

## **AZMAN HASHIM INTERNATIONAL BUSINESS SCHOOL**

UTM International Campus Level 10, Menara Razak Jalan Sultan Yahya Petra 54100 Kuala Lumpur http://business.utm.my/

## **ACTION RESEARCH GUIDELINES**

**BUSINESS RESEARCH COURSEWORK – MBSA 1713 ACTION RESEARCH PROJECT – MBSA 2933/2934** 

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#### 1. INTRODUCTION

Action Research (AR) is a compulsory research project for MBA students to complete during their MBA programme at Azman Hashim International Business School. As such, the students may regard their AR projects as an ideal opportunity to conduct research and integrating the knowledge learned during the MBA education and apply those concepts and technical knowhows to resolve a real-world problematic situation in organizations or academic institutions. This document aims at providing the students with guidelines on various stages of doing the AR project, and provides information on formal systems devised by the University to supervise and assess the AR projects.

To give a good foundation and in-depth knowledge on conducting an effective AR project, the students are required to complete Business Research (BR) coursework prior to undertaking the Action Research 1 (AR1) and Action Research 2 (AR2). In BR coursework, the students are advised to prepare BR project proposals based on two criteria:

- a. Specialization, concentration and subject niche
- b. Real, existing problematic situation in a case company/institution

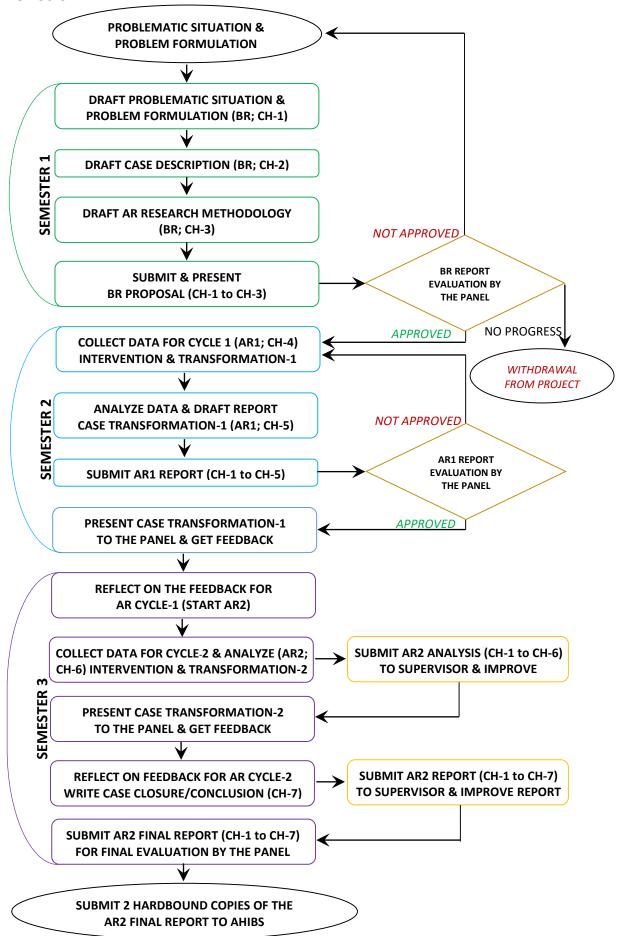
The BR course will assist the students to carry out the process of AR1 and AR2. The final AR2 project report will be considered as the output of the course learning outcome and the report is expected to resolve the real problematic situation in company/institution.

#### 2. OBJECTIVES

The main objectives of the action research project are as follows:

- a. To provide students with an opportunity to draw together and integrate the knowledge gained and the skills developed from the MBA Program.
- b. To provide students with an opportunity for independent study and to develop an ability to organize work with a view to achieve a specific goal.
- c. To develop students with skills in business strategy, operations or in similar integrated activities appropriate and relevant to their organizations and their personal development needs and goals.
- d. To undertake a research project based on sound management principles and intellectual reasoning.

### 3. MODUS OPERANDI



4. COURSE CODES FOR REGISTRATION

The students will complete the entire research project at least in three semesters, starting

from Business Research coursework (BR proposal), followed by AR1 (intervention and

transformation cycle-1) and then AR2 (intervention and transformation cycle-2). Therefore, it

is must for the student to complete the BR coursework at first in order to register and start

AR1 in the following semester. Similarly, the students must complete the AR1 in order to

register and start AR2 in the following semester.

The registration codes for each course are the following:

a) Business Research: MBSA 1713

b) Action Research 1: MBSA 2933

c) Action Research 2: MBSA 2934

The students must carefully plan their research project journey as it takes at least three

semesters to complete. The students enrolled in four-semester MBA programme may have

to start BR in the first or second semester. The student planning to complete the MBA

programme in fast-tract, three-semesters must start BR in the first semester of enrolment.

5. APPOINTMENT OF SUPERVISOR

The students are encouraged to nominate the supervisors during the BR coursework,

preferably by the second meeting/class. The nomination will go through AHIBS Academic

Committee which will then finalize the supervisors based on the problem identification and

supervisor's research expertise. Once the student receives confirmation on the supervisor,

the student must get a consent form signed by the supervisor (see Appendix O) and then

proceed with contacting the interview participants/industry partners and get their consents

(see Appendix P). Once the consent forms are signed, the student may then work closely with

the supervisor and the case company/institution. The students will work with the assigned

supervisors until the completion of the Action Research 2 Final Report.

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### 6. ACTION RESEARCH PROJECT REPORTS

The students of AR will produce three types of reports throughout the research project. Similarly, there will be three presentations on the reports produced. In each semester, the project report will be evaluated by the assigned examiner(s).

Following are the reports that the students will produce:

- a) BR Proposal
- b) AR1 Report
- c) AR2 Final Report

Once the student completes the report, it will be evaluated by an examination panel. Such as, BR Proposal evaluation by the BR Lecturer, and AR1 Report evaluation will be evaluated by the BR Lecturer and Supervisor; and AR2 Final Report to be evaluated by the Supervisor and Industry Practitioner.

The students are also required to give presentation on their reports in front of the examination panel. The first presentation by the students will be on their BR Proposals in front of the BR Lecturer, Supervisor and Industry Practitioner. The second presentation by the students will be on their AR1 Reports (case transformation-1) in front of BR Lecturer, Supervisor and Industry Practitioner. The third presentation by the students will be on their AR2 Reports (case transformation-2) in front of Supervisor and Industry Practitioner.

