that can influence employees’ perceptions of the inquiry under study. It is impossible to directly refer the successful outcome to the change intervention as such. The successful outcome can be indicative to the successful application of the change intervention; however, other factors can never be separated in a complex business environment. Having mentioned this, in APM, the large number of employees who have been interviewed before and after the change was a strong indication that the change intervention itself played a major role in the successful outcome of the QU and APM in general.

If this research was to be repeated again, I would probably still choose an action research methodology, however, with shorter time spent in the company and involving more than one company. This is to improve the validity to generalize the outcomes of the research.

11.6 Case Studies: Single or Multiple?

(Alvesson&Sveningsson, 2008) stated that “for some readers, looking at one single change project may appear limited. In line with a long and increasingly popular case-study tradition, we argue that getting a rich and detailed picture, sensitive to local context and the meanings for the people involved, is necessary in order to understand the phenomenon- and to learn something that can encourage more reflective and realistic change work”.

The planning and designing of the change program in this research was followed up during the implementation in real time and was monitored to make sense of the programs as well as its outcomes. Single case study is highly useful to understand the changes in individual’s behaviours over time due to culture change interventions. However, more case studies will re-enforce the findings of this research and increase the valuable experience gained from close monitoring of the outcomes.

11.7 Assessment of the Assessment Instruments

(Sparrow, 2001) argued that “although interest in high performance organization cultures can be traced back to the 1970s when researchers and consultants at Harvard, Stanford, MIT and McKinsey began to explore the positive and negative impacts that organization culture could have, 30 years later the organizational effectiveness and culture assessment fields are still driven by long lists of questions”. There are no definitive answers or agreed tools or techniques yet.

Two main assessment methods were used during this research; discussion of their implications is presented in the following two sub-sections.

11.7.1 Keys to Creativity Assessment Instrument

Keys to creativity instrument is highly used around the world as a reliable instrument in testing climate to creativity. Despite its reliability, it is worth mentioning the following points:

1. Keys database was compiled over the years 1987-1995. No updates were found in the literature to date. Considerable changes in the way people perceive creativity has taken place; in addition, the database covers US companies, specifically North American ones, more depth in looking into the influence of using such instrument for other regions of the world is needed. Some questions were relatively difficult to understand even for highly educated participants, some were even described as vague.
2. Although widely used and accepted by many researchers and study centres, this instrument depends entirely on participants’ perceptions. It requires validation

methods to minimize the impact of participants' perspectives of the real situation. How people perceive their working environment might be influenced by various aspects on the day the questionnaire is filled.

APM's GM after the acquisition mentioned in one of the interviews that he does not depend on these assessments for making decisions to the organizational climate as they reflect participants' perceptions rather than true reflection of reality. However, this might be accepted if the interviewed sample is small. Results of climate to creativity assessment conducted in this research were based on a sample of 638 employees. It is difficult to believe that their perceptions do not indicate in the right direction.

3. The instrument is also designed for people working in groups, few of APM personnel work independently without any group, example, APM's information manager is the only person working in his department, he was unable to answer most questions designed for group work. His keys questionnaire was invalid for that reason.

These limitations were partly overcome by interviewing a large sample of APM employees who agreed on a low profile of APM's climate to creativity. Conducting the same questionnaire for very large sample -in fact all employees- showed a tendency towards the results presented in chapter 6.

11.7.2 OCAI Culture Assessment Instrument

Although OCAI analysis is well presented in literature and used by many researchers, limitations were experienced during the data collection and analysis:

1. Terms definition confusion; for example, 'results oriented', 'parent figures', hierarchy versus decentralisation', 'market versus marketing', etc.
2. OCAI analysis forces companies to fall within the 4 specified quadrants leaving no options for companies to be characterised otherwise. Some participants refused to rate APM in the OCAI questionnaire to sum up to 100, they explained that the company does not fall in any of the 4 options of the itemised questions. Their answers influenced the overall result. For example, APM's new GM (post the acquisition) returned OCAI form back without filling it stating that he was unable to average APM's profile within the 4 types and sum that to 100.
3. OCAI claims that companies are expected to change their organizational culture based on the environment needs and challenges, however, OCAI does not include a method to guarantee that influence of the environment is represented anywhere in the OCAI. It

also does not entail assessing the environment as a prerequisite to filling the questionnaire or undertaking the analysis.

4. There is a problem in averaging the data, despite OCAI notification that averaging the data is not a true representation, Cameron and Quinn themselves averaged the data for thousands of organizations and presented it for comparison with the organization's OCAI (refer to pages 77&78) of (Cameron&Quinn, 2006). In APM, individuals who found that OCAI average graphs failed to represent their real positions, took seats a side and refused participating in the discussions referring to this assessment to be unacceptable and in need of further validation.
5. Reaching a consensus on a company's vision, strategy and plan is a prerequisite of studying and assessing the organizational culture using OCAI. Cameron and Quinn's reference above does not prepare the reader that this will be highly needed before commencing into the analysis stage. The analysis was paused at some stage to enable APM agree on its strategy (2006-2010).

In view of the above, a review of OCAI analysis is needed and a reliable statistical analysis method is recommended.

This research recommends using KEYs to creativity in assessing climate to creativity for conducting future research projects; however, OCAI instrument would not receive the same recommendation by this research.

11.8 Resistance to Change

Resistance to change is often cited as a reason for difficulties in implementing and the failure of change initiatives (Erwin&Garman, 2010). (Bovey&Hede, 2001) cited that "500 Australian organizations indicated resistance as the most common problem faced by management in implementing change". McClelland and Atkinson as cited in (Erwin&Garman, 2010) argued for "greater attention to the importance of individual behaviours, needs, values, and motivation in understanding and influencing the success of organizational change efforts". (Jaffe *et al.*, 1994) presented a model of four reactions organizational members experience as they move through the change process:

1. Denial (refusal to believe the change will be implemented).
2. Resistance (not participating or attempting to avoid implementation).
3. Exploration (experimentation with new behaviours), and
4. Commitment (accepting or embracing the change).

Resistance to change have been defined in several ways. Some definitions implied that resistance to change is “a problem that needs to be overcome or eliminated (Piderit, 2000). However, resistance to change is not always a negative act. According to (Mabin *et al.*, 2001), resistance to change “might be useful” to “refine strategic and action plans”. It can also be useful to improve the quality of decision making (Lines, 2004) or to “encourage learning among organization participants” (Msweli-Mbanga&Potwana, 2006).

Studying a defence industry organization involved in a merger of two key departments which involved 800 employees, (Oreg, 2006) described resistance as a “tridimensional (negative) attitude toward change” involving *cognitive*, *affective*, and *behavioural* dimensions. Oreg described these three attitudes toward change as (Description from source):

- The *cognitive* dimension involves how an individual conceptualizes or thinks about change – for example, what is the value of the change? Will the change benefit or harm my department, the organization, or me? Cognitive negative reactions or attitudes towards the change include a lack of commitment to the change and negative evaluations of the change.
- The *affective* dimension of individual reactions involves how one feels about the change. Affective reactions to the change include experiencing such emotions as elation, anxiety, anger, fear, enthusiasm, and apprehension. Affective negative reactions include stress, anxiety, and anger.
- The *behavioural* dimension of individual reactions involves how an individual behaves in response to change – for example: embracing it, complaining about it, and and/or sabotaging it.

(Piderit, 2000) suggested that “individuals operate in all of these dimensions simultaneously, and that they may even be ambivalent about the change in each of these dimensions”.

(Giangreco&Peccei, 2005) studied an Italian electric company and surveyed 359 mid-level managers to assess “the influence of individuals’ perceptions of the benefits of change on attitudes towards change, and ultimately on their level of resistance to change”. They found that “individuals’ perceptions of the actual content and the outcomes of a change initiative and the extent they will personally gain or lose as a result of the change are strong predictors of their attitudes towards change and their level of resistance to the change”. Examining the manager-employee relationship, (Furst&Cable, 2008) found that

the “management tactics and their influence on resistance to change depended on the supervisor-employee relationship”.

Resistance to change was manifested in various ways during the application of this research in APM, for example:

- The DGM hesitation to take up decisions related to establishing creativity and innovation and preferring APM’s status quo (refer to OCAI analysis in chapter 6).
- The personal manager who refused to take part in the research despite its benefits to his department. He believed that there is no need for an HR department in APM and that the personal department was sufficient for this function.
- The trade union organized a strike against management decisions to change the daily meal’s menu and to increase employees pay.

Overcoming resistance to change can possibly be achieved by increasing the awareness of the benefits of the new systems or procedures and involving personnel before the changes commence.

11.9 A View From Inside: A Case of Merger and Acquisition

APM passed through two major changes, one was a merge with API, and the second was an acquisition by Hikma Pharmaceuticals. Although the merge with API which took place in the year 2001 was considered a very important step towards widening its markets and products, cultural mismatches were easily noticed 5 years later during the application of this research. In approximately every interview or visit to APM or API, the issue of “what did we benefit from the merge” was raised. APM personnel believe that they were stronger, have wider range of products and access larger number of markets. On the other hand, API personnel argue that their advanced technology, modern processes and access to the European market formed competitive advantages over APM before the merge.

A sense of anger in both sides was apparent during discussions that API spent thousands of APM’s wealthy financial position on unnecessary equipment for API to keep its European position though not translated into real revenue. Actually due to these arguments and differences, two members of the innovation team who belong to APM’s Sahab factory (former API’s headquarters) refused to continue attending the meetings as was presented earlier in chapter 6. It was clear that efforts to integrate the cultures of APM and API have never been spent neither before the merge, nor 5 years onwards. APM suffered from

cultural mismatches due to the merge with API; however, the cultural portrait of Hikma acquisition has taken a different starting route.

Although the acquisition was rapid, unexpected and dramatic over night, absorbing the impact of the change on APM's employees by Hikma was manifested as follows:

- A meeting with Hikma CEO and other board members with all APM's employees, one week following the acquisition. In this meeting, Hikma leaders listened to APM employees, their needs, expectations and hopes for the future.
- The initial resistance to change was absorbed by a flat increase of salary by JD50 for all employees.
- A promise to increase rewards and salaries according to performance and achievements.
- A change in directors/managers, at the time of the research, only 2 out of 18 original APM managers remained in their positions, others were either released, repositioned or on early retirement.
- Hikma brought new IT, manufacturing, and Quality systems, simply new ways of doing nearly everything.

According to Schein's three cultural 'patterns' upon merger/acquisition presented in section 2.9, Hikma acquisition falls in the *domination* pattern where a company takes over the other.

11.10 Implications of Spirituality, Ethics and Business

While some scholars claim that there is a relationship between religious and ethical systems and business practice, few (Hill, 2009) argued that "it is hazardous to make sweeping generalizations about the nature of the relationship between religion and ethical systems and business practice in a world where nations with Catholic, Protestant, Muslim, Hindu, and Buddhist majorities all show evidence of entrepreneurial activity and sustainable economic growth". Alternatively, recent research by economists (Barro&McCleary, 2003) does suggest that "strong religious beliefs, and particularly beliefs in heaven, hell, and afterlife, have a positive impact on economic growth rates, irrespective of the particular religion in question". Barro and McCleary looked at religious beliefs and economic growth rates in 59 countries during the 1980s and 1990s. Their assumption was that "higher religious beliefs stimulate economic growth because they help

to sustain aspects of individual behaviour that lead to higher productivity”. Supporting this point of view, (Rossouw, 1994) pointed that someone with a Christian value of life cannot be careless in the workplace about product and quality standards that pose a threat to the lives of consumers or employees. In addition, (Friedman, 2007) stated that “developing a code of ethics based on Biblical principles is an important step in caring for both the organization and society”. Friedman derived from the Bible twelve principles that can be used to establish the moral justification of a corporate code of ethics.

However, (Hill, 2009) emphasized that “it is important to view such proposed relationships [between religions and economic] with a degree of scepticism, the proposed relationships may exist, but their impact is probably small compared to the impact of economic policy”.

Differentiating between spirituality and religion, (Dean, 2004) during an interview with Ian Mitroff- author of ‘A spiritual Audit of Corporate America’ (Mitroff&Denton, 1999) stated that “religion and spirituality are not the same. For some people they are, but that’s just one of the forms of integration. Given the right tools, people realize that there is an overlap between religion and spirituality but there are also non-overlaps”.

Although spirituality is a relatively new idea in the workplace (See for example, (Long&Mills, 2010); (Marques, 2005); (Jurkiewicz&Giacalone, 2004); (Heaton *et al.*, 2004); (Dean *et al.*, 2003); (Benefiel, 2003) ; (Neal&Biberman, 2003); and (Dean *et al.*, 2003), it is certainly not a new idea elsewhere in human experience. All of the great religious traditions at some level encourage the contemplative life, in which the search for meaning and purpose is primary and the goal of living in harmony with others is fundamental (Ashmos&Duchon, 2000). In 1999, the board of the Academy of Management approved the formation of a new interest group on ‘management, spirituality, and religion’. By this act, the Academy provided legitimacy and support for research and teaching in this newly emerging field (Neal&Biberman, 2003).

Despite the formation of this interest group, “organizations’ scholars have been slow to incorporate religion and spirituality into their research” (King&Crowther, 2004). Studying the impact of spirituality on team work effectiveness, (Daniel, 2010) proposed that “workplace spirituality is an element of the organizational culture and that it has an important effect on team effectiveness. In this sense, trust, creativity and respect are highlighted as being important attributes presented in those organizations in which workplace spirituality is encouraged”. He viewed workplace spirituality as an “element of

organizational culture that creates a unique environment within the workplace and enables employees to foster their capacities” and that companies “can gain positive benefits by developing a humanistic environment in which workers can achieve their full capacity”.

On the other hand, spirituality is considered “one of the most important determinants of organizational performance” and “competitive advantage” (Mitroff&Denton, 1999).

In this research, spiritual values were used to motivate the QU employees for better performance and high morale. Although the outcomes were only measured using interviews of the participants, this research provides an indication that utilizing spiritual values are key features in the research on employees’ motivation by linking it to spirituality and organizational change literature. However, as this area of research was not fully tested during this research, it is presented for further discussions and future research.

11.11 OD, A View outside the Box: Introducing ‘*Change by Values*’ Approach

OD is a unique organizational improvement strategy that has emerged in the late 1950s and early 1960s. It has evolved into an integrated framework of theories and practices capable of solving or helping to solve most of the important problems confronting the human side of organizations (French&Bell, 1998). OD’s behavioural science foundation support values of human potential, participation, and development (Cummings&Worley, 2009). Although this is a stated distinguishing OD feature, this support to human values is not clearly defined in literature.

What complicates the matter even further is when OD is used outside its mainland foundation upon exporting it to other countries where values largely influence individuals in organizations. (Jaeger, 1986) illustrated in his study the usefulness of looking at the values specific to a particular OD intervention when examining the applicability of OD for a given cultural configuration or national culture. He stated that “there is a need for a broader repertoire of interventions or approaches that can bring about necessary planned organizational change without running counter to accepted values in these areas”. This is largely true for Multinational companies -specifically Western companies- investing in other parts of the world and OD practitioners where variations in culture and appreciation of other values can be determinants of success or failure. Supporting this argument, (Hill, 2009) suggested that management processes and practices may need to “vary according to culturally determined work-related values. For example, if the cultures of the United States

and France result in different work-related values, an international business with operations in both countries should vary its management process and practices to account for these differences”.

OD and its action research based methodology provided an important attention to individual's values upon applying the model developed for this research, however, it has fallen short in providing the tools for this application and in particular for organizations which employ individuals largely influenced by their spiritual values.

Based on this, a new approach in applying OD interventions is needed. This research suggests that this approach be named as '*Change by Values*' approach.

11.11.1 'Change by Values' Approach

'*Change by values*' is possibly a new approach in planned OD interventions. It involves modifying the change process to the organization's cultural context, including the values held by members in a particular country or region. '*Change by Values*' is defined as:

Appreciating and utilizing the values of the personnel involved in OD change interventions for successful long-term change effect.

'*Change by Values*' approach serves for the successful implementation of OD intervention models such as the ICE model in countries where values are largely founded in organizational cultures which influence individual behaviours in organizations.

The approach depends upon utilizing employees' spiritual beliefs as intrinsic motivating factor to enhance the culture changing process considering better performance as a reward in itself. Using '*Change by Values*' approach, the employees become part of the change, empowered in applying it, and are willing to support others to be part of it. It might however be more appropriate for situations where strong beliefs and values prevail.

This approach was partially used as intrinsic motivator upon applying the ICE model in APM as was presented in chapter 8, however, due to time limits, it was not possible to examine its impact any further and is therefore suggested for future research in the following chapter.

11.12 **Limitations**

Conclusions of this research are based on a single in depth case study. Further studies are necessary to provide similar experience in other sectors and other countries.

11.13 **Summary**

Concluding this discussion chapter provides that research aims and objectives have been accomplished. This research provided insightful experience into applying innovation culture in organizations. It showed various aspects that can be found in any other organization.

The following chapter provides this research's contributions and concluding remarks.

CHAPTER 12
CONCLUSIONS
AND FUTURE RESEARCH

12. Conclusions and Future Research

12.1 Introduction

This chapter presents the research contributions, conclusions and suggestions for future research.

12.2 Research Contributions

The research in this thesis has investigated innovation culture as a major determinant of successful continuous innovation. It has particularly contributed to the body of knowledge as summarized below:

1. The development of the Innovation Enhancing Model (The ICE Model), which was based upon the literature survey, and available models in change management, innovation, and culture models is unique and forms a significant contribution to the innovation literature. The Model's main three dimensions (1) Leaders as change agents, (2) Shared work values, (3) Motivation, provide insights on how to establish an innovation culture in organizations for better performance and enhanced creativity. The ICE model was refined by adding two important pre-contexts in order for OD practitioners and change agents to appreciate the need for understanding the national culture and the influence of organizational environment. The dimensions developed to introduce changes in organizational culture are original and represent original contribution of how their relationships exist in organizations.
2. The application of the model in an in-depth study provided an original contribution as it followed the entire process of cultural change from intentions and aspirations to the outcomes via change practices and responses in real time. Studies into culture change commonly provide '*recipes*' for change which are highly theoretical. The research discussion and recommendations were based upon rich and valuable experience developed during a long interaction with the individuals affected by the change. This experience has influenced the appreciation of the need for modifications to OD practice.
3. The introduction of '*Change by Values*' approach which involves modifying the change process to the organization's cultural context, including the values held by members in a particular country or region, and utilizing individual's spiritual beliefs in the change process in order to facilitate the culture change intervention. Spiritual

values were utilized to motivate individuals to achieve better performance in their work place. A model was provided composed of three levels representing the interaction of shared work values in an organization and the reciprocal relationships (refer to Figure 18 on page 63).

4. As OD is imported to application outside the US and Western societies, this research contributed in indicating the implications of the Middle East national culture on OD practitioners and MNCs for successful future interventions and investment. It also brought together important insights into the values that largely influence businesses providing a valuable source for western business investing in the Middle East by presenting a unique experience within an Islamic faith context.

12.3 Conclusions and Recommendations

12.3.1 Innovation Culture is Essential for Continuous Innovation

The comprehensive literature review carried out as part of this research has highlighted the need for adopting an innovation culture for continuous and permanent innovation.

In a turbulent business environment, organizations have learned that innovation capabilities do not lie within established processes and systems to achieve competitiveness, but rather within an embedded culture that is flexible enough to allow free expression of creative ideas and provide supportive organizational climate for this culture to continue. Innovation culture is essential for continuous permanent innovation capability.

This research recommends that fulfilling individuals' needs and aspirations is essential for building an innovation culture in organizations. It concludes that it is individuals themselves who serve as the great potential of any organization. They are the ones who think of new ideas, exploit, and search for new opportunities and explore horizons. Organizations need to maintain their individuals' creativity skills, ability to adopt flexible cultures which value different ways of thinking and expressions, effective communication and team working, which are all essential for inward and outward survival.

12.3.2 National Culture and Organizational Environment

This research recommends the thorough study of the 6 determinants of national cultures and the organizational environment to provide an effective intervention designed for organization effectiveness. The impact of the national culture and organizational

environment can have high impact on determining the successful application of OD interventions. This was experienced in a Middle East context as it was found that the individuals' spiritual beliefs largely shaped behaviours and traditions of accepting/rejecting the change. This was manifested by employees' willingness to improve their performance as a vehicle to satisfy their spiritual beliefs. It is recommended for OD applications to carefully consider the impact of national cultures on the individuals affected by the change to adjust interventions accordingly and study the possibilities of utilizing spirituality if it does exist in the workplace for an effective and long term change.

12.3.3 Action Research Methodology is Valuable for OD Interventions

Action research generates new knowledge based on monitoring daily developments and changes in the individuals, the work environment and outcomes. The experience gained from this research recommends action research as an effective research methodology for applying OD interventions especially the interventions focused on culture change.

It is highly recommended that the change agent or OD practitioner studies the context before designing the intervention, gains managerial support, appreciates individual's values and spiritual needs, and adjusts the interventions accordingly. It was found out that if the personnel affected by the change were involved in its design and implementation stages, they are more likely to adopt the change and maintain it over a long period of time. The QU which was involved in the interventions presented in this research was able to maintain a continuous application of the interventions after the research period. This was manifested by managers and employees working in teams, extended leadership training, respecting new ideas, monitoring KPIs results, the new ideas box, social newsletter, motivation and empowerment. Maintaining a continuous OD intervention post the implementation stage is essential by adopting the changes as daily routines by the individuals themselves who act as change pioneers and agents.

12.3.4 Assessment Instruments

This research recommends the use of Keys to creativity instrument as a reliable method to assess the climate to creativity of a company. Despite its limitations described elsewhere during the thesis, it remains one of the best known and widely used instruments. However, the OCAI instrument was restricted by its many limitations and is recommended for further development and modifications especially with regard to its emphasis on grouping organizations into four specific types of cultures. Organizations might not satisfy the characteristics of any of the four types as was experienced in this research.

12.3.5 Resistance to Change is Inevitable

This research experienced resistance to change as is the case with any culture change programs. The management and the OD practitioner need to address this issue before commencing the program and possibly name it as part of a new strategy or development rather than ‘culture change’.

12.3.6 Culture is a Determinant of Success or Failure in Mergers/Acquisitions

This research recommends that culture understanding of both organizations undertaking a merger/acquisition activity is essential. Many organizations failed due to neglecting an integration of both cultures.

12.3.7 OD and Multinational Companies

This research recommends that companies investing around the world should consider adjusting their entry strategy, their cultural behaviours to respect those of the targeted markets for higher possibility of success. OD interventions do need to be adapted to the organizational cultures whenever OD practices are introduced in countries where spiritual values are prevalent.

12.4 Future Research

This section presents suggestions for future research.

12.4.1 ‘Change by Values’ Approach

This research introduced the ICE model serving as a framework to follow in order to achieve better performance and competitiveness by a high level of adaptability to changes in the business environment. Although the ICE model presented in chapter 3 served to provide managers and practitioners with the variables likely to influence the change process to increase innovation capabilities, the changing process itself required a holistic approach to be implemented. This holistic approach takes the view that to introduce a long time duration and high impact change, people affected by the change need to be involved in the change process.

The ‘Change by Values’ approach suggests that spiritual values should be utilized to achieve better involvement and high motivation for successful change application, hence, minimizing the inevitable resistance to changing initiatives. This approach was used in a small scale in APM and needs further study and modifications to allow generalization.

12.4.2 Utilizing Spiritual Beliefs for Better Creativity and Performance

In countries like Jordan and the Middle East in general, where most employees are largely influenced by their spiritual beliefs, OD interventions is expected to be successful by utilizing these spiritual beliefs to achieve better performance.

(Ali, 2005) claimed that “the positive view of change in Islam should be a motivating factor for OD practitioners and consultants. OD techniques and intervention methods, however, should be modified to be in harmony with cultural norms and expectations”. Based on the above, suggestions for future research in this regard include the use of spiritual beliefs and values as motivating factors in cultural change programs in organizations where these spiritual beliefs are present.

12.4.3 The ICE Model

It is suggested for future research to test the ICE Model and the relationships of its dimensions (1) Leaders as change agents, (2) Shared work values, and (3) Motivation in other types of industry, different company sizes and in other countries. In addition, studying the influence of other factors in organizations that might have impact on developing innovation in organizations.

12.4.4 A Guide for OD and MNCs

It is suggested for future research to expand the guiding information presented in section 10.4 on page 222 and produce it in a form of a guide and CD to be available for OD practitioners and companies investing in the Middle East region.

12.4.5 Culture Change and Organizational Growth

(Schein, 2004) suggested that the way in which culture can and does change depends on the stage at which the organization finds itself (See Table 42 below). For example, when culture is in the growth stage, the ways for manipulating the mechanisms of embedding are also the ways to initiate change in the culture; that is, leaders can change what they pay attention to, control, and reward; their role modelling and coaching; how they allocate resources; how they select, promote, and ‘deselect’ people; and the organizational structures and processes they create. However, once the culture has stabilized in the evolution of a given organization, different possibilities for culture change arise, because of the particular function that culture plays at each developmental stage. The organization development theory produced by (Greiner&Schein, 1988) is helpful when examining the problems associated with growth in organizations and the impact of change on employees.

Organizational Stage	Change Mechanism
Founding and early growth	<ol style="list-style-type: none"> 1. Incremental change through general and specific evolution 2. Insight 3. Promotion of hybrids within the culture
Midlife	<ol style="list-style-type: none"> 4. Systematic promotion from selected subcultures 5. Technological seduction 6. Infusion of outsiders
Maturity and decline	<ol style="list-style-type: none"> 7. Scandal and explosion of myths 8. Turnarounds 9. Mergers and acquisitions 10. Destruction and rebirth

Table 42- Organizational stages and change mechanism, Source (Schein, 2004)

It is suggested for future research to study the relationship between organizational developmental stages and organizational growth suggested by Schein and Greiner on culture changes interventions to modify the approaches used according to the organizational stage and development.