Table 1 lists the phases of presentations and evaluations throughout the project.

TABLE 1: REPORT EVALUATIONS AND PRESENTATIONS			
Semester and Phase	Evaluation/Presentation	Evaluator	
Last-quarter of Semester 1	BR Proposal Report Submission, Evaluation & Presentation (CH1 to CH3)	BR Lecturer (100%) , Industry Practitioner (gives feedback based on presentations only)	
Last-quarter of Semester 2	AR1 Report Submission & Evaluation Transformation Cycle 1 (CH1 to CH5)	BR Lecturer (30%) & Supervisor (70%) to review report	
Last-week of Semester 2	AR1 Report Cycle-1 Presentation	BR Lecturer, Supervisor & Industry Practitioner (give feedback only)	
Last-quarter of Semester 3	AR2 Report Cycle-2 Presentation	Supervisor and Industry Practitioner (give feedback only)	
Last-week of Semester 3	AR2 Final Report Evaluation (CH1 to CH7)	Supervisor (70%) & Industry Practitioner (30%) to review report	

The following sections present the contents of each report that the students will produce:

### a) BR PROPOSAL REPORT:

The students are advised to identify the problematic situation in the case company/institution during the first or second BR meeting/class. The students could think about their personal experiences, reflexive inquiry and then conduct initial literature review to support their arguments and research plans. The value and quality of the research idea and scope has to be discussed in the class and evaluated by the BR lecturer. Based on the preliminary ideas and discussions, the students may nominate and contact the supervisor for further discussion.

The BR Proposal Report must contain the following chapters:

#### i. CHAPTER 1: INTRODUCTION

- Information about the case company
- Problematic situation and problem formulation
- Research questions
- Importance of the proposed research

### ii. CHAPTER 2: INDUSTRY AND PROBLEM DIAGNOSIS

- Case description
- Problem diagnosis
- Previous and contemporary studies
- Relevant models and frameworks
- Intervention planned and implications
- Summary of the Chapter
- Conclusion

### iii. CHAPTER 3: METHODOLOGY

- Action Research Process Design (based on interventions/transformation planned)
- Mixed Methods Research Design (sampling techniques, instruments, qualitative and quantitative data collection, and data analysis)
- Data analysis tools and techniques

In the end of the semester enrolled, the BR students will present their BR proposals in front of the examination panel. The panel will assess the problematic situation identified in the case company, the value and practicality of the research, and the methodological approaches planned for conducting the research.

The score of BR proposal will be determined based on the following allocation:

a. BR Lecturer: 100%

However, the final scores are subjected to the AHIBS Academic Committee reviews on the quality of the students' work. Once the BR proposal is evaluated and scores are approved by the Committee, the students may then proceed with collecting the data from the case industry on the intervention and transformation cycle-1 (i.e. AR1).

The students are advised to carefully plan the scope of the action research project, so that it serves the purpose of resolving the problematic situation in the case company/institution and complete the project within the given timeframe. The BR project proposal should be of a reasonable length, about 30 pages (including Chapter 1-3, references, appendices etc.)

The students must follow the UTM Thesis Guidelines (Fifth Edition – 2018) for formatting the report layouts. The students must use APA referencing style throughout the report. In addition, the students must maintain academic writing standards and ethical considerations throughout their action research project.

Table 2 presents the evaluation rubrics for the BR proposal.

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INTRODUCTION  The student provides the rationale for highlighting the problematic situation, identified the issues and importance of the research in the particular case company/industry.  The student provides company background relevant to the central issues.  The student has identified and discussed the issues in relation to the student's own experiences, expertise and research significance.  The research questions/objectives are accompanied by a set of survey and/or interview questions to solve the identified problems.  Writing style is interesting, structured and coherent.  The student makes proper use of punctuations and has no glaring grammatical mistakes.	MARKS	REMARKS
<ul> <li>The student provides the rationale for highlighting the problematic situation, identified the issues and importance of the research in the particular case company/industry.</li> <li>The student provides company background relevant to the central issues.</li> <li>The student has identified and discussed the issues in relation to the student's own experiences, expertise and research significance.</li> <li>The research questions/objectives are accompanied by a set of survey and/or interview questions to solve the identified problems.</li> <li>Writing style is interesting, structured and coherent.</li> <li>The student makes proper use of punctuations and has no glaring grammatical</li> </ul>		
(33 Marks)		
<ul> <li>INDUSTRY AND PROBLEM DIAGNOSIS</li> <li>The student currently known about the problematic situation in the particular case company/industry.</li> <li>The problem is identified and discussed.</li> <li>The review of relevant literature and reading resources analyze the current state of knowledge about the subject area and renders judgments on the importance of solving the identified issue.</li> <li>The review and intervention planned synthesizes with the need of action research project.</li> <li>The student has briefly summarized the contribution the research, and provides enough details about the importance of the research.</li> <li>Writing style is interesting, structured and coherent.</li> <li>The student makes proper use of punctuations and has no glaring grammatical mistakes.</li> <li>(34 Marks)</li> </ul>		
<ul> <li>METHODOLOGY</li> <li>Description of research process design ensures the adequacy and accuracy.</li> <li>The student shows strong connections between the problem and research questions. The procedures are adequately explained.</li> <li>The student provides detailed methodological approaches, i.e. qualitative (interview questions), quantitative (surveys) and data analysis procedures.</li> <li>The student has taken care to protect the anonymity of stakeholders.</li> <li>Writing style is interesting, structured and coherent.</li> <li>The student makes proper use of punctuations and has no glaring grammatical mistakes.</li> </ul>		100
	mistakes.  INDUSTRY AND PROBLEM DIAGNOSIS  The student currently known about the problematic situation in the particular case company/industry.  The problem is identified and discussed.  The review of relevant literature and reading resources analyze the current state of knowledge about the subject area and renders judgments on the importance of solving the identified issue.  The review and intervention planned synthesizes with the need of action research project.  The student has briefly summarized the contribution the research, and provides enough details about the importance of the research.  Writing style is interesting, structured and coherent.  The student makes proper use of punctuations and has no glaring grammatical mistakes.  (34 Marks)  METHODOLOGY  Description of research process design ensures the adequacy and accuracy.  The student shows strong connections between the problem and research questions. The procedures are adequately explained.  The student provides detailed methodological approaches, i.e. qualitative (interview questions), quantitative (surveys) and data analysis procedures.  The student has taken care to protect the anonymity of stakeholders.  Writing style is interesting, structured and coherent.  The student makes proper use of punctuations and has no glaring grammatical mistakes.	- The student makes proper use of punctuations and has no glaring grammatical mistakes.  (33 Marks)  INDUSTRY AND PROBLEM DIAGNOSIS  - The student currently known about the problematic situation in the particular case company/industry.  - The problem is identified and discussed.  - The review of relevant literature and reading resources analyze the current state of knowledge about the subject area and renders judgments on the importance of solving the identified issue.  - The review and intervention planned synthesizes with the need of action research project.  - The student has briefly summarized the contribution the research, and provides enough details about the importance of the research.  - Writing style is interesting, structured and coherent.  - The student makes proper use of punctuations and has no glaring grammatical mistakes.  (34 Marks)  METHODOLOGY  - Description of research process design ensures the adequacy and accuracy.  - The student shows strong connections between the problem and research questions. The procedures are adequately explained.  - The student provides detailed methodological approaches, i.e. qualitative (interview questions), quantitative (surveys) and data analysis procedures.  - The student has taken care to protect the anonymity of stakeholders.  Writing style is interesting, structured and coherent.  - The student makes proper use of punctuations and has no glaring grammatical mistakes.  (33 Marks)