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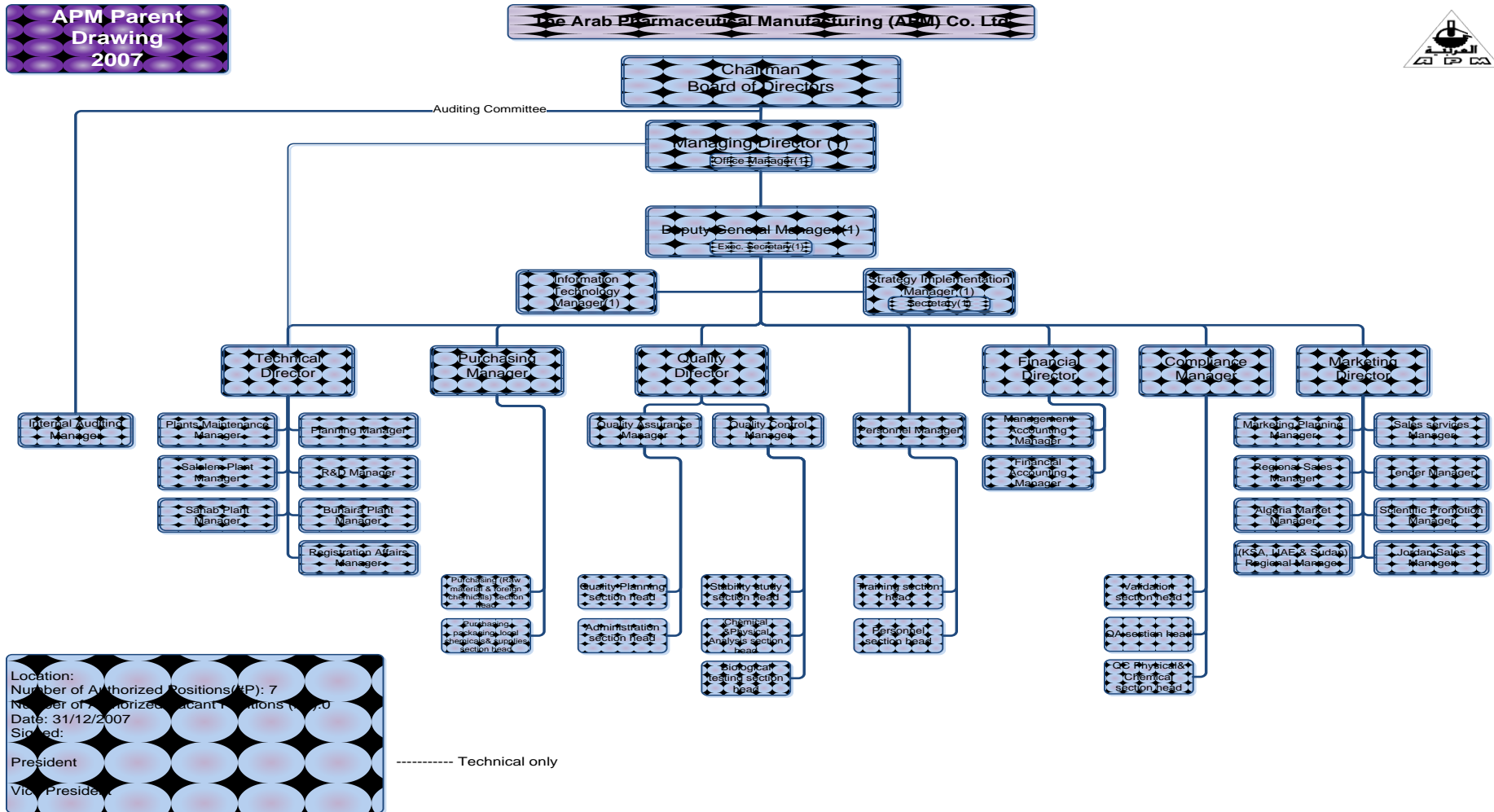
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Appendices

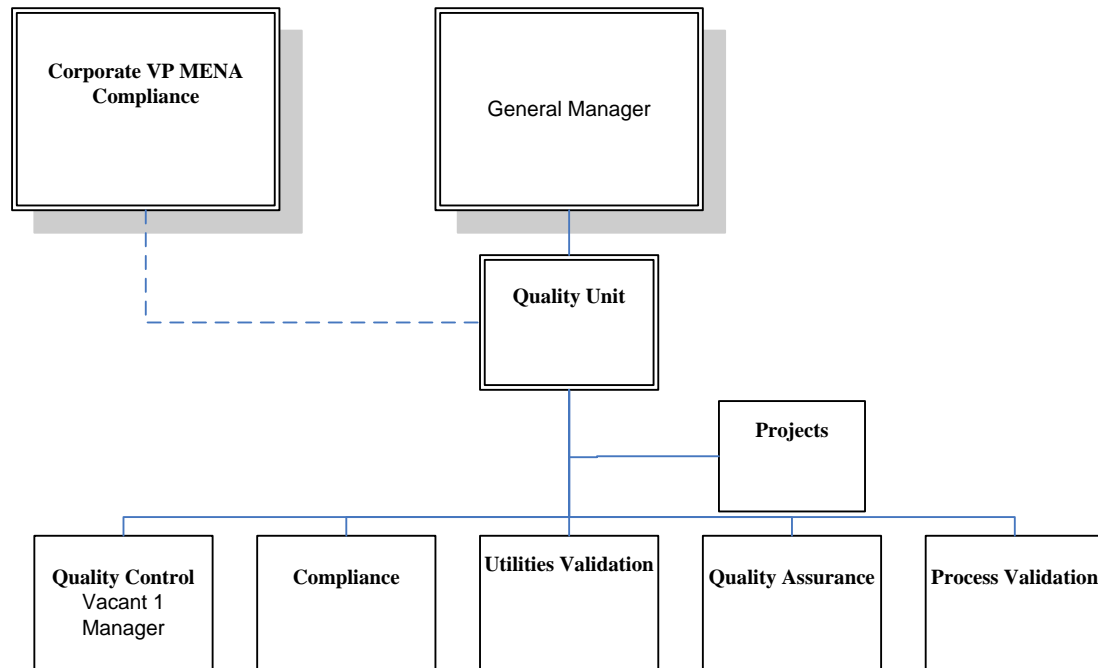
APPENDIX 1- APM ORGANIZATION CHART	263
APPENDIX 2 - QUALITY UNIT ORGANIZATIONAL CHART	264
APPENDIX 3- CURRENT CLIMATE CHARACTERISTICS QUESTIONNAIRE	265
APPENDIX 4 EXAMPLE OF CURRENT CLIMATE CHARACTERISTICS WORKSHOP	266
APPENDIX 5 - EXAMPLE OF CURRENT CLIMATE CHARACTERISTICS CONSOLIDATION	268
APPENDIX 6- INDIVIDUAL OCAI	270
APPENDIX 7- ORGANIZATIONAL CULTURE ASSESSMENT INSTRUMENT (OCAI) WORKSHOP	275
APPENDIX 8- ITEMISED AVERAGES	279
APPENDIX 9- HR PROPOSAL	282
APPENDIX 10- APM ORGANIZATION CHART AFTER THE INTERVENTION	286
APPENDIX 11- LEADERSHIP SKILLS	287
APPENDIX 12 - QU ATTRIBUTES	289
APPENDIX 13 QUALITY TEAM (SAMPLE SHEETS)	290
APPENDIX 14- QU ORGANIZATION CHART –POST THE CHANGE	292
APPENDIX 15 –FLOW CHARTS	293
APPENDIX 16- EXAMPLE OF BRAINSTORMING SESSIONS.....	296

Appendix 1- APM Organization Chart

APM Parent Drawing 2007



Appendix 2 - Quality Unit Organizational Chart



Appendix 3- Current Climate Characteristics Questionnaire

Results of 15 replies out of 17 questionnaires sent to APM managers on the presence of CCCs in APM

Current climate characteristics CCCs(Pros)	Strongly agree	Agree	Disagree	Strongly disagree
High level of loyalty	1	6	7	0
Self-driven despite lack of motivation	0	11	6	0
Team- spirit within departments	0	9	4	1
In-process of upgrading and changing	1	15	0	0
High level of expert personnel available	1	11	3	1

Current climate characteristics CCCs(cons)	Strongly agree	Agree	Disagree	Strongly disagree
Gossip	8	8	0	0
Depression	8	8	1	0
Lack of trust	4	7	5	0
Lack of clear strategy	3	11	2	0
Self-centred orientation	1	9	1	0
Poor communication	4	11	2	0
Poor recognition	5	10	1	0
Tribes dominated	2	7	5	1
Double standards in decision-making	7	6	2	0
Conflict due to merge	3	11	2	0
High level of misunderstanding	3	9	2	0
Hypocrisy	3	10	2	0
Lack of time respect and management	5	11	0	0

Current climate characteristics (cons)	Agree+ Strongly agree	Disagree+ strongly disagree
Gossip	16	0
Depression	16	1
Lack of trust	11	5
Lack of clear strategy	14	2
Self-centred orientation	10	1
Poor communication	15	2
Poor recognition	15	1
Tribes dominated	9	6
Double standards in decision-making	13	2
Conflict due to merge	14	2
High level of misunderstanding	12	2
Hypocrisy	13	2
Lack of time respect and management	16	0

Appendix 4 Example of Current Climate Characteristics workshop



Innovation Team
Meeting 6



**Example of
Current Climate Characteristics Workshop
'Lack of time respect and management' orientation**

This workshop aims at investigating current climate characteristics extensively. Each characteristic stated and voted for in previous meetings of the innovation team will be investigated. This investigation includes definition, reasons, methods of improvement and finally plan of action. Please follow the instructions carefully.

⇒ **Instructions**

Group's admin

1. Your group should be composed of 5-6 people chosen randomly
2. Choose group's chair (using secret voting) and secretary, chair will be group's speaker and presenter, secretary will undertake writing your views, counting votes, etc.
3. Group members are:
 - 1)
 - 2)
 - 3)
4. Chair is: _____ Secretary is: _____

Workshop

1. Define your characteristic (use short specific terms):
'Lack of time respect and management' orientation' is:
2. Write in the table below all the reasons for 'Lack of time respect and management orientation' in APM mentioned by innovation team members (answers slips are provided). If you need extra space, please use another sheet of paper but do not exceed 10 reasons.
3. Integrate answers but avoid duplication
4. Vote whether each reason exists in APM or not

No.	Reasons (use short and specific words)	Vote 'YES'	Vote 'NO'
1.			
2.			
3.			
4.			
5.			

State Methods of improvement on the top management behalf and the individuals' behalves.

No.	Methods of improvement	
	On top management behalf	On individuals' behalves
1.		
2.		
3.		
4.		
5.		

5. Develop APM's plan of action for the above recommended improvements
This group recommends the following practical plan of action to minimise the state of 'Lack of time respect and management' orientation' in APM
6. Chair to present workshop outcomes to audience

**Example of
Current Climate Characteristics Workshop (Pros)
High level of Loyalty**

This workshop aims at investigating current climate characteristics extensively. Each characteristic stated and voted for in previous meetings of the innovation team will be investigated. This investigation includes definition, suggestions for sustainability and finally plan of action.

Workshop

1. Define your characteristic (use short specific terms):

High level of Loyalty is:

2. State Suggestions for sustainability on the top management behalf and the individuals' behalves.

No.	Suggestions for sustainability	
	On top management behalf	On individuals' behalves
6.		
7.		
8.		
9.		
10.		

3. Develop APM's plan of action to sustain 'High level of loyalty'

This group recommends the following practical plan of action to sustain 'High level of loyalty'

- 1.
- 2.
- 3.
- 4.