### b) ACTION RESEARCH-1 REPORT:

The students will start Action Research 1 (AR1) in the following semester once they complete the BR coursework, produce BR proposal and get approval from the examination panel. During the BR proposal examination, it is likely that the students will be given some changes or improvements in the research plans. Based on the feedback from the BR examination panel, the students are required to make the changes/improvements before starting the AR1. The AR1 report must contain the following contents in addition to the BR proposal:

### i. CHAPTER 3: METHODOLOGY

• Revision of Chapter 3 (based on suggestions from supervisor and BR lecturer)

### ii. CHAPTER 4: DATA ANALYSIS

- Fieldwork (qualitative/quantitative data collection)
- Participant observation
- Supporting documents
- Mixed-method data analysis (using tools and techniques)
- Discussion on the research findings
- Summary of findings

### iii. CHAPTER 5: REFLECTION CYCLE 1

- Reporting the overall results
- Reflection on content and premise
- Reflection on overall AR process (research process, effectiveness of reporting, decision making, future implication etc.)
- Conclusion
- Revised action plan for AR-2 (transformation-2)

The students of AR1 will get hands-on trainings on research tools and techniques (i.e. for qualitative and quantitative) for data analysis and reporting during the second semester of research project. In addition, the supervisors will also provide guidance throughout the project. The research training and guidance will assist the students to carry-out AR1 (intervention and transformation cycle-1). It is advised that the students should meet the supervisors at least three times in a semester and maintain the record of meetings (see Appendix Q).

The intervention and transformation cycle-1 is meant to resolve the problematic situation identified in the BR proposal (i.e. Chapter 1-3). The student will collect data and analyze the

data based on the action research cycle-1 phase. Once the AR1 report (Chapter 1-5) is

complete, the report will be evaluated by the examination panel before the presentation on

AR1 by the student. The panel will assess the AR-1 research process and synchronization of

the research based on the research questions, data collection, data analysis and findings. The

score of AR1 assessment will be determined based on the following allocation:

a. Supervisor: 70%

b. BR Lecturer: 30%

The final AR1 report should be about 60 pages including all chapters, references, appendices

etc. The students must follow the UTM Thesis Guidelines (Fifth Edition - 2018) for formatting

the report layouts. The students must use APA referencing style throughout the report. In

addition, the students must maintain academic writing standards and ethical considerations

throughout their action research project.

Table 2 presents the evaluation rubrics for the AR1 project.

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	TABLE 2: AR-1 EVALUATION RUBRICS		
	ITEMS	MARKS	REMARKS
1	<ul> <li>INTRODUCTION</li> <li>The student provides the rationale for highlighting the problematic situation, identified the issues and importance of the research in the particular case company/industry.</li> <li>The student provides company background relevant to the central issues.</li> <li>The student has identified and discussed the issues in relation to the student's own experiences, expertise and research significance.</li> <li>The research questions/objectives are accompanied by a set of survey and/or interview questions to solve the identified problems.</li> <li>Writing style is interesting, structured and coherent.</li> <li>The student makes proper use of punctuations and has no glaring grammatical mistakes.</li> <li>(20 Marks)</li> </ul>		
2	<ul> <li>INDUSTRY AND PROBLEM DIAGNOSIS</li> <li>The student currently known about the problematic situation in the particular case company/industry.</li> <li>The problem is identified and discussed.</li> <li>The review of relevant literature and reading resources analyze the current state of knowledge about the subject area and renders judgments on the importance of solving the identified issue.</li> <li>The review and intervention planned synthesizes with the need of action research project.</li> <li>The student has briefly summarized the contribution the research, and provides enough details about the importance of the research.</li> <li>Writing style is interesting, structured and coherent.</li> <li>The student makes proper use of punctuations and has no glaring grammatical mistakes.</li> <li>(20 Marks)</li> </ul>		
3	<ul> <li>METHODOLOGY</li> <li>Description of research process design ensures the adequacy and accuracy.</li> <li>The student shows strong connections between the problem and research questions. The procedures are adequately explained.</li> <li>The student provides detailed methodological approaches, i.e. qualitative (interview questions), quantitative (surveys) and data analysis procedures.</li> <li>The student has taken care to protect the anonymity of stakeholders.</li> <li>Writing style is interesting, structured and coherent.</li> <li>The student makes proper use of punctuations and has no glaring grammatical mistakes.</li> <li>(20 Marks)</li> </ul>		
4	ANALYSIS AND FINDING  - The transformation and intervention steps taken have logical relationship with the questions, data collection, data analysis and the findings.  - The report exhibits the breadth and depth of data analysis and reporting.  - The conclusion contains insights into the AR process and its influence to practices.  - Writing style is interesting, structured and coherent.  - The student makes proper use of punctuations and has no glaring grammatical mistakes.  (20 Marks)		
5	REFLECTION CYCLE-1  - The student adequate reports the overall results.  - The student has provide critical reflection on overall AR process.  - The decision making and implications are effective.  - Writing style is interesting, structured and coherent.  - The student makes proper use of punctuations and has no glaring grammatical mistakes.  (20 Marks)		100

### c) ACTION RESEARCH 2 REPORT

The students will start Action Research 2 (AR-2) in the following semester once they complete the AR-1 and get approval from the examination panel. AR-2 begins in the first week of third semester, whereby the students will reflect (i.e. reflection) based on the feedback on the AR1 (intervention and transformation cycle-1). The AR-2 most likely repeats the same research process to further resolve problematic situation identified in the case company/institution. The student will collect data and analyze the data based on the cycle-2.