Appendix 5 - Example of Current Climate Characteristics consolidation



**Innovation Team
Meeting 9**

**Example of
Current Climate Characteristics Consolidation Workshop
Group3**

Directions

1. Kindly consolidate the methods of improvement and plans of action in the following three current climate characteristics by:
 1. eliminating similarities
 2. avoiding overlapping
2. Assign related responsibilities to the departments and individuals in concern in the sheet below
3. Define deadlines for achieving the assigned tasks
4. Implement **SMART**¹⁶ rule of thumb to prepare a plan of action:
 1. **Specific**: precise and unambiguous actions
 2. **Measurable**: actions' accomplishment can be assessed
 3. **Achievable**: actions are possible and doable
 4. **Realistic**: actions are reasonable and practical
 5. **Time-Bound**: actions can be achieved within a time frame

APM Current Climate Characteristics (cons)

No	Characteristic	Methods of improvement		Plan of action
		On top Mngt Behalf	On individuals behaves	
1.	High level of misunderstanding	<ol style="list-style-type: none"> 1. Clear vision, objectives, and strategy 2. Training on communication skills 3. Commitment to promises 	<ol style="list-style-type: none"> 1. Clarify and confirm 2. Training 3. Commitment 4. Ignore rumours and gossips 5. Work in teams 6. Avoid jumping to conclusions 	<ol style="list-style-type: none"> 1. Communicate vision, objectives and strategy to all levels 2. 'Communication skills' training 3. Enhance social activities 4. Establish clear systems e.g. HR
2.	Poor communication	<ol style="list-style-type: none"> 1. Training on communication skills 2. Develop communication system 3. Consolidate the three sites 4. Clarify responsibilities 	<ol style="list-style-type: none"> 1. Self development 2. Follow up effectively 3. Better cooperation 	<ol style="list-style-type: none"> 1. Increase training budget 2. Create HR system 3. Adopt internal communication system 4. More social meetings 5. More coordination meetings
3.	Lack of time (respect and management)	<ol style="list-style-type: none"> 1. Assigning clear responsibilities 2. Training programs (time Mngt) 3. Follow up and accountability 4. Proper auditing and feedback systems 	<ol style="list-style-type: none"> 1. Being responsible and respect deadlines 2. Proper planning 	<ol style="list-style-type: none"> 1. Training on time management 2. Clear job description 3. Motivation, appraisal and evaluation systems. 4. Proper planning

¹⁶ From the learn server on www.lboro.ac.uk

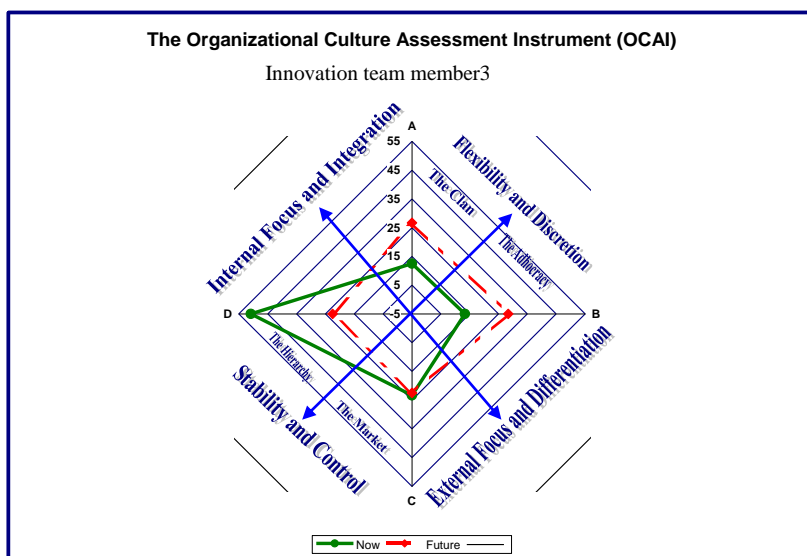
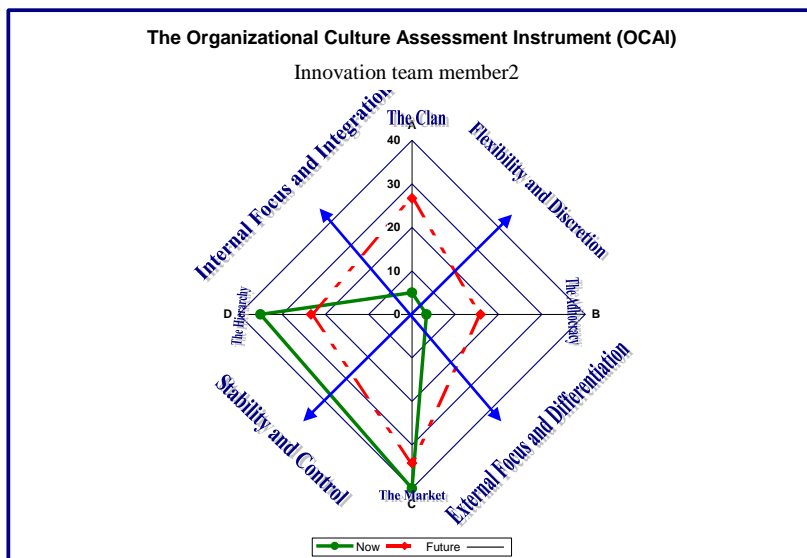
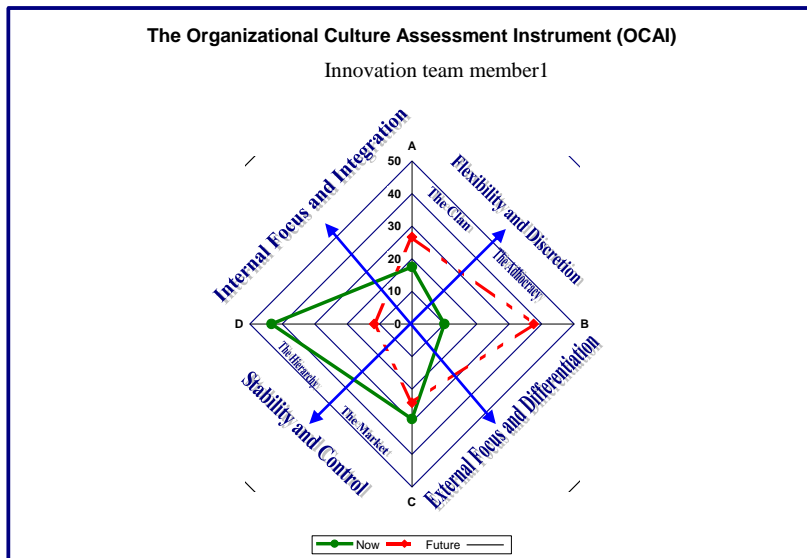
APPENDICES

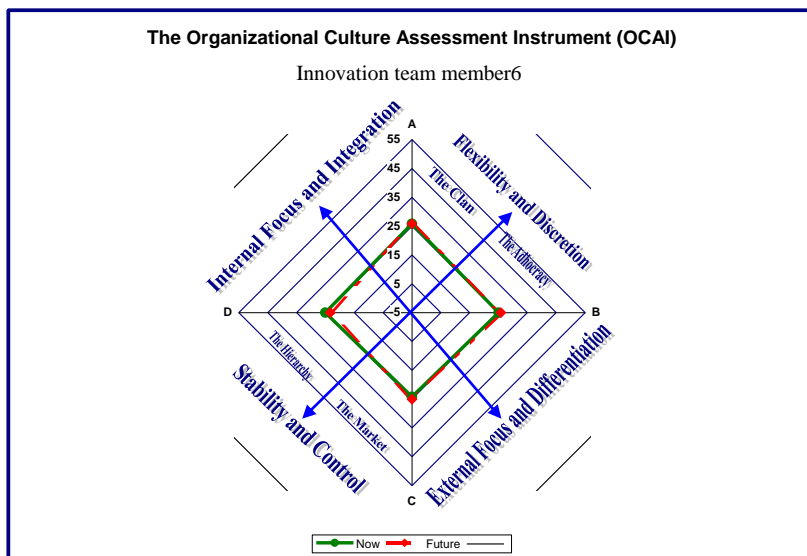
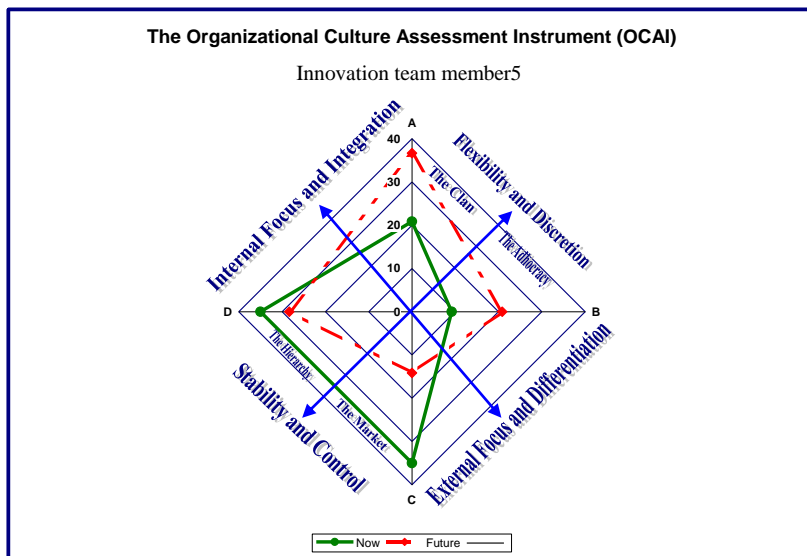
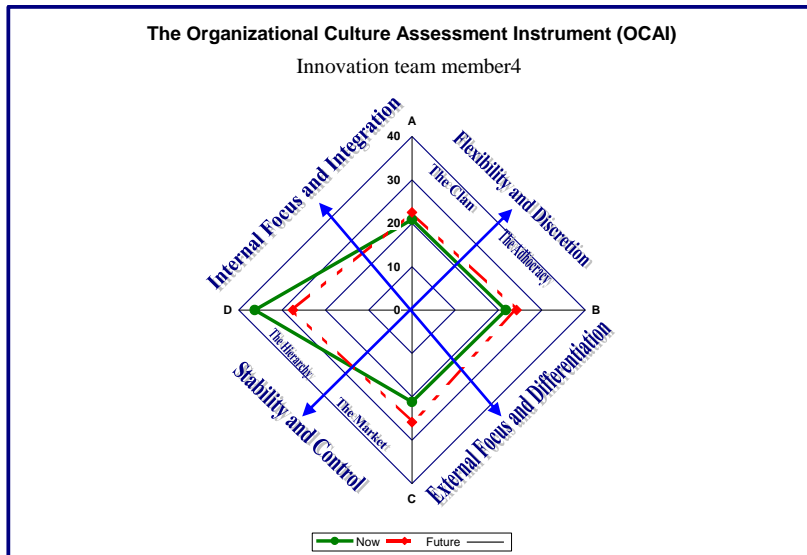
		5. Proper planning 6. Motivation		
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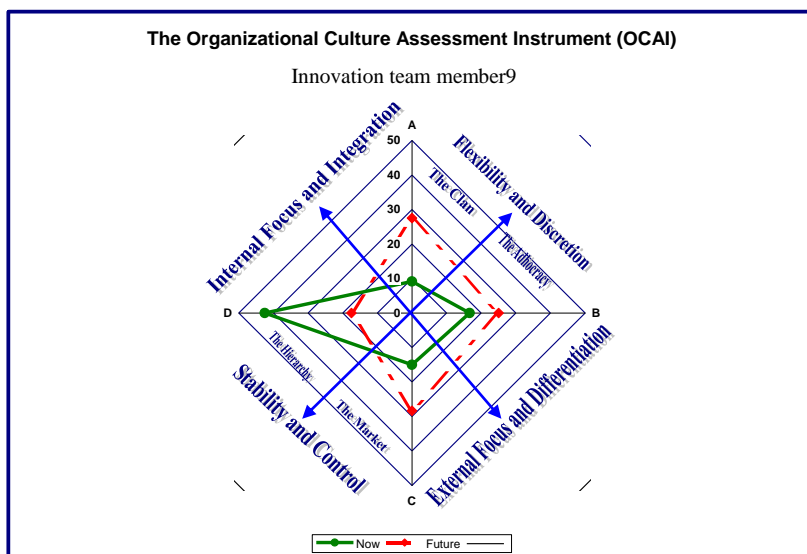
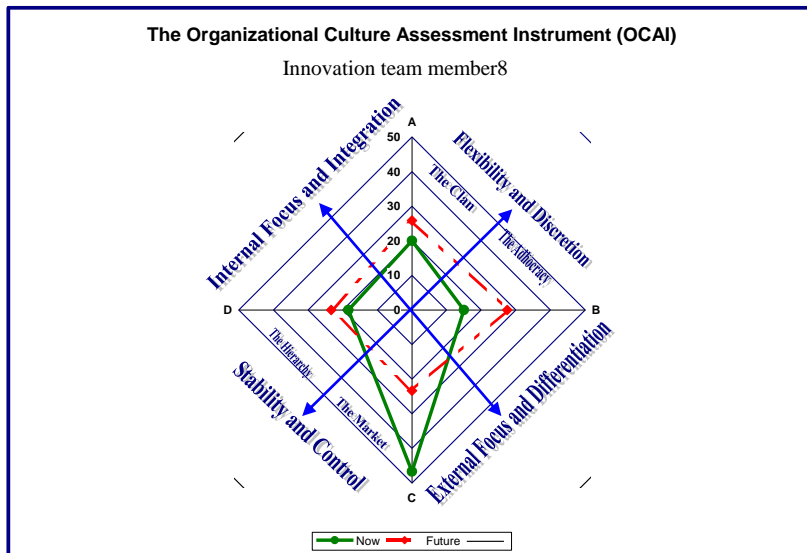
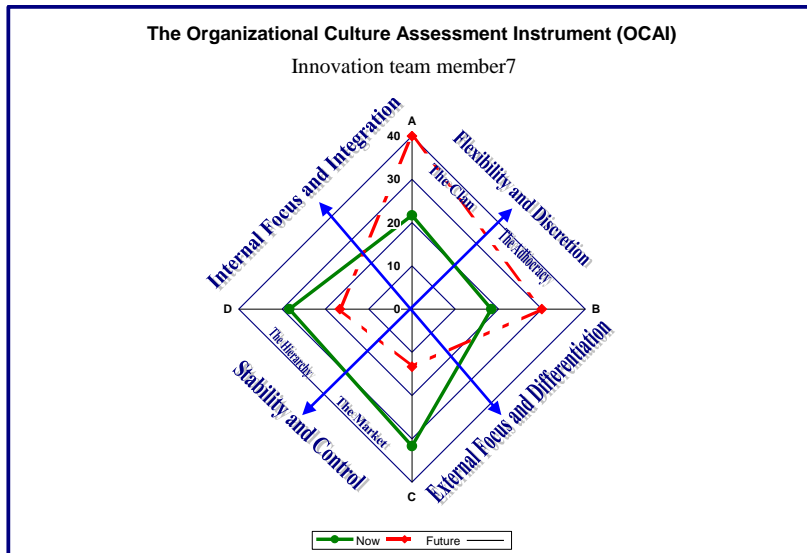
Consolidated Plan of action (High level of misunderstanding, Poor communication, Lack of time (respect and management))