It is advised to students to frequently meet the supervisors to seek periodic suggestions and guidance. The student should meet the supervisor at least three times in the semester and maintain the record of meetings (see Appendix P).

The AR2 report must contain the following chapters in addition to the AR-1 Report:

### i. CHAPTER 6: REFLECTION CYCLE 2

- Reporting the overall results
- Reflection on content and premise
- Reflection on overall AR process (research process, effectiveness of reporting, decision making, future implication etc.)
- Conclusion

### ii. CHAPTER 7: CONCLUSION

- Case closure
- Concluding remarks
- Recommendations for future

The AR-2 analysis report (i.e. Chapter 1-6) will be examined by the supervisor in the last quarter of the semester. The student must follow the supervisor's instructions on improvements throughout the research project. Once the student has improved the report, the student will then present on the AR-2 (case transformation-2) in front of the examination panel to get feedback. The presentation will held in the last quarter of the semester. The panel may include the supervisors and industry practitioners.

After the presentation, the student will then reflect on feedback for AR cycle-2 and write case closure and conclusion (Chapter 7). The final report will be submitted to the supervisor for revision and suggestions. Once the student gets approval from the supervisor, the AR-2 Final

Report (Chapter 1-7) will be submitted to the examination panel for final evaluation. The

score of AR2 assessment will be determined based on the following allocation:

a. Supervisor: 70%

b. Industry Practitioner: 30%

The final AR2 report should be about 100 pages including all chapters, references, appendices

etc. The students must follow the UTM Thesis Guidelines (Fifth Edition - 2018) for formatting

the report layouts. The students must use APA referencing style throughout the report. In

addition, the students must maintain academic writing standards and ethical considerations

throughout their action research project.

Table 3 presents the evaluation rubrics for the AR2 Final Report.

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	TABLE 3: AR-2 EVALUATION RUBRICS		
	ITEMS	MARKS	REMARKS
1	INTRODUCTION		
-	- The student provides the rationale for highlighting the problematic situation, identified the issues		
	and importance of the research in the particular case company/industry.		
	- The student provides company background relevant to the central issues.		
	- The student has identified and discussed the issues in relation to the student's own experiences,		
	expertise and research significance.		
	- The research questions/objectives are accompanied by a set of survey and/or interview questions		
	to solve the identified problems.		
	- Writing style is interesting, structured and coherent.	(Out of 15	
	- The student makes proper use of punctuations and has no glaring grammatical mistakes.	Marks)	
2	INDUSTRY AND PROBLEM DIAGNOSIS		
	- The student currently known about the problematic situation in the particular case		
	company/industry.		
	- The problem is identified and discussed.		
	- The review of relevant literature and reading resources analyze the current state of knowledge		
	about the subject area and renders judgments on the importance of solving the identified issue.		
	- The review and intervention planned synthesizes with the need of action research project.		
	- The student has briefly summarized the contribution the research, and provides enough details		
	about the importance of the research.		
	- Writing style is interesting, structured and coherent.	(Out of 15	
	- The student makes proper use of punctuations and has no glaring grammatical mistakes.	Marks)	
3	METHODOLOGY		
-	- Description of research process design ensures the adequacy and accuracy.		
	- The student shows strong connections between the problem and research questions. The		
	procedures are adequately explained.		
	- The student provides detailed methodological approaches, i.e. qualitative (interview questions),		
	quantitative (surveys) and data analysis procedures.		
	- The student has taken care to protect the anonymity of stakeholders.		
	- Writing style is interesting, structured and coherent.	(Out of 15	
	- The student makes proper use of punctuations and has no glaring grammatical mistakes.	Marks)	
4	ANALYSIS AND FINDING		
	- The transformation and intervention steps taken have logical relationship with the questions, data		
	collection, data analysis and the findings.		
	- The report exhibits the breadth and depth of data analysis and reporting.		
	- The conclusion contains insights into the AR process and its influence to practices.		
	- Writing style is interesting, structured and coherent.	(Out of 15	
	- The student makes proper use of punctuations and has no glaring grammatical mistakes.	Marks)	
5	REFLECTION CYCLE-1		
	- The student adequate reports the overall results.		
	- The student has provide critical reflection on overall AR process.		
	- The decision making and implications are effective.		
	- Writing style is interesting, structured and coherent.	(Out of 15	
	- The student makes proper use of punctuations and has no glaring grammatical mistakes.	Marks)	
6	REFLECTION CYCLE-2		
	- The student adequate reports the overall results.		
	- The student has provide critical reflection on overall AR process.		
	- The decision making and implications are effective.		
	- Writing style is interesting, structured and coherent.	(Out of 15	
	- The student makes proper use of punctuations and has no glaring grammatical mistakes	Marks)	
7	CONCLUSION		
	- Case closure		
	- Concluding remarks		
	- Recommendations for future		
	- Writing style is interesting, structured and coherent.	(Out of 10	
	- The student makes proper use of punctuations and has no glaring grammatical mistakes	Marks)	
	TOTAL SCORE	/	100

### 7. SUBMISSION OF THE FINAL PROJECT REPORT

After final evaluation on the project report, the students will then submit two Hardbound copies of the AR-2 Final Reports to AHIBS Office. The students must get signatures from the supervisors on the Final Report and forms (wherever required). The distribution of the Final Hardbound Reports are as follows:

- Supervisor (1 hardbound copy)
- AHIBS Office (1 hardbound copy)

Supervisors are advised to submit final scores to AHIBS office upon signing the hardbound copies of the report. Supervisor has to pass that spiral bound chapters along with the grade sheet to the AHIBS administration. If the student fails to show any progress, they will get C+ or less, based on their work progress. The supervisors also are allowed to give E grade.

The students, with approval from his or her supervisors, may publish paper extracted from the research project, provided that the acknowledgement is given to the University.

The students must provide Turnitin similarity index report and word-count report as additional attachment to their reports (BR, AR-1, AR-2). The similarity index should not exceed 20%. If any student fails to comply with these norms, they will receive the grade C+ regardless of the marks given by the supervisor. This rule is applicable for late submission as well.

### 8. MBA AWARD

The students who successfully complete the Action Research final project are entitled to get an award of MBA. However, students should first fill-up all the related graduation forms such as application for an award and transcript request form.

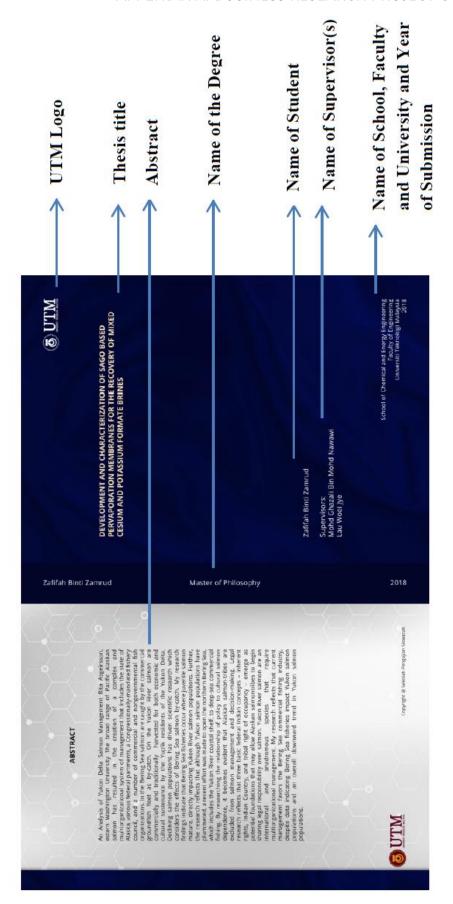
## 9. **STANDARD MARKING SYSTEM**

The normal basis of marking applied at AHIBS is as follows:

MARKS	GRADE	POINTS	STATUS
90 – 100	A+	4.00	Excellent pass
80 – 89	Α	4.00	
75 – 79	A-	3.67	
70 – 74	B+	3.33	Good Pass
65 – 69	В	3.00	
60 – 64	B-	2.67	Pass
55 – 59	C+	2.33	
50 – 54	С	2.00	
45 – 49	C-	1.67	
40 – 44	D+	1.33	Fail
35 – 39	D	1.00	
30 – 34	D-	0.67	
00 – 29	Е	0.00	

## **APPENDICES**

## APPENDIX A: BUSINESS RESEARCH PROJECT COVER DETAILS

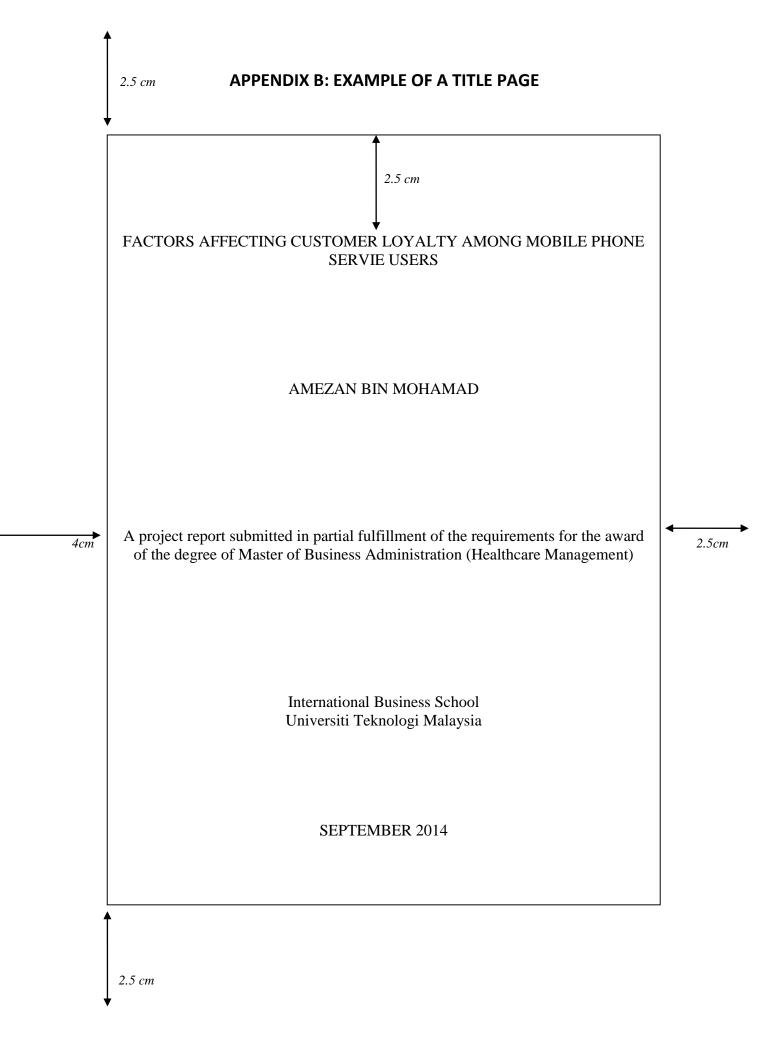


Size: B5 (paper type: 80gsm)	Printing: Double Side
Color Code # 0720B7	RGB Code: R7G32B183
Front & Back Cover Weight: 1400gsm	Color: Royal Blue

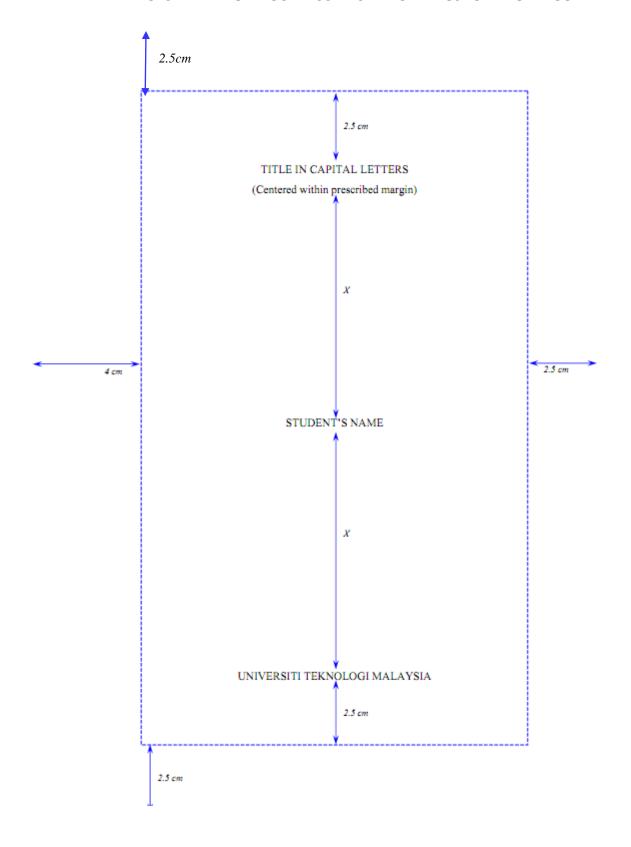
## APPENDIX B: BUSINESS RESEARCH PROJECT STATUS VALIDATION FORM UNIVERSITI TEKNOLOGI MALAYSIA PSZ 19:16 (Pind. 1/13)