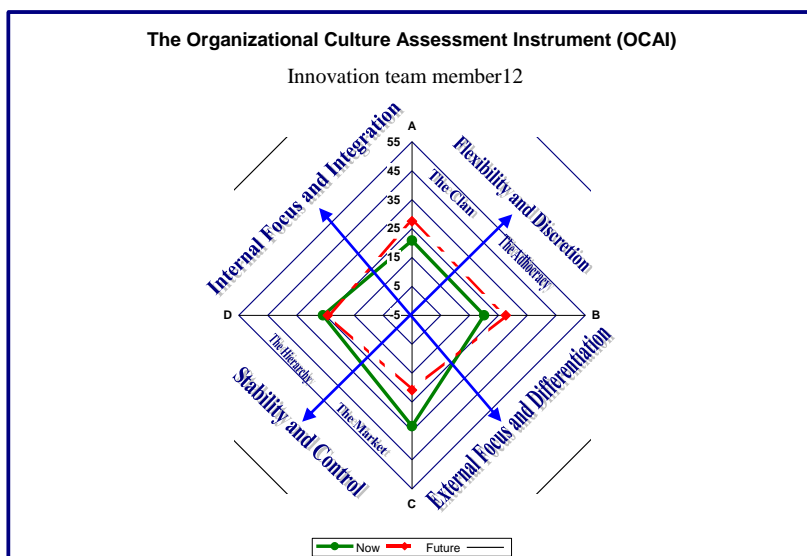
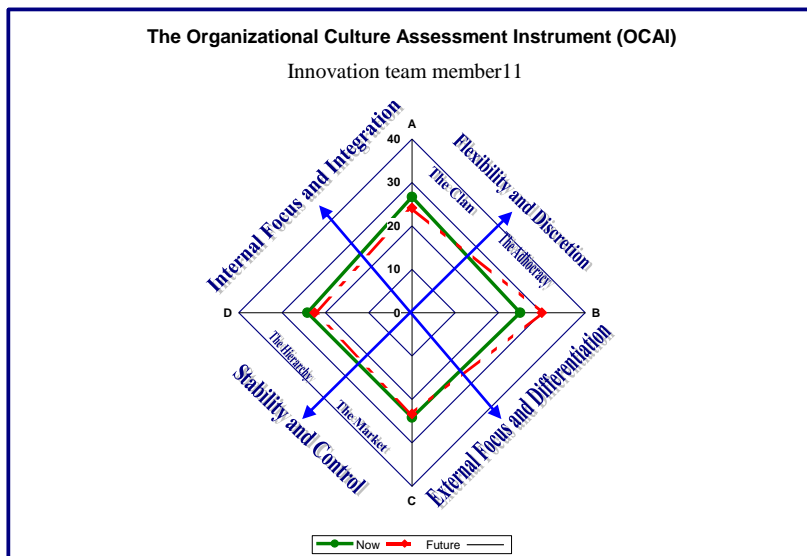
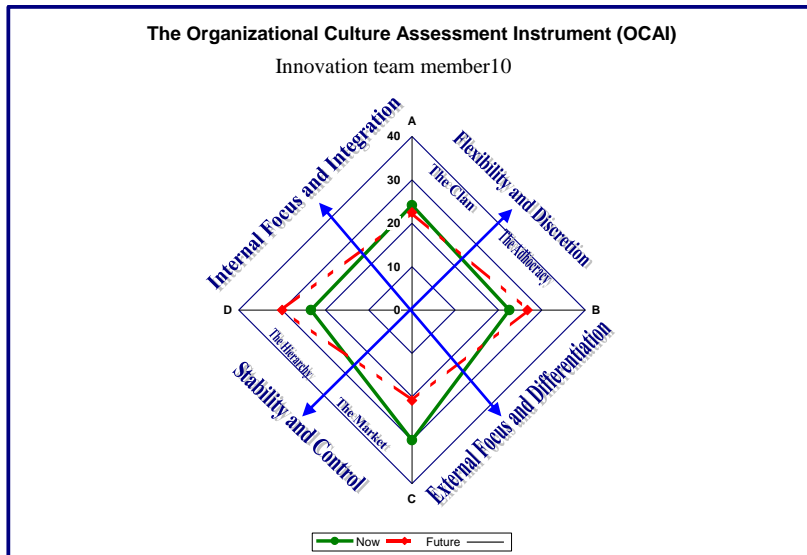
Action	Responsibility of (Name department and person)	Deadline
1.		
2.		
3.		
4.		
5.		

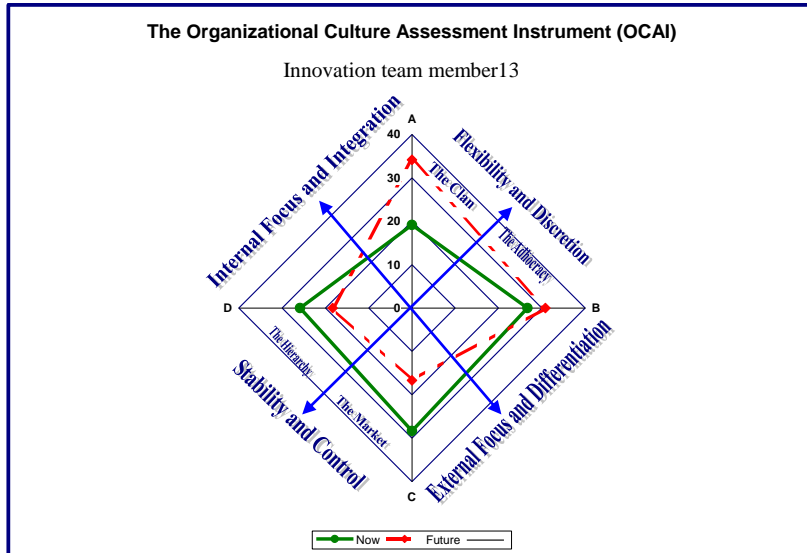
Appendix 6- Individual OCAI











Appendix 7- Organizational Culture Assessment Instrument (OCAI) Workshop

Clan Culture

Instructions:

1. Tick whether you wish to increase, decrease or remain the same in this quadrant
2. suggest 'what does it mean', 'does not mean' to increase, decrease or remain the same, some ideas are included below

√ Increase

Decrease

Remain the same

Means:

- Survey and meet employees needs
- Promote teamwork and participation
- Support and recognize team players
- Foster better morale through empowerment
- Create higher levels of trust and transparency
- Express more obvious concern for people
- Provide chances for self-management
- Loyalty and commitment
- Improve level of communication
- Focus on customer satisfaction
- Parent (coaching, motivating, guiding, accounting, facilitating)

Does Not Mean:

- Becoming undisciplined and overly permissive
- Not working hard and having high expectations
- Forgetting about stretch goals
- Protecting underperformers
- Freedom without responsibility
- Favorism
- Lack of hierarchy respect
- Parent does not mean tolerating incompetence



**Organizational Culture Assessment Instrument (OCAI)
Workshop
Adhocracy Culture**

Instructions:

1. Tick whether you wish to increase, decrease or remain the same in this quadrant
2. suggest 'what does it mean', 'does not mean' to increase, decrease or remain the same, some ideas are included below, amend as appropriate

√ **Increase**

Decrease

Remain the same

Means:

- Put dynamism back into the business
- Encourage calculated risk taking
- Foster creative alternatives and innovation
- Make change the rule, not the exception
- Become a more forward-looking organizational
- Create innovation programs
- Clarify a vision of the future
- Acknowledge and recognize creative people
- Visionary leaders
- Leaders in new products and services

Does Not Mean:

- Running the business with an irresponsible way
- Disregarding customer requirements
- Selfishness
- Missing goals
- Taking unnecessary and uncalculated risks
- Abandoning careful analysis and projections



Organizational Culture Assessment Instrument (OCAI)

**Workshop
Market Culture**

Instructions:

1. Tick whether you wish to increase, decrease or remain the same in this quadrant
2. suggest 'what does it mean', 'does not mean' to increase, decrease or remain the same, some ideas are included below, amend as appropriate

- Increase
- Decrease
- Remain the same with fine tuning towards decrease

Means:

- Do not drive for numbers at all costs
- Focus on key goals
- Constantly motivate our people
- Adapt to human as well as market needs
- Remember that we still need to make money

Does Not Mean:

- Ignoring the competition
- Losing the spirit of winning and our will to be number one
- Missing extended goals and targets
- Neglecting the customer
- Missing profit projections and budget
- Stop looking at results



Organizational Culture Assessment Instrument (OCAI)
Workshop
Hierarchy Culture

Instructions:

1. Tick whether you wish to increase, decrease or remain the same in this quadrant
2. suggest 'what does it mean', 'does not mean' to increase, decrease or remain the same, some ideas are included below, amend as appropriate

- Increase
- Decrease
- Remain the same

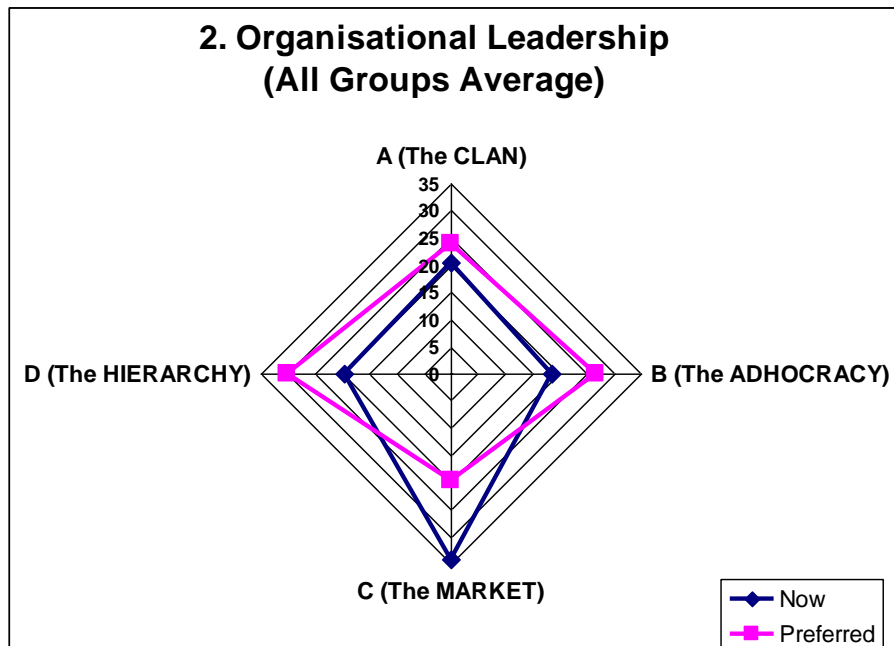
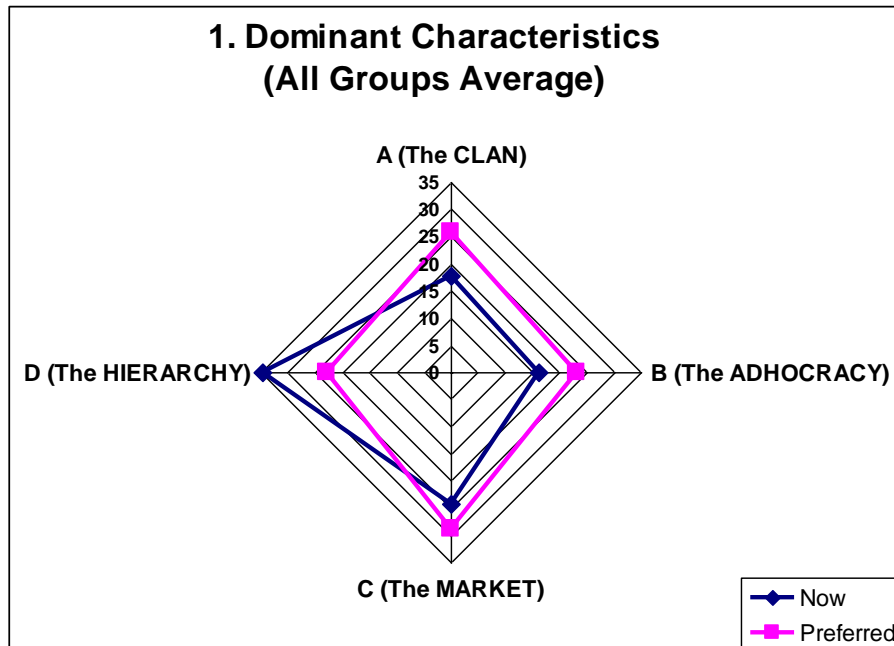
Means:

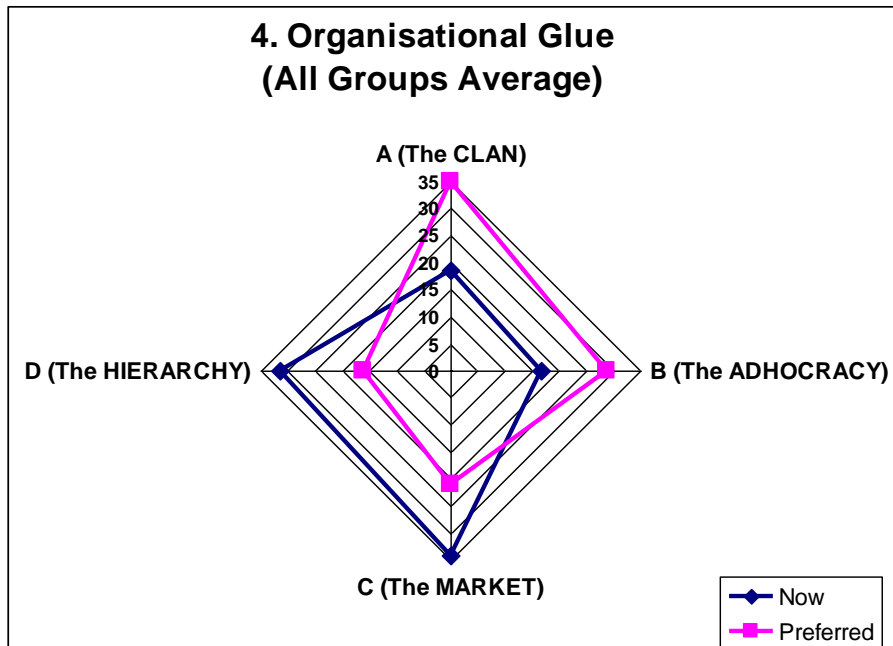
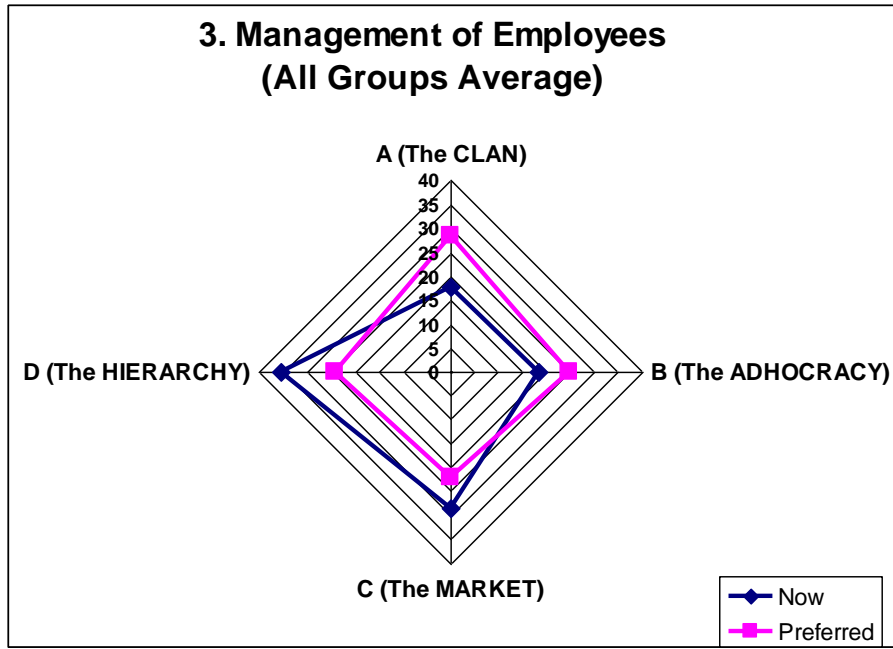
- Eliminate useless rules and procedures
- Eliminate unneeded reports and paperwork
- Remove unnecessary constraints
- Push decision making down (delegation)
- Enhance delegation through proper system
- Review current systems
- Increase accountability
- Decrease centralisation

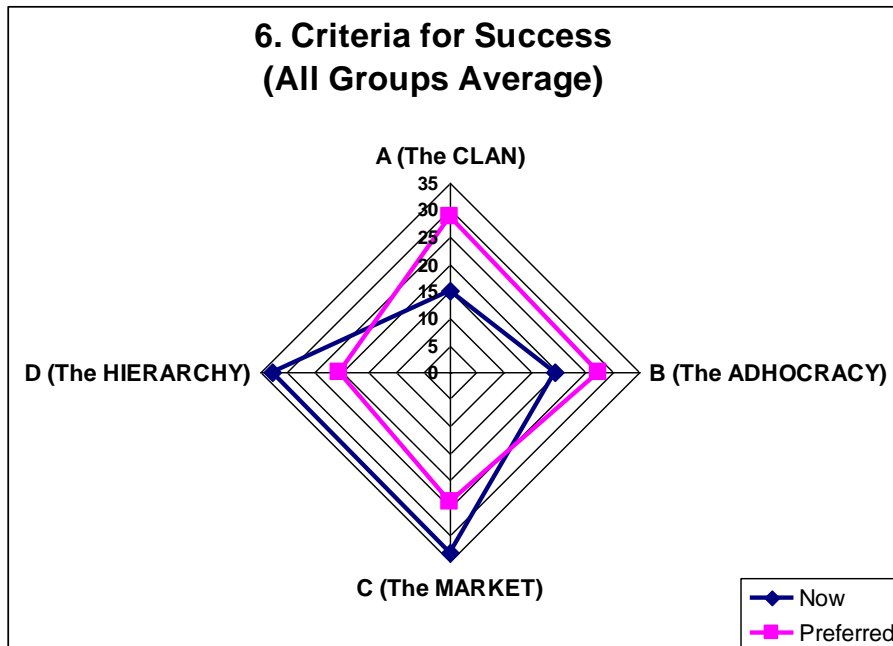
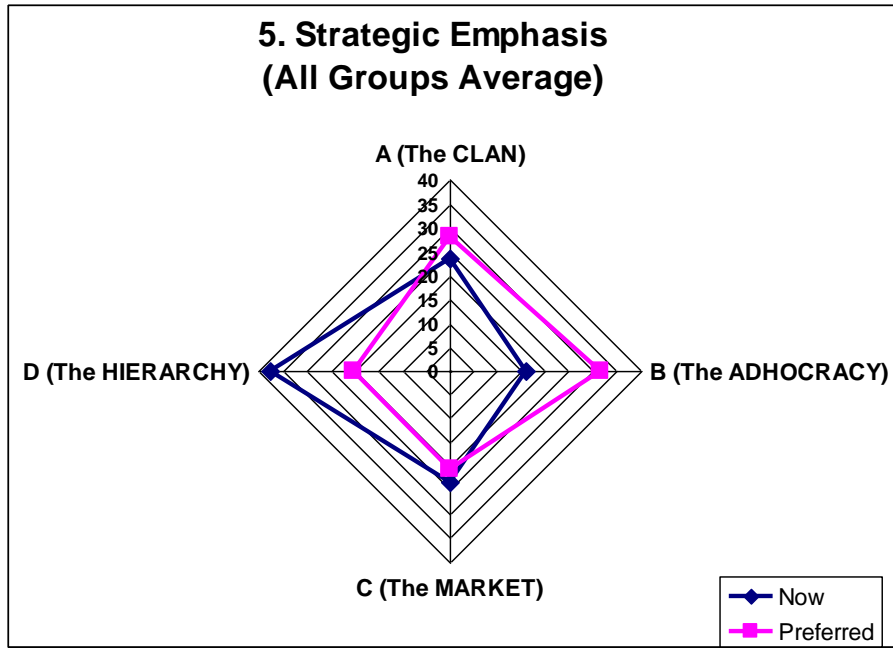
Does Not Mean:

- Loss of control and structure
- Elimination of measurement
- Loose time schedules and responsiveness
- Elimination of efficient flexible system

Appendix 8- Itemised Averages







Appendix 9- HR Proposal

1. Introduction

To overcome the above and improve employees performance, the following HR proposal is presented as part of this Change Intervention Design. It was based upon the six weeks intensive one-to one training with International trainer Malcolm Peplow who was invited by APM as part of his European funded project. Over this period, researcher spent full day course, five days a week for six weeks. The HR proposal below was prepared as part fulfilment to pass the training exam and assignment to establish an HR department for APM. Material presented in the proposal is based on the training material provided by Mr Peplow’s own collected material and handouts.

A company developing an up-to-date, forward-thinking Human Resources Department must start it off with a solid foundation. Fierce competition in today’s business world demands strong internal base.

An HR department bears the functions shown in Fig.1 below which include: Organizational Structure, Job Analysis and Job Description, Recruitment, Evaluation and Appraisal, Training and Development, Succession Planning and Grading System and Salary Structure.

This proposal covers HR functions, salary scale, short and mid term plan

2. HR Functions



HR Functions

2.1 Organizational Structure

APM should have an organizational chart. It is a photograph of the company and shows every employee from top to bottom in the organizational.

Maintaining an up-to-date organizational chart is the responsibility of the Human Resource Department (HRD) with coordination of all the department managers. The organizational chart and any potential changes must be approved and authorized by the head of the company. Following the approval of an organizational chart, the HRD is responsible to form an organizational manual, which will show, at the beginning, the total organizational of the company followed by an organizational chart of each of the individual departments. A certified copy of the manual should be distributed to all department managers. The HRD is held responsible of amending all copies of the organizational manual if changes occur.

2.2 Job Analysis and Job Descriptions

Job analysis is a process for obtaining all related job facts by providing information for a *job description* and *job specification*. A *job description* is a statement combining items such as: job title, job location, job summary, duties, machines, tools, equipment, materials, forms used, supervision given or received, working conditions and reports to whom. A *job specification* is a statement of the human qualifications necessary to do the job such as: minimum education, experience, training, prior responsibilities, judgment, initiative and communication skills, etc.

2.3 Recruitment

Following the previous section, job requirements should be clear, the next step is to obtain enough number of applicants. An employment application form is to be filled by all applicants. With regards to vacant positions, a 'Request to Recruit and Hire' form must be filled by the department manager with the vacant position, however, if the new vacant is yet to be authorized, a 'Request for Authorization to hire for a new position' form is to be submitted by the department manager to the general manager for approval. A job description for the new position and a revised organizational chart for the department should accompany the request for authorization form.

2.4 Employee Evaluation and Performance Appraisal

Employee Evaluation and Performance Appraisal (EE&PA) is the systematic evaluation of an employee with respect to his/her performance on the job and his/her potential for development within the organizational.

Objectives of the (EE&PA) system

- to evaluate the employee's job performance in all areas
- to determine an employee's strong and weak areas
- with knowing strong and weak areas, development and training programs can be designed and implemented

- to evaluate an employee’s leadership qualities. This information is needed for possible promotion possibilities
- an opportunity to review the current Job Description of a position to make sure it is up-to-date, if not, to make changes
- to validate HR procedures in the selection and hiring of employees.
- Good (EE&PA) interviews will form a strong working relations between supervisors/managers and employees

2.5 Training and Development

Management Development is a systematic process of training and growth by which individuals gain and apply knowledge, skills, insights and attitudes to manage work effectively. Training and Development should be an ongoing policy for every company. It should not be limited to certain jobs or positions. Every job or position within the company should be addressed.

2.6 Succession Planning

Succession planning is the selection and development of employees within each department of the company who have demonstrated through their work, leadership qualities and loyalty to the company, that they have potential promotional qualifications. It is confidential information shared only by the top management, HR manager and training manager. It is directed to employees in senior positions reporting to managers. However, career path development is directed to all employees without exception.

2.7 Grading and Salary Structure

The lowest grade is Grade 1, the highest is Grade 8, positions are broken down into 8 grades as shown in the following table:

Grade Level	Position	Notes
8.	Directors, General Managers	Management
7.	Managers	Management
6.	Supervisors, Deputy Managers	Management
5.	Professional Engineers, Specialists	Non- Management
4.	Foremen, Highly Skilled Workers	Non- Management
3.	Secretary, Medium Skilled Workers	Non- Management
2.	Lower Skilled Workers	Non- Management
1.	Manual Laborers, Guards, Cleaners	Non- Management

3. Short and Mid Term Plan

Following the previous description of optimal HR functions and what is currently available at APM, a proper HR department is very important to overcome the concerns discussed previously which hinder the performance of employees.