DECLARAT	TON OF BUSIN	IESS RESEARCH PROJECT REPORT AND COPYRIGHT	
Author's full name :			
Date of birth :			
Title :			
Academic Session :			
I declare that this gradua	ate project is o	classified as:	
CONFIDENTAL	•	onfidential information under the et Act 1972)*	
RESTRICTED		stricted information as specified by ation where research was done)	
OPEN ACCESS	I agree that I open access	my business research project to be published as c (full text)	online
I acknowledged t	hat Universiti	Teknologi Malaysia reserves the right as follows:	
2. The thesis is the	property of U	niversiti Teknologi Malaysia	
<ol><li>The Library of Ur research only.</li></ol>	niversiti Tekno	ologi Malaysia has the right to make copies for th	he purpose of
4. The Library has th	he right to ma	ke copies of the thesis for academic exchange.	
		Certified by:	
SIGNATURE OF ST	TUDENT	SIGNATURE OF SUPERVISOR	
MATRIC NUM	BER	NAME OF SUPERVISOR	
Date:		Date:	

NOTES: If the thesis is CONFIDENTIAL or RESTRICTED, please attach with the letter from the organization with period and reasons for confidentiality or restriction



### APPENDIX C: SAMPLE OF BUSINESS RESEARCH PROJECT FRONT COVER



## **APPENDIX D: SAMPLE OF BUSINESS RESEARCH PROJECT SPINE**



## **APPENDIX E: SAMPLE OF DECLARATION PAGE**

I declare that the 1	research	project entitled "	"is the result of my own research
except as cited in	the refer	ences. The business resear	ch project has not been accepted for any degree
and is not concurr	ently sul	omitted in candidature of a	ny other degree.
Signature	:		
Name	:		
Date	:		

### APPENDIX F: EXAMPLE OF ACKNOWLEDGEMENT PAGE



In preparing this thesis, I was in contact with many people, researchers, academicians, and practitioners. They have contributed towards my understanding and thoughts. In particular, I wish to express my sincere appreciation to my main thesis supervisor, Professor Dr. Mohd Shariff Nabi Baksh, for encouragement guidance, critics and friendship. I am also very thankful to my co-supervisors Professor Dr. Awaluddin Mohd Shaharoun and Associate Professor Dr. Hishamuddin Jamaluddin for their guidance, advices and motivation. Without their continued support and interest, this thesis would not have been the same as presented here.

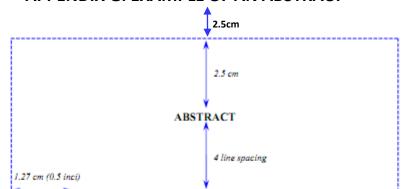
I am also indebted to Universiti Teknologi Malaysia (UTM) for funding my Ph.D. study. Librarians at UTM, Cardiff University of Wales and the National University of Singapore also deserve special thanks for their assistance in supplying the relevant literatures.

My fellow postgraduate students should also be recognised for their support. My sincere appreciation also extends to all my colleagues and others who have provided assistance at various occasions. Their views and tips are useful indeed. Unfortunately, it is not possible to list all of them in this limited space. I am grateful to all my family members.

2.5 cm

2.5 cm

### APPENDIX G: EXAMPLE OF AN ABSTRACT

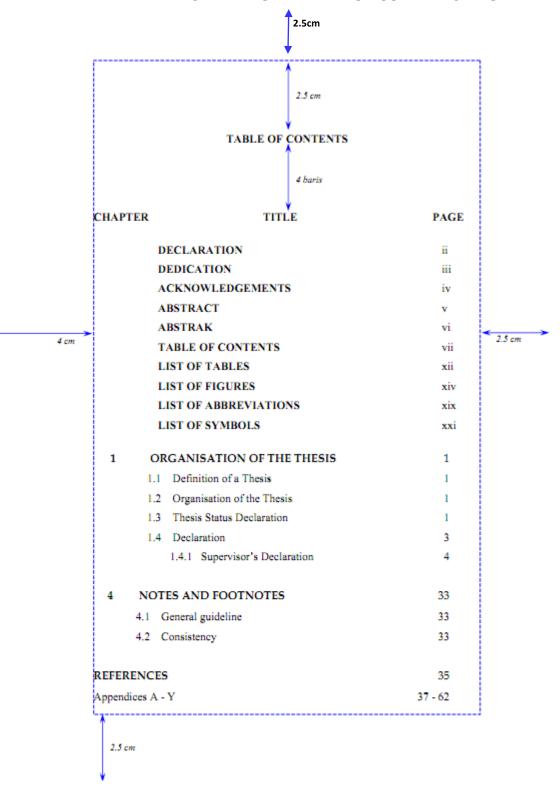


The purpose of this study is to investigate the application of genetic algorithm (GA) in modelling linear and non-linear dynamic systems and develop an alternative model structure selection algorithm based on GA. Orthogonal least square (OLS), a gradient descent method was used as the benchmark for the proposed algorithm. A model structure selection based on modified genetic algorithm (MGA) has been proposed in this study to reduce problems of premature convergence in simple GA (SGA). The effect of different combinations of MGA operators on the performance of the developed model was studied and the effectiveness and shortcomings of MGA were highlighted. Results were compared between SGA, MGA and benchmark OLS method. It was discovered that with similar number of dynamic terms, in most cases, MGA performs better than SGA in terms of exploring potential solution and outperformed the OLS algorithm in terms of selected number of terms and predictive accuracy. In addition, the use of local search with MGA for fine-tuning the algorithm was also proposed and investigated, named as memetic algorithm (MA). Simulation results demonstrated that in most cases, MA is able to produce an adequate and parsimonious model that can satisfy the model validation tests with significant advantages over OLS, SGA and MGA methods. Furthermore, the case studies on identification of multivariable systems based on real experimental data from two systems namely a turbo alternator and a continuous stirred tank reactor showed that the proposed algorithm could be used as an alternative to adequately identify adequate and parsimonious models for those systems.

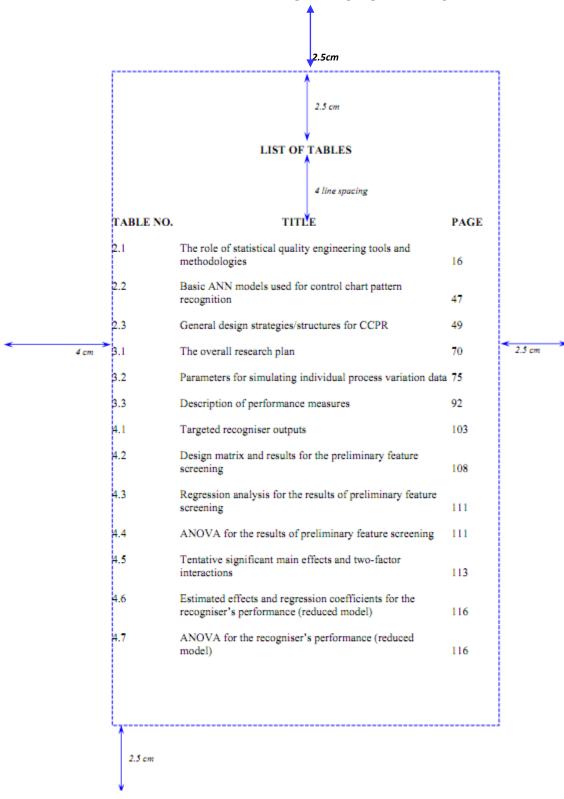
2.5 cm

4 cm

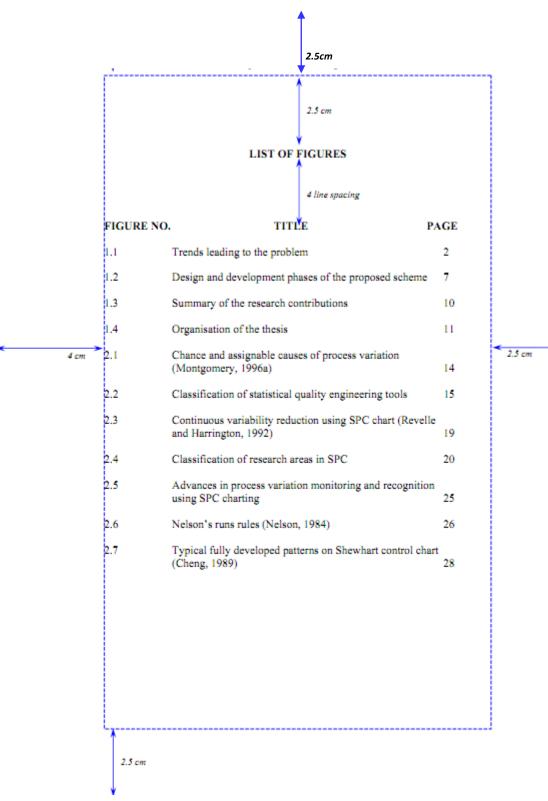
### APPENDIX H: SAMPLE OF A TABLE OF CONTENTS PAGE



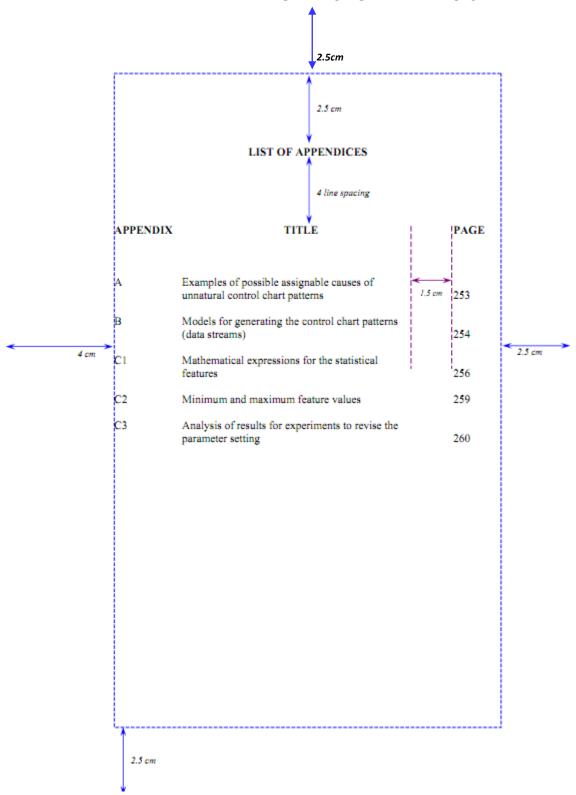
### APPENDIX I: EXAMPLE OF A LIST OF TABLES



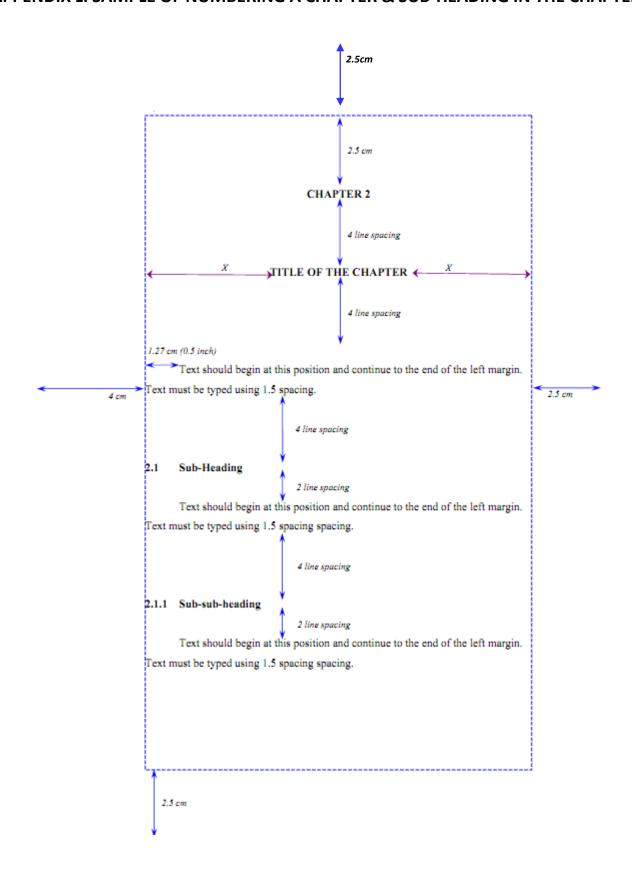
### **APPENDIX J: EXAMPLE OF A LIST OF FIGURES**