The following pages will provide suggested organizational chart representing main functions for the HR department. It is followed by cascading down of initial plan for HR functions and short and midterm time plan.

HR Director who under the general direction of the Managing Director will direct and supervise the staff and operations of the Human resources department.

HR Manager who will direct the activities of the Human Resources Department. Will provide guidance and assistance to all departments within APM pertaining to Human Resources matters. Will strive for top efficiency and productivity from all employees

Training Manager who will plan and manage APM's internal and external training and development programs. Responsible and accountable for all company training programs (in-house and outside), seminars, workshops and training documentation. Will coordinate training with HR manager.

Administration Services Manager who will oversee the administrative activities of administration officers with regards to transportation, security and services.

HR coordinators who will:

Ensure all employee files are correctly documented and kept up to date

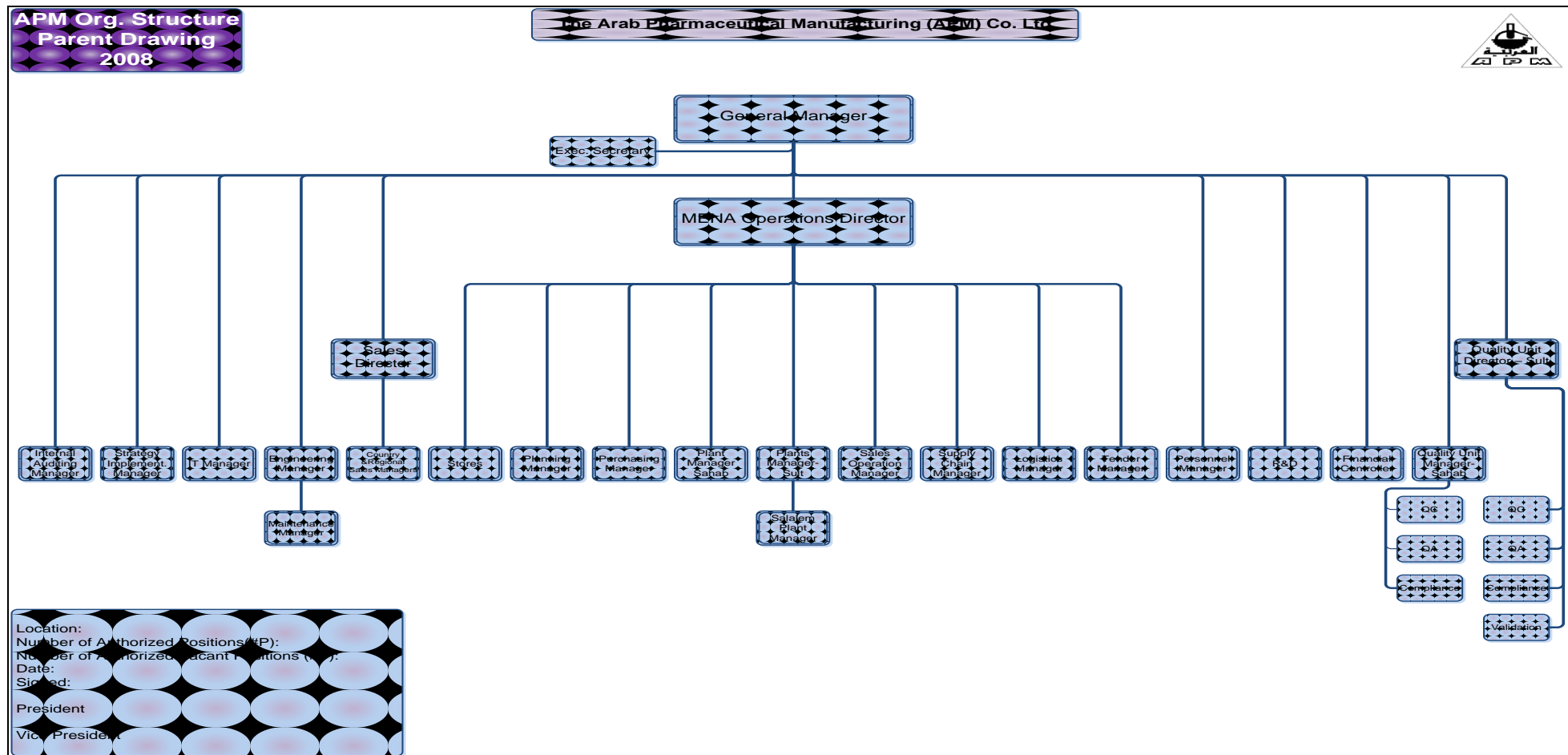
Assist in Job Analysis and Job Description preparation

Assist in Recruiting and Hiring operations, including preparation of advertisements, reference checking, orientation programs, probationary period evaluation procedures

Assist in Employee Evaluation and Performance Appraisal (EE&PA) systems and procedures, both professional and non- professional grades

Physician who will be responsible of employees health services. Will coordinate with security supervisor for social security matters and job injuries

Appendix 10- APM Organization Chart After the Intervention



Appendix 11- Leadership Skills¹⁷**Self-Assessment Exercise****1. Introduction**

This self-assessment exercise is designed to provide you with feedback about your level of comfort with your leadership skills.

Circle the number on the scale that you believe comes closest to your skill level. Be honest about your choices as there are no right or wrong answers – it is only for your own self –assessment.

2. Statements

No		Very Strong	Moderately Strong	Adequate	Moderately weak	Very weak
1.	I enjoy communicating with others	5	4	3	2	1
2.	I am honest and fair	5	4	3	2	1
3.	I make decisions with input from others	5	4	3	2	1
4.	My actions are consistent	5	4	3	2	1
5.	I give others the information they need to do their jobs	5	4	3	2	1
6.	I keep focused through follow-up	5	4	3	2	1
7.	I listen to others and ask questions	5	4	3	2	1
8.	I am loyal to the company and to the team members	5	4	3	2	1
9.	I create an atmosphere of growth	5	4	3	2	1
10.	I have wide visibility (Open-minded)	5	4	3	2	1
11.	I give praise and recognition	5	4	3	2	1
12.	I develop workable action plans	5	4	3	2	1
13.	I have a vision on where we are going and set long term goals	5	4	3	2	1
14.	I set objectives and follow them through to completion, on time	5	4	3	2	1
15.	I display tolerance when needed	5	4	3	2	1
16.	I can be assertive when needed	5	4	3	2	1
17.	I am a Champion of change	5	4	3	2	1
18.	I treat others with respect	5	4	3	2	1
19.	I make myself available	5	4	3	2	1
20.	I want to take responsibility	5	4	3	2	1
21.	I accept ownership for team decisions	5	4	3	2	1
22.	I set guidelines for how others are to treat one another	5	4	3	2	1
23.	I manage by 'walking around' (the front line is the bottom line)	5	4	3	2	1
24.	I am close to the business and have a broad view of where we are going	5	4	3	2	1
25.	I coach team members	5	4	3	2	1
26.	I determine human resources for my department and write job descriptions for them	5	4	3	2	1
27.	I interview and select the most qualified candidate for a job position	5	4	3	2	1
28.	I provide new employees with on-the-job training	5	4	3	2	1
29.	I determine resources, material, and supply requirement for my department	5	4	3	2	1
30.	I developed a budget for my department	5	4	3	2	1
31.	I can respond to an employee who is upset with me or someone else in the company	5	4	3	2	1
32.	I have counselled employees who have personal problems (family, health, financial)	5	4	3	2	1
33.	I react to situations in which the quality	5	4	3	2	1

¹⁷ From E.W Human Development Ltd. Accessed with permission from (Beekun, 2008).

APPENDICES

	of an employee's work goes into a decline					
34.	I deal with employees who have performance issues	5	4	3	2	1
35.	I reward employees for good performance	5	4	3	2	1
36.	I conduct formal employee performance appraisals	5	4	3	2	1
37.	I can make a presentation to a group of peers and/or seniors	5	4	3	2	1
38.	I write reports to be distributed to a group of peers and/or seniors	5	4	3	2	1
39.	I have a deep-rooted understanding of the functions of my company	5	4	3	2	1
40.	I am curious	5	4	3	2	1
41.	I know how to sell	5	4	3	2	1
42.	I am a good learner	5	4	3	2	1
43.	I know how to influence people and get support	5	4	3	2	1
44.	I admit my mistakes and take responsibility for my actions	5	4	3	2	1
45.	I like to talk to people and I am a great listener	5	4	3	2	1
46.	I delegate well	5	4	3	2	1
47.	I can identify the important issues	5	4	3	2	1
48.	I have integrity and can be trusted	5	4	3	2	1
49.	I am diplomatic only and if needed	5	4	3	2	1
	Score					

Scoring

Total each of the five columns and then add the five columns together for your final score. The maximum score is 250 while the minimum score is 50.

As mentioned earlier, there are no right or wrong answers. This means there are no right or wrong scores. This self-assessment exercise is designed to show you the areas you need to improve in. your lowest scoring answers are the areas you need to improve.

Total Score of all 5 columns _____ Final score

Interpretation

- 175 and above- you are well on your way to becoming a leader
- 125 to 174- you are getting close
- 124 and below – Do not give up!

Task

Use your assessment result to help you to determine what skills and abilities you can continue to improve (strengths) and what skills and abilities you need to develop (opportunities for growth).

What are your strengths?

- 1.
- 2.

What are your opportunities for growth?

- 1.
- 2.
- 3.

Appendix 12 - QU Attributes

Level: Individual

Tasks:

1. Discuss and define the following Individual attributes:

Individual attribute	Definition
1. Integrity	
2. Accuracy	
3. Truthfulness	
4. Honesty	
5. Perfectionist	

Level: Individual to colleagues

Tasks:

2. Discuss and define the following Individual attributes:

Individual attribute	Definition
1. Cooperation	
2. Respect	
3. Transparency	
4. Humbleness	
5. Forgiveness	

Level: Individual to company

Tasks:

3. Discuss and define the following Individual attributes:

Individual attribute	Definition , methods and plan of action
1. Loyalty	
2. Sense of belonging	
3. Respect laws and regulations	

Appendix 13 Quality Team (sample sheets)

Team Building Exercise
Group1

Tasks:

1. Discuss and define the following team attributes:

Team attribute	Definition
1. Respect	
2. Free communication	
3. Distribution of tasks	
4. Enthusiasm	
5. Dedication	

2. Develop three methods of applying each of the above team attributes in the Quality Unit (3 methods for each attribute, a total of 15 methods)

Team attribute	Methods of application
1. Respect	
2. Free communication	
3. Distribution of tasks	
4. Enthusiasm	
5. Dedication	

3. Add any notes you would like to include as an advantage of the workshop.

4. Do you truly intend to apply the above methods in the Quality Unit? (Group discussion)

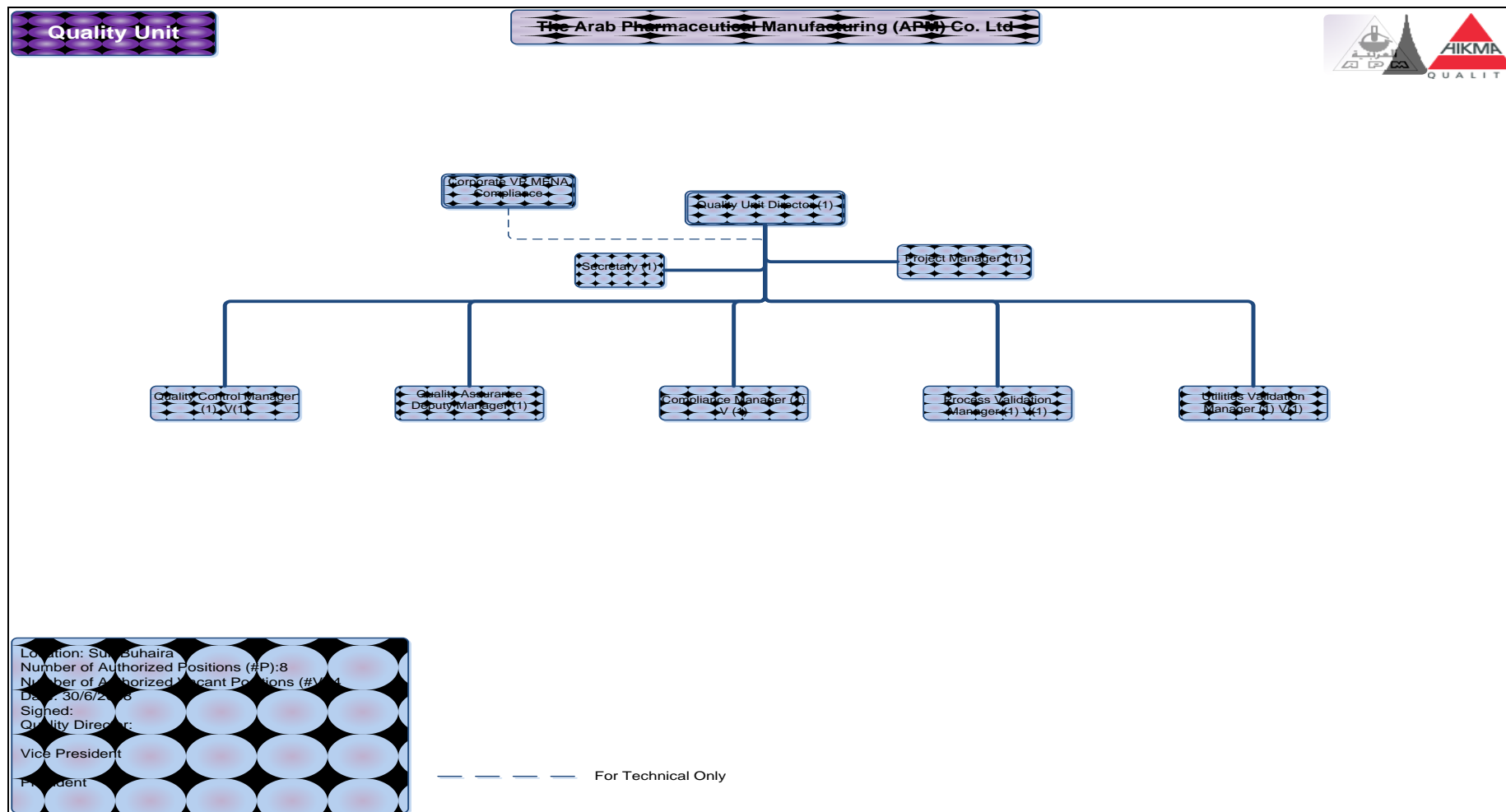
Quality Team (Workshop 2)
Team Building Exercise
Group 2

Tasks:

Produce a Plan of action to implement the methods of application produced in workshop1

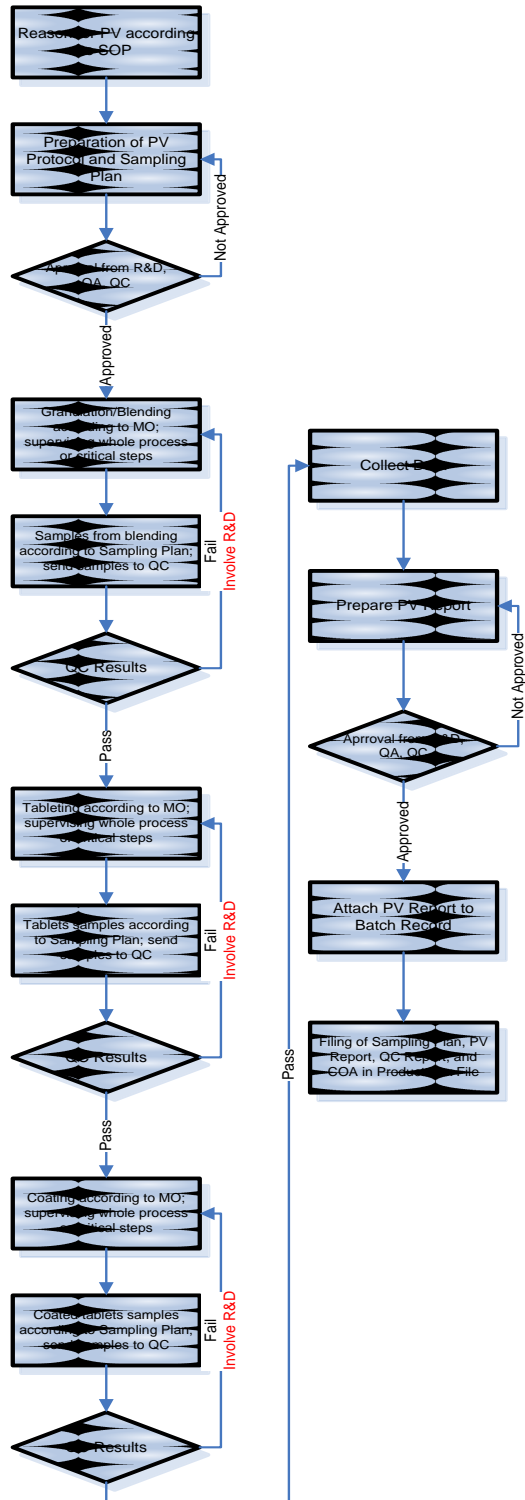
Team attribute	Plan of action
1. Group co-operation	
2. Positive contribution	
3. Trying to be the best	
4. Working for a common goal	
5. Limit argumentation	

Appendix 14- QU Organization Chart –Post the Change



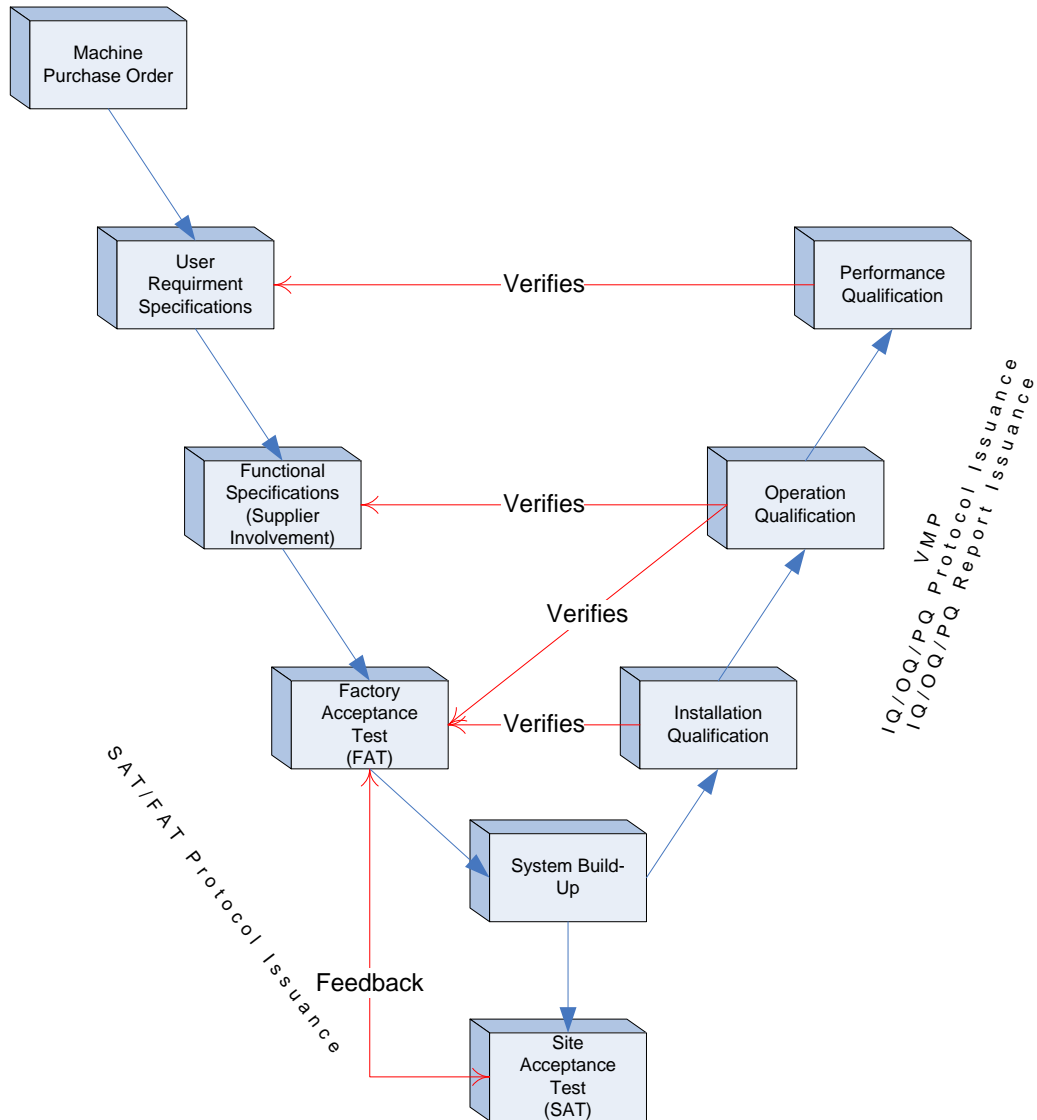
Appendix 15 –Flow Charts

Process Validation Flow Chart

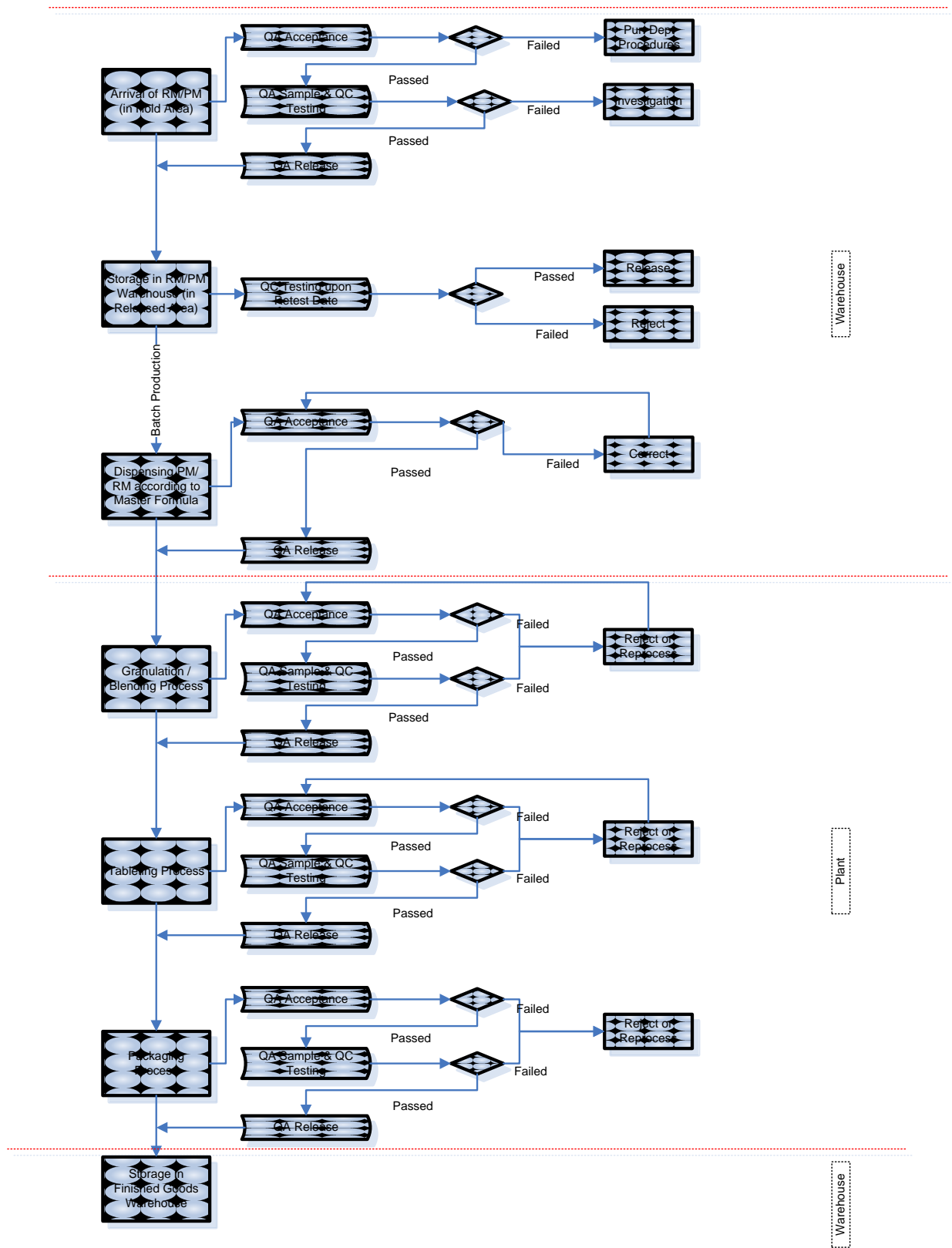


Utilities / Equipment Validation

Flow Chart



QA/QC Flow Chart



Appendix 16- Example of Brainstorming Sessions



Example of Brainstorming Sessions
Quality Control Department (Group1)
9/5/2007

In your opinion, what are the inhibitors to creativity at APM?

1. Cadre:
 - a. Fairness in payment systems
 - b. The right person in the right position
 - c. Increase yearly incentives so we are able to think for new ideas
2. Communication
 - a. Cooperation with other departments is weak
 - b. Respect other opinions
 - c. Communication links between top management and the employees do not exist
 - d. Personal relationship between the employee and his/her manager determines employees assessment
 - e. Lack of trust between employees
 - f. We need integration between departmental works
3. Training
 - a. Form a comprehensive training plan for the employees in all sections and departments according to their needs
 - b. Recommend the right person for the right training course
4. Vision and strategy
 - a. We don't know where the company is going and what the strategy is
 - b. Clear plans and functional strategies
5. Facilities and services
 - a. Maintain and improve the general facilities and services
 - b. Change the current medical doctor and nurse

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