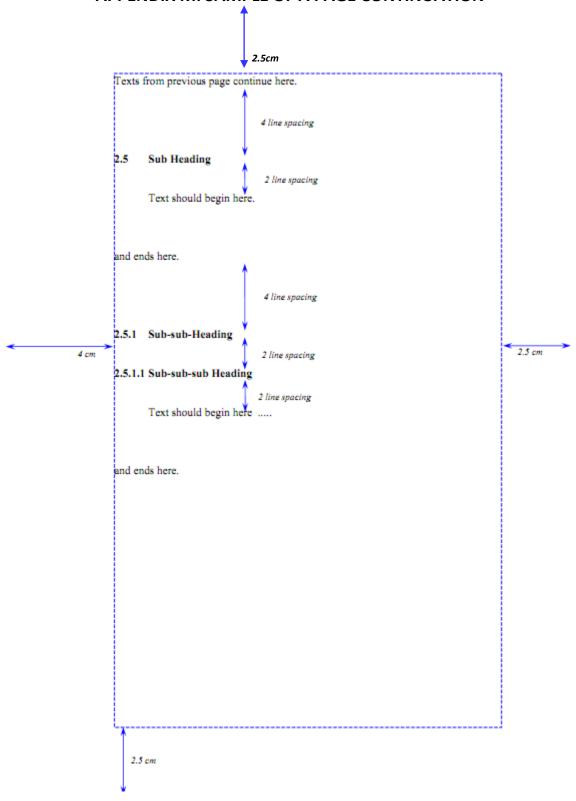
### **APPENDIX K: EXAMPLE OF A LIST OF APPENDICES**



### APPENDIX L: SAMPLE OF NUMBERING A CHAPTER & SUB-HEADING IN THE CHAPTER



### **APPENDIX M: SAMPLE OF A PAGE CONTINUATION**



### APPENDIX N: SAMPLE OF A REFERENCE LIST

- Ahmad Zaki Abu Bakar (1989). Pemprosesan Teks Bahasa Melayu Untuk Pemahaman Komputer. Universiti Teknologi Malaysia: Tesis Doktor Falsafah.
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- Billings, S. A. (1980). Identification of Nonlinear Systems: A survey. Proc. Instn Electr. Engrs, Part D. 127(6): 272-284.
- Engineers Joint Council (1969). Thesaurus of Engineering and Scientific Terms. New York: Engineers Joint Council.
- Martin, A. M. ed. (1991). Peat as an Agent in Biological Degradation of Waste. London: Elsevier. 314–362.
- Puget, J. F. and Albert, P. (1994a). SOLVER: Constraints Objects Descriptions.
  Technical Report. ILOG S. A.
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- Sheta, A. F. and De Jong, K.(1996). Parameter Estimation of Nonlinear Systems in Noisy Environments Using Genetic Algorithms. Proceedings of the 1966 IEEE International Symposium on Intelligent Control. September 15-18. Dearborn, Michigan: IEEE, 360-365.
- Sukiman Sarmani (1987). Pencemaran Radioaktif. Dlm. Ahmad Badri Mohamad.
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- Theusen, G. J. and Fabrycky, W. J. (1984). Engineering Economy. 6th edition. Englewood Cliffs, N. J.: Prentice-Hall.
- Veres, S. M. (1990). Structure Selection of Stochastic Dynamic Systems. New York: Gordon and Breach Science Publishers.

Note: Arranged alphabetically according to author's name.

## **APPENDIX O: CONSENT FORM**



# AZMAN HASHIM INTERNATIONAL BUSINESS SCHOOL

## **CONSENT FORM (SUPERVISOR)**

Date:
• I [Supervisor's Name] acknowledge that I agree to supervise the student named [Student's Name and Matric number] for his/her Action Research Project entitled [Project Title] that will be carried-out at the [Name of the Case Company/Institution].
• I understand that this assignment will be considered as part of your workload until the student completes his/her final Action Report.
• I will share my research expertise to provide valuable guidance to the student, so that the student can produce an excellent final report.
I, the undersigned, hereby confirm and provide my consent to supervise this student's project.
Supervisor's Name:
Phone: Email:
Supervisor's Signature

### **APPENDIX P: CONSENT FORM**



# AZMAN HASHIM INTERNATIONAL BUSINESS SCHOOL

Date: .....

## **CONSENT FORM (INTERVIEW PARTICIPANT)**

•	I acknowledge that I am briefed by [Student's Name] about th
	student project entitled [ <i>Project Title</i> ] that will be conducted at the [ <i>Name of the Cas Company/Institution</i> ].
•	I agree to contribute and I understand that my contribution is voluntary and I can postpone and/o withdraw at any time or refuse to answer any question.
•	I understand the purpose and nature of the student project and I agree to be interviewed and audio recorded for maintaining the accuracy of data.
•	I have been assured that all the information provided to [Student's Name] will be treated confidentiall and identity of all the participants/individuals will be anonymously reported.
•	I understand that I am entitled to access the information I have provided at any time to review, change of improve it.
•	I understand that I am free to contact any of the people involved in this student project to seek furthe information and clarification.
l, t	he undersigned, hereby confirm and provide my consent to participate in this student project.
	Participant's Name:
	Position: Address:
	Phone: Email:
	Participant's Signature
	Student's Name:
	Project Title:
	Phone: Email:
	Student's Signature

## APPENDIX Q: RECORD OF SUPERVISION MEETING

DETAILS	
Course Code :	MBSA
Course Name :	Business Research / Action Research 1 / Action Research 2
Semester/Session :	Semester / Session
Supervisor Name: :	Prof./Dr.
Student Name:	Mr./Ms.
Student Matric No. :	MBS

RECORD OF MEETING SUPERVISOR		
Date	Discussion Agenda	
	•	
	•	
	•	
	•	
	•	
	•	

SUPERVISOR	STUDENT
(SIGNATURE)	(SIGNATURE)
Date:	Date: